Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
001	NOAA Ship Miller Freeman	MF-89-06, Leg I	242	/		Amukta Pass

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 251 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
001	52	25.70	N	171	30.68	W	08	SEP	89	19	09	10.10	10.10	99	17	05	16	8	8	2	488	AMUKT

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	.25	
Temp.	9.6932	
Cond.		
~~Other~~ SAL	.0051	

Times JD/Time

Data on:

at Surface:

Start Down: 1900

at Bottom: 1909

Start Up: 1915

at Surface: 1940

Data off: 1941

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	001

463
422

Remarks: clock & date were not reset before cast; data collected during up/down cast. Chlorophyll & nutrients

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	6		198		192550	4				198.55	4.5577		33.5770			33.5741	26	968	1
2	16		150		192759	5				149.40	4.7444		33.5078			33.5075	10	967	2
3	18		100		193013	6				103.73	4.8373		33.4671			33.4631	15	966	3
4	19		75		193150	7				78.06	4.7724		33.4057			33.4056	22	965	4
5	22		50		193325	8				49.35	4.2592		33.1151			33.1064	1	964	5
6	23		25		193520					24.76	7.2608		32.8155			32.8256	16	963	6
7	24		10		193725	10				11.61	7.8835		32.7046			32.7281	2	962	7
8	251		3		193902					4.47	8.4511		32.5754			32.5824	23	961	8
9																			9
10																			10
11	502	6	440	1909	191420	2				430.35	4.0573		33.8562	422	4.04	33.8635	11	970	11
12	1		305	1921	1921	3				305.41	4.1741		33.7699			33.7708	3	969	12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
002	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line I a		002/L1A

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
002	55	04.39	N	168 09.20	W	09	SEP	89	1350		10.0	9.9	993.8	3	2	260	20	8	92	1595	002

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.21	3.09
Temp.	9.4524	8.8841
Cond.		
Sal ~~Other~~	0.000	32.9056

Times JD/Time

Data on: 1247
at Surface: 1250
Start Down: 1251
at Bottom: 1350
Start Up: 1355
at Surface:
Data off:

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	P002
	002

Remarks: SPIKE @ ~66 m - Salinity - Sliverings

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.	NuT
1	504		1500	1350	1353					1516.97	2.2771		34.4847			34.486	14	980	1	
2	1		300	1425	1425					306.63	3.5424		33.7288					979	2	
3	6		202	1429	1429					204.40	3.4500		33.4992					978	3	
4	16		153	1431	1432					153.49	3.5109		33.4154					977	4	
5	18		100	1433	1434					101.20	3.8248		33.3218					976	5	1
6	19		75 74	1435	1435					75.31	4.1050		33.2812					975	6	
7	22		50 51		1436					51.05	5.2448		33.2210					974	7	4
8	23		25 25		1437					25.04	8.8071		32.9168					973	8	3
9	24		10 9		1438					9.40	8.8261		32.9182					972	9	2
10	251		3 3		1439					3.38	8.8259		32.9180					971	10	1
11																			11	
12																			12	

Initials _____

✓ _____

Pg. 3 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
003	NOAA Ship Miller Freeman	MF-89-06, Leg I		Ib		003

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
003	55	08.86	N	168	02.12	W	09	SEP	89	1606		9.6	9.5	92	4	8	250	18	8	3	2	1396	003

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.25	3.40
Temp.	9.2109	9.0055
Cond.		
~~Other~~ Sal	0.0254	32.9034

Times

	JD/Time
Data on	1428
at Surface	1429
Start Down	1430
at Bottom	1606
Start Up	1608
at Surface	16
Data off	1608

Data Location 1396

Tape/Diskette I.D.	File Name/Header
SEP89	003.DAT
	P003.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	504		1367	1606	1607					1382.42	2.3798		34.4579			34.2457	4		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
004	NOAA Ship Miller Freeman	MF-89-06, Leg I		Ic		Ic

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
004	55	12.35	N	167 55.50	W	09	SEP	89	1740		9.4	9.2	92	4	7	235	22	8	3	2	525	004

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.33	3.33
Temp.	9.2423	8.2964
Cond.		
Other	0.0312	32.4564

Times JD/Time
Data on: 1724
at Surface: 1725
Start Down: 1726
at Bottom: 1740
Start Up: 1746
at Surface:
Data off: 1740

Data Location 527
Tape/Diskette I.D.: SEP89
File Name/Header: 004.DAT
P004.MRK

Remarks: where's Carol? false trip on Bottle 6 - Position 4

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot.Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.	chl
1																			1	
2	502	6	506	1740	1745					509.09	3.4509		33.9591	506	3.42			990	2	
3	1		301		1751					303.50	3.6047		33.5711					989	3	
4	6		201		1756					202.66	3.5628		33.4530			33.455	34	988	4	
5	16		150		1758					150.59	4.0408		33.4036			33.454	19	987	5	
6	18		99		1801					100.03	4.4790		33.2522					986	6	
7	19		76		1802					77.79	4.8162		33.1769					985	7	
8	22		50		1804					50.94	5.2508		33.0513					984	8	4
9	23		25		1805					24.70	8.3508		32.4454					983	9	3
10	24		10		1807					10.72	8.3721		32.4444					982	10	2
11	251		4		1808					4.87	8.3703		32.4453					981	11	1
12																			12	

Initials _____
✓ _____

Pg. 5 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
005	NOAA Ship Miller Freeman	MF-89-06, Leg I		Id		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Mo.	Yr.	JD = 252	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
005	55	15.37	N	167	51.41	W	09	SEP	89		18	56	9.4	9.2	93	4	7	225	20	83	Z	329	005

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	3.77
Temp.	12.5837	8.4121
Cond.		
~~Other~~ Sal	0.1408	30.4565

Times

	JD/Time
Data on	1840
at Surface	1845
Start Down	1846
at Bottom	1856
Start Up	1857
at Surface	1905
Data off	1857

Data Location

~~Tape/Diskette I.D.~~ Directory 335: 09SEP89

File Name/Header: 005.Dat, P005.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		308	1856	1856					310.41	3.6021		33.6302			33.620	7		3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials: RP

✓

6

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
006	NOAA Ship Miller Freeman	MF-89-06, Leg I	282	Ie		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
006	55	17.18	N	167 46.69	W	09	SEP	89	2047		09.8	09.5	944	7	2	15	22	8	3	224	006

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.37	2.53
Temp.	9.6871	8.5176
Cond.		
Other	0.0000	32.5441

Times JD/Time

Data on:

at Surface: 2039

Start Down: 2039

at Bottom: 2047

Start Up: 2047

at Surface: 2056

Data off: 2057

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header: 006.DAT (230, 224)

Remarks: first cast after first set of five drifters were deployed

Nutrients

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	504		220		2047					209.86	3.8546		33.3806			33.382	25	999	2
3	1		200		2047					200.53	3.8508		33.3754					998	3
4	6		150		2049					151.46	4.3801		33.3276					997	4
5	16		100		2051					103.40	4.5342		33.1892					996	5
6	18		75		2052					76.73	4.9990		33.0780					995	6
7	19		50		2053					52.21	5.1811		32.8803					994	7
8	22		25		2054					27.29	8.0494		32.5924					993	8
9	23		10		2055					11.12	8.5238		32.5583					992	9
10	24		3		2056					5.45	8.5215		32.5594					991	10
11																			11
12																			12

Initials CD

✓

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
007	NOAA Ship Miller Freeman	MF-89-06, Leg I	283	If		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
007	55	20.05	N	167	39.70	W	09	SEP	89	21	35	10.0	09.6	94	4	7	210	22	74	1	161	007

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	2.80
Temp.	9.7258	8.8099
Cond.		
Other	0.0268	32.5169

Times JD/Time

Data on
at Surface 2130
Start Down 2130
at Bottom 2135
Start Up 2140
at Surface
Data off

Data Location 160

Tape/Diskette I.D.: SEP89
File Name/Header: 007.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	502	6	150	2135	2140	2				146.29	4.0668		33.3508	143	4.06				1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials
✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
008	NOAA Ship Miller Freeman	MF-89-06, Leg I	285	I 9		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
008	55	23.92	N	167 30.79	W	09	SEP	89	22	30	10.09	9.98	947	47	2	200	22	7	41	146	008

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	2.78
Temp.	10.1797	9.4542
Cond.		
Other	0.0240	32.3008

Times JD/Time

Data on:

at Surface: 2224

Start Down: 2224

at Bottom: 2230

Start Up: 2230

at Surface: 2236

Data off:

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header: 008.DAT

Remarks: NUTRIENTS & CHLOROPHYLLS

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	504		140		2230	2				132.53	3.8515		33.3299			33.329	35	1008	2
3	1		100		2231					99.83	3.5848		33.0426					1007	3
4	6		75		2232					75.10	4.7631		33.0461					1006	4
5	16		50		2233	5				50.53	5.3512		32.9558					1005	5 CHL
6	18		25		2234					25.66	7.9728		32.6411					1004	6
7	19		10		2235					10.17	9.4588		32.2990					1003	7
8	22		3		2236					2.47	9.4613		32.3035					1002	8 CHL
9	23																		9
10	24																		10
11																			11
12																			12

Initials: ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
009	NOAA Ship Miller Freeman	MF-89-06, Leg I	287	Ih		009

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 252 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
009	55	29.18	N	167	21.68	09	SEP	89	23	29	10.5	10.0	94	4	7	212	23	8	4	142	009

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.28	1.77
Temp.	11.3887	9.6057
Cond.		
Other	0.0000	31.2722

Times JD/Time

Data on
at Surface
Start Down
at Bottom 2329
Start Up 2330
at Surface
Data off

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 009

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	504		130		2329					134.76	3.6102		33.1563			33.157	29		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
010	NOAA Ship Miller Freeman	MF-89-06, Leg I	289	I2		010

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 253 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
010	55	35.17	N	167 09.57	W	10	SEP	89	00	45	10.209	9.94	5.7209	20	8	7	2		140			010

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.33	3.54
Temp.	9.9499	9.8884
Cond.		
Other	0.0000	32.1335

Times JD/Time

Data on:

at Surface: 0041

Start Down: 0041

at Bottom: 0045

Start Up: 0046

at Surface: 0057

Data off:

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header: 010.DAT

Remarks: Nutrients & chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	502	6	130	0046	0051	3				126.38	3.4791		33.0311	119	3.48	33.030	8	1014	2
3	1		100		0052					100.69	3.4477		32.9871					1013	3
4	6		75		0053					75.07	3.5966		32.9466					1012	4
5	16		50		0054					49.56	5.2714		32.7155					1011	5
6	18		25		0055					23.37	9.7811		32.1648					1010	6
7	19		10		0056					10.40	9.8813		32.1318					1009	7
8	22		3		0056					4.43	9.8799		32.1338					1008	8
9	23																		9
10	24																		10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
011	NOAA Ship Miller Freeman	MF-89-06, Leg I		VI h		011

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 253 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
011	5626 74	N	16929 05	W	10 SEP 89	1324	89	88	9474	47		305	18	892		103	011

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.29	3.47
Temp.	8.4559	7.9
Cond.		
Sal ~~Other~~	0.3357	31.9106

Times JD/Time

Data on: 1318
at Surface: 1320
Start Down: 1321
at Bottom: 1324
Start Up: 1325
at Surface:
Data off: 1325

Data Location 103

Tape/Diskette I.D.	File Name/Header
SEP89	011.DAT
	P011.MRK

Remarks line VI h
No nut., No chl.
92 m w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		90		1324					91.76	3.3885		30.8329			32.774	32		3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials PD

✓

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
012	NOAA Ship Miller Freeman	MF-89-06, Leg I		V 9		012

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 253 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
012	56	23	01	N	169 08 94	W	10	SEP	89	1439	88	88	94	3	6	310	16	8	9	119	012

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.25	5.00
Temp.	8.2662	9.5903
Cond.		
~~Other~~ SAL	0.000	31.9168

Times JD/Time

Data on: 1435
at Surface: 1435
Start Down: 1436
at Bottom: ~~1495~~ 1439
Start Up: 1440
at Surface: 1445
Data off:

Data Location 118

Tape/Diskette I.D.	File Name/Header
SEP89	012.DAT
	P012.DAT

Remarks line V 9
104 m w/o

Nut

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.	
1																			1	chl
2																			2	
3	1		100		1440					100.95	3.5404		33.1829			33.185	12	~~1015~~	3	1024
4	6		74		1441					74.78	3.1126		32.2123					~~1016~~	4	1019
5	16		49		1442					49.51	3.4374		32.0963					~~1017~~	5	4/10
6	18		25		1443					25.83	9.3942		31.8965					~~1018~~	6	3/10
7	19		11		1444					10.42	9.6007		31.9172					~~1019~~	7	12/16
8	22		3		~~1445~~					4.61	9.6077		31.9175					~~1020~~	8	1/10
9																			9	
10																			10	
11																			11	
12																			12	

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
013	NOAA Ship Miller Freeman	MF-89-06, Leg I		Vc		013

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 253 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
013	56	05.38	N	169 15.27	W	10	SEP	89	17	18	90	90	97	4	7	300	26	66	1	789	013

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	4.15
Temp.	9.3911	9.9256
Cond.		
Other	0.0421	32.1696

Times JD/Time

Data on: 1650

at Surface: 1655

Start Down: 1655

at Bottom: 1718

Start Up: 1730

at Surface:

Data off: 1730

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header: 013.DAT, P013.MRK

Remarks: bottle broke ⇒ no sample

834 w/o

Pos.	Bot	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	502	6	704	1725	1730					711.87	3.1643		34.138	701	3.17	—	06		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
014	NOAA Ship Miller Freeman	MF-89-06, Leg I	321	line V, B		014

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 253 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
014	55	59.30	N	169	W	10	SEP	89	20	22	08.5	07.7	00	5	7	320	22	6	1	901	014

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	—	
Temp.		
Cond.		
Other		

Times JD/Time
Data on: 1843
at Surface: 1843 1952
Start Down: 1844 1954
at Bottom: 2022
Start Up: 2022
at Surface:
Data off:

Data Location 956 900
Tape/Diskette I.D.: SEP89
File Name/Header: 014.DAT
WP014.MRK

Remarks line V b not 4 db
first cast aborted due to "computer crash" data lost,

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	501		no samples taken																2
3	1		300		2028					302.94	3.5907		33.6288			33.428	6	1024	3
4	6		200		2031					200.62	3.7694		33.2893					1023	4
5	16		150		2033					150.00	3.6782		33.1594					1022	5
6	18		100		2035					101.93	4.5567		33.0913					1021	6
7	19		75		2036					75.62	4.6719		33.0063					772	7
8	22		50		2037					50.86	5.1443		32.8542					773	8
9	23		25		2038					25.86	9.0743		32.1977					774	9
10	24		10		2039					11.55	9.7342		32.0803					775	10
11	251		3		2040					2.32	9.7624		32.0751					776	11
12																			12

computer was turned off
date & time not set

Initials ✓ _____

Pg. 15 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
015	NOAA Ship Miller Freeman	MF-89-06, Leg I	323	Line V, A		015

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 253 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
015	55	54.98	N	169 20.91	W	10	SEP	89	21	57	08.7	07.1	1015.7			310	28	7	6	1	1900	015

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	2.16
Temp.	8.1364	9.2183
Cond.		
Other	0.0133	32.3559

Times JD/Time

Data on: ____

at Surface: 2120

Start Down: 2120

at Bottom: 2157

Start Up: 2158

at Surface: ____

Data off: 2158

Data Location 1800

Tape/Diskette I.D.	File Name/Header
SEP89	015

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1	504		1507		2158					1526.72	2.2390		34.4882			34.486	11		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
016	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line VI, D		016

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 254 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
016	56	07.15	N	169	36.48	W	11	SEP	89	07	03	7.9	7.9	05	5	7	330	25	9	2	2100	016

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.32	
Temp.	7.6357	
Cond.		
~~Other~~ S.G.	0.4846	

Times JD/Time

Data on:
at Surface: 0653
Start Down:
at Bottom: 0700
Start Up: 0705
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 016 (188, 208)

Remarks: "computer crashed" ≈1100 m wire out not terminated, etc.; relocated for line VI A to line VI, D (Chemoautotrophic mats)

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	503	6	172	0700	0705					184.27	3.4969	–	33.4743	181	3.51	33.471	31	771	2
3	1		150		0707					150.91	3.5715	–	33.2352					770	3
4	6		100		0709					101.31	3.5242	–	32.9643					769	4
5	16		75		0710					76.55	4.3455	–	32.8496					777	5
6	18		50		0711					52.35	5.1455	–	32.6453					778	6
7	19		25		0712					26.02	9.5726	–	32.1859					779	7
8	22		10		0713					9.89	9.7788		32.0676					780	8
9	23		3		0715					1.90	9.7819		32.0668					781	9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
017	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line VI E		017

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 254 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
017	56	12.17	N	169	34.41	W	11	SEP	89	08	23	7.5	7.5	07	2	7	330	30	9	-	2	423	017

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.41	2.90
Temp.	7.5463	9.4917
Cond.	-	
~~Other~~ Sal	0.7816	32.0081

Times JD/Time

Data on: 0810
at Surface: 0810
Start Down: 0817
at Bottom: 0823
Start Up:
at Surface:
Data off:

Data Location 422

Tape/Diskette I.D.	File Name/Header
SEP89	017.DAT
	P017.MRK

Remarks: 417 w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	504		400		0824					404.07	3.3118	[illegible]	34.0244			34.024	10		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials: ✓

18

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
018	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line III F		018

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
018	56	14.97	N	169 33.09		W	11	SEP	89	09	18	~~7.3~~ 7.8	7.3	08	5	7	330	28	9	2	306	018

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

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

Times	JD/Time
Data on	0908
at Surface	0908
Start Down	0909
at Bottom	0918
Start Up	0919
at Surface	
Data off	0918

Data Location	
Tape/Diskette I.D.	File Name/Header
SEP89	018.DAT
	P018.MRK
	UP018.MRK

Remarks: 285 w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	99		282	0918	0918								33.8978			33.881	33	790	2
3	1		199		0921													789	3
4	6		149		0923													788	4
5	16		99		0925													787	5
6	18		75		0926													786	6
7	19		50		0927													785	7
8	22		25		0928													784	8
9	23		10		0929													783	9
10	24		3		0930													782	10
11																			11
12																			12

Initials _____

✓ _____

Sheet 19 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
019	NOAA Ship Miller Freeman	OCSeap MF-89-06, Leg I		Line VII 9		019

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 254 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
019	56	22.09	N	169 32.00	W	11	SEP	89	10	33	8.0	7.9	094.7	3	2	0	18	9	-2	138	019

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.45	2.53
Temp.	6.8570	7.7417
Cond.	-	
~~Other~~ Sal	0.0350	31.9233

Times JD/Time

Data on 1028
at Surface 1028
Start Down 1029
at Bottom 1033
Start Up 1040
at Surface 1042
Data off 1040

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 019.DAT, D019.MRK

Remarks: 115 w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	100	1034	1039					104.18	3.5071	-	33.4122	102	3.50	33.364	15		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Sh. 20 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
020	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line V e		020

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 254 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
020	56	16.85	N	169 10.73	W	11	SEP	89	12	12	79	73	1010.6	7	9	305	24	9	2	155	020

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.46	
Temp.	8.0625	
~~Cond.~~ Sal		
~~Other~~	0.0000	

Times JD/Time

Data on 1207
at Surface 1207
Start Down 1207
at Bottom 1212
Start Up
at Surface
Data off 1219

Data Location 155

Tape/Diskette I.D.	File Name/Header
SEP89	020.DAT
	P020.mek
	uP020.mek

Remarks

Nut.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		140		1213					141.54	3.5411		33.4091			33.397	22	797	3
4	6		100		1214					99.50	3.8054		33.1533					796	4
5	16		75		1215					75.58	3.9838		33.0044					795	5
6	18		50		1216					52.67	4.1485		32.7544					794	6
7	19		25		1218					25.63	5.5466		32.4284					793	7
8	22		10		1218					10.34	9.0036		32.0283					792	8
9	23		3		1219					3.83	9.0129		32.0320					791	9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
021	NOAA Ship Miller Freeman	MF-89-06, Leg I		V d		

Consec. Cast #	Latitude Deg. Min. N or S	Longitude Deg. E or W	Date JD = 254 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
021	56 12 00 N	169 13 97 W	11 SEP 89	1321	84	70	1067	3	1	4	20	9	-	2	551	021

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.48	3.99
Temp.	7.2916	9.5574
~~Cond.~~ Sal		
~~Other~~	0.0000	31.9474

Times JD/Time

Data on: 1306
at Surface: 1306
Start Down: 1307
at Bottom: 1321
Start Up: 1322
at Surface:
Data off: 1322

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 021.DAT
PORI.MRK

Remarks: 548 w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		535	1321	1322					541.69	3.4154	-	33.9150			33.915	18		3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Sh. 22 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
022	NOAA Ship Miller Freeman	MF-89-06, Leg I	359			BP-2

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 255 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
022	56	14.12	N	169 41.81	W	12	SEP	89	0202		10.1	08.9	15	37		283	14	86	2	306	022

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.48	4.45
Temp.	9.1988	9.3506
Cond.		
Other	0.0000	32.0135

Times JD/Time
Data on 255
at Surface
Start Down
at Bottom 0202
Start Up 0207
at Surface
Data off

Data Location 295 302
Tape/Diskette I.D.: SEP89
File Name/Header: 022 (backed up as OCSEAP.dat...)

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	53	#6	277		0207	Monitor lifter lost due to computer crash													2
3	1		200		0209	"		"		"		"						807	3
4	6		150		0213													806	4
5	16		100		0215													805	5
6	18		75		0216													804	6
7	19		50		0217													803	7
8	22		25		0218													802	8
9	23		10		0219													801	9
10	24		3		0220													800	10
11	25																		11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
023	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line IIIa		023

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
023	55	47.69	N	169	46.38	W	12	SEP	89	09	13	10.4	9.9	19	3	7	240	12	9-2		2190	023

JD = 255

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

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

Times	JD/Time
Data on	0836
at Surface	0836
Start Down	0837
at Bottom	0913
Start Up	0920
at Surface	
Data off	0915

Data Location 2195 - 2260

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks

1555

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	523	6	1500	0913	0920					1517.68	2.2302		34.4961	1489	2.30	34.496	30		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line VI b		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 255 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
024	55	55	N	169 41	W	12	SEP	89	11	26	9.5	9.5	1018	3	7	230	14	9	2	1350	024

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.56	3.23
Temp.	8.9222	8.5532
Cond.	-	
~~Other~~ Sd	0.0000	32.5144

Times JD/Time

Data on: 1052
at Surface: 1052
Start Down: 1052
at Bottom: 1126
Start Up: 1128
at Surface:
Data off: 1128

Data Location 1353

Tape/Diskette I.D.	File Name/Header
SEP89	024.Daf
	P024.MRK
	UP024.MRK

Remarks screen froze w/graphics display. Lost UP024.MRK 1435

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.	
1																			1	
2	99		1350		1128					1366.42	2.3414	–	34.4624			34.462	13	~~815~~	2	798
3	1		300		1152													~~811~~	3	799
4	6		200		1155													~~813~~	4	800
5	16		150		1157													~~812~~	5	801
6	18		100		1159													~~811~~	6	802
7	19		75		1200													~~810~~	7	803
8	22		50		1201													~~809~~	8	804
9	23		25		1202													~~808~~	9	805
10	24		10		1203													~~799~~	10	806
11	251		3															~~798~~	11	807
12																			12	

Initials _____

✓ _____

Sheet 25 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
025	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line VI c		025

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD = 255	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
025	56	00.98	N	169	38.76	W	12	SEP	89		12	54	9.7	9.7	18	27	240	11	9	2		246	025

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.58	3.70
Temp.	11.0552	9.1975
Cond.	–	–
Other	0.0058	30.3257

Times JD/Time

Data on: 1246
at Surface: 1246
Start Down: 1247
at Bottom: 1254
Start Up: 1255
at Surface:
Data off: 1255

Data Location 247

Tape/Diskette I.D.	File Name/Header
SEP89	025.DAT
	P025.MRK

Remarks: 244

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	99		238		1254					240.10	3.5090	–	33.6238			33.623	5		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
026	NOAA Ship Miller Freeman	MF-89-06, Leg I		BP-3		026

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 255 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
026	56	07.19	N	169 16.74	W	12	SEP	89	14	55	10.0	10.0	1827.4	5	9	9	-	2		986	026

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.46	3.32
Temp.	9.4775	8.8572
Cond.	—	—
Sal ~~Other~~	5.0126	31.9186

Times JD/Time

Data on: 1431
at Surface: 1431
Start Down: 1432
at Bottom: 1455
Start Up: 1501
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks: Redeployment cast @ BP-3 (Port Wincn)

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp. (Nut.)	Pos.
1	503	A	960	1455	1500					969.97	2.7485	—	34.3200	9.56	2.74	34.321	2		1
2																			2
3	1		300		1516					302.81	3.4919	—	33.5702					823	3
4	6		200		1519					203.23	3.5548	—	33.3688					822	4
5	16		150		1521					151.95	3.8423	—	33.3013					821	5
6	18		100		1523					100.48	4.3856	—	33.1797					820	6
7	19		75		1524					75.03	4.0449	—	32.9424					819	7
8	22		50		1525					49.98	5.6931	—	32.8055					818	8
9	23		25		1526					24.41	8.3020	—	31.9173					817	9
10	24		10		1527					9.19	8.9706	—	31.9261					816	10
11	251		3		1527	No Sample												—	11
12																			12

Initials ____
✓ ____

'6. 027 u1 ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
027	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line IX a		027

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
027	56	21.68	N	173 04.77	W	13	SEP	89	09	02	9.7	9.5	21	27	25	0	8	9	-2	1920	027

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks	on Deck	at Surface
Press.	0.58	3.11
Temp.	10.5883	9.1385
Cond.	—	—
Other	0.000	32.8511

Times	JD/Time
Data on	0823
at Surface	0823
Start Down	0825
at Bottom	0902
Start Up	0902
at Surface	-
Data off	-

Data Location	
Tape/Diskette I.D.	File Name/Header
SEP89	027.DAT
	P027.MRK
	UP027.MRK

Remarks TOK 4 surface samples for chl. only 1560 w/o (STBD WINCH)

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7	19		50		0931					47.57	5.5733	—	33.0934						7
8	22		25		0932					28.18	9.0528	—	32.9056						8
9	23		10		0934					12.95	9.1266	—	32.8398						9
10	24		10		0934					12.41	9.1231	—	32.8414						10
11	251		3		0935					2.89	9.1256	—	32.8378						11
12																			12

dl

dl

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
028	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XI b		028

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
028	56	25.84	N	172 59.41		W	13	SEP	89	10	53	10.4	10.0	22.27			225	12	9	-	2	2105	028

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.59	2.22
Temp.	9.4581	8.9083
Cond.	—	—
~~Other~~ Sal	0.0075	32.7609

Times JD/Time

Data on: 1018
at Surface: 1018
Start Down: 1019
at Bottom: 1053
Start Up: 1055
at Surface:
Data off:

Data Location 2110

Tape/Diskette I.D.	File Name/Header
SEP89	028.OAT
	P028.MRK
	UP028.MRK

Remarks: Took 3 tries to get rosette to fire on deep bottle, fired 2 bottles @ Bottom, no TP sample

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1				Trip															1
2	99		1500	1053	1055	Leaked													2
3	1		1500	1055	~~1116~~					1520.46	2.2601		34.4928			34.4897	9	897	3
4	6		300	1116	~~1119~~					302.04	3.6553		33.7193					832	4
5	16		200	1118	~~1120~~					204.63	3.3266		33.5047					831	5
6	18		150	1120	~~1122~~					149.71	3.0090		33.3534					830	6
7	19		100	1122	~~1123~~					102.43	3.3194		33.2782					829	7
8	20		75	1123	~~1124~~					74.71	3.8984		33.2087					828	8
9	23		50	1124	~~1125~~					51.45	5.6504		33.1040					827	9
10	24		25	1125	~~1126~~					26.94	8.9116		32.7659					826	10
11	251		10	1126	~~1127~~					10.32	8.8494		32.7474					825	11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
029	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line IX c		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 256 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
029	56	29.90	N	172	55.90	W	13	SEP	89	12	48	10.5	10.0	21	2	7	235	11	9-2		1207	029

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.		
Temp.		
Cond.		
Other		

Times JD/Time

Data on: 1218
at Surface: 1219
Start Down: 1220
at Bottom: 1248
Start Up: 1249
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header: 029.DAT, D029.MRK

Remarks: Lost computer, no up029.mrk so thermometer comparison is lost 1139 w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			1000	1253	1259	Lost .MRK file													1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
030	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line IX d		030

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 256 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
030	56	35.02	N	172 48.04	W	13	SEP	89	14	10	10.9	10.3	20	2	7	225	8	9 -	2	156	030

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.60	3.25
Temp.	9.1181	9.0014
Cond.	—	—
Other	0.0047	32.4742

Times JD/Time
Data on: 1405
at Surface: 1406
Start Down: 1406
at Bottom: 1410
Start Up:
at Surface:
Data off:

Data Location 156

Tape/Diskette I.D.	File Name/Header
SEP89	030.DAT
	P030.MRK
	UP030.MRK

Remarks: Rossette misfired, Button pushed 8 times indicator on rosette advanced 11 Times, 10 Bottles Tripped. No way to Tell where samples are from.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	130	1410	1417					131.37	3.4200	—	33.3878	130	3.41	33.3072	23		2
3	1		100		1418														3
4	6		75		1419														4
5	16		50		1420														5
6	18		25		1422														6
7	19		10		1423														7
8	22		3																8
9	23																		9
10	24																		10
11	251																		11
12																			12

Rossette misfired

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
031	NOAA Ship Miller Freeman	MF-89-06, Leg I	413	89BS-3		031

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	Min.	E or W	Date JD = 256 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
031	56	40.35	N	173	17.75	W	13	SEP	89	19	15	10.5	10.0	20.27	2	3	0	10	8	8	853	031

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.56	3.00
Temp.	8.9671	9.0234
Cond.		
Other	0.2749	32.5430

Times JD/Time
Data on: 1852
at Surface: 1852
Start Down: 1853
at Bottom: 1914
Start Up: 1918
at Surface:
Data off:

Data Location 842

Tape/Diskette I.D.	File Name/Header
SEP89	031.DAT
	P031.mrk
	UP031.mrk

Remarks: 808 w/.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot.Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	888	1914	1917					837.51	3.0309		34.2609	824	3.03	34.2563	27	898	2
3	1		300		1929					304.68	3.5383		33.6255					899	3
4	6		200		1933					201.44	3.4398		33.4364					900	4
5	16		150		1935					149.59	3.4987		33.3493					901	5
6	18		100		1937					99.87	3.6375		33.2770					902	6
7	19		75		1938					74.37	3.7780		33.2399					903	7
8	22		50		1939					50.42	5.0644		33.1667					904	8
9	23		25		1940					23.71	9.4355		32.8060					910	9
10	24		10		1941					9.60	9.0085		32.5407					911	10
11	25		3		1943					3.64	9.0083		32.5296					912	11
12																			12

Initials ____
✓ ____

Sheet 32 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
032	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XIV 9		032

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 257 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
032	58	50.08	N	175	15.32	W	14	SEP	89	11	34	9.1	9.01	8	2	7	075	16	9	-1	136	032

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.58	2.08
Temp.	7.9339	8.9375
Cond.	—	—
~~Other~~ Sal	0.0000	32.6363

Times JD/Time

Data on 1129
at Surface 1129
Start Down 1129
at Bottom 1134
Start Up 1135
at Surface 1142
Data off 1143

Data Location 136

Tape/Diskette I.D.	File Name/Header
SEP89	032.DAT
	P032.MRK
	up032.MRK

Remarks: fired rosette 8 times, 6 bottles, first 2 fires - dry fires. assumed deepest sample not taken but 117m was next 6 ok. Compare Sal initials

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		100		1136					99.17	3.0281	—	33.0421			33.0438	5	913	3
4	6		75		1138					76.43	3.6329	—	32.9638					909	4
5	16		50		1139					50.94	3.4174	—	32.8970					908	5
6	18		25		1141					26.40	8.7920	—	32.6466					907	6
7	19		10		1142					10.34	8.9117	—	32.6410					906	7
8	22		3		1143					2.76	8.9173	—	32.6404					905	8
9	23																		9
10	24																		10
11	251																		11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
033	NOAA Ship Miller Freeman	MF-89-06, Leg I		Jin XIV F		033

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 257 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
033	58	42.23	N	175 15.22	W		14	SEP	89	12	59	9.8	8.9	17	37		090	10	9	-	2	2062	0333

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.48	2.80
Temp.	8.3544	8.6397
Cond.	—	—
Other	0.0041	32.6081

Times JD/Time

Data on: 1252
at Surface: 1252
Start Down: 1253
at Bottom: 1259
Start Up: 1259
at Surface:
Data off: 1259

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 033.DAT

Remarks: Rosette hit platform on recovery, Boom would not retract. Broke one bottle

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	99		165		1259					169.06	3.1674	-	33.2881			33.2894	13		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
034	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XIV e		034

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 257 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D 034
034	58	33.23	N	175 14.14		W	14	SEP	89	14	29	9.8	8.9	17	37		085	15	5-1		454	034

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.48	4.02
Temp.	8.3178	8.7594
Cond.	—	—
Other	0.0000	32.5656

Times JD/Time
Data on: 1416
at Surface: 1417
Start Down: 1417
at Bottom: 1409
Start Up: 1429
at Surface:
Data off: 1429

Data Location 457
Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks: 449 w/o. No Problems, everything worked!

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																		Nutrients ?	1
2	503	6	400	1431	1437					403.22	3.5509	—	33.8528	393.74	3.55	33.8502	30	923	2
3	1		300		1440					303.26	3.5027	—	33.5782					922	3
4	6		200		1443					200.57	3.0421	—	33.2932					921	4
5	16		150		1444					150.47	3.4003	—	33.2039					920	5
6	99		100		1446					99.41	3.6045	—	33.0704					919	6
7	19		75		1447					74.49	3.8887	—	32.9792					918	7
8	22		50		1448					49.30	4.4828	—	32.7995					917	8
9	23		25		1449					25.79	8.5968	—	32.5787					916	9
10	24		10		1450					10.08	8.7933	—	32.5647					915	10
11	251		3		1451					3.02	8.7927	—	32.5656					914	11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
035	NOAA Ship Miller Freeman	MF-89-06, Leg I	457	BZ-1		035

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 257 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
035	58	40.78	N	175 09.57	W	14	SEP	89	2140		10.1	09.9	16.47	09	02	88	1	2		140	035

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.42	3.62
Temp.	8.4790	8.6378
Cond.		
Other	1.0395	32.5719

Times JD/Time

Data on: ____
at Surface: 2135
Start Down: 2135
at Bottom: 2140
Start Up: 2140
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	035.DAT
	P035.MRK
	WP035.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	?	—	135							133.86	3.1829		33.1650			33.1657	18		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
036	NOAA Ship Miller Freeman	MF-89-06, Leg I	459	Line XV, E		036

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 257 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
036	58	38.20	N	175	33.52	W	14	SEP	89	23	10	09.8	09.6	1447			070	24	8	6	2	1140	036

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.53	2.82
Temp.	10.9672	8.7896
Cond.		
Other	0.0088	32.6212

Times JD/Time

Data on:
at Surface: 2305
Start Down: 2305
at Bottom: 2310
Start Up: 2311
at Surface:
Data off:

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	036.DAT
	P036.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		126		2311					124.47	3.1192		33.0777				31	NONE	3
4	6		126		2311					123.78	3.1198		33.0768					925	4
5	16		100		2313					102.29	3.1147		33.0351					926	5
6	18		75		2315					77.15	3.2624		32.9730					927	6
7	19		50		2316					49.97	4.1334		32.8771					928	7
8	22		25		2317					28.98	8.7390		32.6253					929	8
9	23		10		2318					11.54	8.8043		32.6238					930	9
10	24		3		2319					3.99	8.7989		32.6254					931	10
11																			11
12																			12

C1 ✓ 2 ma (oam filter)

Initials ✓

Sta. 37 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
037	NOAA Ship Miller Freeman	MF-89-06, Leg I	461	Line XV, D		037

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date Day	Date Mo.	Date Yr. (JD = 258)	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
037	58	27.09	N	175 35.79	W	15	SEP	89	01	00	09.8	09.3	1287	8	7	085	28	8	-	2214 (218)	037

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.43	3.84
Temp.	9.0653	8.5587
Cond.		
Other	1.0604	32.5985

Times JD/Time

Data on: ____
at Surface: 0054
Start Down: 0054
at Bottom: 0100
Start Up: 0100
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	037.DAT
	P037.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5	503	#6		010145	010645					196.66	3.1297		33.3555	194.0	3.11	33.3557	26		5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

34, 35, 39

38

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
038	NOAA Ship Miller Freeman	MF-89-06, Leg I	463	Lin. XV, C		038

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 258 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
038	58	20.51	N	175 40.33	W	15	SEP	89	02	43	09.7	09.4	11	87	085	28	9	2		1100	038

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.45	5.82
Temp.	9.0764	8.6612
Cond.		
Other	0.4372	32.6422

Times JD/Time

Data on
at Surface
Start Down
at Bottom 0243
Start Up 0243
at Surface 0310
Data off

Data Location 1100?

Tape/Diskette I.D.: SEP89
File Name/Header: 038

Remarks: No bottom depth trace (maybe due to wire angle) ⇒ stopped cast @ 936 m depth, may have been missed drops.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.	
1	24		10		0309					13.30	8.6764		32.6443					939	1	ch
2	251		3		0310					3.13	8.6748		32.6437					940	2	ch
3																			3	
4																			4	
5	0	✓	936		0243					945.29	2.9428		34.3081			34.3070	15	924	5	sample dilute fine
6	1		300		0258					307.84	3.5650		33.5978					932	6	
7	6		200		0302					202.15	3.2766		33.3535					933	7	
8	16		150		0303					150.26	3.2643		33.2426					934	8	
9	18		100		0305					101.44	3.4693		33.1486					935	9	
10	19		75		0306					79.81	3.4574		33.0602					936	10	
11	22		50		0307					49.57	4.1344		32.9303					937	11	ch
12	23		25		0308					20.44	8.6606		32.6425					938	12	ch

Initials

✓

'8. 39 01 ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
039	NOAA Ship Miller Freeman	MF-89-06, Leg I	467	Line XV B		039

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude	E or W	Date JD = 258 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
039	58	13.14	N	175	39.68	W	15	SEP	89	05	18	09.5	09.1	09	6	7	088	33	8	- 2	1201	039

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.49	5.47
Temp.	9.0027	8.6228
Cond.		
Other	0.9019	32.5671

Times JD/Time

Data on: ____

at Surface: ____

Start Down: 0439

at Bottom: 0512

Start Up: 0512

at Surface: ____

Data off: ____

Data Location 1225

Tape/Diskette I.D.	File Name/Header
SEP89	039.DAT
	039.MRK

Remarks marginal weather
ops postponed after 039

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4	O				0512					1162.01	2.6541		34.3942			34.3921	32		4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
040	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XV a		040

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 258 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
040	58	72	N	175 43	89	W	15	SEP	89	17	36	10	10	100	4	6	090	19	8	6	1725	040

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.29	4.11
Temp.	9.2888	9.0553
~~Cond.~~	—	—
~~Other~~ 3d	1.1223	32.7265

Times JD/Time

Data on 1706
at Surface 1700
Start Down 1700
at Bottom 1736
Start Up 1742
at Surface
Data off 1737

Data Location 950 fathoms

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks 148 cw/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	24		10		1816					9.16	9.0034	—	32.7194				944	~~954~~	1
2	251		3		1817					2.25	8.9706	—	32.7319				941	~~955~~	2
3																			3
4																			4
5	503	6	1507	1736	1742					1524.43	2.2507	—	34.4976	1502.5	2.22	34.498	955 34	~~953~~	5
6	1		300		1804					300.37	3.5419	-	33.6088				954	~~952~~	6
7	6		200		1807					202.37	3.0397	—	33.3820				953	~~951~~	7
8	16		150		1809					151.10	3.0419	—	33.2502				952	~~949~~	8
9	18		100		1811					101.35	3.2924	—	33.1839				951	~~947~~	9
10	19		75		1812					72.76	3.3447	—	33.0932				949	~~946~~	10
11	22		50		1814					48.65	3.5855	—	32.9761				947	~~941~~	11
12	23	25	25		1815					24.05	8.9458	—	32.7285				946	~~941~~	12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
041	NOAA Ship Miller Freeman	MF-89-06, Leg I	487	Line XIV, A		041

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 258 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
041	58	08.18	N	175	11.13	W	15	SEP	89	21	13	11.2	11.1	994	4	6	125	22	8	4	2260	041 ~041B

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.40	3.00
Temp.	10.0741	9.1488
Cond.		
Other	0.1892	32.7039

Times JD/Time

Data on 258
at Surface 2035
Start Down 2035
at Bottom 2113
Start Up 2113
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	041.DAT
	P041.MRK
	041B.DAT
	041B.MRK

Remarks: Only took cast to 1204 m for 041.DAT – received many error lights – restarted computer @ 1269 m for 041B.DAT *

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4	0		1500		2113					1523.19	2.2509		34.4946			34.4924	11		4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

* @ ≈1000 m all sensors graphically went to zero, then returned to correct readings – @ ≈1370 m all sensor graphs went to infinity then returned to correct values.

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
042	NOAA Ship Miller Freeman	MF-89-06, Leg I	491	Line XIV, B		042

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
042	58	13.97	N	175 11.68		W	16	SEP	89	00	34	11.2	11.1	97	4	6	135	20	9	-	4	1190	042

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.39	3.99
Temp.	10.8172	8.7348
Cond.		
Other	0.9522	32.4749

Times JD/Time

Data on: ____
at Surface: 0006
Start Down: 0006
at Bottom: 0034
Start Up: 0034
at Surface: ____
Data off: ____

Data Location 1200

Tape/Diskette I.D.	File Name/Header
SEP89	042.DAT
	P042.MAK
	WP042.MAK

Remarks: Cable was re-terminated between casts 041 & 042 - slip ring problem

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1210		0034					1225.05	2.5838		34.4101			34.410	24	956	2
3	1		300		0053					300.38	3.5884		33.6570					957	3
4	6		200		0056					201.66	2.5435		33.3270					958	4
5	16		150		0057					150.74	2.9577		33.2819					959	5
6	18		100		0059					102.70	3.3407		33.2095					960	6
7	19		75		0059					72.98	3.7975		33.1242					388	7
8	22		50		0100					51.04	4.5937		33.0099					389	8
9	23		25		0101					24.25	8.9588		32.6441					390	9
10	24		10		0102					9.03	8.9762		32.6440					391	10
11	251		3		0103					3.02	9.0881		32.6698					392	11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
043	NOAA Ship Miller Freeman	MF-89-06, Leg I	493	Line XIV C		043

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
043	58	20.17	N	175 13.27	W	16	SEP	89	02	09	11.5	11.4	9 6.4	7	15	02	09	-	4	386 (385)	043

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.35	3.72
Temp.	11.7009	8.6247
Cond.		
Other	0.3211	32.5579

Times JD/Time

Data on
at Surface: 0159
Start Down
at Bottom: 0209
Start Up
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	043.DAT
	P043.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4			365	021010						365.00	3.6324		33.7697	365.7	3.63	33.771	33		4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials
✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
044	NOAA Ship Miller Freeman	MF-89-06, Leg I	495	Line XIV, D		044

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD = 259	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
044	58	26.11	N	175	13.06	W	16	SEP	89		03	18	11.1	11.1	96	4	6	140	18	9	4	226	044

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.32	2.70
Temp.	9.7243	8.6632
Cond.		
Other	0.4349	32.4553

Times JD/Time

Data on	
at Surface	0311
Start Down	0311
at Bottom	0318
Start Up	0318
at Surface	0326
Data off	

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	044.DAT
	P044.MAK
	WP044.MAK

Remarks: Nutrients & Chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		214	3	0318					215.46	3.1545		33.3423			33.3442	14	385	2
3	1		200	1	0319					200.50	3.1676		33.3311					386	3
4	6		150		0320					150.46	3.2482		33.2099					387	4
5	16		100		0322					100.24	3.4338		33.0738					393	5
6	18		75		0323					76.53	3.4712		33.0235					394	6
7	19		50		0323					51.20	4.0519		32.8236					395	7 Chl
8	22		25		0324					24.52	8.6573		32.4518					396	8 Chl
9	23		10		0325					10.33	8.6619		32.4538					397	9 Chl
10	24		3		0326					3.47	8.6575		32.4563					398	10 Chl
11	251																		11
12																			12

Initials CD

✓

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
045	NOAA Ship Miller Freeman	MF-89-06, Leg I	497	BZ-3		045

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
045	58	32.74	N	175 02.00	W	16	SEP	89	0450		11.0	11.0	96	2	4	140	18	9	5	1006	045

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.35	3.47
Temp.	9.3831	8.5238
Cond.		
Other	0.2832	32.5099

Times JD/Time

Data on: ____
at Surface: 0425
Start Down: 0425
at Bottom: 0450
Start Up: 0451
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 045.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4					0450					1014.33	2.8314		34.3391			34.339	10		4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

46

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
046	NOAA Ship Miller Freeman	MF-89-06, Leg I		/in XIII 6		046

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD =	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
046	58	44	N	174	09	W	16	SEP	89	08	23	11.7	11.0	974	46	135	189	-	6	143		046

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.35	3.43
Temp.	9.1939	8.5628
Cond.	—	-
~~Other~~ Cond	0.6556	30.4118

Times JD/Time

Data on: 0820
at Surface: 0820
Start Down: 0820
at Bottom: 0823
Start Up: 0829
at Surface:
Data off:

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	046.DAT
	P046.MRK
	LP046.MRK

Remarks: Lost it @ 75m, two bottom. mrk lost rebooted by turning system off/on. ALT. Rel. didn't do (121) it, wrote over old LP046, but no mrk data?

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	503	6	125	0823	0829									124.57	3.21	33.1767	28	405	2
3	1		100	0830	0830													404	3
4	6		75		~~0835~~													403	4
5	16		75		0843													402	5
6	18		50		0845													401	6
7	19		25		0846													400	7
8	22		10		0847													399	8
9	23		3		0848														9
10	24																		10
11	251																		11
12																			12

No MRK files

Initials ✓

.6. 47 .1. ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
047	NOAA Ship Miller Freeman	MF-89-06, Leg I		1 in ~~XIII~~ 9		047

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
047	58	34.94	N	174	21.74	W	16	SEP	89	1014		9.5	9.4	97	4	6	135	18	9-2		150	047

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	1.52
Temp.	9.6260	8.7282
Cond.	—	—
Other	0.0000	32.4827

Times JD/Time

Data on 1008
at Surface 1008
Start Down 1009
at Bottom 1014
Start Up 1015
at Surface
Data off 1015

Data Location 150

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks deleted P047.MIR, all P047.* deleted

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10	24		138		1015					140.08	3.1968	—	33.2401			33.2439	35		10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
048	NOAA Ship Miller Freeman	MF-89-06, Leg I		line XIII f		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
048	58	28.27	N	174 31.24	W	16	SEP	89	11	31	9.4	9.3	96	4	6	140	16	9	6	175	048

CTD

Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.37	4.05
Temp.	9.8919	8.6603
~~Cond.~~	—	—
~~Other~~	0.0006	32.4724

Times JD/Time

Data on	1125
at Surface	1125
Start Down	1126
at Bottom	1131
Start Up	1136
at Surface	
Data off	1231

Data Location 175

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks CTD hit ship on deployment

150 %

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	503	6	158	1131	1136					149.09	3.2676	—	33.2649	145.33	3.26	33.2394	8	412	2
3	1		100		1138					100.92	3.4214	—	33.0485					411	3
4	6		75		1139					73.31	3.6697	—	32.9582					410	4
5	16		50		1140					51.29	4.3742	—	32.8247					409	5
6	18		25		1141					24.35	8.6454	—	32.4630					408	6
7	19		10		1142					10.71	8.6261	—	32.4087					407	7
8	22		3		1143					3.05	8.6286	—	32.4056					406	8
9	23																		9
10	24																		10
11	251																		11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
049	NOAA Ship Miller Freeman	MF-89-06, Leg I		XIII e		049

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
049	58	22.92	N	174	38.37	W	16	SEP	89	13	14	98	98	95	4	7	150	17	9	-6	1285	049

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.29	3.44
Temp.	10.0380	8.8320
Cond.	—	—
Other	0.0054	32.6803

Times JD/Time

Data on: 1243
at Surface: 1244
Start Down: 1244
at Bottom: 1314
Start Up: 1314
at Surface:
Data off: 1314

Data Location 1282

Tape/Diskette I.D.: SEP89
File Name/Header: 049

Remarks: 1272

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9	23		1280		1314					1299.39	2.5054	—	34.4325			34.4324	12		9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
050	NOAA Ship Miller Freeman	MF-89-06, Leg I		XIII d		50

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	Min.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
050	58	18.79	N	174 43.16	W	16	SEP	89		1459		10.10	10.09	4	4	7	165	14	9	-	6	2200	050

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.32	2.26
Temp.	9.5621	9.2811
Cond.	—	—
Other	0.0063	32.7596

Times JD/Time

Data on	1424
at Surface	1424
Start Down	1425
at Bottom	1459
Start Up	1501
at Surface	
Data off	1500

Data Location 1800 +

Tape/Diskette I.D.	File Name/Header
SEP89	050.DAT
	P050.mrk
	UP050.mrk

Remarks No Problems!!

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		150 Bot		1500					1520.61	2.3106	—	34.4816			34.4814	22	422	2
3	1		300		1521					301.05	3.6015	—	33.6567					421	3
4	6		200		1523					204.13	2.6025	—	33.3357					420	4
5	16		150		1525					150.60	3.0942	—	33.2822					419	5
6	18		100		1526					97.68	3.3352	—	33.1908					418	6
7	19		75		1527					73.77	3.7010	—	33.1110					417	7
8	22		50		1528					51.21	4.4797	—	32.9835					416	8
9	23		25		1529					23.89	9.2908	—	32.7521					415	9
10	24		10		1530					10.29	9.2933	—	32.7533					414	10
11	251		3		1531					4.27	9.2927	—	32.7516					413	11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
051	NOAA Ship Miller Freeman	MF-89-06, Leg I	516	Line XIII C		051

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
051	58	11.53	N	174 52.07	W	16	SEP	89	2013		11.10	10.89	947.1	8	0	088	62			1600	051

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.36	2.80
Temp.	9.4146	9.1431
Cond.		
Other	0.0000	32.6584

Times JD/Time

Data on: 1638

at Surface: 1639 1936

Start Down: 1640 1936

at Bottom: 2013

Start Up: 2019

at Surface:

Data off:

Data Location 1650 1958.0

Tape/Diskette I.D.: SEP89

File Name/Header: 051.DAT

Remarks: GPIB Timeout Error - almost lost CTD (grease on cable caused termination) to ship) not terminated

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	503	6		2013	2018					1542.06	2.2488		34.4953	1519.5	2.23	34.4954	07		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
052	NOAA Ship Miller Freeman	MF-89-06, Leg I	518	Line XIII, B		052

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
052	58	08.01	N	174 58.33	W	16	SEP	89	21	57	11.1	11.0	94	4	5	265	04	9	4	1530	052

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.23	3.78
Temp.	10.8500	8.9157
Cond.		
Other	0.4575	32.6395

Times JD/Time

Data on ____
at Surface 2123
Start Down 2123
at Bottom 2157
Start Up 2157
at Surface ____
Data off ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	052.DAT
	P052.MRK
	WP052.MRK

Remarks Chlorophylls & nutrients
STATUS LINE INDICATED 1500 m, BUT .MRK FILE INDICATED 1517

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.	
1																			1	
2	0		1500		2157					1517.52	2.2786		34.4888			34.4857	16	423	2	
3	1		300		2220					301.98	3.5582		33.6542					424	3	
4	6		200		2223					203.83	3.3372		33.4400					425	4	
5	16		150		2224					151.02	3.3143		33.3357					426	5	CH
6	18		100		2226					101.11	3.4206		33.2384					427	6	CH
7	19		75		2226					74.68	3.5593		33.1515					428	7	
8	22		50		2228					52.41	3.8770		33.0550					429	8	CH
9	23		25		2229					26.37	8.9009		32.6372					430	9	
10	24		10		2230					9.24	8.9129		32.6433					431	10	
11	251		3		2231					3.67	8.9329		32.6376					432	11	CH
12																			12	

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
053	NOAA Ship Miller Freeman	MF-89-06, Leg I	520	Line XIII, A		053

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 259 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
053	58	05.10	N	175	05.40	W	16	SEP	89	23	43	10.1	09.9	944	4	4	320	08	9	- 4	1920	053

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.39	2.82
Temp.	10.8132	9.0931
Cond.		
Other	0.9522	32.7621

Times JD/Time

Data on 259

at Surface 2307

Start Down 2307

at Bottom 2343

Start Up 2343

at Surface

Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	053.DAT
	P053.MBK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	0		1507		2343					1526.76	2.2216		34.5010			34.5080	06		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
054	NOAA Ship Miller Freeman	MF-89-06, Leg I	523	Line XII, A		054

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
054	57	55.44	N	174	58.70	W	17	SEP	89	02	05	11.4	11.0	95	37	32	0	09	-	4	3000	054

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.28	2.94
Temp.	10.6011	9.7272
Cond.		
Other	0.1159	32.9856

Times JD/Time

Data on:

at Surface: 0129

Start Down: 0129

at Bottom: 0205

Start Up: 0211

at Surface:

Data off:

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header: 054.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0	✓		020550	021050					1521.23	2.2307		34.5010	1499	2.21	34.500	20	433	2
3	1		300		0235					302.06	3.6358		33.7487					434	3
4	6		200		0237					203.69	2.1961		33.3588					435	4
5	16		150		0239					149.41	1.6965		33.2452					436	5
6	18		100		0240					102.02	2.1523		33.2397					437	6
7	19		75		0241					73.13	2.5750		33.2361					438	7
8	22		50		0242					50.35	5.7402		33.1533					439	8
9	23		25		0243					25.54	9.6726		32.9759					440	9
10	24		10		0244					11.31	9.7189		32.9819					441	10
11	251		3		0244					4.40	9.7382		32.9832					442	11
12																			12

Initials: CD

✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
055	NOAA Ship Miller Freeman	MF-89-06, Leg I	526	Line XII, B		055

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
055	58	02	18	N 174	43	04 W	17	SEP	89	04	41	10.0	10.0	96	2	3	320	18	87	2	3060 055

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.33	3.00
Temp.	9.2415	8.9325
Cond.		
Other	0.4996	32.6030

Times JD/Time

Data on 260/

at Surface 0404

Start Down 0405

at Bottom 0441

Start Up 0442

at Surface

Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	055.DAT

Remarks: Winch readout zeroed @ ≈1200 m during ascent - log error. Sights during descent - on deck, 4-cable was taken apart & re-spooled

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			1502		0442					1519.83	2.2633		34.4940			34.4922	02		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
056	NOAA Ship Miller Freeman	MF-89-06, Leg I	529	Lynx XII C		056

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
056	58	06.85	N	174 33.67	W	17	SEP	89	06	47	09.8	09.6	97.38	3	3	0	20	8	7	2	1930	056

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.33	3.57
Temp.	9.2103	9.2697
Cond.	–	–
Other	0.0050	32.6117

Times JD/Time
Data on
at Surface 0609
Start Down 0609
at Bottom 0647
Start Up 0649
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	056.DAT
	P056.MRK
	UP056.MRK

Remarks: sonar lights @ ≈ 700 m & deeper when winch was stopped @ depth, no sonar lights, sonar lights on ascent

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1499		0647					152.198	2.2328	–	34.5018			34.4994	29	710	2
3	1		300		0712					301.91	3.5745	–	33.6403					709	3
4	6		200		0715					205.10	3.1117	–	33.3910					711	4
5	16		150		0717					152.79	3.2545	–	33.3019					712	5
6	18		100		0719					102.35	3.4017	–	33.2475					443	6
7	19		75		0721					76.42	3.5731	–	33.1593					444	7
8	22		50		0722					47.69	4.0577	–	33.0567					445	8
9	23		25		0723					24.46	9.2459	–	32.6004					446	9
10	24		10		0724					9.28	9.2540	–	32.6089					447	10
11	251		3		0725					1.55	9.2557		32.6090					448	11
12																			12

Initials

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
057	NOAA Ship Miller Freeman	MF-89-06, Leg I		XII d		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
057	58	11.41	N	174 21.62	W	17	SEP	89	09	03	9.9	9.8	00	3	8	310	16	9	2	1330	057

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.41	2.71
Temp.	9.4649	9.1014
Cond.	—	—
Other	0.0000	32.6532

Times JD/Time

Data on: 0827
at Surface: 0828
Start Down: 0828
at Bottom: 0904
Start Up: 0912
at Surface:
Data off: 0904

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks: Error Lites, decreased when speed lowered from 45 to 30 m/min.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	583	6	1188	0906	0911					1197.07	2.6049	—	34.4067	1179.9	2.59	34.4066	40		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

58

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
058	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XII e		058

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Mo.	Yr.	JD = 259	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
058	58	14.95	N	174 13.20		W	17	SEP	89		1632		96	94	01	3	8	320	18	9	2	162	058

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.41	2.92
Temp.	9.4918	8.9017
Cond.	—	—
Sal ~~Other~~	0.0006	32.5727

Times JD/Time

Data on	1026
at Surface	1027
Start Down	1028
at Bottom	1032
Start Up	1032
at Surface	1039
Data off	1032

Data Location 164

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks 139

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		140 Bot		1032					139.80	3.3794	—	33.1602			33.1623	47	715	2
3	1		100		1034					103.47	3.5506	—	33.0728					714	3
4	6		75		1035					77.06	3.6260	—	32.9991					713	4
5	16		50		1036					51.80	4.0354	—	32.9238					708	5
6	18		25		1037					26.19	8.6238	—	32.6787					707	6
7	19		10		1038					12.19	8.8528	—	32.6807					706	7
8	22		3		1039					2.99	8.5563	—	32.6799					705	8
9	23																		9
10	24																		10
11	257																		11
12																			12

Initials _____

✓ _____

·8·59 01 ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
059	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XII 8		059

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
059	58	17.95	N	174 05.16	W		SEP	89	11	28	9.6	9.4	01	3	8	310	16	9	2	131	059

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.41	5.06
Temp.	9.1033	8.6963
Cond.	—	—
Sal ~~Other~~	0.0047	32.4265

Times JD/Time

Data on 1124

at Surface 1124

Start Down 1125

at Bottom 1128

Start Up 1129

at Surface 1130

Data off 1129

Data Location 131

Tape/Diskette I.D.: SEP89

File Name/Header:

Remarks: 114 w/o

Pos.	Bot	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	○		118		1129					119.51	3.3780	—	33.0966			33.0988	55		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
060	NOAA Ship Miller Freeman	MF-89-06, Leg I		XII 9		060

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
060	58	24.87	N	173 50.26	W	17 (260)	SEP	89	12	57	9.5	9.4	01	3	7	325	12	9	-2	125	060

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.37	3.37
Temp.	9.2177	8.7729
Cond.	—	—
~~Other~~ Sal	0.0000	32.3839

Times JD/Time

Data on: 1252

at Surface: 1252

Start Down: 1253

at Bottom: 1257

Start Up: 1302

at Surface: 1309

Data off: 1257

Data Location 125

Tape/Diskette I.D.: SEP89

File Name/Header:

Remarks: 115 m w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	503	6	Bot	1257	1302					115.84	3.1761	—	32.9206	112.36	3.18	32.9223	48	722	2
3	1		100		1304					100.96	3.1737	—	32.9179					721	3
4	6		75		1305					72.14	3.2276	—	32.8531					720	4
5	16		50		1306					50.27	4.0463	—	32.7130					719	5
6	18		25		1307					27.61	8.7537	—	32.3807					718	6
7	19		10		1308					9.89	8.7640	—	32.3825					717	7
8	22		3		1309					2.65	8.7645	—	32.3828					716	8
9	23																		9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
061	NOAA Ship Miller Freeman	MF-89-06, Leg I		line XI 9		061

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
061	57	59.83	N	173	32.04	W	17	SEP	89	16	05	10.5	10.0	02	3	8	328	16	9	-	120	061

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.43	3.15
Temp.	9.2697	8.6407
Cond.	—	—
Other	0.2123	32.1976

Times JD/Time

Data on: 1600

at Surface: 1600

Start Down: 1601

at Bottom: 1605

Start Up:

at Surface:

Data off:

Data Location

Tape/Diskette I.D.: SEP89

File Name/Header:

Remarks: 103

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	O		Bot		1605					107.87	3.3956	—	33.1649			33.1679	38		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
062	NOAA Ship Miller Freeman	MF-89-06, Leg I		XI f		062

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	Min.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
062	57	54	10	N	173	51	97	W	17	SEP	89	1740	9.7	9.2	03	37	330	18	76	1		062

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.37	2.36
Temp.	8.3005	8.5736
Cond.	—	—
Other	0.0000	32.6291

Times JD/Time

Data on	1733
at Surface	1733
Start Down	1735
at Bottom	1740
Start Up	1741
at Surface	1750
Data off	1740

Data Location 142

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks ET installed new Y-cable on fish, still getting Error lites

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		130		1740					128.06	3.3260	–	33.3005			33.3038	37	729	3
4	6		100		1742					102.62	3.3693	–	33.2246					728	4
5	16		75		1744					78.76	3.4603	–	33.1741					727	5
6	18		50		1745					51.92	5.1997	–	32.8590					726	6
7	19		25		1746					28.25	8.4369	–	32.6832					725	7
8	22		10		1748					13.08	8.5700	–	32.6324					724	8
9	23		3		1750					4.69	8.5713	–	32.6307					723	9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
063	NOAA Ship Miller Freeman	MF-89-06, Leg I	547	Line XL e		063

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
063	57	47.58	N	174	01.18	W	17	SEP	89			10.8	10.6	04	3	8	335	16	68	1	925	063

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304
443 - C5
440 - ECR

Monitor Checks

	on Deck	at Surface
Press.	0.39	3.64
Temp.	7.7363	8.5568
Cond.	–	–
Other	0.0000	32.4857

Times JD/Time

Data on: 1847
at Surface: 1848
Start Down: 1848
at Bottom: 1910
Start Up: 1921
at Surface:
Data off: 191

Data Location 855

Tape/Diskette I.D.	File Name/Header
SEP89	063.DAT
	P063.MRK
	UP063.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	503	6	795	1916	1921					806.38	3.0813	–	34.2498	796	3.06	34.2486	03		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
064	NOAA Ship Miller Freeman	MF-89-06, Leg I	549	Luau XT, D		064

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Mo.	Yr. (JD = 260)	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
064	57	46.04	N	174	09.93	W	17	SEP	89	20	20	12.1	12.0	04	4	8	330	14	6	6	1	136	064

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.33	2.38
Temp.	7.7547	9.2993
Cond.		
Other	1.5503	32.4842

Times JD/Time

Data on 260/
at Surface 2016
Start Down 2016
at Bottom 2020
Start Up
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	064.DAT
	P064.MAK

Remarks over lights
pos are referred on sea cable between casts 64 & 65

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0	3	130							131.89	3.3137		33.3409			33.3393	25	730	2
3	1		100		2022					99.63	3.3897		33.2067					731	3
4	6		75		2023					73.84	3.4816		33.1651					732	4
5	16		50		2024					50.81	3.6311		33.0783					733	5 Chl
6	18		25		2025					22.96	8.8430		31.5798					734	6 Chl
7	19		10		2027	TWICE				11.63	9.3147		32.5753					735	7 Chl
8	22		10		2027													NONE	8
9	23		3		2028					1.28	9.3159		32.5944					736	9 Chl
10	24																		10
11	251																		11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
065	NOAA Ship Miller Freeman	MF-89-06, Leg I	551	Line XI, C		065

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD = 260	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
065	57	42.30	N	174	20.56	W	17	SEP	89		21	58	12.8	12.1	06	4	8	340	16	6	6	1	1535	065

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.39	1.98
Temp.	7.7824	9.3768
Cond.		
Other	0.0054	32.7039

Times JD/Time

Data on	260
at Surface	2117
Start Down	2117
at Bottom	2158
Start Up	2159
at Surface	
Data off	

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	065.DAT

Remarks error lights

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1339		2202					1513.78	2.2887		34.4895			34.4521	04		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

·6· 66 vi

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
066	NOAA Ship Miller Freeman	MF-89-06, Leg I	553	line XI, B		066

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 260 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
066	57	40.27	N	174 25.19	W	17	SEP	89	23	42	13.1	12.2	06	4	8	342	13	6	6	1	2200	066

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.40	1.47
Temp.	7.8731	9.6749
Cond.		
Other	0.0083	32.7806

Times JD/Time

Data on 260/
at Surface 2304
Start Down 2305
at Bottom 2342
Start Up 2347
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	066.DAT
	P066.MRK
	UP066.MRK

Remarks: graphs had zero spikes @ ≈475 m
error lights

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.	
1																			1	
2		✓	1469	234240	2347					1485.30	2.3031		34.4847	1465	2.28	34.4838	19	737	2	
3	1		300		0008					302.22	3.5980		33.6970					738	3	
4	6		200		0011					202.14	3.3742		33.4815					739	4	
5	16		150		0012					152.56	3.0282		33.3584					740	5	Chl
6	18		100		0014					99.49	3.1170		33.2719					741	6	Chl
7	19		75		0015					75.24	3.3856		33.2405					742	7	
8	22		50		0016					50.24	4.5159		33.1391					743	8	Chl
9	23		25		0017					25.89	9.6358		32.8530					744	9	
10	24		10		0019					10.92	9.6348		32.8551					745	10	
11	251		3		0019					3.54	9.6384		32.8544					746	11	Chl
12																			12	

Initials _____
✓ _____

·6· 67 ·1 ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
067	NOAA Ship Miller Freeman	MF-89-06, Leg I	558	Line X, A'		067

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 261 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
067	57	13.98	N	174	44.07	W	18	SEP	89	04	36	10.1	09.8	0648	3	4	00	87	6	1	3340	067

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.43	2.51
Temp.	9.6583	8.7346
Cond.		
Other	0.0269	32.5096

Times JD/Time

Data on ____
at Surface 0400
Start Down 0400
at Bottom 0436
Start Up 0437
at Surface ____
Data off ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	067.DAT

Remarks @575 m, 2 error lights on descent - on ascent, @1330 m, 1 error light - @1088 m, 204 m not terminated, below cast 066 & 067 - switched shell, no CTD group

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			1505		0436					1522.93	2.3036		34.4866			34.4858	50		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
068	NOAA Ship Miller Freeman	MF-89-06, Leg I				068

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 261 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
068	57	16.94	N	174 31.91	W	18	SEP	89	06	41	9.5	8.5	06	3	8	030	68	8	6	2	3250	068

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.44	
Temp.	7.6255	
Cond.	–	
~~Other~~	0.9400	

Times JD/Time

Data on	
at Surface	0556
Start Down	0556
at Bottom	0638
Start Up	0642
at Surface	
Data off	

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	068.DAT*

Remarks: Screen large – overflow light @ ≈1430 m data was lost * collected data during ascent – (40 m/min) (20 m/min. for last 200 m)

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1510		0642					1561.98	2.2568	–	34.4987			34.4981	59	747	2
3	1		300		0712					302.81	3.5776	–	33.6114					748	3
4	6		200		0716					201.43	3.1455	–	33.3569					749	4
5	16		150		0718					151.10	3.4200	–	33.2971					750	5
6	18		100		0721					101.17	3.8378	–	33.2366					751	6
7	19		75		0723					76.47	4.1249	–	33.1701					752	7
8	22		50		0725					50.41	4.5818	–	33.0317					753	8
9	23		25		0726					23.66	8.8442	–	32.5053					754	9
10	24		10		0728					8.66	8.9712	–	32.5144					755	10
11	251		3		0729					2.96	8.9699	–	32.5150					756	11
12																			12

Initials _____
✓ _____

.5. 69 ui

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
069	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line X b		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude	E or W	Date JD = 261 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
069	57	21.79	N	174 13.52		W	18	SEP	89	09	34	8.8	8.6	05	3	8	070	06	9	- 1	1830	069

CTD

Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.39	1.61
Temp.	6.6731	9.1326
Cond.	—	—
~~Other~~ Sal	0.1095	32.5470

Times

	JD/Time
Data on	0858
at Surface	0859
Start Down	0900
at Bottom	0934
Start Up	0940
at Surface	
Data off	

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	069.DAT
	P069.mrk
	UP069.mrk

Remarks Boom stuck on deployment, rosette hit platform broke reversing thermometer. Finger interfered w/ reversing thermometer – didn't flip. Redo on next cast

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	2	A	1500	0934	0939					1521.41	2.2841	–	34.4911			34.4899	54		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
070	NOAA Ship Miller Freeman	MF-89-06, Leg I		X C		070

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 261 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
070	57	26.09	N	173	58.38	W	18	SEP	89	11	27	~~8~~ 9.1	9 8.9	1	04	3	8	035	04	9	-	1	599

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks	on Deck	at Surface
Press.	0.40	2.55
Temp.	6.9144	9.1085
Cond.	~~0.0034~~	—
Other	0.0034	32.4104

Times	JD/Time
Data on	1110
at Surface	1111
Start Down	1111
at Bottom	1127
Start Up	1132
at Surface	
Data off	1127

Data Location	
Tape/Diskette I.D.	File Name/Header
SEP89	070.DAT
	P070.MRK
	UP070.MRK

Remarks 567 w/o During Backup, 'C' to abort backup. This stopped sequence of disks. Restarted at 01

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.	
1																			1	
2	2	A	580	1127	1132					550.80	3.4623	—	34.0593	578	3.46	34.0577	45	~~757~~	2	766
3	1		300		1139					307.21	3.5368	—	33.6051					~~758~~	3	765
4	6		200		1141					205.06	3.0860	—	33.3375					~~759~~	4	76
5	16		150		1143					152.94	3.1999	—	33.2787					~~760~~	5	76
6	18		100		1145					102.25	3.4560	—	33.1920					~~761~~	6	76
7	19		75		1146					75.76	4.0794	—	33.1067					~~762~~	7	76
8	22		50		1147					50.05	5.0740	—	32.9668					~~763~~	8	76
9	23		25		1148					24.48	9.2326	—	32.6219					~~764~~	9	75
10	24		10		1149					10.11	9.1174	—	32.4212					~~765~~	10	758
11	25		3		1150					2.69	9.1120	—	32.4170					~~766~~	11	75
12																			12	

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
071	NOAA Ship Miller Freeman	MF-89-06, Leg I		X		

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 261 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
071	57	28.09	N	173 50.10	W	18	SEP	89	1245		8.6	8.1	04	2	8	065	06.9	-	1	1391	071

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.43	3.66
Temp.	7.3050	8.6844
Cond.	—	—
Other	0.0006	32.1558

Times JD/Time

Data on: 1240
at Surface: 1240
Start Down: 1241
at Bottom: 1245
Start Up: 1246
at Surface:
Data off:

Data Location 138

Tape/Diskette I.D.: SEP89

File Name/Header: 071.DAT, P071.MRK

Remarks: Screen froze @ start of cast.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1	0		128		1246					128.08	3.4503	—	33.1507			33.1535	36		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
072	NOAA Ship Miller Freeman	MF-89-06, Leg I		X Q		072

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD =	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
072	57	32.01	N	173	33.05	W		SEP	89		13	59	9.0	8.4	03	2	8	060	07	9	-	1	130	072

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.42	6.52
Temp.	6.6069	8.6588
Cond.	—	—
Other	0.0087	32.2691

Times JD/Time

Data on: 1354
at Surface: 1355
Start Down: 1355
at Bottom: 1359
Start Up:
at Surface: 1405
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2			~~120~~																2
3	1		120		1359					122.92	3.4383	—	33.1674					197	3
4	6		100		1400					96.35	3.4793	—	33.0548					196	4
5	16		75		1401					75.65	3.6971	—	32.9027					195	5
6	18		50		1402					48.06	4.4696	—	32.5997					194	6
7	19		25		1403					25.99	8.5517	—	32.3069					193	7
8	22		10		1404					9.62	8.6554	—	32.2711					768	8
9	23		3		1405					3.32	8.6557	—	32.2717					767	9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
073	NOAA Ship Miller Freeman	MF-89-06, Leg I	585	Pine, TX, E		073

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 261 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
073	56	42.03	N	172	36.27	W	18	SEP	89	23	41	09.8	09.1	96	3	8	075	08	8	6	2 136	073

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.38	2.47
Temp.	10.8447	8.6709
Cond.		
Other	0.3546	32.5983

Times JD/Time

Data on 261
at Surface 2336
Start Down
at Bottom 2341
Start Up 2347
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	073.DAT
	P073.MRK
	WP073.MRK

Remarks: Thermo didn't trip

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1		A		234120	234620					121.22	3.6836		33.1745	—	—				1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Sh. 74 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
074	NOAA Ship Miller Freeman	MF-89-06, Leg I	590	Line XVI, H		074

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
074	56	48.02	N	171	34.19	W	19	SEP	89	03	19	09.0	08.9	94.37	0	7	5	15	8	8	120 (120)	074

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.36	2.96
Temp.	10.9850	8.9941
Cond.		
Other	0.1337	32.1656

Times JD/Time

Data on ____
at Surface 0315
Start Down 0315
at Bottom 0319
Start Up 0319
at Surface ____
Data off ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	074.DAT
	P074.MRK

Remarks: Nutrients & chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2		A	100	031935	0324					100.73	3.7248		33.0516	100	3.72	33.044	05	198	2
3	1		75		0325					75.20	4.0598		32.7834					199	3
4	6		50		0326					49.47	6.7275		32.3944					200	4
5	16		25		0327					24.36	8.9175		32.2184					201	5
6	18		10		0328					8.86	8.9916		32.1652					202	6
7	19		3		0329					2.73	8.9900		32.1660					203	7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
075	NOAA Ship Miller Freeman	MF-89-06, Leg I	592	Line XVI, G		075

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
075	56	42.05	N	171	39.88	W	19	SEP	89	04	23	09.0	09.0	93	3	7	072	16	8	2	124	075

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	2.35
Temp.	8.5676	9.0411
Cond.		
Other	0.4442	32.1583

Times JD/Time

Data on:
at Surface: 0419
Start Down: 0419
at Bottom: 0423
Start Up: 0423
at Surface:
Data off:

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	075.DAT
	P075.MRK
	UP075.MRK

Remarks: error lights during 1st 60 or 70 seconds, no error lights during remainder of all of cast, [illegible] ground wires (which became [illegible])

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2			116		0423					117.06	3.7890		33.0827			33.034	15		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
076	NOAA Ship Miller Freeman	MF-89-06, Leg I	594	Line XVI, F		076

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
076	56	35.94	N	171	45.10	W	19	SEP	89	05	21	09.9	09.2	92	37	06	012	8	8	2	133	076

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.21	2.07
Temp.	8.5973	9.0901
Cond.		
Other	0.0058	32.1334

Times JD/Time

Data on
at Surface: 0515
Start Down: 0515
at Bottom: 0521
Start Up: 0521
at Surface
Data off

Data Location 133

Tape/Diskette I.D.: SEP89
File Name/Header: 076

Remarks: switched ground wires (shield became ground to CTD) - no scan lights
Nutrients & chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2			127		0520					128.69	3.8134		33.0639			33.067	09	204	2
3	1		100		0522					101.30	3.8095		33.0598					205	3
4	6		75		0523					76.52	3.8484		32.8715					206	4
5	16		50		0525					49.83	4.3339		32.6920					207	5
6	18		25		0526					25.17	8.9699		32.1871					208	6
7	19		10		0527					10.08	9.0790		32.1332					209	7
8	22		3		0528					2.57	9.0801		32.1330					210	8
9																			9
10																			10
11																			11
12																			12

Initials

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
077	NOAA Ship Miller Freeman	MF-89-06, Leg I	596	Line XVI, E		077

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
077	56	29.95	N	171.51.24		W	19	SEP	89	06	25	09.8	09.5	91.37			070	12	8	8	2	205	077

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	2.49
Temp.	8.5212	8.9767
Cond.		
Other	0.3104	32.2520

Times JD/Time

Data on:
at Surface: 0617
Start Down: 0617
at Bottom: 0625
Start Up: 0625
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 077.DAT

Remarks: Sample bottle didn't trip

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2		✓	180	062535	063035					195.07	3.486		33.4340	—	—	—	30		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials: ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
078	NOAA Ship Miller Freeman	MF-89-06, Leg I		XVI d		078

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr. (JD = 262)	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
078	56	26	03	N 171	54	00 W	19	SEP	89	07	38	10	10	95	91	3	7	040	08	9 -	1	1031 078

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.25	3.35
Temp.	8.3223	8.5516
Cond.	–	–
~~Other~~ Sal	0.0847	32.5912

Times JD/Time

Data on 262
at Surface 0712
Start Down 0712
at Bottom 0738
Start Up 0738
at Surface
Data off

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 078.DAT

Remarks: Nutrients & chlorophyll a

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	980	074005	0746					989.42	2.8166	–	34.3389	974	2.81	34.337	30	220	2
3	1		300		0800					304.35	3.4793	–	33.5352					219	3
4	6		200		0802					203.19	3.4635	–	33.3826					218	4
5	16		150		0804					150.19	3.5517	–	33.2792					217	5
6	18		100		0805					101.82	3.8228	–	33.1625					216	6
7	19		75		0807					75.70	4.1002	–	33.0701					215	7
8	22		50		0808					50.28	4.6165	–	32.9676					214	8
9	23		25		0810					25.76	8.5450	–	32.6554					213	9
10	24		10		0811					10.38	8.4738	–	32.5849					212	10
11	251		3		0812					1.98	8.4737	–	32.5844					211	11
12																			12

Initials ✓

79

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
079	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line XVI c		079

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
079	56	21.92	N	171	58.74	W	19	SEP	89	09	30	97.9	95.9	3	7	03	08	9	-	5	2180		079

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	2.59
Temp.	8.5232	8.9063
Cond.	—	—
~~Other~~ Sal	0.0353	32.5816

Times JD/Time

Data on: 0853
at Surface: 0854
Start Down: 0854
at Bottom: 0930
Start Up:
at Surface:
Data off:

Data Location 2180

Tape/Diskette I.D.: SEP89
File Name/Header: 079.DAT

Remarks 1468

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	0		1506		0934					1519.17	2.2186	—	34.5034			34.501	1		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
080	NOAA Ship Miller Freeman	MF-89-06, Leg I		Jin XVI b		080

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
080	56	15.83	N	172	04.22	W	19	SEP	89	11	20	10.0	9.8	89	3	7	000	08	9	6	2	2607	080

CTD

Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.27	2.94
Temp.	8.3125	7.8721
Cond.	—	—
~~Other~~ Sal	0.0042	32.5782

Times JD/Time

Data on	1043
at Surface	1043
Start Down	1044
at Bottom	1120
Start Up	1121
at Surface	
Data off	1121

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks Error filter started during up cast. random spikes in salinity occasionally in temp. also.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																		Nutrients ?	1
2	0		BOT. 1503		1121					1521.25	2.2282	—	34.4992			34.500	32	230	2
3	1		300		1144					302.17	3.5948	—	33.5615					229	3
4	6		200		1147					199.87	3.5071	—	33.3846					228	4
5	16		150		1148					149.47	3.4802	—	33.2894					227	5
6	18		100		1150					99.49	3.6627	—	33.1847					226	6
7	19		75		1151					73.69	3.8050	—	33.1077					225	7
8	22		50		1152					47.92	4.1445	—	32.9635					224	8
9	23		25		1153					25.02	7.7005	—	32.5748					223	9
10	24		10		1154					9.31	7.9843	—	32.5922					222	10
11	251		3		1155					2.33	7.9887	—	32.5922					221	11
12																			12

Initials _____

✓ _____

.8. 81 .01 ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
081	NOAA Ship Miller Freeman	MF-89-06, Leg I		line XVI a		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
081	56	10.65	N	172	09.84	W	19	SEP	89	13	16	10.2	10.0	89	2	7	34	5	08	9	2650	181

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks

Deck press. Taken after cast.

	on Deck	at Surface
Press.	0.23	
Temp.	8.7327	
~~Cond.~~ Sal	—	
~~Other~~	0.1439	

Times	JD/Time
Data on	1239
at Surface	1240
Start Down	1241
at Bottom	1316
Start Up	1329
at Surface	1355
Data off	1316

Data Location 2600 1542 W/O

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks: Still have error lites, fewer lites at 45 m/min than at 30? This is weird. Dropped speed to 30, lites increased, decreased when speed again raised to 45

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	1503	1316	1323					1521.68	2.3051	—	34.4719	1498	2.29	34.477	13		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
082	NOAA Ship Miller Freeman	MF-89-06, Leg I	615	VIII a		082

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
082	56	02.83	N	171 30.13	W	19	SEP	89	19	05	10.09	10.09	588	3	8	245	06	7	8	1	2068	082

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.21	2.88
Temp.	8.4314	8.9931
Cond.		
Other	0.0214	32.0333

Times JD/Time
Data on: 1829
at Surface: 1829
Start Down: 1830
at Bottom: 1905
Start Up: 1905
at Surface:
Data off:

Data Location
Tape/Diskette I.D.: SEP89
File Name/Header: 147340 082.DAT; P082.MRK; UP082.MRK

Remarks: List screen @ 1000 meters, aborted cast, returned to surface. More errors on ascent than descent. *

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		1503 BOT		1905					1519.07	2.2493		34.4935			34.494	23	231	3
4	6		300		1925					303.86	3.5223		33.6133					232	4
5	16		200		1928					205.24	3.4542		33.4117					233	5
6	18		150		1930					150.15	3.5390		33.3165					234	6
7	19		100		1931					99.99	3.9357		33.2360					235	7
8	22		75		1932					73.73	4.1422		33.0998					236	8
9	23		50		1933					49.56	4.3500		32.8333					237	9
10	24		25		1934					23.86	8.1708		32.5353					238	10
11	25		10		1935					9.39	8.9586		32.0451					239	11
12	0		3		1936					2.84	9.0006		32.0230					240	12

C1

* brought CTD on deck, ET soldered connections from cable to fish - eliminated pin connections, hardwired. Second cast, fewer error lites, still some

Initials: ✓

Sta. 83 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
083	NOAA Ship Miller Freeman	MF-89-06, Leg I	617	Line VIII, JB		083

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
083	56	07.74	N	171 21.14		W	19	SEP	89	21	06	14.2	11.8	88	3	8	230	10	6	6	1	2300	083

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.25	2.74
Temp.	9.3466	8.7842
Cond.		
Other	1.1097	32.7031

Times JD/Time

Data on: ____
at Surface: 2030
Start Down: 2030
at Bottom: 2106
Start Up: 2106
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	083.DAT
	P083.MRK
	UP083.MRK

Remarks: Inserted isolator @ bolt & inserted transformer @ deck unit - intermittent errors @ surface, no errors past ~200 m - likely errors during ascent -

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	O		1500		2106					1519.67	2.2379		34.4969			34.496	06		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
84	NOAA Ship Miller Freeman	MF-89-06, Leg I	619	Line VIII, C		084

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 262 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
084	56	12.75	N	171	15.47	W	19	SEP	89	22	54	14.5	13.0	88	3	8	230	08	6	6	1	1160	084

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.25	3.14
Temp.	9.1620	8.7351
Cond.		
Other	0.5426	32.6500

Times JD/Time

Data on
at Surface 2226
Start Down 2226
at Bottom 2254
Start Up 2254
at Surface
Data off

Data Location

990 1160 1134

Tape/Diskette I.D.	File Name/Header
SEP89	084.DAT
	P084.MRK
	WP084.MRK

Remarks: prior to cast removed transformer & unbolted plug to opposite side of room - more flag series lights - wrap lights eliminated @ 45 m/min - over lights removed @ 30 m/min

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			995	225910	2304					1008.42	2.8217		34.3361	995	2.81	34.335	35	241	1
2																			2
3	1		300		2323					301.99	3.5137		33.5304					242	3
4	6		200		2326					202.36	3.6472		33.4461					243	4
5	16		150		2320					153.12	3.9485		33.3863					244	5
6	18		100		2332					101.30	4.2825		33.2730					245	6
7	19		75		2333					74.51	4.5511		33.2221					248	7
8	22		50		2334					50.96	5.7769		33.0418					246	8
9	23		25		2335					24.13	8.5757		32.6698					247	9
10	24		10		2336					11.72	8.7655		32.6082					249	10
11	251		3		2337					1.93	8.8203		32.6083					250	11
12																			12

C1

graph during ascent looked like pop out - graph possibly bad below 600m (during ascent)

flag series lights during ascent - winch died during ascent @ 709 m when (709 m sea-bird) winch restarted in ≈1-2 min - let out 100 m of cable (loops on winch) - wrap problems stopped 300 & 200 m (let out some cable) - probs w/ level winder @ 200 m

Initials ✓

Sta. 85 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
085	NOAA Ship Miller Freeman	MF-89-06, Leg I	621	Line VIII, D		85

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD = 263	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
085	56	16.92	N	171	10.25	W	20	SEP	89		00	27	12.0	10.8	888	2	8	225	04	56	1	146	085

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.25	3.02
Temp.	12.2807	8.8425
Cond.		
Other	0.2773	32.5368

Times JD/Time

Data on: ____
at Surface: 0022
Start Down: 0022
at Bottom: 0027
Start Up: 0027
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 085.DAT

Remarks: transducer wetted prior to cast - flag power lights (≈ 1 per 3 secs) during descent & ascent

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			137		0027					137.83	4.0011		33.3094			33.310	07		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11	25,																07		11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
086	NOAA Ship Miller Freeman	MF-89-06, Leg I	6223	Line VIII, E		086

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
086	56	23.05	N	171 01.98	W	20	SEP	89	01	27	13.3	12.0	882.8	2	2	225	04	5	6	1	134	086

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	3.19
Temp.	9.8784	9.2044
Cond.		
Other	0.6177	319.307

Times JD/Time

Data on 263/
at Surface 0123
Start Down 0123
at Bottom 0127
Start Up 0127
at Surface
Data off

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 086.DAT

Remarks: error lights ≈ 1 per 3 secs ascent & descent - no error lights when stopped for tows.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2			123		0127					126.55	3.6407		33.0591			33.056	11	251	2
3	1		100		0128					100.54	3.6300		33.0108					252	3
4	6		75		0129					74.58	3.5844		32.9021					253	4
5	16		50		0130					48.98	3.4459		32.5330					254	5
6	18		25		0131					23.91	8.8666		319.481					255	6
7	19		10		0132					10.60	9.0270		319.240					256	7
8	22		3		0133					2.79	9.2110		319.297					1	8
9																			9
10																			10
11																			11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
087	NOAA Ship Miller Freeman	MF-89-06, Leg I	628	Line VII G		087

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
087	56	24.98	N	169	54.50	W	20	SEP	89	05	19	11.0	10.5	88	2	8	125	12	6	1	103	087

JD = 263

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.17	1.84
Temp.	8.9106	8.2191
Cond.		
Other	0.1860	31.8914

Times JD/Time

Data on
at Surface: 0514
Start Down: 0516
at Bottom: 0519
Start Up: 0519
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	087.DAT
	P087.MRK
	UP087.MRK

Remarks: errors approx every 3 sec. during descent & ascent

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1		✓	85	052035	052535					89.54	3.6678		33.0880	88	3.65	33.088	16		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ✓

88

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
088	NOAA Ship Miller Freeman	MF-89-06, Leg I	630	Line VII, F		088

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
088	56	16.03	N	169 59.11	W	20	SEP	89	0640	09	08.0	08.7	28	1	17	128	6	1		115		088

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks	on Deck	at Surface
Press.	0.23	2.93
Temp.	8.6706	8.7806
Cond.		
Other	0.0106	31.9010

Times	JD/Time
Data on	
at Surface	0634
Start Down	0635
at Bottom	0640
Start Up	0640
at Surface	
Data off	

Data Location	
Tape/Diskette I.D.	File Name/Header
SEP89	088.DAT
	P08

Remarks: strobe lights ascent & descent
load ascent graph

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		100		0640					100.57	3.5112		33.2269			33.227	28	2	3
4	6		75		0641					75.62	3.5227		33.1088					3	4
5	16		50		0643					51.78	4.1347		32.2531					4	5
6	18		25		0644					24.70	7.0581		31.9946					5	6
7	19		10		0646					9.81	8.8079		31.9016					6	7
8	22		3		0647					2.88	8.8025		31.9021					7	8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
089	NOAA Ship Miller Freeman	MF-89-06, Leg I		line VII e		089

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
089	56	08	17 N	170	03 59 W	20	SEP	89	07	53	9.2	9.0	86	2	8	075	14	9	-	1	1126	089

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.11	2.41
Temp.	8.2483	8.1306
Cond.	—	—
Other	0.0942	31.9349

Times JD/Time

Data on: 0748
at Surface: 0748
Start Down: 0750
at Bottom: 0753
Start Up:
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 089.DAT

Remarks: 107 %

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	0		110 Bot		0754					111.12	3.7367	—	33.1188			33.122	31		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
090	NOAA Ship Miller Freeman	MF-89-06, Leg I		VII d		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
090	56	01.19	N	170	06.19	W	20	SEP	89	08	55	9.4	9.0	84	3	8	070	22	9	-	1	1146	090

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.22	2.86
Temp.	8.6994	8.8063
Cond.	—	—
Other	0.0045	32.1662

Times JD/Time

Data on: 0849
at Surface: 0850
Start Down: 0851
at Bottom: 0855
Start Up:
at Surface:
Data off:

Data Location 146

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks 125 w/o

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																	09		1
2	2	A	BOT	0855	0900					127.22	3.8994	—	33.1589	125	3.87	33.158	09	14	2
3	1		100		0903					100.90	4.6959	—	33.0493					13	3
4	6		75		0904					76.49	5.2674	—	32.9244					12	4
5	16		50		0905					49.23	7.5278	—	32.5764					11	5
6	18		25		0907					24.40	9.0086	—	32.3769					10	6
7	19		10		0908					10.02	8.6846	—	32.1145					9	7
8	22		3		0908					2.57	8.7057	—	32.1289					8	8
9																			9
10																			10
11																			11
12																			12

Initials ✓

Besork

.6. 091 .01 ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
091	NOAA Ship Miller Freeman	MF-89-06, Leg I		VII c		

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	Min.	E or W	Date JD = Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
091	55	56	10 N	170	09	03 W	26	SEP	89	10	33	10	99	81	4	7	065	28	9	-	6	1033	091

CTD

Type & SN: SBE 91220-B

Press. SN: 26072

Temp. SN: 710

Cond. SN: 304

Monitor Checks 1022

	on Deck	at Surface
Press.	0.19	
Temp.	9.1714	
Cond.	—	
Other	0.0538	

Times JD/Time

Data on: 0952

at Surface: 0953

Start Down: 0954

at Bottom: 1022

Start Up: 1023

at Surface:

Data off: 1023

Data Location 1033-ov

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks Plot went besork when EGR shifted from 2 scale to 1 coincidence?

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1	0		1010		1022					1018.38	2.8014	—	34.3262			34.323	32		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
092	NOAA Ship Miller Freeman	MF-89-06, Leg I		VII b		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
092	55	52.02	N	170	18.18	W	20	SEP	89	12	09	10.3	10.3	79	4	7	080	26	9	-	6	1460	092

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.19	1.96
Temp.	9.7333	9.0680
Cond	—	—
~~Other~~ SAL	0.0052	32.6214

Times JD/Time

Data on: 1127
at Surface: 1127
Start Down: 1128
at Bottom: 1209
Start Up: 1209
at Surface:
Data off:

Data Location / 1440

Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks: 760 meter - SPIKING, 1670 4/.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1385		1209					1401.54	2.3554	—	34.4609			34.460	34	24	2
3	1		300		1236					310.17	3.6360	—	33.5934					23	3
4	6		200		1239					205.50	3.6373	—	33.4009					22	4
5	16		150		1241					150.78	3.6575	-	33.2489					21	5
6	18		100		1243					104.49	4.1368	-	33.1316					20	6
7	19		75		1244					77.69	4.7293	—	33.0159					19	7
8	22		50		1245					50.93	3.9427	—	32.6396					18	8
9	23		25		1246					23.81	6.7651	-	32.1737					17	9
10	24		10		1247					9.70	8.8112	—	31.9734					16	10
11	251		3		1248					2.53	8.8243	-	31.9706					15	11
12																			12

Initials ✓

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
093	NOAA Ship Miller Freeman	MF-89-06, Leg I		Line VIIa		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
093	55	47.02	N	170	11.31	W	20	SEP	89	14	22	9.9	9.9	79	4	7	090	24	9	-	6		093

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.17	2.74
Temp.	9.1199	8.7410
Cond.	—	—
~~Other~~ Sal	0.0169	32.5092

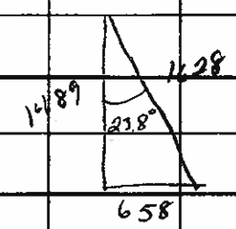
Times	JD/Time
Data on	1343
at Surface	1344
Start Down	1345
at Bottom	1422
Start Up	1427
at Surface	
Data off	1422

Data Location 1800

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks 1628 m, CTD drifted up while soaking therms.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12	2	A	1473	1422	1427					1489.67	2.1910	—	34.5051	1472	2.18	34.504	8		12



Initials ____

✓ ____

nut-34, 80

Sheet 94 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
094	NOAA Ship Miller Freeman	MF-89-06, Leg I	646	Line IV, A		94

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
094	55	50.82	N	169	22.03	W	20	SEP	89	19	33	12.5	11.9	764.7	4	7	095	22	6	4	1810	094

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.15	3.68
Temp.	9.6030	8.9319
Cond.	–	
~~Other~~ Sal	0.5310	32.3300

Times JD/Time

Data on: 1858
at Surface: 1858
Start Down: 1859
at Bottom: 1933
Start Up: 1935
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 094.DAT

Remarks: Lost screen ~1025 m. 1541 w/o - fog over lights on ascent & descent - 1 per 2 secs. ascent & descent graphics bad.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1500		1934											34.494	18	25	2
3	1		300		1957					303.97	3.5696		33.6533					26	3
4	6		200		1959					202.29	3.5680		33.3776					27	4
5	16		150		2001					no sample - bottle didn't close								—	5
6	19		100		2002					101.19	4.5964		33.1393					28	6
7	19		75		2003					74.42	5.0116		32.9248					29	7
8	22		50		2005					49.14	6.3525		32.7406					30	8
9	23		25		2006					25.70	8.9297		32.3521					31	9
10	24		10		2007					9.69	8.9387		32.3409					32	10
11	251		3		2007					4.10	8.9344		32.3403					33	11
12																			12

CHL

CHL

Initials ____

✓ ____

.6. 95 .01 ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
095	NOAA Ship Miller Freeman	MF-89-06, Leg I	6049			095

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 263 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
095	55	58.20	N	169 11.78	W	20	SEP	89	22	38	11.0	10.1	764.7	0	7	5	24	8	6	1300	095

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.11	3.72
Temp.	9.9305	8.9379
Cond.		
Other	0.2262	32.6128

Times JD/Time

Data on 263 /
at Surface 2208
Start Down 2208
at Bottom 2238
Start Up 2240
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	095.DAT

1338
1280

Remarks hard-wired bottom end of sea cable to ship's winch - connected exterior of bottom end of sea cable to ship's ground - (Item cost 94395) - *

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1			1285		2239					1300.46	2.4451		34.4251			34.424			1
2																	14		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

* no error lights during descent or ascent; oscilloscope displays 60 kHz, current meter steady

Initials ____
✓ ____

.6. 96 ui ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
096	NOAA Ship Miller Freeman	MF-89-06, Leg I	653	Line IV, C		096

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
096	56	03.56	N	169	04.24	W	21	SEP	89	01	23	11.4	10.8	76	4	7	070	25	8	6	2	1450	096

CTD

Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.15	3.66
Temp.	9.8789	8.9690
Cond.		
Other	0.0359	32.2795

Times JD/Time

Data on	
at Surface	2351
Start Down	2351
at Bottom	0123
Start Up	0123
at Surface	
Data off	

Data Location 1470 1460

Tape/Diskette I.D.	File Name/Header
SEP89	096.DAT

Remarks CAST ABORTED w/75 m OUT @ 1550 L BY C.O. FOR DINNER - RESTARTED @ 1645 L
No other Digits Chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0	✓	1375	012450	012950					1390.99	2.1084		34.5144	1372	2.08	34.515	22	34	2
3	1		300		0152					303.26	3.5470		33.6064					35	3
4	6		200		0154					204.10	3.7319		33.4610					36	4
5	16		150		0156					151.46	4.0379		33.2901					37	5
6	18		100		0157					100.37	4.5107		33.0972					38	6
7	19		75		0158					72.77	4.7649		33.0042					39	7
8	22		50		0159					49.29	5.4122		32.8036					40	8
9	23		25		0200					23.33	7.4607		32.6170					41	9
10	24		10		0201					10.91	9.0507		32.2532					42	10
11	251		3		0202					4.32	9.0350		32.2614					43	11
12																			12

Initials ____

✓ ____

Sta. 097 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
097	NOAA Ship Miller Freeman	MF-89-06, Leg I	656	Line IV, D		097

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
097	56	09.87	N	168	56.46	W	21	SEP	89	03	09	12.2	11.8	764	4	7	075	20	76	1	280 (260)	097

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.17	2.32
Temp.	9.4834	9.4155
Cond.		
Other	0.6356	32.1947

Times JD/Time

Data on: ____
at Surface: 0301
Start Down: 0301
at Bottom: 0309
Start Up: 0309
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 097.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			260		0309					262.44	3.5128		33.4854			33.488	13		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
098	NOAA Ship Miller Freeman	MF-89-06, Leg I	657	Line IV, E		098

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
098	56	15.15	N	168	50.03	W	21	SEP	89	04	10	12.0	11.5	764.7	0	7	5	22	6	4	155	098

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.07	2.99
Temp.	9.5023	9.4271
Cond.		
Other	0.9630	32.2217

Times JD/Time

Data on:
at Surface: 0405
Start Down: 0405
at Bottom: 0410
Start Up: 0410
at Surface:
Data off:

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 098.DAT

Remarks: Nutrients & chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		144		0410					144.94	3.6092		33.3299			33.332	3	44	3
4	6		100		0413					102.73	3.6983		33.1506					45	4
5	16		75		0414					75.81	3.6591		32.9886					46	5
6	18		50		0416					50.28	4.5311		32.8791					47	6
7	19		25		0417					28.48	7.6046		32.4553					48	7
8	22		10		0418					10.60	9.4314		32.2109					49	8
9	23		3		0419					1.84	9.4401		32.2080					50	9
10																			10
11																			11
12																			12

Initials: ✓

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
099	NOAA Ship Miller Freeman	MF-89-06, Leg I	659	Line IV, F		099

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
099	56	21.01	N	168	39.94	W	21	SEP	89	05	21	11.10	10.8	76	4	7	070	20	6	4	1	130 (130)	099

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.17	2.08
Temp.	9.3618	9.4101
Cond.		
Other	0.1157	32.1576

Times JD/Time

Data on 264
at Surface 0517
Start Down 0517
at Bottom 0521
Start Up 0521
at Surface 0531
Data off

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 099.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2		A	96	052300	052800					96.81	3.5232		33.0873	91.3	3.50	33.001	29		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
100	NOAA Ship Miller Freeman	MF-89-06, Leg I	661			100

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
100	56	27.09	N	168	31.55	W	21	SEP	89	06	25	10.6	10.1	774	7	065	18	9	-	1		125 (123)	100

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks	on Deck	at Surface
Press.	0.21	3.49
Temp.	9.3630	9.3600
Cond.		
Other	0.6806	32.1953

Times	JD/Time
Data on	
at Surface	0621
Start Down	0621
at Bottom	0625
Start Up	0625
at Surface	
Data off	

Data Location	
Tape/Diskette I.D.	File Name/Header
SEP89	100.DAT

Remarks Erased UP100.MRK file

Chlorophyll

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		113		0625					118.03	3.5357		33.1088			33.113	04	51	3
4	6		100		0626					100.64	3.6486		32.9271					52	4
5	16		75		0627					73.73	3.7376		32.6392					53	5
6	18		50		0629					51.94	4.0945		32.4474					54	6
7	19		25		0630					24.72	9.2507		32.1542					55	7
8	22		10		0632					10.50	9.3554		32.1818					56	8
9	23		3		0632					2.94	9.3561		32.1779					57	9
10																			10
11																			11
12																			12

Ch.

Ch.

Initials _____

✓ _____

Page 101 of ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
101	NOAA Ship Miller Freeman	MF-89-06, Leg I		III i		101

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date Day	Date Mo.	Date Yr.	JD =	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
101	56	25.20	N	167 57.73	W		SEP	89		08	44	10.2	9.9	78	4	7	060	18	9	–	1	135	101

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.09	3.43
Temp.	9.6600	9.5036
Cond.	–	–
~~Other~~ Sal	1.3604	32.0014

Times JD/Time

Data on: 0839
at Surface: 0839
Start Down: 0840
at Bottom: 0843
Start Up: 0844
at Surface:
Data off: 0844

Data Location 136

Tape/Diskette I.D.: SEP89
File Name/Header: 101.DAT

Remarks: Screen froze while starting cast.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	O		120		0843					121.28	3.6281	–	32.8280			32.832	5		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

102

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
102	NOAA Ship Miller Freeman	MF-89-06, Leg I		III h		102

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
102	56	17.03	N	168 11.98	W	21	SEP	89	1004		10.0	9.8	78	3	7	050	16	9	1	153	102

CTD	
Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks	on Deck	at Surface
Press.	0.15	1.52
Temp.	9.5351	9.0046
Cond.	–	–
Sal. ~~Other~~	0.0051	32.2507

Times	JD/Time
Data on	0958
at Surface	0958
Start Down	0959
at Bottom	1004
Start Up	
at Surface	1017
Data off	

Data Location 1 59

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks: Nutrients

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	138	1004	1009					138.01	3.6440	–	33.2109	136.93	3.63	33.213	15	64	2
3	1		100		1011					100.77	3.5860	–	33.1210					63	3
4	6		75		1012					74.26	3.4364	–	32.8988					62	4
5	16		50		1014					52.17	4.6217	–	32.7756					61	5
6	18		25		1015					24.62	8.3347	–	32.4809					60	6
7	19		10		1016					11.36	8.9116	–	32.3441					59	7
8	22		3		1017					2.68	8.9692	–	32.2685					58	8
9	23																		9
10	24																		10
11	25																		11
12																			12

Initials _____

✓ _____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
103	NOAA Ship Miller Freeman	MF-89-06, Leg I		III h		103

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
103	56	12.15	N	168 23.22	W	21	SEP	89	11	19	10.9	10.2	78	3	7	030	18	9	-1	178	103

CTD

Type & SN	SBE 91220-B
Press. SN	26072
Temp. SN	710
Cond. SN	304

Monitor Checks

	on Deck	at Surface
Press.	0.19	1.79
Temp.	9.3101	9.1493
Cond.	—	—
Other	0.0159	30.2880

Times

	JD/Time
Data on	1112
at Surface	1113
Start Down	1113
at Bottom	1119
Start Up	
at Surface	
Data off	

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	103.DAT
	P103.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	O		162		1119					165.41	3.6978	—	33.3100			33.313	27		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
104	NOAA Ship Miller Freeman	MF-89-06, Leg I		III f		104

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
104	5606 88	N	16832 45	W	21 SEP 89	1223	11.2	10.8	78	37	030	179	-1			403	104

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.13	
Temp.	9.2832	
Cond.	—	
~~Other~~ S.L	0.0097	

Times JD/Time
Data on: 1212
at Surface: 1213
Start Down: 1213
at Bottom: 1223
Start Up: 1224
at Surface: —
Data off: —

Data Location 402

Tape/Diskette I.D.	File Name/Header
SEP89	104.DAT
	P104.mrk
	UP104.mrk

Remarks 382
Nut.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		389 BOT		1224					391.91	3.4363	—	33.9211			33.924	24	74	2
3	1		300		1226					303.97	3.5020	—	33.5695					73	3
4	6		200		1229					202.07	3.5452	—	33.3873					72	4
5	16		150		1231					150.12	3.8098	—	33.3018					71	5
6	18		100		1232					102.20	3.8496	—	33.1593					70	6
7	19		75		1233					72.73	4.5374	—	33.0678					69	7
8	22		50		1234					49.12	5.4007	—	32.9444					68	8
9	23		25		1235					24.43	8.9965	—	32.3724					67	9
10	24		10		1236					9.72	9.0186	—	32.3709					66	10
11	251		3							2.14	9.0345	—	32.3626					65	11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
105	NOAA Ship Miller Freeman	MF-89-06, Leg I		IIIe		105

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
105	5602 14	N	16841 49	W	21 SEP 89	1353	109	104	79	3	8	015	139	-	1	691 680	105

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.		4.60
Temp.		9.1400
Cond.		—
Other		32.2992

Times JD/Time
Data on: 1335
at Surface: 1336
Start Down: 1337
at Bottom: 1353
Start Up:
at Surface:
Data off: 1353

Data Location
Tape/Diskette I.D.: SEP89
File Name/Header:

Remarks: Lost computer ~ 150m.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	2	A	651	1353	1359					656.79	3.4027	—	33.9907	647.09	3.40	33.991	19		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
106	NOAA Ship Miller Freeman	MF-89-06, Leg I		III d		106.

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
106	5556 97	N	168 50 86	W	21 SEP 89	1527	110.8	80.38				005	159	-	1	654	106

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.15	3.25
Temp.	9.0945	8.9179
~~Cond.~~	—	—
~~Other~~ Sal	0.0048	32.3451

Times JD/Time

Data on	1508
at Surface	1509
Start Down	1510
at Bottom	1527
Start Up	1528
at Surface	1546
Data off	1527

Data Location 647

Tape/Diskette I.D.	Filé Name/Header
SEP89	106.DAT

Remarks: nut + chl, nut.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.	
1																			1	
2	0		617		1527					617.54	3.3071	—	34.0831			34.082	30	84	2	
3	1		300		1534					305.81	3.6407	—	33.4786					83	3	
4	6		200		1537					205.69	4.0544	—	33.3484					82	4	
5	16		150		1539					151.63	4.3417	—	33.2700					81	5	chl
6	18		100		1540					101.54	4.5912	—	33.1075					80	6	6
7	19		75		1541					75.09	4.7018	—	33.0357					79	7	5
8	22		50		1542					51.51	6.1837	—	32.7878					78	8	4
9	23		25		1543					26.61	8.7052	—	32.4817					77	9	3
10	24		10		1544					11.15	8.7702	—	32.3896					76	10	2
11	25		3		1546					2.58	8.7901	—	32.3544					75	11	1
12																			12	

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
107	NOAA Ship Miller Freeman	MF-89-06, Leg I		III C		

Consec. Cast #	Latitude Deg. Min. N or S	Longitude Deg. E or W	Date JD = 264 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
107	5552 93 N	168 59 28 W	21 SEP 89	1646	11.1	10.6	802	3	7	020	16	8	6 2	736	107

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.17	
Temp.	9.2756	
Cond.	—	
Other	0.0065	

Times JD/Time
Data on: 1627
at Surface: 1627
Start Down: 1628
at Bottom: 1646
Start Up: 1647
at Surface:
Data off: 1647

Data Location ~~650~~ 730

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks: 707

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	0		695		1646					701	3.2055	—	34.1676			34.168	02		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
108	NOAA Ship Miller Freeman	MF-89-06, Leg I		III b		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date Day	Mo.	Yr.	JD = 264	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
108	55	50.22	N	169	06.09	21	SEP	89		18	22	11.2	11.0	80	3	7	335	10	6	8	1	1700	108

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.17	2.22
Temp.	8.8765	8.6138
Cond.	—	—
Other	0.0067	32.5173

Times JD/Time

Data on	1744
at Surface	1740
Start Down	1745
at Bottom	1822
Start Up	1827
at Surface	
Data off	1827

Data Location 1556

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks: Ram Parity error checking for Segment address. offending Segment 0000 (~85m) not + chl.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	Bot	1822	1827					1528.69	2.2138	—	34.4956	1505	2.20	34.500	25		2
3	1		300		1851														3
4	6		200		1855														4
5	16		150		1856														5
6	18		100		1858														6
7	19		75		1859														7
8	22		50		1901														8
9	23		25		1902														9
10	24		10		1903														10
11	251		3		1904														11
12																			12

Mark @ first surface

Chl

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
109	NOAA Ship Miller Freeman	MF-89-06, Leg I		IIa		

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
109	5546.29	N	169 13.00	W	21 SEP 89	2024	12.21	10.83	3735.01	7	6	1	2	1	9	0	109

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.19	2.12
Temp.	9.5681	8.6289
Cond.		
Other	0.0061	32.5270

Times JD/Time

Data on: ____
at Surface: 1949
Start Down: 1949
at Bottom: 2024
Start Up: 2024
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	109.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1500							1526.08	2.2131		34.5007			34.501	10		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
110	NOAA Ship Miller Freeman	MF-89-06, Leg I	685	III 2'		110

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
110	5541 78	N	169 20 21	W	21 SEP 89	2210	13.13	13.08	84	3	7	340	12	7	6	2505	110

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.16	3.31
Temp.	9.5069	8.5854
Cond.		
Other	0.1323	32.5276

Times JD/Time

Data on: ____
at Surface: 2133
Start Down: 2133
at Bottom: 2210
Start Up: 2210
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	110.DAT
	P110.DAT
	UP110.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1500		2210					1522.04	2.1969		34.5060			34.505	01	95	2
3	1		300		2237					301.58	3.6244		33.6183					96	3
4	6		200		2240					203.22	3.8622		33.4669					97	4
5	16		150		2241					152.96	4.0336		33.3609					98	5
6	18		100		2243					101.37	4.2933		33.2528					99	6
7	19		75		2244					73.49	4.2407		33.1438					100	7
8	22		50		2245					51.19	4.3832		33.0136					101	8
9	23		25		2247					—	—		—					102	9
10	24		10		2247					8.82	8.5880		32.5353					103	10
11	251		3		2248					3.46	8.5914		32.5351					104	11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
111	NOAA Ship Miller Freeman	MF-89-06, Leg I	689	Line II, a		111

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 264 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
111	55	32.70	N	169	07.49	W 22	SEP	89	01	23	12.5	11.8	85	3	7	330	13	8	6	2	1900	111

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.28	2.90
Temp.	10.2257	8.8212
Cond.		
Other	0.0983	32.8654

Times JD/Time

Data on: ____
at Surface: 0048
Start Down: 0048
at Bottom: 0123
Start Up: 0129
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.: SEP89
File Name/Header: 111.DAT

Remarks: PROCEEDED @ REDUCED SPEED (6 KTS) TO ARRIVE AFTER DINNER (1.75 HRS/11.6 mi)

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1		✓	1500	012305	012900					1522.51	2.2161		34.4995	1491	2.21	34.500	23		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
112	NOAA Ship Miller Freeman	MF-89-06, Leg I	692	Line II, a		112

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
112	55	35.42	N	169	03.92	22	SEP	89	03	13	11.4	10.9	87	3	7	335	13	8	6	2	1650	112

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.13	2.88
Temp.	10.1803	8.9021
Cond.		
Other	0.2845	32.8626

Times JD/Time

Data on: ____
at Surface: 0237
Start Down: 0237
at Bottom: 0313
Start Up: 0314
at Surface: ____
Data off: ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	112.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	0		1500		0313					1523.11	2.2457		34.4926			34.493	21	105	2
3	1		300		0338					302.80	3.6505		33.6295					106	3
4	6		200		0341					201.90	3.7241		33.4791					107	4
5	16		150		0344					153.63	3.8012		33.3897					108	5
6	18		100		0346					100.80	4.3200		33.3089					109	6
7	19		75		0347					74.75	4.7049		33.2702					110	7
8	22		50		0348					49.72	5.8668		33.1315					111	8
9	23		25		0349					24.71	8.8189		32.8614					112	9
10	24		10		0350					9.36	8.9231		32.8627					113	10
11	251		3							3.15	8.9229		32.8625					114	11
12																			12

Che → Che

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
113	NOAA Ship Miller Freeman	MF-89-06, Leg I	695	Line II, b		113

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
113	55	38.59	N	168	57.03	22	SEP	89	05	10	10.3	10.08	873.7	3	4	0	16	8	6	1130	113

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	1.71
Temp.	10.0690	8.3147
Cond.		
Other	0.0052	32.7928

Times JD/Time

Data on 265/
at Surface 0440
Start Down 0440
at Bottom 0510
Start Up 510
at Surface
Data off

Data Location 993 1116

Tape/Diskette I.D.	File Name/Header
SEP89	113.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	O		1080		0510					1086.84	2.8376		34.3271			34.328	26		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
114	NOAA Ship Miller Freeman	MF-89-06, Leg I	1697	Lynott, C		114

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
114	55	42.87	N	168	49.95	W 22	SEP	89	06	34	10.209	9.988	3	8	3	30	14	9	- -	264	114

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.17	3.00
Temp.	10.3060	8.7420
Cond.		
Other	0.0713	32.5023

Times JD/Time

Data on: ____
at Surface: 0626
Start Down: 0626
at Bottom: 0634
Start Up: 0635
at Surface: ____
Data off: ____

Data Location 259 64

Tape/Diskette I.D.	File Name/Header
SEP89	114.DAT

Remarks: Clock & date not set

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	236	0635:25	0640:51					238.32	3.7226		33.5126		3.72	33.514	12	115	2
3	1		200		0642					201.41	3.8717		33.4238					116	3
4	6		150		0643					150.89	4.0808		33.2971					117	4
5	16		100		0645					101.83	4.1053		33.2836					118	5
6	18		75		0646					75.35	4.3691		33.1508					119	6
7	19		50		0647					49.56	5.0657		32.9222					120	7
8	22		25		0649					23.84	8.0450		32.5616					121	8
9	23		10		0649					10.47	8.7169		32.5114					122	9
10	24		3		0650					3.29	8.7163		32.5130					123	10
11																			11
12																			12

Che

Che

Initials ____

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Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
115	NOAA Ship Miller Freeman	MF-89-06, Leg I		II d		115

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date Day	Mo.	Yr.	JD = 265	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
115	55	45.91	N	168	43.01	W	22	SEP	89	07	40	98	95	89	38	33	301	29	-2		149	115

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.33	2.98
Temp.	10.2252	8.8241
Cond.	—	—
~~Other~~ Sal	0.1214	32.3941

Times JD/Time

Data on	0733
at Surface	0735
Start Down	0735
at Bottom	0740
Start Up	0740
at Surface	0745
Data off	0740

Data Location 149

Tape/Diskette I.D.	File Name/Header
SEP89	115.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1	O		140		0740					142.21	4.2052	—	33.2458			33.248	33		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
116	NOAA Ship Miller Freeman	MF-89-06, Leg I		II e		116

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
116	55	52	00 N	168	34 12 W	22	SEP	89	08	47	9.5	9.2	89	3	8	325	10	9	-2	150	116

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	
Temp.	8.8672	
Cond.	—	
~~Other~~ Sd	0.0045	

Times

	JD/Time
Data on	0842
at Surface	0842
Start Down	0843
at Bottom	0847
Start Up	0848
at Surface	
Data off	0847

Data Location 150

Tape/Diskette I.D.	File Name/Header
SEP89	116.dat

Remarks 13 w/o nut. + chl

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot. Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		BOT		0847					134.56	4.1831	—	33.2418			33.244	20	1218	3
4	6		100		0849					101.89	4.2709	—	33.1944					1217	4
5	16		75		0850					77.94	4.8832	—	33.0183					128	5
6	18		50		0852					51.31	7.0906	—	32.7083					127	6
7	19		25		0853					25.86	8.4322	—	32.5512					126	7
8	22		10		0854					10.21	8.8497	—	32.4252					125	8
9	23		3		0855					2.55	8.8697	—	32.4175					124	9
10																			10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
117	NOAA Ship Miller Freeman	MF-89-06, Leg I		II f		117

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Mo.	Yr.	JD = 265	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
117	55	58	N	168	23.11	W	22	SEP	89				95	92	90	38	35	335	10	9	2	162	117

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.21	2.20
Temp.	8.9779	9.1939
Cond.	—	—
~~Other~~ Sal	0.0081	32.2716

Times JD/Time

Data on	0953
at Surface	0954
Start Down	0954
at Bottom	0959
Start Up	1006
at Surface	—
Data off	0959

Data Location 160

Tape/Diskette I.D.	File Name/Header
SEP89	

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2															3.86				2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12	2	A	144	0959	1005					144.52	3.8605	—	33.3844		3.86	33.383	59		12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
118	NOAA Ship Miller Freeman	MF-89-06, Leg I		II9		

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	Longitude Min.	E or W	Date Day	Date Mo.	Date Yr.	JD = 265	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
118	56	02.86	N	168	13.18	W	22	SEP	89		11	06	9.7	9.5	90	3	8	315	10	9	-2	157	118

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.29	1.75
Temp.	9.0919	9.3313
Cond.	–	–
~~Other~~ Sal	0.0046	32.1934

Times JD/Time

Data on 1101
at Surface 1101
Start Down 1102
at Bottom 1106
Start Up 1107
at Surface 1113
Data off 1107

Data Location 157

Tape/Diskette I.D.	File Name/Header
SEP89	118.DAT
	P118.mrk
	uP118.mrk

Remarks 133
Nut.

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3	1		138 Bot		1106					139.75	3.7726	–	33.2255			33.328	49	1225	3
4	6		100		1108					102.10	3.7006	–	33.1068					1224	4
5	16		75		1109					75.52	4.6084	–	33.0105					1223	5
6	18		50		1111					51.37	5.9776	–	32.8883					1222	6
7	19		25		1112					25.38	8.8277	–	32.4530					1221	7
8	22		10		1113					9.62	9.3343	–	32.1951					1220	8
9	23		3		1113					2.32	9.3328	–	32.1955					1219	9
10	24																		10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
119	NOAA Ship Miller Freeman	MF-89-06, Leg I		IIh		

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
119	56	09.93	N	168	11 W	22	SEP	89	12	24	9.9	9.4	91	3	8	335	9	9 -	1	148	119

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.31	3.44
Temp.	8.6963	9.2633
Cond.	—	-
~~Other~~ Sal	0.0047	32.2503

Times

	JD/Time
Data on	1219
at Surface	1219
Start Down	1220
at Bottom	1224
Start Up	1225
at Surface	
Data off	1225

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	119.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10	24		131		1224					132.96	3.7039	—	33.1608			33.164	36		10
11																			11
12																			12

Initials ____

✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
120	NOAA Ship Miller Freeman	MF-89-06, Leg I		II i		120

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
120	56	16.92	N	167 50.19	W	22	SEP	89	1338		10.0	9.8	90	3	8	340	12	9	- 1	141	120

CTD
Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	2.12
Temp.	9.2412	9.6059
Cond.	—	—
~~Other~~ Sal	0.0203	31.9239

Times JD/Time
Data on: 1333
at Surface: 1333
Start Down: 1334
at Bottom: 1338
Start Up: 1343
at Surface:
Data off: 1338

Data Location 141

Tape/Diskette I.D.	File Name/Header
SEP89	120.DAT
	P120.MRK
	NP120.MRK

Remarks: all done 122 w/o
mwt & cl

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot.Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	123 Bot	1338	1343					124.28	3.4726	—	32.9503		3.46	32.944	54		2
3	1		100		1344					97.83	3.5292	—	32.7656						3
4	6		75		1345					72.39	4.0864	—	32.6376						4
5	16		50		1347					49.89	5.3763	—	32.3910						5
6	18		25		1347					24.88	9.2249	—	32.1650						6
7	19		10		1348					9.99	9.6084	—	31.9294						7
8	22		3		1349					3.46	9.6092	—	31.9302						8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
121	NOAA Ship Miller Freeman	MF-89-06, Leg I	720	Line I, F1		121

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date Day	Date Mo.	Date Yr. (JD = 265)	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
121	55	19.19	N	167 39.99	W	22	SEP	89	21	25	09.09	09.09	923	7	3	160	47	6	1		161	121

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.34	2.44
Temp.	11.9985	8.5923
Cond.		
Other	0.1272	32.4686

Times JD/Time

Data on ____
at Surface 2119
Start Down 2120
at Bottom 2125
Start Up 2126
at Surface ____
Data off ____

Data Location 161

Tape/Diskette I.D.	File Name/Header
SEP89	121.DAT
	P121.MRK

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			150		2125					154.77	3.8637		33.3497			33.352			1
2																	37		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
122	NOAA Ship Miller Freeman	MF-89-06, Leg I	721	Line I, E'		122

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date Day	Date Mo.	Date Yr.	JD = 265	Time GMT Hr.	Time GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
122	55	17.07	N	167 46.98	W	22	SEP	89		22	13	13.6	12.7	91	3	7	330	04	7	6	230	122

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	2.02
Temp.	9.8615	8.4895
Cond.		
Other	0.5136	32.5125

Times JD/Time

Data on: ____
at Surface: 2205
Start Down: 2205
at Bottom: 2213
Start Up: 2213
at Surface: ____
Data off: ____

Data Location 230

Tape/Diskette I.D.	File Name/Header
SEP89	122.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1			220		2213					224.90	3.6659		33.4920			33.495	41		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation
123	NOAA Ship Miller Freeman	MF-89-06, Leg I	722	Line I D'		123

Consec. Cast #	Latitude Deg.	Latitude Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
123	55	15	N	167	W	22	SEP	89	23	00	13	12	891	3	7	330	04	7	6	1	355 (351)	123

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.23	2.67
Temp.	10.4461	8.4106
Cond.		
Other	0.1425	32.6852

Times JD/Time

Data on ____
at Surface 2248
Start Down 2248
at Bottom 2300
Start Up 2300
at Surface ____
Data off ____

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	123.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot. Data Therm-P	Sample Bot. Data Avg Tw	Sample Bot. Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2	2	A	335	230110	230610					336.44	3.5892				3.56	33.687	45	1233	2
3			300		2310	←		skipped						→				NONE	3
4	1		200		2310					202.99	3.7039							1234	4
5	6		150		2312					151.73	3.8481							1235	5
6	16		100		2314					101.03	4.2207							1236	6
7	18		75		2315					—	—		—					1237	7
8	19		50		2316					51.70	4.6625							1238	8
9	22		25		2317					24.55								1239	9
10	23		10		2318					10.08								1240	10
11	241		3		2318					2.94								1241	11
12																			12

Initials ____
✓ ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
124	NOAA Ship Miller Freeman	MF-89-06, Leg I	723	Line I, C'		124

Consec. Cast #	Latitude Deg.	Min.	N or S	Longitude Deg.	E or W	Date JD = 265 Day	Mo.	Yr.	Time GMT Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
124	55	11.87	N	167	55.94	W	23	SEP	89	00	01	134	130	91	37	000	06	8	6	2	555	124

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.27	2.76
Temp.	9.9768	8.3482
Cond.		
Other	0.0101	32.8255

Times JD/Time

Data on: ____
at Surface: 2347
Start Down: 2347
at Bottom: 0001
Start Up: 0001
at Surface: ____
Data off: ____

Data Location 551 59 52

Tape/Diskette I.D.	File Name/Header
SEP89	124.DAT

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD Press.	Temp.	Cond.	Sal.	Sample Bot.Data Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11	251		542		0001					546.67	3.3861		34.0213			34.030	46		11
12																			12

Initials ____

✓ ____

·6· 125 ·1 ____

Consec. Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation
125	NOAA Ship Miller Freeman	MF-89-06, Leg I	725			125

Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 266 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
125	5508 97	N	16803 38	W	23 SEP 89	0123	14.2	13.9	990	3	7	015	05	8	6	1490	125

CTD

Type & SN: SBE 91220-B
Press. SN: 26072
Temp. SN: 710
Cond. SN: 304

Monitor Checks

	on Deck	at Surface
Press.	0.21	3.39
Temp.	10.0200	9.1485
Cond.		
Other	11.6763	32.7433

Times JD/Time

Data on 266/
at Surface 0048
Start Down 0048
at Bottom 0123
Start Up 0123
at Surface
Data off

Data Location

Tape/Diskette I.D.	File Name/Header
SEP89	125.DAT

1450
1480

Remarks

Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Time @ Trip	Monitor Values Press.	Monitor Values Temp.	Monitor Values Cond.	Monitor Values Other	Conv. Mon. Values-CTD Press.	Conv. Mon. Values-CTD Temp.	Conv. Mon. Values-CTD Cond.	Conv. Mon. Values-CTD Sal.	Sample Bot.Data Therm-P	Sample Bot.Data Avg Tw	Sample Bot.Data Sal.	Sal. Bot. #	Other Samp.	Pos.
1																			1
2										1494.49	2.2373		34.4947			34.494	43		2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials ____
✓ ____