

Consec. Cast # 001		Vessel NOAA Ship SURVEYOR	Proj. & Leg SU-93-03			Event#	Vessel Sta. I.D.		Instructions 3-54-6 nm overcast						Sta. Designation 74-06-913				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = Mo. Yr.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
001	15 44 7 9	N	168 32 5	W	02	SEP 93	21	38 09 7	09 5	1236 19020						2221 b R EGGY			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface						8 13	Times	JD/Time	Data Location								
Press. SN 25084		Press.							Data on	21	Tape/Diskette I.D.								
Temp. SN 701		Temp.							at Surface		File Name/Header								
Cond. SN 303		Cond.							Start Down		CAST001.DAT								
		Other							at Bottom	213755									
									Start Up										
									at Surface										
									Data off										
											Remarks Fluorometer setting changed to medium sensitivity before this cast. Settings now = 3x and 3 seconds.								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sat.	Other	Pos.
	Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1	1	38		131553					200	other hole sheet						24	1	1	
2	2	38		134620												25	2	2	
3	3	38		134640												26	3	3	
4	4	25		131747												28	4	4	
5	5	11		134843												29	5	5	
6	6	11		134903												30	6	6	
7	7	11		134920												31	7	7	
8	8	9		134956												32.5126	32	8	8
9	9	9		135015												33	9	9	
10	10	9		135033												34	10	10	
11	11	0														35	11	11	
12	LM																	12	

Initials SD
✓ _____

2042
buoy

~170
-18 m

bucket
temp
8.8 °C

Sal.
001

Initials SD

Consec. Cast # 003		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions <i>1st 4.5 min log</i>						Sta. Designation 008		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 247			Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. ss	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
	Deg. Min.	Deg.	Deg.	Day	Mo.	Yr.	Hr. Min.											
003 52 22 29 N	169 36 9 W	04 S EP 93	03 45 10 2 10 1	08 2 10 9 009	4	897	008											
CTD Type & SN 91220-A	Monitor Checks on Deck at Surface							Times JD/Time	Data Location 1080									
Press. SN 25084	Press.	Temp.	Cond.	Other	Data on 247/0324	at Surface 0324	Tape/Diskette I.D.	File Name/Header CAST003.DAT										
Temp. SN 701	Temp.	Temp.	Temp.	Temp.	Start Down 0324	at Bottom 0345												
Cond. SN 303	Cond.	Cond.	Cond.	Cond.	Start Up 0346	at Surface 0406												
	Other				Data off 0406													
Remarks <i>line 1, cast 3 wind road-cut problems</i>																		
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1		<i>surf</i>							0.304	6.9071		32.5754		32.5686	003		1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials CD

Consec. Cast # 004	Vessel NOAA Ship SURVEYOR	Proj. & Leg SU-93-03	1SU93	Event # 34	Vessel Sta. I.D.	Instructions	16 40.5				Fog	Sta. Designation 009							
Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date JD = 247	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D				
	004 52 17 3	N	169 34 6	W	04s EP 93	0541 1051 0508	2100510	41506											
CTD Type & SN 91220-A	Monitor Checks				on Deck	at Surface	Times	JD/Time	Data Location										
Press. SN 25084	Press.	Temp.	Cond.	Other	Data on	247/0508	Tape/Diskette I.D.	File Name/Header											
Temp. SN 701	Press.	Temp.	Cond.	Other	at Surface	0508	CAST 004.DAT												
Cond. SN 303	Temp.	Cond.	Other	Other	Start Down	0508													
					at Bottom	0539													
					Start Up	0540													
					at Surface	Data off	Remarks	Time II, Cast 4											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1									- 1506.810	2.0436	- -	345855*	-		34.5447	004	1		
2									1500.383	2.0815		34.5474					2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

* If salinity varies from actual salinity compare with first salinity in .MK file

Initials CD ✓

Consec. Cast # 005		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event # 39	Vessel Sta. I.D.		Instructions			0-1	0-1	F06			Sta. Designation 010	
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD = 247		Time	GMT	Dry	Wet	Bar.	S.S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
	Deg. Min.		Deg.		Day Mo. Yr.		Hr. Min.		Bulb	Bulb	mb 1007.5	Vis.							
005	52 10 2	N	16 93 10	W	04 S EP 93		07 57 10		9 10 9	08	23 09 510					43051	010		
CTD Type & SN 91220-A					Monitor Checks					Times JD/Time			Data Location						
					on Deck at Surface					Data on 247/0728			Tape/Diskette I.D.		File Name/Header				
					Press. _____					at Surface 0728					CAST 005.DAT				
					Temp. _____					Start Down 0728									
					Cond. _____					at Bottom 0757									
					Other _____					Start Up 0758									
										at Surface _____									
										Data off _____									
Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Sal.	Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos.	
					Press.	Temp.	Cond.	Other		Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1				3.395	9.6029		31.9163							31.9108	005	1			
2																2			
3																3			
4																4			
5																5			
6																6			
7																7			
8																8			
9																9			
10																10			
11																11			
12																12			

Initials CD/LL

✓ _____

Consec.Cast # 006		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 45	Vessel Sta. I.D.		Instructions				Sta. Designation			
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date JD = 247	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1009.1	Si. Si	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D
	006	52	2021	N	169	24	9	W	04	S E P 93	0909	11	11	11	0725	10508	43296	011
CTD Type & SN		91220-A			Monitor Checks				Times		JD/Time				Data Location			
Press. SN		25084			on Deck				Data on						Tape/Diskette I.D.		File Name/Header	
Temp. SN		701			at Surface				at Surface								CAST006.DAT	
Cond. SN		303			Press.				Start Down									
					Temp.				at Bottom		9:09							
					Cond.				Start Up									
					Other				at Surface									
									Data off									
Remarks Odd, spiky activity from ~250-300 m on downcast. Upcast showed similar (but less pronounced) features at comparable depths, so data may be real.																		

Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1		✓	Bottom	9:09	9:14					1498.768	2.2051		34.5233	1487.6	2.19	34.5202	006		1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials LAL



Consec.Cast # <u>007</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# <u>51</u>	Vessel Sta. I.D.			Instructions			<u>C</u> <u>.5</u> <u>FOG</u>			Sta. Designation			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = <u>287</u>	Mo.	Yr.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb <u>1006.8</u>	S. Si	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W eath.	Bottom Depth, m	Sta. Name or I.D
	00751468	N	169173	W	04	S	E	P93	12	49	11	2	11	207	118010	44618			012		
CTD Type & SN <u>91220-A</u>				Monitor Checks on Deck at Surface								Times		JD/Time		Data Location					
Press. SN <u>25084</u>				Press. _____								Data on _____		Data on _____		Tape/Diskette I.D.		File Name/Header			
Temp. SN <u>701</u>				Temp. _____								at Surface _____		at Surface _____				<u>CAST007.DAT</u>			
Cond. SN <u>303</u>				Cond. _____								Start Down _____		Start Down _____							
				Other _____								at Bottom _____		at Bottom _____							
												Start Up _____		Start Up _____							
												at Surface _____		at Surface _____							
												Data off _____		Data off _____							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1									10.032	11.1164		32.1578				32.1568	007		1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials LAL

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Consec. Cast # 608		Vessel NOAA Ship SURVEYOR		Proj. & Leg SU-93-03		ISU93	Event # 56	Vessel Sta. I.D.		Instructions 1 5 overcast rain								Sta. Designation			
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = Day Mo. Yr. 247	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1006.2	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D	
	00 8 5	13 3 4	N	16 9	12 2	W	04 S EP 93	15 5 6	10 5	10 5	0 6 2	6	17 0 1 0	6 6 5 1 3	10 1 3						
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface						Times		JD/Time		Data Location							
Press. SN 25084				Press. _____						Data on _____		Tape/Diskette I.D. _____		File Name/Header _____							
Temp. SN 701				Temp. _____						at Surface		CAST 008.DAT									
Cond. SN 303				Cond. _____						Start Down _____											
				Other _____						at Bottom _____											
										Start Up _____											
										at Surface _____											
										Data off _____		Remarks									
Pos.	Bot.	T	Rack	Trip Depth	Time @ Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Sal. Bot. #	Other Samp.	Pos.	
1											1499.410	2.1783		34.5285				34.5243			1
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials LL
✓

Consec.Cast # 009	Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03	Event# 59	Vessel Sta. I.D.	Instructions a' 8NM Rain	Sta. Designation 014													
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 248 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	Si. Si.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D		
0 0 9 5 1 5 3 8 N	1 7 3 3 0 7 W		0 5 s	E P 9 3	0 4 2 6 0 9 0 9	9 8 3 7 0 5 5 2 0	6	3 5 0	0 1 4										
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 Cond. SN 303				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 0414 at Surface 0414 Start Down 0415 at Bottom 0426 Start Up 0426 at Surface 0426 Data off				Data Location MOR-330 Tape/Diskette I.D. File Name/Header CAST009.DAT							
Remarks Line 11 cast 9																			
Pos. P	Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
1					Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	31.9980	009	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CS

✓ _____

Consec. Cast # 010		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 63	Vessel Sta. I.D.		Instructions at 5 NM RAIN								Sta. Designation 015		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 248	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	Deg.	Min.	Deg.		Day Mo. Yr.	Hr. Min.													
01051510N	173319W	05s	E P 93	0600095092	963604020	51489	015												
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface						Times	JD/Time	Data Location									
Press. SN 25084								Data on	0528	Tape/Diskette I.D.	File Name/Header								
Temp. SN 701								at Surface	0528	CAST010.DAT									
Cond. SN 303								Start Down	0528										
								at Bottom	0600										
								Start Up	0600										
								at Surface	0633										
								Data off		Remarks									
										DEPTH = 1245.241									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1	✓	1300 depth	06015b	0695					1260.040	2.5983	34.4309	663.5	2.57	34.4292	10	1			
2																2			
3																3			
4																4			
5																5			
6																6			
7																7			
8																8			
9																9			
10																10			
II																II			
I2																I2			

Initials CD

✓

Consec. Cast # 011		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 69	Vessel Sta. I.D.		Instructions 2 m Rain								Sta. Designation 017			
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 248	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Si.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	Deg.	Min.	S	Deg.		Day Mo. Yr.	Hr. Min.		75.0											
011	15	45	N	173	31	8	W	05	08	19	92	92	95	360	4020	62909	017			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084										Data on		Tape/Diskette I.D.	File Name/Header							
Temp. SN 701										at Surface	0749	CAST011.DAT								
Cond. SN 303										Start Down										
										at Bottom										
										Start Up										
										at Surface										
										Data off										
Remarks drifters deployed ab sta 016 max depth = 1499																				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1			surface							1.687	10.2617	31.9710				31.9669	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 CSD



Consec. Cast # 012		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 74	Vessel Sta. I.D.		Instructions 2-4- 4-6 rain						Sta. Designation				
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date JD = Day Mo. Yr.	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 993.9	S. vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	012	51	39	6	N	173	31	2	W	05	s	E P	93	10	17	00	1009	4	3607022	63684	018
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times		JD/Time		Data Location					
Press. SN 25084				Press. _____								Data on _____		Data on _____		Tape/Diskette I.D.		File Name/Header			
Temp. SN 701				Temp. _____								at Surface		at Surface				CAST 012.DAT			
Cond. SN 303				Cond. _____								Start Down _____		Start Down _____							
				Other _____								at Bottom		at Bottom							
												Start Up _____		Start Up _____							
												at Surface _____		at Surface _____							
												Data off _____		Data off _____							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				
1			baloon							1496.609	2.2786	34.5074			34.5009	12		1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
II																		II			
I2																		I2			

Initials LL

Consec. Cast # <u>013</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # <u>78</u>	Vessel Sta. I.D.			Instructions <u>3/6-9</u> <u>dizzle</u>						Sta. Designation		
Consec. Cast #	Latitude N or S		Longitude E or W		Date Day	JD = <u>248</u>	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb <u>971.5</u>	S. <u>></u>	Wind Dir. <u>050</u>	Wind Sp. <u>20</u>	Cloud Type <u>0</u>	Weather <u>E</u>	Bottom Depth, m <u>54587</u>	Sta. Name or I.D <u>019</u>		
<u>013</u>	Deg. <u>51</u>	Min. <u>29</u>	S <u>b</u>	Deg. <u>177</u>	Deg. <u>30</u>	W <u>9</u>	Mo. <u>05</u>	Yr. <u>EP 93</u>	<u>1242</u>	<u>100</u>	<u>100</u>	<u>9237</u>	<u>050</u>	<u>20</u>	<u>0</u>	<u>54587</u>	<u>019</u>			
CTD Type & SN <u>91220-A</u>				Monitor Checks						Times		Data Location								
				on Deck			at Surface			JD/Time		Tape/Diskette I.D.				File Name/Header				
				Press. _____			Press. _____			Data on _____		<u>CAST 013.DAT</u>								
				Temp. _____			Temp. _____			at Surface _____										
				Cond. _____			Cond. _____			Start Down _____										
				Other _____			Other _____			at Bottom _____										
										Start Up _____										
										at Surface _____										
										Data off _____										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			<u>SWF</u>							<u>10.918</u>	<u>10,4253</u>	<u>32.0223</u>				<u>32.0237</u>	<u>13</u>		1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials l.b. ✓

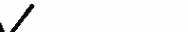
Consec. Cast #		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation					
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD =		Time	Dry	Wet	Bar.	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	rain	Bottom Depth, m	Sta. Name or I.D				
	Deg. Min.		Deg.		Day	Mo.	Yr.	GMT Hr.	Bulb	Bulb	mb	vis	vis										
014	45	11	15	55	N	17	33	09	W	05	S	E	P	93	15	34	99	99	90	37	03022	64724	020
CTD Type & SN 91220-A					Monitor Checks								Times		JD/Time		Data Location						
					on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header				
					Press.								at Surface						CAST 014.DAT				
					Temp.								Start Down										
					Cond.								at Bottom										
					Other								Start Up										
													at Surface										
													Data off										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.			
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg-Tw	Sal.	Bot. #	Samp.					
1		✓	<i>bottom</i>							1501.730	21437		34.5292	1481.4	2.17	34.5346	14		1				
2																			2				
3																			3				
4																			4				
5																			5				
6																			6				
7																			7				
8																			8				
9																			9				
10																			10				
11																			11				
12																			12				

Initials LL✓

Consec. Cast # 015		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 89	Vessel Sta. I.D.		Instructions <i>as 4 10NM overcast</i>								Sta. Designation 021			
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 249	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	<i>S.</i>	<i>Vis.</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	Deg.	Min.	Deg.		Day Mo. Yr.	Hr. Min.														
01550427 N	177437 W	06S	E P 93	0442	100095	953700032	24385	021												
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084		Press.								Data on	2003	Tape/Diskette I.D.	File Name/Header							
Temp. SN 701		Temp.								at Surface	2003	CAST015.DAT								
Cond. SN 303		Cond.								Start Down	2003									
		Other								at Bottom	2042									
										Start Up	2042									
										at Surface		Remarks 1856(1) w/o								
										Data off										
P. s.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1										2.206	9.9829	32.3030			32.3053	015		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
I2																		I2		

Initials *C S**V*

Consec. Cast # 016		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 96	Vessel Sta. I.D.			Instructions 24 8-10 overcast						Sta. Designation 022	
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 249	Time GMT		Dry Bulb	Wet Bulb	Bar. mb 996.7	S. S.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D		
	Deg. Min.	N S	Deg.	Deg.	Day Mo. Yr.	Hr. Min.													
	01650562	N	177424	W	06s EP 93	0714	10	0100	963735536							24214	022		
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface					Times JD/Time		Data Location								
Press. SN 25084				Press.					Data on 0640		Tape/Diskette I.D. File Name/Header								
Temp. SN 701				Temp.					at Surface		CAST 016.DAT								
Cond. SN 303				Cond.					Start Down										
				Other					at Bottom										
									Start Up										
									at Surface										
									Data off		Remarks								
P. s.	Bot.	T.	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	P. s.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			at 0640	0715						1502423	2.1853	34.5236			34.5260	016		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials SD

Consec. Cast # 017		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 102	Vessel Sta. I.D.		Instructions 4-6 8-10 overcast		Sta. Designation 023								
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 249	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 997.5	S. vis. ✓	Wind Dir. 35536	Wind Sp. 23104	Cloud Type 2	Bottom Depth, m	Sta. Name or I.D				
	Deg. Min. S	Deg.		Day Mo. Yr.															
	01751080 N		177426 W	06s EP 93	09 37	89	89	9	8	47	35536	23104	023						
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times	JD/Time	Data Location									
Press. SN 25084				Press.		Data on		Tape/Diskette I.D.						File Name/Header					
Temp. SN 701				Temp.		at Surface								CAST 017.DAT					
Cond. SN 303				Cond.		Start Down													
				Other		at Bottom													
						Start Up													
						at Surface													
						Data off													
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			surf						8.150	9.7728	32.3073			32.3108			1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____



Check for spikes at w.1050 m

Consec.Cast # 018		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 107	Vessel Sta. I.D.			Instructions 2-4 7-8 overcast								Sta. Designation				
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day Mo. Yr.	JD = 249	Time Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 999.0	S si	V is	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	0 1 8	5 1 1	1 6 7	N	1 7 7	4 3 6	W	0 6 S E P 9 3	1 1 5 8	8 8	8 6	9 9 3 7	3 3 0	2 8	2	2 3 4 7	0 2 4							
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 Cond. SN 303					Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____					Times JD/Time Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____					Data Location Tape/Diskette I.D. File Name/Header CAST 018.DAT									
																				Remarks Wire angles of 40-60° throughout cast. Drifted ~2.4 miles from skirt to "at bottom". initial 20% at depth				
Pos.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD *				Sample Bot.Data				Sal.	Other	Pos.					
1	✓	bottom	59.21		~1495 (\pm 2m)	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.					
2	✓	bottom			~1495 (\pm 2m)						3.125		34.510	1474.3	2.24	34.5093				1				
3											3.125		34.510	1479.2	2.25					2				
4																				3				
5																				4				
6																				5				
7																				6				
8																				7				
9																				8				
10																				9				
11																				10				
12																				11				

Initials _____

* No mark file was made (not sure why).
These values are from the .CNV file. ✓

Consec.Cast # 019		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 112	Vessel Sta. I.D.		Instructions 4-6 8-10							Sta. Designation		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 29			Time GMT	Dry Bulb	Wet Bulb	Bar. mb 99.0	S. si	V. vi	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	Deg. Min.	Min. S	Deg.	W	Day	Mo.	Yr.	Hr. Min.									1581	025		
0 1 9	5 1	2 3 3 N	1 7 7 4 1 b	W	0 6	S	E P 9 3	1 4 5 4	8 8	8 7	9 9	4 7	0 0	5 3 0						
CTD Type & SN 91220-A				Monitor Checks								Times JD/Time		Data Location						
				on Deck				at Surface						Tape/Diskette I.D.			File Name/Header			
				Press. _____				Press. _____				Data on _____ at Surface _____		CAST 019.DAT						
				Temp. _____				Temp. _____				Start Down _____ at Bottom _____								
				Cond. _____				Cond. _____				Start Up _____ at Surface _____								
				Other _____				Other _____				Data off _____		Remarks						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1									7.855	7.3695		32.7749			32.7773	019		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

✓ _____

Consec.Cast # <u>020</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								over cast		Sta. Designation	
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = Mo.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 1000.3	S. vis	V. is	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	0 2 0	5 1	2 8	7	N	1 7 7 4	1 7	W	0 6	S E P 9 3	1 6	5 2	8 2	8 2	0 0	4 7	0 0 5	3 5	2	1 1 4 6	0 2 6	
CTD Type & SN <u>91220-A</u>				Monitor Checks on Deck at Surface								Times		JD/Time		Data Location						
Press. SN <u>25084</u>				Press. _____								Data on _____		Data on _____		Tape/Diskette I.D.		File Name/Header				
Temp. SN <u>701</u>				Temp. _____								at Surface		at Surface		CAST <u>020</u> .DAT						
Cond. SN <u>303</u>				Cond. _____								Start Down _____		Start Down _____								
				Other _____								at Bottom		at Bottom								
												Start Up _____		Start Up _____								
												at Surface		at Surface								
												Data off _____										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.		
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.	Bot. #
1			<u>bottom</u>						1018.926	7.8960		34.3524				34.3546			1			
2																			2			
3																			3			
4																			4			
5																			5			
6																			6			
7																			7			
8																			8			
9																			9			
10																			10			
11																			11			
12																			12			

Initials _____

Consec.Cast # <u>021</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # <u>113</u>	Vessel Sta. I.D.			Instructions <u>2-3 5</u> <i>over cast</i>						Sta. Designation		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = <u>249</u>			Time GMT		Dry Bulb	Wet Bulb	Bar. mb <u>1012.5</u>	S. vis	V. is	Wind Dir.	Wind Sp.	Cloud Type	W eath.	Bottom Depth, m	Sta. Name or I.D
021	Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.										354	027
0 2 1 5 1 3 2 6 N					1 7 7 4 1 4 W	0 6	s	E P 9 3	1 8 0 0	8 0	8 0	1 3 3 6	3 5 2 2 2	2	3 5 4	0 2 7				
CTD Type & SN <u>91220-A</u>					Monitor Checks					Times JD/Time		Data Location								
					on Deck		at Surface			Data on _____ at Surface _____		Tape/Diskette I.D.		File Name/Header						
					Press. _____					Start Down _____ at Bottom _____				CAST <u>021</u> .DAT						
					Temp. _____					Start Up _____ at Surface _____										
					Cond. _____					Data off _____		Remarks		<u>Line III</u> <u>v 380</u>						
Pos.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.	
			Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1			<i>new sample</i>							5,778	8.4658		32.4708				32.4730	021		1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
II																			II	
I2																			I2	

Initials rk

✓ _____

Consec.Cast # 022	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event#	Vessel Sta. I.D.	Instructions				12° 10' N 110° E				overcast		Sta. Designation 022				
Consec. Cast #	Latitude Deg. Min. S	N or S	Longitude Deg. Min. W	E or W	Date Day Mo. Yr.	JD = 249	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	022 51 31 3	N	179 08 8	W	06 S	E P 93	22 50 08	50 75 08	37 33 02 0	21 16 0						028			
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 Cond. SN 303				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 2227 at Surface 2227 Start Down 2227 at Bottom 2250 Start Up 2251 at Surface _____ Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header CAST 022.DAT							
Remarks Line IV, Sta 22 east side of Anchithra Pass																			
Pos. #	Bot.	T	Trip	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos. #
					Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1	✓	at depth	225340	2358					1000.131	2.8799		34.3364	987.3	2.89	34.3349	022	1		
2																	2		
3									DEPTHT = 989.063								3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
II																	II		
I2																	I2		

Initials CS

✓

Consec.Cast # 023		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions 4/101NM								Sta. Designation 029			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 250	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si	V. is	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
0235	12912	30	N	179233	W	07	S EP 93	00	45	08	00	77	09	38	34514	61089	029				
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface						Times JD/Time		Data Location									
Press. SN 25084				Press.						Data on 250 / 0021		Tape/Diskette I.D.		File Name/Header							
Temp. SN 701				Temp.						at Surface		0022		CAST 023.DAT							
Cond. SN 303				Cond.						Start Down											
				Other						at Bottom		0044									
										Start Up											
										at Surface											
										Data off											
P. Bot. Rack	T Depth	Time @ Depth		Monitor Values					Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other pos.			
		0044		Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.							
		1	sub					1.635	7.4535		32.6901			32.6906	023	1					
		2														2					
		3														3					
		4														4					
		5														5					
		6														6					
		7														7					
		8														8					
		9														9					
		10														10					
		II														II					
I2														I2							

Initials CD✓

Consec. Cast # <u>024</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg SU-93-03		ISU93	Event# <u>131</u>	Vessel Sta. I.D.		Instructions		<i>partly cloudy</i> <i>4' 10"</i>		Sta. Designation <u>030</u>							
Consec. Cast #	Latitude N or S	Deg. <u>30</u>	Min. <u>29</u>	Longitude E or W	Deg. <u>6</u>	Date JD = <u>250</u>	Day <u>07</u>	Mo. <u>E</u>	Yr. <u>93</u>	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
02451299 N		179353 W		07S E P 93		023408508409				3833016		11158		030							
CTD Type & SN <u>91220-A</u>				Monitor Checks				Times JD/Time				Data Location									
Press. SN <u>25084</u>				on Deck at Surface				Data on <u>0210</u>				Tape/Diskette I.D.				File Name/Header					
Temp. SN <u>701</u>				Press. _____				at Surface <u>0210</u>				CAST <u>024</u> .DAT									
Cond. SN <u>303</u>				Temp. _____				Start Down <u>0210</u>													
_____				Cond. _____				at Bottom <u>0236</u>													
_____				Other _____				Start Up _____													
								at Surface _____													
								Data off _____													
P. s.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.
1			<i>@ depth</i>							1108.141	27.801		34.3629			34.3635	024		1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
II																			II		
I2																			I2		

Initials _____
✓ _____

Consec. Cast # 025		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 134	Vessel Sta. I.D.			Instructions <i>1-5' 10' partly cloudy</i>								Sta. Designation 031	
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 250			Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. si	V. si	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg. 30	Min.	S	Deg. 5	W	Day	Mo.	Yr.	Hr.	Min.												
025	51	27	4	N	179	41	1	W	07	S	E	P	93	04	12	09	00	80	103834010	1~885	031
CTD Type & SN 91220-A					Monitor Checks								Times		JD/Time		Data Location				
Press. SN 25084					on Deck				at Surface				Data on				Tape/Diskette I.D.	File Name/Header			
Temp. SN 701					Press.								at Surface	0352				CAST 025.DAT			
Cond. SN 303					Temp.								Start Down								
					Cond.								at Bottom								
					Other								Start Up								
													at Surface								
													Data off								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.
1			<i>surface</i>							3.325	7.5244	32.7290				32.7313	025	1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
II																		II			
12																		12			

Initials CD

Consec. Cast # 026		Vessel NOAA Ship SURVEYOR		Proj. & Leg SU-93-03		1SU93	Event # 139	Vessel Sta. I.D.		Instructions 2' 10"		depth		Sta. Designation 032														
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 250	Time Mo.	GMT Yr.	Dry Hr.	Bulb	Wet Min.	Bar. mb	S vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D										
	9		8																									
	026	51	29	9	N	179	59	2	07	S	E	P	9	3	06	12	08	00	70	12	38	30	7	06	74	21	130	032
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times Data on 0549		Data Location Tape/Diskette I.D. 577 fine				File Name/Header CAST 026.DAT										
Press. SN 25084				Press.								at Surface																
Temp. SN 701				Temp.								Start Down																
Cond. SN 303				Cond.								at Bottom																
				Other								Start Up																
												at Surface																
												Data off																
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.								
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.	Bot. #	Samp.					
1		✓	at depth	22840	573							872.980	3.0432		34.2959	862.6	3.02	34.2959			1							
2																				2								
3																				3								
4																				4								
5																				5								
6																				6								
7																				7								
8																				8								
9																				9								
10																				10								
II																				II								
I2																				I2								

Initials _____
✓ _____

Consec. Cast # 027		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 145	Vessel Sta. I.D.			Instructions 2 ^y lot PC						Sta. Designation 033		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 250		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S ₁	S ₂	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.		Deg.		Day	Mo.	Hr. Min.			1013.0	✓	✓					11110	033	
027	51283	N		179400	E	#07	S EP 93	0821	81	81	11338	-	-					11110	033	
CTD Type & SN 91220-A		Monitor Checks								Times JD/Time		Data Location								
Press. SN 25084		on Deck				at Surface				Data on		Tape/Diskette I.D.		File Name/Header						
Temp. SN 701		Press.								at Surface		CAST 027.DAT								
Cond. SN 303		Temp.								Start Down										
		Cond.								at Bottom										
		Other								Start Up										
										at Surface										
										Data off										
Pos.	Bot.	Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			surface							2.985	7.7082		32.6762						1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials LAL

Consec.Cast # 028		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 149	Vessel Sta. I.D.		Instructions								Sta. Designation 034			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 250	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	8		5	5	07	079250	07 90	050790	079	1339290	1077	11347					034			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times		JD/Time						Data Location		
Press. SN 25084										Data on								Tape/Diskette I.D.	File Name/Header	
Temp. SN 701										at Surface								CAST028.DAT		
Cond. SN 303										Start Down										
										at Bottom										
										Start Up										
										at Surface										
										Data off										
Pos.	Bot.	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			at Depth							1213.078	2.8296		34.3493			34.3504	028		1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials LAL

✓ _____

Consec. Cast # 029		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 152	Vessel Sta. I.D.		Instructions 1-2 10-15 PC Sunny								Sta. Designation 035			
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date JD = 250 Day Mo. Yr.	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1012.1	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D	
	0 2 9	5 2	5 7	6	N	1 7 9 3 2 5	W	0 7	S E P 9 3	1 8 4 5	8 5	7 5	1 2	2 8 1 9 0 1 6	1 1 3 8 4		0 3 5			
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface						Times		JD/Time		Data Location						
Press. SN 25084				Press.						Data on				Tape/Diskette I.D.		File Name/Header				
Temp. SN 701				Temp.						at Surface						CAST 029.DAT				
Cond. SN 303				Cond.						Start Down										
				Other						at Bottom										
										Start Up										
										at Surface										
										Data off										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Bot.	Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			surface							11.974	6.9013		32.9810							1
2																				2
3																				3
4																				4
5																				5
6																				6
7																				7
8																				8
9																				9
10																				10
II																				II
I2																				I2

Initials LAI
✓ _____

Consec. Cast # 030		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 155	Vessel Sta. I.D.		Instructions								Sta. Designation 036			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 250		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis	V. vis	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D		
Deg.	Min.	Deg.		Deg.	W	Day	Mo.	Yr.	Hr. Min.													
0 3 0	5 2 5	7 9	N	1 7 9 1 6 1	W	0 7	S	E P 9 3	2 0 3 5 0 9	6 0 8 6	1 2 3 9	2 2 0	1 4 4 6	1 1 3 5 8					0 3 6			
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times		JD/Time		Data Location 1383						
Press. SN 25084												Data on	2009	Tape/Diskette I.D.	File Name/Header							
Temp. SN 701												at Surface	2009	CAST 030.DAT								
Cond. SN 303												Start Down	2009									
												at Bottom										
												Start Up										
												at Surface										
												Data off										
												Remarks DEPTH = 1195.778										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot.Data				Sal.	Other	Pos.			
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P				Avg Tw	Sal.	Bot. #
1	✓	at depth	203733	2042					1209953	2.5889		34.4189	1199.7	2.58	34.4171	030		1				
2																		2				
3																		3				
4																		4				
5																		5				
6																		6				
7																		7				
8																		8				
9																		9				
10																		10				
11																		11				
12																		12				

Initials CD

Consec. Cast # 031		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event# 158	Vessel Sta. I.D.		Instructions								Sta. Designation 037		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 250		Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D		
	03152577	N	179006	W	07s	E P 93	222809	1082	12392101	88623482							037			
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 Cond. SN 303				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 250 / 2159 at Surface 2159 Start Down 2159 at Bottom 2228 Start Up 2229 at Surface _____ Data off _____		Data Location Tape/Diskette I.D. File Name/Header CAST031.DAT										
Remarks																				
Pos. #	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			<i>surface</i>						0.331	8.7680		32.8901			32.8928			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD ✓ _____

Consec. Cast # 032		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event # 163	Vessel Sta. I.D.		Instructions								Sta. Designation 038			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 251		Time GMT		Dry Bulb		Wet Bulb		Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D
Deg.	Min.	Deg.		Deg.		Day Mo. Yr.	Hr. Min.														
032	52	57	5	17	83	06	W	08	S E P 93	00 55	09	109	0	12392102056	13724				038		
CTD				Monitor Checks								Times		JD/Time		Data Location					
Type & SN 91220-A				on Deck				at Surface				Data on		00:26		Tape/Diskette I.D.		File Name/Header			
Press. SN 25084				Press.								at Surface						CAST 032.DAT			
Temp. SN 701				Temp.								Start Down									
Cond. SN 303				Cond.								at Bottom		0055							
				Other								Start Up		0056							
												at Surface						Remarks			
												Data off									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.	
		Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				
1		at Depth								1498.598	2.2957		34.4900			34.4910	032	1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
11																		11			
12																		12			

Initials CD



Consec. Cast # 033		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 167	Vessel Sta. I.D.		Instructions								Sta. Designation 039			
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 251	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. si	V. vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	Deg. 25	Min. 74	N	Deg. 177	Min. 57	W	Day 08	Mo. EP	Yr. 93	Hr. 03	Min. 40	090	085	1239	2024862	23714	039			
CTD Type & SN 91220-A		Monitor Checks								Times JD/Time		Data Location								
		on Deck				at Surface				Data on 251/0308		Tape/Diskette I.D.	File Name/Header							
										at Surface	0308		CAST 033.DAT							
										Start Down	0308									
										at Bottom	0340									
										Start Up	0340									
										at Surface										
										Data off										
													Remarks							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Bot.	Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			<i>Surface</i>							3.003	8.7654		32.8533				32.8558			1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
II																			II	
I2																			I2	

Initials CD

Consec. Cast # 034		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 173	Vessel Sta. I.D.		Instructions								Sta. Designation 040			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 251	Day Mo. Yr.	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	3		178													23628	040			
03452421 N		177594 W		08s EP 93		06 05 08 6 08 4	13 39 23 01 8 86 2													
CTD Type & SN 91220-A		Monitor Checks				Times	JD/Time	Data Location												
Press. SN 25084		on Deck		at Surface		Data on	0533	Tape/Diskette I.D. File Name/Header												
Temp. SN 701		Press.				at Surface	0533	CAST034.DAT												
Cond. SN 303		Temp.				Start Down	0533													
		Cond.				at Bottom	0605													
		Other				Start Up	0610													
						at Surface	0636													
						Data off		Remarks DEPTH = 1476.093												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1	✓	depth	220515	221015						1494.565	2.3197		34.4823	1477.4	2.30	34.4850			1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CBD✓

Consec. Cast # 035		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU=93-03			Event # 179	Vessel Sta. I.D.			Instructions 1 10 clear								Sta. Designation 041			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 251		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. ss	V. vis	Wind Dir.	Wind Sp.	Cloud Type	W. weath.	Bottom Depth, m	Sta. Name or I.D				
Consec. Cast #	Deg. 035	Min. 52	S N	Deg. 22	W E	Day 177	Mo. 59	Yr. 1	Hr. 08	Min. 26	1014.5	2	8	23	01	8	-	03582	041				
DISCARD				03552260 N				177591 W 08S EP 93				0826 88 88				15							
CTD Type & SN 91220-A				Monitor Checks				Times JD/Time				Data Location											
Press. SN 25084				on Deck at Surface				Data on _____				Tape/Diskette I.D.				File Name/Header							
Temp. SN 701				Press. _____				at Surface _____				CAST 035.DAT DOWNCAST											
Cond. SN 303				Temp. _____				Start Down _____				CAST X35.DAT UPCAST											
_____				Cond. _____				at Bottom _____				Remarks * SEE BACK				Temp + Cond charged following this cast.							
Other _____				Other _____				Start Up _____															
Data off _____								at Surface _____															
								Data off _____															
PoS	Bot.	T Rack	Trip Depth	Time @ Depth	Trip	Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD	Sal.	Therm-P	Avg Tw	Sal.	Sal.	Bot. #	Sal.	Other	Sal.				
1			<i>surface</i>							409.295 3.6788	33.8995					33.8954	035		1				
2																			2				
3																			3				
4																			4				
5																			5				
6																			6				
7																			7				
8																			8				
9																			9				
10																			10				
II																			II				
I2																			I2				

Initials LL

✓ _____

Consec. Cast # 0356		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event# 182	Vessel Sta. I.D.		Instructions		12 10 <i>start overcast</i>		Sta. Designation 042						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 251	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1015.5	S _s S _v	Wind Dir. Wind Sp.	Wind Sp.	Cloud Type Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
035	51 24	1 N	17 25 73	W	08s EP 93	0955	89	88	16	28	230	18661	3524		041					
CTD Type & SN 91220-A					Monitor Checks				Times JD/Time		Data Location									
Press. SN 25084					on Deck at Surface				Data on _____ at Surface _____		Tape/Diskette I.D.		File Name/Header							
Temp. SN 701 710					Press. _____				Start Down _____ at Bottom _____				CAST 035B.DAT							
Cond. SN 303 304					Temp. _____				Start Up _____ at Surface _____											
					Cond. _____				Data off _____											
					Other _____															
Pos.	Bot.	T Rack	Trip Depth	Time @ Depth		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
				Trip	Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
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 LL



Consec. Cast #		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event # 184	Vessel Sta. I.D.		Instructions								m cloud ? 1-210		Sta. Designation	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 251		Time	GMT	Dry	Wet	Bar.	S.	Wind	Wind	Cloud	Type	Weath.	Bottom	Sta. Name	
		Deg.	Min.	Deg.		Day	Mo.	Hr.	Min.	Bulb	Bulb	mb	vis	Dir.	Sp.	Type	Wheath.	Depth, m	or I.D		
036	52129	N	177595	W	08	S	E	P	93	1130	87	1015.5	16	28	225187	23288	42				
CTD				Monitor Checks								Times		JD/Time		Data Location					
Type & SN 91220-A				on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header			
Press. SN 25084				Press.								at Surface						CAST 036.DAT			
Temp. SN 701 710				Temp.								Start Down									
Cond. SN 303 304				Cond.								at Bottom									
				Other								Start Up									
												at Surface									
												Data off									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.
1										1501.569	2-3132		34.4831				34.4876		1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
II																			II		
I2																			I2		

Initials LL

Consec. Cast # 037		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 188	Vessel Sta. I.D.		Instructions 23 11						Sta. Designation 043 clear					
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 251	Time Hr.	Dry Bulb	Wet Bulb	Bar. mb 1016.0	Si. vis	Vis	Wind Dir.	Wind Sp.	Cloud Type --	Weath.	Bottom Depth, m	Sta. Name or I.D		
037	52	05	3	N	177 59 0	W 08s E P 9 3	134 3	8 7	8 6	16	38	225	20	--	02754	043				
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times JD/Time		Data Location										
Press. SN 25084				Press. _____				Data on _____		Tape/Diskette I.D.			File Name/Header							
Temp. SN 701 710				Temp. _____				at Surface _____					CAST037.DAT							
Cond. SN 903 304				Cond. _____				Start Down _____												
				Other _____				at Bottom 1344												
								Start Up _____												
								at Surface _____												
								Data off _____												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			surface						1.216	8.5318		32.9165			32.9136			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials LL

Consec. Cast # 038		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 190	Vessel Sta. I.D.		Instructions 1-2 11 PC						Sta. Designation 044				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 251	Time GMT Day Mo. Yr. Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1010.0	S. vis.	VIS.	Wind Dir.	Wind Sp.	Cloud Type ?	Weather Weath.	Bottom Depth, m	Sta. Name or I.D		
	038 52 0	20 N	177 59 5	W	08 S EP 93	15 24	86	85	1628	220	18	12358	044						
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface						Times JD/Time		Data Location									
Press. SN 25084								Data on _____	Data on _____	Tape/Diskette I.D.	File Name/Header								
Temp. SN 701 710								at Surface _____	at Surface _____	CAST 038.DAT									
Cond. SN 303 304								Start Down _____	Start Down _____										
								at Bottom _____	at Bottom _____										
								Start Up _____	Start Up _____										
								at Surface _____	at Surface _____	Remarks									
								Data off _____	DEPTH = 1454.944 w/o 1738										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	✓	at depth	2430							1472.978	2.3151		34.4826	1457.9	2.29	34.4869			1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
I2																		I2	

Initials LL



Consec. Cast # 039		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 195	Vessel Sta. I.D.		Instructions 1-2 10								Sta. Designation 045		
Consec. Cast #	Latitude N or S	Deg.	Min.	Longitude E or W	Deg.	Date JD = 251	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	<i>vis</i>	<i>vis</i>	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D	
039	51 57 0	N		178018 W		08s EP 93	1706	85	84	16	28	25018				950	045		
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times	JD/Time	Data Location									
Press. SN 25084				Press.	Start Down	Tape/Diskette I.D.	File Name/Header												
Temp. SN 701 70				Temp.	at Bottom	CAST 039.DAT													
Cond. SN 303 304				Cond.	Start Up														
				Other	at Surface	Remarks													
					Data off	950 = initial max depth.													
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			<i>surface</i>							5.018	8.0360	32.8419		32.8467				1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
12																		12	

Initials LAL

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Consec.Cast # 040	Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03	Event # 198	Vessel Sta. I.D.	Instructions								Sta. Designation 046					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 252	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
040	52 09 6	N	176 07 6	W	09	S E P 9 3	0054	11 8	105	182934504561		1450				046		
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 710 Cond. SN 303 304					Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 0022 at Surface 0022 Start Down 0022 at Bottom 0054 Start Up 0055 at Surface _____ Data off _____				Data Location Tape/Diskette I.D. File Name/Header CAST 040.DAT					
Remarks																		
Pos. Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1		1441.204	2.2763														1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
II																	II	
I2																	I2	

Initials CD✓

Consec. Cast # <u>041</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# <u>200</u>	Vessel Sta. I.D.		Instructions							Sta. Designation <u>047</u>			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = <u>252</u>	Time Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	<u>041521196</u>	N	<u>1760764</u>	W	<u>09</u>	<u>S E P 93</u>	<u>0227</u>	<u>156</u>	<u>13218</u>	<u>290700</u>	<u>456</u>	<u>12148</u>					<u>047</u>		
CTD Type & SN <u>91220-A</u> Press. SN <u>25084</u> Temp. SN <u>70t 710</u> Cond. SN <u>303 304</u> _____ _____				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on <u>0156</u> at Surface <u>0156</u> Start Down <u>0156</u> at Bottom <u>0227</u> Start Up <u>0227</u> at Surface <u>0227</u> Data off <u>0227</u>				Data Location Tape/Diskette I.D. <u>CAST041.DAT</u> File Name/Header _____ _____ _____ _____ Remarks							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			<i>surface</i>							<u>1.849</u>	<u>9.1596</u>	<u>32.8258</u>			<u>32.8231</u>			1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CD

Consec. Cast # 042		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 201	Vessel Sta. I.D.		Instructions								Sta. Designation 048			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 252	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si	V. is	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	21	N	17	W	06	17	12	01	18	29	0600	0856	1303	9			048			
04252173 N 176064 W 09 S EP 93					04171251101829060085613039															
CTD Type & SN 91220-A					Monitor Checks					Times JD/Time					Data Location					
					on Deck at Surface					Data on 0349					Tape/Diskette I.D.					
					Press. _____					at Surface 0349					File Name/Header					
					Temp. _____					Start Down 0349					CAST042.DAT					
					Cond. _____					at Bottom 0417										
					Other _____					Start Up 0452										
										at Surface _____					Remarks DEPTH = 1484.266 m					
										Data off _____										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1	✓	do	depth	041700						1502.769	2.3421	34.4777	1483.0	2.34	34.4800			1		
2																	2			
3																	3			
4																	4			
5																	5			
6																	6			
7																	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials _____

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Consec. Cast # 043		Vessel NOAA Ship SURVEYOR		Proj. & Leg SU-93-03		ISU93	Event# 209	Vessel Sta. I.D.		Instructions								Sta. Designation 049		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 252	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	Si. vi.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D		
	23 23	N	176 07 3	W	09	S E P 93	06 46 08 90 79 1	82 90 55 14 26 13 58 8									049			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084		Press.								Data on	0615	Tape/Diskette I.D.	File Name/Header							
Temp. SN 701 710		Temp.								at Surface	0615		CAST 043.DAT							
Cond. SN 303 304		Cond.								Start Down	0615									
		Other								at Bottom	0646									
										Start Up	0646									
										at Surface										
										Data off										
Pos. P	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			<i>surface</i>							1.216	8.5318	32.9165			32.8476			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
I2																		I2		

Initials SD
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Consec. Cast # 044		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 213	Vessel Sta. I.D.		Instructions 1-2 lot clear								Sta. Designation 050	
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date JD = 252	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1018.9	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.		Deg.			Day Mo. Yr.											03706	050	
04452462 N		176078 W	09S	E P	93	0859	90	80	19	2805516	-	-								
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface					Times	JD/Time	Data Location									
Press. SN 25084				Press.					Data on		Tape/Diskette I.D. File Name/Header									
Temp. SN 70± 710				Temp.					at Surface		CAST044.DAT									
Cond. SN 303 304				Cond.					Start Down											
				Other					at Bottom											
									Start Up											
									at Surface											
									Data off											
											Remarks									
P. s.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1										1501.445	2.3556		34.4751			34.4781		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials LL
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Consec. Cast # 045	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event# 218	Vessel Sta. I.D.	Instructions 1-2 lot	Sta. Designation 051													
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 252	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1018.9	Si. 51	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
045	53 02 0	N	176 07 2	W	09S E P 93	11 20	86	78	19	28	055	18	-	03739	051				
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 710 Cond. SN 303 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____		JD/Time		Data Location Tape/Diskette I.D. File Name/Header CAST 045.DAT							
												Remarks Both T+S very spiky from ~ 50-90m							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			<i>surface</i>						1.508	9.4244		32.8184			32.8183			1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
I2																		I2	

Initials ll

Consec.Cast # 646				Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event# 323		Vessel Sta. I.D.			Instructions							Sta. Designation 052	
Consec. Cast #	Latitude N or S		N or S	Longitude E or W		E or W	Date JD = 252	Time GMT		Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1015.2	Si	Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	Deg.	Min.	S	Deg.	Deg.	W	Day Mo. Yr.																
	046	53	N	11	50		1740	560	W	04	S	E P 93	1812	90	89	1548	065	22862	3528		052		
CTD				Monitor Checks								Times JD/Time		Data Location									
Type & SN 91220-A				on Deck				at Surface				Data on 252 / 1740		Tape/Diskette I.D.			File Name/Header						
Press. SN 25084				Press.				Press.				at Surface 1741					CAST 046.DAT						
Temp. SN 701 710				Temp.				Temp.				Start Down 1741											
Cond. SN 303 304				Cond.				Cond.				at Bottom 1811											
				Other				Other				Start Up 1821											
												at Surface											
												Data off											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.				
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				Bot. #	Samp.		
				1	✓	depth					1497.980	2.3050		34.4857	1482.9	2.29				34.4877			1
				2																			2
				3																			3
				4																			4
				5																			5
				6																			6
				7																			7
				8																			8
				9																			9
				10																			10
				11																			11
12																12							

Initials CH

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Consec.Cast # 047		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event# 226	Vessel Sta. I.D.		Instructions								Sta. Designation 053				
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 252	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	V. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
047		52 56 8	N	174 05 8	W	09 SEP 93	2047092089	12	47090358553413	12								Bottom Depth, m	Sta. Name or I.D		
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times JD/Time				Data Location									
Press. SN 25084				Press.				Data on 252 / 2016				Tape/Diskette I.D.				File Name/Header					
Temp. SN 710				Temp.				at Surface				2016				CAST 047.DAT					
Cond. SN 304				Cond.				Start Down				2016									
				Other				at Bottom				2017									
								Start Up				2047									
								at Surface													
								Data off													
P.S.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1			Surface							1.342	9.4243	32.7676								1	
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials _____

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Consec. Cast # 048	Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03	Event# 230	Vessel Sta. I.D.	Instructions								Sta. Designation 054							
Consec. Cast #	Latitude N or S Deg. Min.	Longitude E or W Deg. Min.	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	Wheath.	Bottom Depth, m	Sta. Name or I.D					
	048 52 46 5 N	17 40 6 6 W	09 SEP 93	23 05 09 8 09 4	08 46 09 03 5	53200	054													
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____				Data Location Tape/Diskette I.D. File Name/Header CAST048.DAT								
Pos.	Bot.	T Rack	Trip Depth	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.	
1		at depth			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #		1
2											1499.429	2.3100		34.4842						2
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

 Initials _____
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Consec. Cast # 049		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03		Event # 234	Vessel Sta. I.D.		Instructions								Sta. Designation 055		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 253	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
		3		6		10		01	48	09	709	2054	7095	288	55	2080	055			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084		Press. _____								Data on	0113	Tape/Diskette I.D.	File Name/Header							
Temp. SN 710		Temp. _____								at Surface	0113	CAST049.DAT								
Cond. SN 304		Cond. _____								Start Down	0113									
		Other _____								at Bottom	0113									
										Start Up	0113									
										at Surface	0113									
										Data off	0113									
Pos. Bot.	T Rack	Trip Depth	Time @ Depth		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.	
			Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.							
1		surface							3.863	74711		32.8953			32.8959			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		11		
I2																		12		

Initials _____
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Consec. Cast # 050		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU<93>-03			Event # 235	Vessel Sta. I.D.			Instructions								Sta. Designation 056	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 253	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	<i>Si</i>	<i>Vis</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.	Deg.	Day	Mo.	Yr.	Hr. Min.														
050	52	27	N	174	06	2	W	10	S E P 93	0340	0900	9004	36	11024872	1282	056					
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times	JD/Time	Data Location							
Press. SN 25084				Press.	Temp.	Cond.	Other	Data on	0311	Tape/Diskette I.D.	File Name/Header										
Temp. SN 710								at Surface	0311		CAST 050.DAT										
Cond. SN 304								Start Down	0311												
								at Bottom	0340												
								Start Up	0340												
								at Surface		Remarks	DEPTH = 1100.789 m										
								Data off													
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1									1113.533	27060		34.3813	1150.3	2.72	34.3826				1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials SS✓

Consec. Cast # 051	Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03	Event # 239	Vessel Sta. I.D.	Instructions										Sta. Designation 053			
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = 253	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D			
051	52 25 N	17 40 6 W	10 SEP 93	050209009	003	33410520874	582								057			
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 0449 at Surface 0449 Start Down 0449 at Bottom 0503 Start Up _____ at Surface _____ Data off _____		Data Location Tape/Diskette I.D. File Name/Header CAST 051.DAT								
Remarks																		
Pos. Bot.	T Rack	Trip Depth	Time @ Depth		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		surf. 0512							1.713	7.2105		32.8339		32.8328			1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials _____
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Consec. Cast # 052		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event #	Vessel Sta. I.D.		Instructions 1-2/0 Fog										Sta. Designation 052	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 253 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1016.3	Si. ci.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	05252216	N	172085	W	10 SEP 93	11 12	83	83	1620			190	109-4	390		058				
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header _____ CAST052.DAT								
												Remarks								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
1				Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials LL

Consec.Cast # <u>053</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions			<u>2-3 o-1/2</u>			Fog			Sta. Designation			
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = <u>253</u>	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb <u>1016.5</u>	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
	53	52	21	7	N	171576	W	10 SEP 93	1300	83	83	1731160	10	4-4	325	059								
CTD		Monitor Checks										Times		JD/Time		Data Location								
Type & SN <u>91220-A</u>		on Deck					at Surface					Data on				Tape/Diskette I.D.		File Name/Header						
Press. SN <u>25084</u>		Press.										at Surface						<u>CAST 053, DAT</u>						
Temp. SN <u>710</u>		Temp.										Start Down												
Cond. SN <u>304</u>		Cond.										at Bottom												
		Other										Start Up												
												at Surface												
												Data off												
Pos. Bot.	Rack	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Bot. #	Samp.	Pos.			
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.								
				1	✓	<u>140976</u>					0.734	6.5419	32.769			32.7602								1
				2																				2
				3																				3
				4																				4
				5																				5
				6																				6
				7																				7
				8																				8
				9																				9
				10																				10
				II																				II
12																12								

Initials _____
✓ _____

Consec. Cast #		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event # 247	Vessel Sta. I.D.		Instructions		2-3 1/2				Fog		Sta. Designation		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 253		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Si. ci.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.	Deg.	Deg.	Day	Mo.	Yr.	Hr. Min.												
54	52	23	0	N	171	44	44	W	10	S E P 93	14	0	8	6	8	6	1631	160089-4	290	060
CTD				Monitor Checks								Times		JD/Time		Data Location				
Type & SN 91220-A				on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header		
Press. SN 25084				Press.								at Surface						CAST054.DAT		
Temp. SN 710				Temp.								Start Down								
Cond. SN 304				Cond.								at Bottom								
				Other								Start Up								
												at Surface								
												Data off								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1																			1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
II																			II	
I2																			I2	

Initials _____
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Consec.Cast # <u>055</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event# <u>256</u>	Vessel Sta. I.D.		Instructions <u>23 12</u> <u>I06</u>								Sta. Designation					
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = <u>253</u>	Time	Dry	Wet	Bar.	Si.	Vis.	Wind	Wind	Cloud	Type	Weath.	Bottom	Sta. Name			
		Deg.	Min.	Deg.		Day	Mo. Yr.	GMT Hr. Min.	Bulb	Bulb	mb	vs	vs	Dir.	Sp.	Type	Weath.	Depth, m	or I.D				
0	55	5	2	2	6	0	N	17 13 24	W	10 SEP 93	15 32	86	86	163	11 35	149	-4	340	067				
CTD				Monitor Checks								Times		JD/Time		Data Location							
Type & SN <u>91220-A</u>				on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header					
Press. SN <u>25084</u>				Press.								at Surface						<u>CAST 055.DAT</u>					
Temp. SN <u>710</u>				Temp.								Start Down											
Cond. SN <u>304</u>				Cond.								at Bottom											
				Other								Start Up											
												at Surface											
												Data off											
Pos. Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.					
				Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.									
				1	<u>4.502</u>	<u>6.4175</u>		<u>32.7175</u>				<u>32.7312</u>										1	
				2																			2
				3																			3
				4																			4
				5																			5
				6																			6
				7																			7
				8																			8
				9																			9
				10																			10
				11																			11
12																12							

Initials L

Consec.Cast # 056		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation 063		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 253	Time Hr.	Min.	Dry Bulb	Wet Bulb	Bar. mb 1007.0	Si. vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D
056	5	52 27	90 N	17 10 46	0 W	10	S E P 93	17	55	105	85	0743	130	118	4	457	062		
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times JD/Time		Data Location							
Press. SN 25084		Press. _____								Data on _____ at Surface _____		Tape/Diskette I.D. _____		File Name/Header _____					
Temp. SN 710		Temp. _____								Start Down _____ at Bottom _____		CAST056.DAT							
Cond. SN 304		Cond. _____								Start Up _____ at Surface _____									
		Other _____								Data off _____		Remarks 144.13 A1+ 400m							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		at depth		1753						396.351	4.2251	33.7071			33.7076			1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CH
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Consec. Cast # 057		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event #	Vessel Sta. I.D.		Instructions								Sta. Designation 065		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 253	Time GMT	Dry Bulb	Wet Bulb	Bar. mb 1007.1	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	Deg.	Min.	S	Deg.	Day Mo. Yr.	Hr. Min.													
057	52	31	N	170571	W	10 SEP 93	19 03	84	84	07			14412			434	065		
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times		JD/Time		Data Location							
								Data on _____ at Surface _____ Start Down _____ at Bottom 1904 Start Up _____ at Surface _____ Data off _____		Tape/Diskette I.D.		File Name/Header CAST 057.DAT							
																Remarks Gear depth 404 First mark didn't klunk			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1				Surf	1913				9.119	5.9849		52.9134			32.9116			1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
12																		12	

Initials CH

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Consec.Cast # 058		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation 064		
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg. Min.		E or W	Date JD = 253	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. us	V. is	Wind Dir.	Wind Sp.	Cloud Type	W. eath.	Bottom Depth, m	Sta. Name or I.D
	058	52	46	5		N	170586	W	10 SEP 93	20 43	09 00	900	72	31	2008	4	740	064		
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 253/2023 at Surface 2024 Start Down 2023 at Bottom 2045 Start Up 2045 at Surface 2103 Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header CAST 058.DAT _____ _____				Remarks DEPTH = 547.604				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	g.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1		✓	Bottom	204610	2051					553.190	3.3389		34.1263	547.2	3.33	34.1244				1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
II																			II	
12																			12	

Initials CD

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Consec. Cast # <u>060</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # <u>270</u>	Vessel Sta. I.D.		Instructions						Sta. Designation <u>065</u>				
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD = <u>253</u>	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Sig Vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D					
Deg. Min.	Deg. Min.	Deg. Min.	Day Mo. Yr.	Hr. Min.															
<u>060</u>	<u>53</u>	<u>02</u>	<u>17</u>	<u>105</u>	<u>5</u>	<u>W</u>	<u>10</u>	<u>SEP</u>	<u>93</u>	<u>2303</u>	<u>10</u>	<u>0099</u>	<u>05</u>	<u>21130139</u>	<u>41150</u>	<u>065</u>			
Monitor Checks				on Deck at Surface				Times JD/Time		Data Location									
								Data on <u>2238</u>	JD/Time	Tape/Diskette I.D.	File Name/Header								
								at Surface <u>2238</u>			<u>CAST060.DAT</u>								
								Start Down <u>2238</u>											
								at Bottom <u>2238</u>											
								Start Up <u>2238</u>											
								at Surface <u>2238</u>											
								Data off <u>2238</u>											
Remarks <u>June 18, CTD 59 was omitted by the Chief Scientist</u>																			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			<u>at depth</u>							<u>1139.373</u>	<u>2.7949</u>	<u>34.3528</u>			<u>34.3556</u>			1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials CD

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Consec. Cast # 061		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event# 273	Vessel Sta. I.D.		Instructions								Sta. Designation 066		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 254	Time Hr.	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	
	10		9														41695	066	
06153098		N	171089	W	11	SEP 93	00	53	10	2	100	04	21145	109	/				
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times JD/Time		Data Location							
Press. SN 25084		Press.								Data on 254 0020		Tape/Diskette I.D.	File Name/Header						
Temp. SN 710		Temp.								at Surface	0020		CAST 061.DAT						
Cond. SN 304		Cond.								Start Down	0020								
		Other								at Bottom	0052								
										Start Up	0052								
										at Surface			Remarks						
										Data off									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Bot. #	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.				
1			<i>surface</i>						2.327	9.6358		32.810			32.8070			1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

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Initials

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Consec. Cast # 063		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event# 283	Vessel Sta. I.D.			Instructions								Sta. Designation 068	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 254	Time		Dry Bulb	Wet Bulb	Bar. mb	Si	Vis	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
		Deg. 3	Min.	Deg. 9		Day	Mo. Yr.	Hr.	Min.												
063	53330	N	171185	W	11	SEP 93	05	18	09	50	9502	21130119	/	42789							068
CTD Type & SN 91220-A				Monitor Checks								Times		ID/Time		Data Location					
				on Deck				at Surface				Data on 254		0450		Tape/Diskette I.D.		File Name/Header			
				Press.								at Surface		0450				CAST 063.DAT			
				Temp.								Start Down		0450							
				Cond.								at Bottom									
				Other								Start Up									
												at Surface									
												Data off									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			<i>surface</i>						3.248	9.6817		32.8219				32.8179			1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials CD
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Consec. Cast # 064		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event # 291	Vessel Sta. I.D.			Instructions			0-10	Light + variable Fog			Sta. Designation 069	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 254		Time	GMT	Dry	Wet	Bar.	S.	Wind	Wind	Cloud	Bottom	Sta. Name	
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr. Min.	Bulb	Bulb	mb 1001.3	S.	Dir.	Sp.	Type	Depth, m	or I.D.		
064	53	48	4	N	171	24	9	W	11 SEP 93	0740	99	99	01	20	-	-	-43187	069		
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times JD/Time		Data Location						
Press. SN 25084				Press. _____								Data on 254/0715	Tape/Diskette I.D.	File Name/Header						
Temp. SN 710				Temp. _____								at Surface 0715	CAST064.DAT							
Cond. SN 304				Cond. _____								Start Down 0715								
				Other _____								at Bottom								
												Start Up								
												at Surface								
												Data off								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			<i>at depth</i>									34.4969				34.4965			1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
II																			II	
I2																			I2	

Initials _____
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Consec. Cast # 065		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation 070		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 254	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 998.5	S. ss	V. is	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D
065	54238	168406	N	11	SEP 93	1632	99	99	0	36	200	04855	1514						070	
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header _____ CAST065.DAT								
												Remarks w/o 1478								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
1				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
II																			II	
I2																			I2	

Initials _____
✓ _____

Consec. Cast # 066		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 299	Vessel Sta. I.D.		Instructions								Sta. Designation 071			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 254		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.	S	Deg.	W	Day	Mo.	Hr. Min.												
066	540	7	9	168	28	4	W	11 SEP 93	190009	1091	99	35	220	20	85	55	2419	071		
CTD				Monitor Checks						Times		JD/Time		Data Location						
Type & SN 91220-A				on Deck			at Surface			Data on				Tape/Diskette I.D.		File Name/Header				
Press. SN 25084				Press.						at Surface						CAST 066.DAT				
Temp. SN 710				Temp.						Start Down		1829								
Cond. SN 304				Cond.						at Bottom				Start Up						
				Other						at Surface				at Surface						
										Data off						Remarks Gear Depth 1501				
																large sul spike @ ~670m				
Pos.	Bot. Rack	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	✓	Bottom								1500.757	2.1812		34.5075	1481.9	2.20	34.5091			1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
I2																		I2		

Initials CH

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Consec. Cast # 067		Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03			Event # 303	Vessel Sta. I.D.		Instructions								Sta. Designation 072				
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 254	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D					
	Deg.	Min.	Deg.		Day Mo. Yr.	Hr. Min.															
067	5	356	4	N	168 19 4	W	11 SEP 93	21 12 09	209106	36	225	189	/4	1888	072						
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____		JD/Time 2042 2042 2042		Data Location Tape/Diskette I.D. CAST 067.DAT			File Name/Header					
Pos.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.			
				Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1				surface							1.341	8.3088		32.2314				32.2292			1
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
II																				II	
12																				12	

Initials CD

Consec. Cast # 068		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event# 308	Vessel Sta. I.D.		Instructions								Sta. Designation 073	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 254	Time Hr.	GMT Mo.	Dry Bulb	Wet Bulb	Bar. mb	S. si	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
	53 47 8	N	168 12 5	W	11	SEP 93	23	10								9	41411	073
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____								Times JD/Time Data on 254 12241 at Surface 2241 Start Down 2241 at Bottom 2311 Start Up 2311 at Surface _____ Data off _____		Data Location Tape/Diskette I.D. _____ File Name/Header _____ CAST 068.DAT _____						
Press. SN 25084 Temp. SN 710 Cond. SN 304										Remarks DEPTH = 1406.575m								
Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
1					Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	34.4819		1
2																		2
3																		3
4																		4
5																		5
6																		6
7																		7
8																		8
9																		9
10																		10
II																		II
I2																		I2

Initials _____

✓ _____

Consec. Cast # <u>069</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event# <u>314</u>	Vessel Sta. I.D.		Instructions								Sta. Designation <u>074</u>				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = <u>255</u>	Time Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D			
	,	Min.		<u>10</u>		<u>12</u>		<u>00</u>	<u>50</u>	<u>08</u>	<u>50</u>		<u>04</u>	<u>32</u>	<u>21</u>	<u>825874</u>	<u>1281</u>	<u>074</u>			
069 53412 N		168 107 W		SEP 93																	
CTD		Monitor Checks								Times		JD/Time		Data Location							
Type & SN	on Deck								Data on	<u>255</u>	<u>00:24</u>	Tape	Diskette	I.D.	File Name/Header						
Press. SN	at Surface								at Surface		<u>00:24</u>	<u>CAST 069.DAT</u>									
Temp. SN	Press.								Start Down		<u>00:24</u>										
Cond. SN	Temp.								at Bottom												
	Cond.								Start Up												
	Other								at Surface												
									Data off												
Pos.		Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.		
					Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.
1					<u>Surface</u>							<u>2.259</u>	<u>7.7686</u>		<u>32.3673</u>			<u>32.3691</u>			<u>1</u>
2																				<u>2</u>	
3																				<u>3</u>	
4																				<u>4</u>	
5																				<u>5</u>	
6																				<u>6</u>	
7																				<u>7</u>	
8																				<u>8</u>	
9																				<u>9</u>	
10																				<u>10</u>	
11																				<u>11</u>	
12																				<u>12</u>	

Initials _____
✓ _____

Consec. Cast # 070		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event# 318	Vessel Sta. I.D.		Instructions								Sta. Designation 075		
Consec. Cast #		Latitude Deg.	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. Si.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
		070	533682	N	1680489	W 12 SEP 93	02 19 08	50 85	05 05	32235249	/4	653					075		
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times JD/Time		Data Location							
Press. SN 25084		Press. _____								Data on _____	Tape/Diskette I.D.				File Name/Header				
Temp. SN 710		Temp. _____								at Surface _____					CAST 070.DAT				
Cond. SN 304		Cond. _____								Start Down _____									
		Other _____								at Bottom _____									
										Start Up _____									
										at Surface _____									
										Data off _____									
										Remarks DEPTH=533.398									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		✓	<i>depth</i> <i>02:22:10</i>							538.860	3.4384		33.9971	536.4	3.41	33.9968		1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
II																	II		
I2																	I2		

Initials CD



Consec. Cast # 071		Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03		Event # 322	Vessel Sta. I.D.		Instructions 3-41+8						Sta. Designation 076						
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 255	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
Deg.	Min.	Deg.	Deg.	Day	Mo.	Yr.	Hr. Min.													
071	53	58	N	167	00	2	W	12	S E P 93	06	12	09	50	91	11	D	270269	/1	193	076
Monitor Checks										Times JD/Time		Data Location								
on Deck at Surface										Data on 255		Tape/Diskette I.D.								
Press. _____										at Surface		File Name/Header								
Temp. SN 710										Start Down		CAST 071.DAT								
Cond. SN 304										at Bottom										
_____										Start Up										
_____										at Surface										
_____										Data off										
Remarks DEPTH = 4,166 m Bottom depth was for ~450 to ~200 down to ~350 - in the resolution, took min at T2 (mostly) not																				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other MTS Samp.	P.S. 11		
				Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P				Avg Tw	Sal.
1	1	bottom							187.504	4.3967		33.1638					12	1		
2	2	75							174.288	4.5912		33.1121					13	2		
3	3	150							150.317	4.8186		33.0633					14	3		
4	4	125							127.054	5.9420		32.8070					15	4		
5	5	75							76.044	6.6364		32.6090					16	5		
6	6	45							45.791	8.1406		32.1623					17	6		
7	7	15							14.795	8.1777		32.1323					18	7		
8	8	5							4.166	8.1809		32.1317					21	8		
9	9	5															9			
10	10	5															10			
11																	11			
12																	12			

Initials _____
✓ _____

Consec. Cast # 072		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 328	Vessel Sta. I.D.		Instructions <i>3-41+8</i>								Sta. Designation 077		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 255	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. C.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.	Deg.	Min.	Sec.	Day Mo. Yr.	Hr. Min.												
072	54	04	6	N	167045	W	12 SEP 93	07 37	09	08	9	1	1	270269	/	11052	077		
CTD				Monitor Checks								Times JD/Time		Data Location 575 fm					
Type & SN 91220-A				on Deck				at Surface				Data on 255/0713		Tape/Diskette ID.		File Name/Header			
Press. SN 25084				Press.				at Surface				at Surface 0713				CAST 072.DAT			
Temp. SN 710				Temp.				Start Down 0713											
Cond. SN 304				Cond.				at Bottom											
				Other				Start Up											
								at Surface											
								Data off											
Pos. Bot. Rack	T Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.	
		Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
		1	<i>at depth</i>					1008.758	2.8392		34.3202			34.3238					
		2																	
		3																	
		4																	
		5																	
		6																	
		7																	
		8																	
		9																	
		10																	
		II																	
I2																			

Initials _____
✓ _____

Consec. Cast # 073		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 333	Vessel Sta. I.D.		Instructions 75 4-8		Sta. Designation 078							
Consec. Cast #	Latitude Deg. 073	N or S	Longitude Deg. 095	E or W	Date JD = 255	Day Mo. Yr.	Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D	
	092		095												152.1	078		
07354090 N			167100 W	12 SEP 93	091309	108912	25022											
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface						Times JD/Time Data on 255/0843		Data Location								
Press. SN 25084		Press. _____						at Surface 0843		Tape/Diskette I.D.		File Name/Header						
Temp. SN 710		Temp. _____						Start Down 0843				CAST 073.DAT						
Cond. SN 304		Cond. _____						at Bottom										
		Other _____						Start Up _____										
								at Surface _____										
								Data off _____										
Pos	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos	
					Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.				Sal.
1	1		5 (depth)	0913					1497.492	2.2425		34.4911		34.4952	73	**	1	
2	2		550	0930					549.229	3.4665		34.0262					20	2
3	3		450	0932					450.078	3.6084		33.9060					22	3
4	4		350	0935					350.546	3.7115		33.7294					23	4
5	5		250	0937					251.093	3.7116		33.5150					24	5
6	6		150	0939					151.459	4.7704		33.0474					25	6
7	7		75	0941					75.482	6.2163		32.7365					26	7
8	8		45	0942					44.720	7.0097		32.5173					27	8
9	9		15	0943					14.085	8.7349		32.3493					28	9
10	10		5	0944					5.012	8.7395		32.3461					** 29	10
11																	11	
12																	12	

** only 9 bottles tripped - salinity sample will indicate whether there is no sample for the bottom or no sample for the surface

Initials CD

✓

Consec. Cast # 074	Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU<93>-03	Event# 338	Vessel Sta. I.D.	Instructions 3-5-7	Sta. Designation 079								
Consec. Cast #	Latitude N or S Deg. 20 Min. S	Longitude E or W Deg. 19	Date JD = 255 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D
07454205 N	167185 W	12 SEP 93	11 27	09 00	90 90	1534300209	1		788				079	
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 255/1109 at Surface 1109 Start Down 1109 at Bottom 1124 Start Up 1129 at Surface 1129 Data off		Data Location Tape/Diskette I.D. File Name/Header CAST 074.DAT				
Remarks DEPTH = 756.152 m														

Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	P.s.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		✓	at depth	112437	1129					764.309	3.0415		34.2429	756.0	3.03	34.2435	30	1	
2			550		1134					548.903	3.5048		34.0281				31	2	
3			450							449.221	3.6314		33.8614				32	3	
4			350	no benthic						348.705	3.7652		33.6455				33	4	
5			250	no benthic						250.214	3.7286		33.3560				34	5	
6			150		1147					151.318	4.5791		33.1116				35	6	
7			75		1149					74.628	5.8452		32.8160				36	7	
8			45		1150					45.337	6.4722		32.6388				37	8	
9			15		1151					14.351	9.1997		32.4496				38	9	
10			5		1152					4.725	9.1974		32.4495				39	10	
11																		11	
12																		12	

Initials _____

✓ _____

Consec. Cast # 075		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event # 342	Vessel Sta. I.D.			Instructions 353-1								Sta. Designation 080	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 255		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D		
Deg.	Min.	Deg.	Min.	Deg.	Min.	Day	Mo.	Hr. Min.													
075	54315	N	167285	W	12	SEP 93	1327090089	1536292269	1	683	080										
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times JD/Time		Data Location							
Press. SN 25084				Press.								Data on 255/1310	at Surface 1310	Tape/Diskette I.D.	File Name/Header				CAST 075.DAT		
Temp. SN 710				Temp.								Start Down 1310	at Bottom 1327								
Cond. SN 304				Cond.								Start Up	at Surface								
				Other								Data off									
Pos. Bot. Rack	T Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.				
			Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.								
			622.822	3.1869			34.1853						34.1853	075				1?	1		
			549.595	3.3748			34.0950											40	2		
			449.100	3.5678			33.9739											41	3		
			348.797	3.7376			33.7148											42	4		
			250.927	3.6643			33.4201											43	5		
			149.302	4.3616			33.1502											44	6		
			74.717	5.3044			32.9022											45	7		
			43.455	5.7844			32.7468											46	8		
			14.639	9.2470			32.4583											47	9		
			5.450	9.2697			32.4569											48	10		
																			11		
													12								

Initials CD

✓

300400 CAST 076

Consec. Cast # 076		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event #	Vessel Sta. I.D.		Instructions								Sta. Designation 081			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 255	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 1013.1	Si si	Si si	>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
076	54417	167300	N	8	W	12 SEP 93	1515	93	88	17	3729022								849	081
CTD				Monitor Checks								Times		JD/Time		Data Location				
Type & SN 91220-A				on Deck				at Surface				Data on	1455			Tape/Diskette I.D.	File Name/Header			
Press. SN 25084				Press.								at Surface				CAST 076.DAT				
Temp. SN 710				Temp.								Start Down								
Cond. SN 304				Cond.								at Bottom	1515							
				Other								Start Up	1516							
												at Surface								
												Data off								
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			at depth							886.129 Jb 817.19 m	2.9805		34.2696				34.2702	49	1	
2			550							549.681 Jb 544.097 m	3.4300		54.0537					50	2	
3			450							449.542 445.080 m	3.5699		33.9324					51	3	
4			350							350.553 347.157 m	3.6807		33.7918					52	4	
5			250							250.424 248.087 m	3.6744		33.4991					53	5	
6			150							150.602 147.215 m	4.0293		33.2518					54	6	
7			75							74.786 74.110 m	4.6098		33.0099					55	7	
8			45							45.042 44.681 m	5.8088		32.9000					56	8	
9			15							15.562 15.424 m	9.2848		32.4938					57	9	
10			5							5.616 5.566 m	9.2868		32.4944					✓	10	
11																		11		
12																		12		

Initials _____



Consec. Cast # 077		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation 082		
Consec. Cast #		Latitude Deg. 20	N or S	Longitude Deg. 166	E or W	Date JD = 255		Time Day Mo. Yr. Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1019.2	S vis	V is	Wind Dir.	Wind Sp.	Cloud Type	W eath.	Bottom Depth, m	Sta. Name or I.D	
		19 9	N	46 9	W	12 SEP 93	1940	93 85	19	372701	0862							138	082	
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084		Press.								Data on		Tape/Diskette I.D.								
Temp. SN 710		Temp.								at Surface		File Name/Header								
Cond. SN 304		Cond.								Start Down		CAST 077.DAT								
		Other								at Bottom										
										Start Up										
										at Surface										
										Data off		Remarks 3 untripped bottles								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	P.s.	
				Bot.	Rack	Depth	Trip	Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.				Therm-P
1		at depth																✓	1	
2		175																	2	
3		150																	3	
4		Bottom								128.492							32.7030	58	4	
									127.315 m	4.1338										
5		100							100.463		4.1305						32.8676	59	5	
								99.6 m												
6		75							74.471		4.8929								60	6
								73.799 m												
7		55							54.683		5.8771						32.6978	61	7	
								54.192 m												
8		35							35.633		7.6597						32.5080	62	8	
								35.314 m												
9		15							14.594		9.6656								63	9
								14.464 m												
10		5							4.900		9.6655						32.2061	64	10	
								4.857 m												
II																			II	
I2																			I2	

Initials C.H.



Consec. Cast # 078		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation 083		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 255		Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 1020.0	Sig. vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D	
078	55 09 3	N	166 39 7	W	12	SEP 93	21	02	10 5	9 4	20	37	240	10	872	1411	083			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084		Press. _____								Data on _____	_____	Tape/Diskette I.D. File Name/Header								
Temp. SN 710		Temp. _____								at Surface _____	_____	CAST 078.DAT								
Cond. SN 304		Cond. _____								Start Down _____	2058									
		Other _____								at Bottom _____	2102									
										Start Up _____	_____									
										at Surface _____	_____									
										Data off _____	_____									
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos
				Bot. Rack	Depth	Trip Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1		✓	50 depth						127.926	4.4616		32.9717	127.2	4.46	32.9563		641	1		
2			100						126.6 m								642	2		
3			75						99.755	4.2863		32.8375					643	3		
4			55						98.848 m								644	4		
5			35						75.846								645	5		
6			15						75.161 m	4.8411		32.7895					646	6		
7			15						55.396								647	7		
8			15						54.9 m	5.6408		32.5708						8		
9									36.001									9		
10									35.7 m	6.9880		32.4291							10	
11									15.781									11		
12									15.6 m	9.6850		32.0784							12	
Initials CH																				

✓

Consec.Cast # <u>079</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation <u>084</u>		
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date JD = 255 Day Mo. Yr.			Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1020.1	Si. si.	Visi.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
079	54	58	N	166	32	50	W	12	S E P 93	22 30	10 0	9 0	20			215	148		143	084	
CTD Type & SN <u>91220-A</u> Press. SN <u>25084</u> Temp. SN <u>710</u> Cond. SN <u>304</u>					Monitor Checks on Deck at Surface					Times	JD/Time		Data Location								
										Data on			Tape/Diskette I.D.	File Name/Header							
										at Surface			<u>CAST 079.DAT</u>								
										Start Down											
										at Bottom											
										Start Up											
										at Surface											
										Data off											
										Remarks Surface Salinity <u>32.13</u>											
Po.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.		
	Rack		Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.		
1			<i>Bottom</i>							137.437	4.2021		33.1501						648	1	
2			125							125.522	4.3060		33.1464						649	2	
3			100							94.084	4.9651		32.9017						650	3	
4			75							73.862	5.7036		32.7934						651	4	
5			55							54.431	6.2351		32.7181						652	5	
6			35							35.179	7.7463		32.5372						653	6	
7			15							14.922	9.2794		32.3641						654	7	
8			5							5.621	9.6518		32.1364						655	8	
9																			656	9	
10																			657	10	
11																			658	11	
12																			659	12	

Initials CH✓

Consec.Cast # <u>080</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event# <u>360</u>	Vessel Sta. I.D.		Instructions								Sta. Designation <u>085</u>	
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD = <u>255</u>	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S ₁ %	V ₁ is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	Deg. <u>54</u>	Min. <u>48</u>	Deg. <u>5</u>	W	Day <u>12</u>	Mo. <u>SEP</u>	Hr. <u>23</u>	Min. <u>53</u>	09	5085	2	1	3	8	190	10862	-205	<u>085</u>		
CTD Type & SN <u>91220-A</u>		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN <u>25084</u>		Press. _____								Data on	<u>2346</u>	Tape/Diskette I.D.	File Name/Header							
Temp. SN <u>710</u>		Temp. _____								at Surface	<u>2346</u>	CAST 080.DAT								
Cond. SN <u>304</u>		Cond. _____								Start Down	<u>2346</u>									
		Other _____								at Bottom	<u>2353</u>									
										Start Up	<u>2353</u>									
										at Surface	<u>0005</u>									
										Data off		Remarks 80A DEPTH = 194.915								
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1																	656	1		
2																	657	2		
3																	658	3		
4																	659	4		
5																	660	5		
6																	661	6		
7																	662	7		
8																	663	8		
9																	664	9		
10																	665	10		
II																		11		
12																		12		

Initials CD

✓

Fig. 71. — Or

Consec. Cast #	Vessel NOAA Ship SURVEYOR	Proj. & Leg ISU93 SU-93-03	Event #	361	Vessel Sta. I.D.	Instructions	223 9-10						Sta. Designation			
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD = 256		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Si	Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
081	Deg. 15 Min. N	Deg. 17 W	Day Mo. Yr.	Hr. Min.											402	086
08154373 N				166177 W	13 SEP 93	01250950	08521	3721510862								
CTD				Monitor Checks				Times	JD/Time	Data Location						385
Type & SN	91220-A	on Deck	at Surface	Data on	0112	Tape/Diskette I.D.	File Name/Header									
Press. SN	25084	Press.		at Surface	0112		CAST081.DAT									
Temp. SN	710	Temp.		Start Down	0112											
Cond. SN	304	Cond.		at Bottom	0125											
		Other		Start Up	0130											
				at Surface	0145	Remarks	DEPTH = 337.983 m									
				Data off											NUTS	

Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		✓	at depth	012540	0130					341.282	3.7070		337.227	341.3	3.69	337.174	81	666	1
2			325		0131													667	2
3			275	//	0133													668	3
4			225		0135													669	4
5			175		0139													670	5
6			125		0140													671	6
7			75		0142													672	7
8			45		0143													673	8
9			15		0144													674	9
10			5		0145													675	10
11																		11	
12																		12	

Initials CD
✓

Consec. Cast # 082		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 365	Vessel Sta. I.D.		Instructions								Sta. Designation 087		
Consec. Cast #	Latitude Deg. 67 Min.	N or S	Longitude Deg. 103	E or W	Date Day Mo. Yr.	JD = 256	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D	
	082	5426	1	N	166099	W	13 SEP 93	030209	9090	2027	-	-	00761	544	087				
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304 _____ _____				Monitor Checks				Times JD/Time				Data Location							
				on Deck		at Surface		Data on	256 / 0244	Tape/Diskette I.D.	File Name/Header								
				Press.				at Surface	0244	CAST 082 .DAT									
				Temp.				Start Down	0244										
				Cond.				at Bottom	0303										
				Other				Start Up	0303										
				at Surface	0318	Remarks DEPTH = 5.015 m													
				Data off							NUTS								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		at depth		0303												676	1		
2		450		0305												677	2		
3		350		0308												678	3		
4		250		0310												679	4		
5		150		0313												680	5		
6		75		0315												681	6		
7		45		0316												682	7		
8		15		0317												683	8		
9		5		0318									32.3781			32.3756 ✓ 82	684	9	
10																	10		
11																	11		
12																	12		

Initials CO



Consec. Cast # 083		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event # 369	Vessel Sta. I.D.		Instructions							Sta. Designation 088			
Consec. Cast #		Latitude Deg. 1.3 Min.	N or S	Longitude Deg. 6.7	E or W	Date Day Mo. Yr.	JD = 256	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
083	54207	166063	N	W	13 SEP 93	04 16	097093	20 02	7000	10661	701	088								
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface							Times	JD/Time	Data Location 695									
Press. SN 25084									Data on	256/0401	Tape/Diskette I.D.	File Name/Header								
Temp. SN 710									at Surface	0401		CAST 083.DAT								
Cond. SN 304									Start Down	0401										
									at Bottom	0416										
									Start Up	0416										
									at Surface		Remarks	No auto data DEPTH = 672.555								
									Data off											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1									679.672	3.3506		34.0950			34.0965			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
I2																		I2		

Initials CJ

Consec. Cast # 084		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU<93>-03		Event #	Vessel Sta. I.D.		Instructions 1-2 8-10 Station 4		Sta. Designation 089								
Consec. Cast #	Latitude Deg. 6 Min. S	N or or S	Longitude Deg. 3	E or or W	Date JD = 256	Time Day Mo. Yr. Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m 245F	Sta. Name or I.D				
084 54 15 9 N			166 02 9 W		13 SEP 93 05 23	93	90 20	27 34 00 46 61						- 430	089				
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times JD/Time		Data Location									
Press. SN 25084				Press. _____				Data on 256 / 0511	at Surface 0511	Tape/Diskette I.D.	File Name/Header								
Temp. SN 710				Temp. _____				Start Down 0511	at Bottom 0523	CAST 084 .DAT									
Cond. SN 304				Cond. _____				Start Up _____	at Surface _____	Remarks DEPTH=5.535									
				Other _____				Data off _____											
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			at depth		0523												685	1	
2			325		0525												686	2	
3			275		0526												688	3	
4			225		0527												687	4	
5			175		0528												689	5	
6			125		0530												690	6	
7			75		0531												691	7	
8			45		0532												692	8	
9			15		0533												693	9	
10			5		0533								32.3091				32.3082	1084	694
11																		11	
12																		12	

Initials _____

✓ _____

Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event # 376	Vessel Sta. I.D.			Instructions						Sta. Designation	
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 250	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
0 85	54 20 1	N	165 23 5	W	13	SEP 93	0734	97	94	20				152	16661	81	090		
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times	JD/Time	Data Location									
Press. SN 25084				Press.				Data on		Tape/Diskette I.D.								File Name/Header	
Temp. SN 710				Temp.				at Surface										CAST 085 .DAT	
Cond. SN 304				Cond.				Start Down											
				Other				at Bottom											
								Start Up											
								at Surface											
								Data off											
								Remarks Sal bottle sample depth = 73.35											
								DECIDED NOT TO PUT THEMES ON DUE TO UNSTABLE BOTTOM											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data				Sal.	Other Samp.	Pos.
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			100									32.9055				085	695	1	
2			135															2	
3			100															3	
4			75															4	
5			55															5	
6			35															6	
7			15															7	
8			5															8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials LL



Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions								P.L. St.C.	Sta. Designation
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD =	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D									
Deg.	Min.	Deg.	Day Mo. Yr.	Hr. Min.			si	si	Wind	Cloud	Bottom	Sta. Name or I.D									
086	54	24	3	N	165179	W	13 SEP 93	0822	97	94	20	152	16661	180	291						
CTD Type & SN 91220-A				Monitor Checks				Times	JD/Time	Data Location											
				on Deck		at Surface		Data on		Tape/Diskette I.D.				File Name/Header							
				Press.				at Surface		CAST 086.DAT											
				Temp.				Start Down													
				Cond.				at Bottom													
				Other				Start Up													
								at Surface													
								Data off													
								Remarks				Depth = 4.7 8 marks, only 7 trips, Sal samples taken from all seas (to make our gurus more educated...?). SEE BACK									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other			
	Rack			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.		
1				120									33.0795			33.0065		700	1		
2				175															2		
3				130															3		
4				125									32.9109			32.9549		701	4		
5				100									32.8857			32.8941		702	5		
6				75									32.8742			32.7030		703	6		
7				55									32.6851						7		
8				35									32.5559			32.5662		704	8		
9				15									32.4337			32.4483		889	9		
10				5									32.4293			32.4454	1086	890	10		
11																			11		
12																			12		

Initials LH

Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event # 380	Vessel Sta. I.D.			Instructions								Sta. Designation		
Consec. Cast #		Latitude	N or S		Longitude	E or W	Date	JD = 256	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. si	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.			Deg.		Day	Mo.	Hr.	Min.												
087	54	28	5	N	145	112	W	13	SEP	93	09	18	9	8	9	20	155	2466	1	147	092	
CTD Type & SN 91220-A					Monitor Checks						Times		JD/Time						Data Location			
Press. SN 25084					on Deck			at Surface			Data on		Tape/Diskette I.D.						File Name/Header			
Temp. SN 710					Press.						at Surface		CAST 087.DAT									
Cond. SN 304					Temp.						Start Down											
					Cond.						at Bottom											
					Other						Start Up											
											at Surface											
											Data off											
Pos	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #					
1			at 147									32.8591		32.8591	✓ 087	891	1					
2			125															2				
3			120															3				
4			125															892	4			
5			100															893	5			
6			75															894	6			
7			55															895	7			
8			35															896	8			
9			15															887	9			
10			5															888	10			
11																			11			
12																			12			

Initials _____

✓ _____

Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions								Sta. Designation				
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	GMT	Dry	Wet	Bar.	Wind	Wind	Cloud	Type	Bottom	Sta. Name					
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb 1020.0	Dir.	Sp.	C l o u d	Weath.	Depth, m	or I.D					
088		85	43	33	1	N	16	50	42	W	13	SEP	93	10	13	9	6	4	20	173	2446	1	72	093
CTD		Monitor Checks										Times	JD/Time	Data Location										
Type & SN 91220-A		on Deck					at Surface					Data on		Tape/Diskette I.D.		File Name/Header								
Press. SN 25084		Press.										at Surface				CAST 088.DAT								
Temp. SN 710		Temp.										Start Down												
Cond. SN 304		Cond.										at Bottom												
		Other										Start Up												
												at Surface												
												Data off		Remarks		s. Depth = 5.3								
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.				
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.								
1		at depth								58.34	8.1039		32.0333					833	1					
2		17																	2					
3		15																	3					
4		12.5																	4					
5		10																	5					
6		7.5																	6					
7		5.5																	7					
8		3.5									35.295	8.2382		31.9853					834	8				
9		1.5									13.954	8.3943		31.9155					835	9				
10		5									5.415	9.1105		31.6506					31.6442	1.88	836	10		
11																				11				
12																				12				

Initials _____
✓ _____

Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event # 384	Vessel Sta. I.D.			Instructions			3-5 lot			Sta. Designation	
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD =	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W.	Bottom Depth, m	Sta. Name or I.D				
	Deg. Min. S	Deg.	Day Mo. Yr.	Hr. Min.	1017.1	17	20033461	548	094										
0 8 9 5 4 2 6 2	N	1 6 6 0 9 9	W 1 3 SEP 93	1 4 0 0 1 0 2	9 3	1 7													
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface			Times JD/Time			Data Location									
				Press. _____			Data on _____ at Surface _____			Tape/Diskette I.D.			File Name/Header						
				Temp. _____			Start Down _____ at Bottom _____			CAST Q 89.DAT			Saf Depth = 4.						
				Cond. _____			Start Up _____ at Surface _____												
				Other _____			Data off _____												
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			at 16 bottom												837	837	1		
2			450												838	838	2		
3			350												839	839	3		
4			250												840	840	4		
5			150												841	841	5		
6			75												842	842	6		
7			45												843	843	7		
8			15												844	844	8		
9			5										32.4019		32.4007 089	845	9		
10																	10		
II																	II		
12																	12		

Initials VV

Consec. Cast # <u>090</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event # <u>3688</u>	Vessel Sta. I.D.			Instructions								Sta. Designation	
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = <u>256</u>			Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D			
	Deg.	Min.	S	Deg.			Day Mo. Yr.	Hr. Min.													
	<u>090</u>	<u>54</u>	<u>33</u>	<u>4</u>	N	<u>165543</u>	W	<u>13 SEP 93</u>	<u>15 30</u>	<u>106</u>	<u>92</u>	<u>18</u>		<u>18010761</u>		<u>449</u>	<u>095</u>				
CTD				Monitor Checks								Times	JD/Time	Data Location							
Type & SN <u>91220-A</u>				on Deck				at Surface				Data on		Tape/Diskette I.D.	File Name/Header						
Press. SN <u>25084</u>				Press.								at Surface			<u>CAST 090.DAT</u>						
Temp. SN <u>710</u>				Temp.								Start Down									
Cond. SN <u>304</u>				Cond.								at Bottom									
				Other								Start Up									
												at Surface									
												Data off									
														Remarks	<u>DEPTH = 322.287 m</u>						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1																	846	1			
2		✓	<u>325</u>	<u>27.39</u>													847	2			
3			<u>275</u>														848	3			
4			<u>225</u>														849	4			
5			<u>175</u>														850	5			
6			<u>125</u>														851	6			
7			<u>75</u>														852	7			
8			<u>45</u>														853	8			
9			<u>15</u>														854	9			
10			<u>5</u>														855	10			
11																		11			
12																		12			

Initials W ✓

Consec. Cast # 091		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 400	Vessel Sta. I.D.		Instructions								Sta. Designation 100		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 257	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	V. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D	
		Deg. 9.6 Min.	S	Deg. 9	W	Day Mo. Yr.	Hr. Min.												
091		54	39	5	N	16 53 89	W 14 SEP 93	01 52	10 00 09 8	16	67	16530855	325	100					
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____				Data Location Tape Diskette I.D. File Name/Header CAST 091.DAT							
												Remarks							
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	P.S.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			20 depth		0152								33.73381		33.7338	✓	856	1	
2			325 275		0153												857	2	
3			225		0154												858	3	
4			175		0156												859	4	
5			125		0158												860	5	
6			75		0159												861	6	
7			45		0200												862	7	
8			15														863	8	
9			5														864	9	
10																		10	
11																		11	
12																		12	

Initials _____

✓ _____

Consec. Cast # 092		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03		Event # 403	Vessel Sta. I.D.		Instructions								Sta. Designation 101		
Consec. Cast #	Latitude Deg. 28 Min. N or S		Longitude Deg. 111 E or W		Date Day Mo. Yr.	JD = 257	Time Hr. Min. GMT		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
092	54	44	28	N	165	30	6	W	14	SEP 93	0253	10	00	09	4	16	37	16032755	254	101
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times JD/Time		Data Location 251								
Press. SN 25084		Press. _____								Data on 0244	Tape/Diskette I.D. File Name/Header									
Temp. SN 710		Temp. _____								at Surface 0244	CAST 092.DAT									
Cond. SN 304		Cond. _____								Start Down 0244										
		Other _____								at Bottom _____										
										Start Up _____										
										at Surface _____										
										Data off _____										
Remarks Nutrients were sampled here instead of at cast 093 (Chief Sec) DEPTH = 5.287 m																				
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			at depth		0252													865	1	
2			175		0255													866	2	
3			150		0256													867	3	
4			125		0257													868	4	
5			100		0258													869	5	
6			75		0259													870	6	
7			55		0300													871	7	
8			35		0302													872	8	
9			15		0303													873	9	
10			5		0304											↑		874	10	
11																	32.4299	32.4300		11
12																				12

Initials CD

✓ _____

Consec. Cast # 093		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation 099		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 257	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. si	V. vis	Wind Dir.	Wind Sp.	Cloud	Type	Bottom Depth, m	Sta. Name or I.D		
	Deg.	Min.	Deg.		Day Mo. Yr.	Hr. Min.														
093	54	45	7	N	165	23	8	W	14 SEP 93	00	27	10	00	095	1	7	37	16032872	191	099
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on _____ at Surface _____ Start Down _____ at Bottom _____ Start Up _____ at Surface _____ Data off _____				Data Location Tape/Diskette I.D. File Name/Header CAST 093.DAT								
Pos.	Bot.	T	Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
1						Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	—	—	—	1
2																				2
3																				3
4																				4
5																				5
6																				6
7																				7
8																				8
9																				9
10																				10
II																				II
I2																				I2

Initials _____

✓ _____

Consec. Cast # 094		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 408	Vessel Sta. I.D.		Instructions								Sta. Designation 102								
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 257	Time GMT Mo. Yr. Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. si	V. is	Wind Dir.	Wind Sp.	Cloud Type	Wear. Weath.	Bottom Depth, m	Sta. Name or I.D				
	094	5	45	26	N	165072	W	14 SEP 93	0436	10	0094	1636	16030							108	102				
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface								Times JD/Time		Data Location											
Press. SN 25084				Press. _____								Data on 0433		Tape/Diskette I.D.		File Name/Header									
Temp. SN 710				Temp. _____								at Surface						CAST 094.DAT							
Cond. SN 304				Cond. _____								Start Down _____													
				Other _____								at Bottom _____													
												Start Up _____													
												at Surface _____													
												Data off _____													
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos					
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.				
1			25 depth																875	1					
2			75																876	2					
3			55	0438															877	3					
4			35	0439															878	4					
5			15	0440															879	5					
6			5									32.1159							880	6					
7																				7					
8																				8					
9																				9					
10																				10					
II																				11					
12																				12					

Initials _____

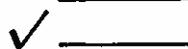
✓ _____

Consec. Cast # 095		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event # 413	Vessel Sta. I.D.		Instructions								Sta. Designation 103			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 257	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. si	V. vs	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D	
		Deg. 54 Min. 57	N	Deg. 164 Min. 51	W	Day 14 Mo. SEP Yr. 93	Hr. 05	Min. 47	11	4	10	6	16	37	16530		91	103		
CTD Type & SN 91220-A				Monitor Checks					Times		JD/Time		Data Location							
				on Deck		at Surface			Data on				Tape/Diskette I.D.		File Name/Header					
Press. SN 25084				Press.					at Surface				CAST 095.DAT							
Temp. SN 710				Temp.					Start Down											
Cond. SN 304				Cond.					at Bottom											
				Other					Start Up											
									at Surface											
									Data off											
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	P.S.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			at depth									32.4409			32.4346	✓	881	1		
2			55														882	2		
3			35														883	3		
4			15														884	4		
5			5														885	5		
6			3															6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD



Consec. Cast # 096		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions 2310								Sta. Designation 104					
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date JD = 257	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S vis	V is	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D					
	Deg.	Min.		Deg.			Day Mo. Yr.	Hr. Min.															
096	54	44	8	1		N	16 44 01	W	14 SEP 93	0707	26	11	41	638	14028872	47	104						
CTD Type & SN 91220-A				Monitor Checks on Deck				Times JD/Time				Data Location											
Press. SN 25084				at Surface				Data on at Surface				Tape/Diskette I.D.				File Name/Header							
Temp. SN 710								Start Down								CAST 096.DAT							
Cond. SN 304								at Bottom															
								Start Up															
								at Surface															
								Data off								Remarks							
																				Surf Sal depth = 5.2			
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	P o			
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.							
1																	886	1					
2			35														1153	2					
3			15														1154	3					
4			5														31.4689	31.4688	096	1155			
5																			5				
6																			6				
7																			7				
8																			8				
9																			9				
10																			10				
II																			11				
I2																			12				

Initials LL

Consec. Cast # 097		Vessel NOAA Ship SURVEYOR		Proj. & Leg ISU93 SU-93-03		Event #	Vessel Sta. I.D.		Instructions		2-3 10		Status		Sta. Designation 105				
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 257		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Si. us	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D
		Deg.	Min.	Deg.		Day	Mo.	Hr. Min.			1016.0								
097	54	16	45	1	N	14	SEP	93	0800	12	1	106	1	6	38	160288	72	62	105
CTD		Monitor Checks								Times	JD/Time	Data Location							
Type & SN 91220-A		on Deck				at Surface				Data on		Tape/Diskette I.D.		File Name/Header					
Press. SN 25084		Press.								at Surface				CAST 097.DAT					
Temp. SN 710		Temp.								Start Down									
Cond. SN 304		Cond.								at Bottom									
		Other								Start Up									
										at Surface									
										Data off									
												Remarks		Sal depth: No nutrients max depth 259m					
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.				Therm-P
1		✓	^{depth} depth x 20	00:16					34.547	9.3614		31.5414	36.5	9.36	31.5402			1	
2																		2	
3																		3	
4													DEPTH = 34.234M						4
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials LL✓

Consec.Cast # 098		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU<93>03			Event#	Vessel Sta. I.D.		Instructions		2-3 lot				status		Sta. Designation 106		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 257		Time		Dry	Wet	Bar.	S.	Vis.	Wind	Wind	Cloud	Weath.	Bottom	Sta. Name
		Deg.	Min.	Deg.	W	Day	Mo.	Yr.	GMT Hr. Min.	Bulb	Bulb	mb	15.4	15.4	Dir.	Sp.	Type	Wthr.	Depth, m	or I.D	
098	54	58	1	N	164	51	5	W	14 SEP 93	0906	120105	15	1538	15032872	82				106		
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time		Data Location					
				on Deck				at Surface								Tape/Diskette I.D.	File Name/Header				
Press. SN 25084				Press.												CAST098.DAT					
Temp. SN 710				Temp.																	
Cond. SN 304				Cond.																	
				Other												Remarks					
																Sal depth = 5.0					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				Bot. #	Samp.
1			at depth														1156	1			
2			15															2			
3			55															1157	3		
4			35															1158	4		
5			15															1159	5		
6			5										31.9448					31.9474 098	1160	6	
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials LL✓

Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	Dry	Wet	Bar.	S.	Wind	Wind	Cloud	Bottom	Sta. Name or I.D		
		Deg.	Min.	Deg.		Day	Mo.	Yr.	GMT Hr.	Bulb	Bulb	mb	Vis.	Dir.	Sp.	Type	Depth, m			
099		55	08	0	N	16	30	36	14 SEP 93	1027	106	101	1537	1603	0876	109	107			
CTD				Monitor Checks								Times		JD/Time		Data Location				
Type & SN 91220-A				on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header		
Press. SN 25084				Press.								at Surface						CAST Q99.DAT		
Temp. SN 710				Temp.								Start Down								
Cond. SN 304				Cond.								at Bottom								
				Other								Start Up								
												at Surface								
												Data off								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1												33.0423			33.0481	099	1161	1		
2																	1162	2		
3																	1163	3		
4																	1164	4		
5																	1165	5		
6																	1166	6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____
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Consec. Cast # 100		Vessel		Proj. & Leg			Event # 430	Vessel Sta. I.D.		Instructions 24 8-10						Rain Status	Sta. Designation		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = Mo. Yr.	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb 013.2	Si. vis.	Wind Dir.	Wind Sp.	Cloud Type	W eath.	Bottom Depth, m	Sta. Name or I.D	
100	55	18	1	165	56	14	SEP 93	11	55	105	100	1337	175408	76	111	108			
CTD Type & SN 91220-4				Monitor Checks				Times		JD/Time		Data Location							
				on Deck		at Surface		Data on		JD/Time		Tape/Diskette I.D.		File Name/Header					
				Press.				at Surface				CAS100-NAT							
				Temp.				Start Down											
				Cond.				at Bottom											
				Other				Start Up											
								at Surface											
								Data off						Remarks					
Pos.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
					Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1												32.8859					1167	1	
2																		2	
3																	1168	3	
4																	1169	4	
5																	1170	5	
6																	1171	6	
7												31.9092		31.9108	100	1172	7		
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____
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Consec.Cast # <u>101</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# <u>437</u>	Vessel Sta. I.D.			Instructions <u>2-1 7-8</u>								Sta. Designation	
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = <u>257</u>	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb <u>1013.0</u>	S. Si.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	101	55	28	1	N	165279	W	14	S E P 93	13 19 10 4 10 0	12 37 19 0 28 8							110	109		
CTD Type & SN		91220-A			Monitor Checks						Times		JD/Time		Data Location						
Press. SN		25084			on Deck			at Surface			Data on at Surface				Tape/Diskette I.D.		File Name/Header				
Temp. SN		701 710			Press.						Start Down at Bottom				CAST <u>101</u> .DAT						
Cond. SN		303 304			Temp.						Start Up at Surface				Remarks		<u>Sal/Therm depth = 84.7</u> <u>Max dep = 100.8</u>				
					Cond.						Data off										
					Other																
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			at bottom	21:10					101.775	4.7731		32.8514						1173	1		
2	✓	85			No	NUTS				4.7796		32.8511	85.9	-4.78	32.8512	<u>101</u>		2			
3		75															1174	3			
4		55															1175	4			
5		35															1176	5			
6		15															1177	6			
7		5															1178	7			
8																		8			
9																		9			
10																		10			
II																		II			
12																		12			

* Therm wire soaked at 85m - to avoid steep thermocline at 75m. Nuts were taken at depth 75, 55, 35, 15, and 5m as specified. Sal sample taken from therm bottle.

Initials vv
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Consec. Cast #		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions							Sta. Designation		
Consec. Cast #	02	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 257	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
102		56 06 9	N	166 25 0	W	14	S E P 93	17	35	90	90	101.5	114	8250	18281	116	110		
CTD Type & SN		91220-A		Monitor Checks				Times		JD/Time		Data Location							
Press. SN		25084		on Deck				Data on		JD/Time		Tape/Diskette I.D.							
Temp. SN		701 710		at Surface				at Surface				File Name/Header							
Cond. SN		303 304		Press.				Start Down				CAST 102.DAT							
				Temp.				at Bottom											
				Cond.				Start Up											
				Other				at Surface											
								Data off				Remarks							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			<i>Bottom</i>	108.625	4.7930							32.6499					1179	1	
2			75	107.636 m	5.2497							32.5450					1180	2	
3			55	73.812	6.6218							32.3850					1181	3	
4			35	73.1 m	7.5307							32.3850					1182	4	
5			15	56.911	9.8665							32.1763					1183	5	
6			5	56.4 m	7.410							31.9525		31.9484			1184	6	
7				36.844	9.8654							31.9364						7	
8				36.5 m													8		
9				15.097													9		
10				15.0 m													10		
11				7.410													11		
12				7.3 m													12		

Initials _____
✓ _____

Consec.Cast # 103		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation 111					
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 257	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1017.0	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	103	55	58	28	N	166	39	8	W	14	S	E	P	93	19	00	95	90	12	22025	126	111
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface						Times		JD/Time		Data Location								
Press. SN 25084				Press.						Data on _____		Tape/Diskette I.D. _____		File Name/Header _____								
Temp. SN 70± 710				Temp.						at Surface		Start Down _____		CAST 103.DAT								
Cond. SN -303 304				Cond.						at Bottom		Start Up _____										
				Other						at Surface		Data off _____		Remarks No Salinity Sample taken								
Pos.	Bot.	T	Trip	Time @		Monitor Values					Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	g		
				Bot. Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				Bot. #	Samp.
1			Bottom						123.892	4.2318		32.7329			1187		1					
2			100						123 m							1188		2				
3			75						99.657	4.4436		32.6858				1189		3				
4			55						74.425	4.6775		32.6283				1190		4				
5			35						55.090	5.7512		32.3468				1191		5				
6			15						35.889	8.9747		32.0807				1192		6				
7			5						14.347	9.8160		31.9497				1186		7				
8									6.630	9.8195		31.9499						8				
9																		9				
10																		10				
11																		11				
12																		12				

Initials CH
✓ _____

Consec.Cast # 104	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event# 438	Vessel Sta. I.D.				Instructions								Sta. Designation 112			
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD = 257	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D					
	Deg. 50.8 Min.	Deg. 4.6	Day Mo. Yr.	Min.									132	112					
104	55 50.8 N	166 54.4 W	14 SEP 93	20 25 10 50 97 13	38 22 02 2														
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 710 Cond. SN 303 304				Monitor Checks on Deck at Surface Press. Temp. Cond. Other				Times	JD/Time	Data Location									
								Data on	2021	Tape/Diskette I.D.	File Name/Header								
								at Surface	2021		CAST104.DAT								
								Start Down	2021										
								at Bottom	2024										
								Start Up	2024										
								at Surface	2031	Remarks									
								Data off											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	NUTS
	Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.	
1		depth		2024													1185	1	
2		125		—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
3		100		2025													1193	3	
4		75		2027													1194	4	
5		55		2027													1195	5	
6		35		2028													1196	6	
7		15		2029													1197	7	
8		5		2030									32.0346		32.0337 ✓		1198	8	
9																		9	
10																		10	
11																		11	
12																		12	

 Initials _____
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Consec. Cast # 105		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 439	Vessel Sta. I.D.		Instructions						Sta. Designation 113		
Consec. Cast #	Latitude N or S		Longitude E or W		Date Day	JD = 257	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S _s	S _{is}	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	Deg. 27	Min. 27	Deg. 094	W	Mo. 14	Yr. 93	21	47	100	0911	153921021	862		132				113	
CTD Type & SN	91220-A		Monitor Checks						Times	JD/Time	Data Location								
Press. SN	25084		on Deck			at Surface			Data on	2142	Tape/Diskette I.D.	File Name/Header							
Temp. SN	701 710		Press.						at Surface	2142		CAST 105.DAT							
Cond. SN	303 304		Temp.						Start Down	2142									
			Cond.						at Bottom										
			Other						Start Up										
									at Surface										
									Data off										
Pos	Bot.	T Rack	Trip Depth	Time @ Depth	Trip	Press.	Temp.	Cond.	Other	Conv. Mon. Values-CTD	Sample Bot. Data	Sal. Bot. #	Other Samp.	Pos					
1		✓ at depth	214645	2151						124.501 4.1306	32.8310 123.1 4.12 32.8315		1199	1					
2			125	—	—	—	—	—	—	—	—		1200	2					
3			100	2152									1201	3					
4			75	2154									1201	4					
5			55	2155									1202	5					
6			35	2156									1203	6					
7			15	2156									1204	7					
8			5	2157									1205/1206	8					
9														9					
10														10					
11														11					
12														12					

Initials CS

✓

Consec. Cast # 106		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 440	Vessel Sta. I.D.		Instructions								Sta. Designation 114		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 257	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. si.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	16 16		42 42	W	14	S E P 93	23 16	106 095	1439	2202	1261	133					114		
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location 133							
Press. SN 25084		Press.								Data on		Tape/Diskette I.D. File Name/Header							
Temp. SN 701 710		Temp.								at Surface		CAST 106.DAT							
Cond. SN 303 304		Cond.								Start Down									
		Other								at Bottom									
										Start Up									
										at Surface									
										Data off									
										Remarks								NUTS	
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			at depth		2316												1207	1	
2			150															2	
3			125															3	
4			100		2317													1208	4
5			75		2318													1209	5
6			55		2319													1210	6
7			35															1211	7
8			15															1212	8
9			5										32.3686		32.3682	/	1213	9	
10																		10	
11																		11	
12																		12	

Initials SD



Consec. Cast # 107		Vessel NOAA Ship SURVEYOR		Proj. & Leg SU-93-03		1SU93	Event# 444	Vessel Sta. I.D.		Instructions								Sta. Designation 115			
Consec. Cast #		Latitude Deg. 65 Min.	N or S	Longitude Deg. 39	E or W	Date Day Mo. Yr.	JD = 258	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	U.S.	VIS	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
10755262 N		167388 W		15s E P 93		0044		100096		143921518761		139								115	
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times		JD/Time		Data Location Tape/Diskette I.D. File Name/Header CAST\03.DAT							
Press. SN 25084		Press. _____								Data on at Surface											
Temp. SN 701 710		Temp. _____								Start Down at Bottom											
Cond. SN 303 304		Cond. _____								Start Up at Surface											
		Other _____								Data off				Remarks							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.	
				Bot. Rack	Depth	Trip Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1			at depth										32.9445			32.9740	✓	1214	1		
2			150																2		
3			125	0044															1215	3	
4			100	0045															1216	4	
5			75	0046															1217	5	
6			55	0047															1218	6	
7			35	0048															1219	7	
8			15	0050															1220	8	
9			5*	0051															1221*	9	
10																				10	
11																				11	
12																				12	

*WINCH WASN'T STOPPED DURING TRIP (BTWN 2-5m)

Initials CD ✓

Consec. Cast # 108		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 446	Vessel Sta. I.D.		Instructions								Sta. Designation 116	
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 258	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S	V	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	Deg. 25 Min. S	Deg.	W	Day Mo. Yr.	Hr. Min.													
	108 55 22	44 N	167 46 32	W 15s	E P 93	01 38	10 00 09 6	143921518761	155									
CTD Type & SN 91220-A		Monitor Checks						Times	JD/Time	Data Location								
Press. SN 25084		on Deck			at Surface			Data on	0133	Tape/Diskette I.D. File Name/Header								
Temp. SN 701 710		Press.						at Surface	0133	CAST 108.DAT								
Cond. SN 303 304		Temp.						Start Down	0133									
		Cond.						at Bottom										
		Other						Start Up										
								at Surface										
								Data off										
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1									2705 9.5994		32.4254		32.4261			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 # 109		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 448	Vessel Sta. I.D.		Instructions							Sta. Designation 117			
Consec. Cast #	Latitude N or S		Longitude E or W		Date Day	JD = 258	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. S.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D		
	Deg. Min.	S	Deg.	W	Mo. Yr.																
	109	55	18	11	N	167	53	77	W	15s	E P 93	02	33	09	70	91	14	382052	1862	290	117
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time			Data Location 282				
				on Deck				at Surface				Data on					Tape/Diskette I.D.		File Name/Header		
												at Surface							CAST 109.DAT		
				Press.								Start Down									
				Temp.								at Bottom									
				Cond.								Start Up									
				Other								at Surface									
												Data off									
Remarks DEPTH = 273.467 m																					
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1			300ft	0233									33.39167		33.3904	109	1350	1			
2			225	0235													1351	2			
3			175	0237													1352	3			
4			125	0238													1353	4			
5			75	0239													1354	5			
6			45	0240													1355	6			
7			15	0242													1356	7			
8			5														1357	8			
9																		9			
10																		10			
11																		11			
12																		12			

Initials _____



Consec. Cast # 110	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event # 451	Vessel Sta. I.D.	Instructions								Sta. Designation 118						
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg. Min. W	Date JD = 258 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S	S	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
	110 55 14 0 N	168 01 3 W	15s EP 93 03 41 09 40 91 11 439205 16862											757	118				
CTD Type & SN 91220-A Press. SN 25084 Temp. SN 701 710 Cond. SN 303 304				Monitor Checks on Deck at Surface Press. Temp. Cond. Other				Times	JD/Time	Data Location 721									
								Data on	0324	Tape/Diskette I.D.	File Name/Header CAST 110.DAT								
								at Surface	0324										
								Start Down	0324										
								at Bottom											
								Start Up											
								at Surface											
								Data off											
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1		surface							1988	8.6281		32.4428			32.4441			1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CD

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Consec. Cast # 111		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 456	Vessel Sta. I.D.		Instructions							Sta. Designation 119			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 258		Time		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
		Deg. Min. S		Deg.		Day Mo. Yr.		Hr. Min.													
		111	5509	4	N	168079	W	15	S E P 93	05	1009	409	1	14	392001	6862	1704		119		
CTD Type & SN 91220-A				Monitor Checks								Times		Data Location							
				on Deck				at Surface				JD/Time		Tape/Diskette I.D.		File Name/Header					
																		CAST 111.DAT			
Press. SN 25084				Press.				Press.				Data on _____									
Temp. SN 701 740				Temp.				Temp.				at Surface _____									
Cond. SN 303 304				Cond.				Cond.				Start Down _____									
				Other				Other				at Bottom _____									
												Start Up _____									
												at Surface _____									
												Data off _____									
Remarks DEPTH = 1477.888																					
Pos	Bot.	T Rack	Trip Depth	Time @			Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos
				Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	✓	at depth	211000	2115					1477.888	2.2644		34.4900	14825	2.30	34.4896		1358	1			
2		550		2132													1359	2			
3		450		2135													1360	3			
4		350		2138													1361	4			
5		250		2140													1362	5			
6		150		2144													1363	6			
7		75		2146													1364	7			
8		45		2147													1365	8			
9		15		2148													1366	9			
10		5															1367	10			
11																		11			
12																		12			

Initials CD



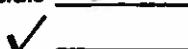
Consec. Cast # 112		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event# 765	Vessel Sta. I.D.		Instructions 23/07						Sta. Designation 120				
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 258	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1014.1	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D	
112	5 50 17 N	168 22 5 W	15 S	EP 93	07 32	92	90	14 38	200 226 6	12013	120									
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times	JD/Time	Data Location										
Press. SN 25084				Press.	Start Down	Data on	0702	Tape/Diskette I.D.	File Name/Header											
Temp. SN 701 710				Temp.	at Bottom	at Surface		CAST 112.DAT												
Cond. SN 303 304				Cond.	Start Up	at Surface		Remarks												
				Other	Data off			Sal dep = 9.3												
								May 22 1500												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1			500 depth	✓													1368	1		
2			550	No Blunker	DIDN'T TRIP													2		
3			450	✓													1369	3		
4			350	✓													1370	4		
5			250														1371	5		
6			150														1372	6		
7			75														1373	7		
8			45														1374	8		
9			15														1375	9		
10			5					4.409	9.1084	32.4547							32.4537	112	1376	10
11																			11	
12																			12	

Initials CD/LL ✓

Consec. Cast # 113		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 470	Vessel Sta. I.D.		Instructions 2-3 10 ⁴ strato cum								Sta. Designation 121		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	Bar. mb	S	S	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
Deg.		Deg.		Deg.		Day	Mo.	Yr.	GMT Hr. Min.	mb	/10 ⁴	/10 ⁴									
113	54	54	0	N	168	37	8	W	15	S	E	P	93	09	47	89	70	14	3822022661	2346	121
CTD Type & SN 91220-A				Monitor Checks								Times	JD/Time				Data Location				
Press. SN 25084				on Deck				at Surface				Data on					Tape	Diskette I.D.	File Name/Header		
Temp. SN 701 710				Press.								at Surface					CAST 113.DAT				
Cond. SN 303 304				Temp.								Start Down									
				Cond.								at Bottom									
				Other								Start Up									
												at Surface									
												Data off									
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1	1	✓	350	depth	168.00					1498.584	2.3036	22	34.4793	1482.5	2.30	34.4912	1378	1			
2	2		550	(ATTEMPTED TRIPPED (NO))	LAWRENCE TWICE FIRST TIME)	*											1379	2			
3	3		450														1380	3			
4	4		350														1381	4			
5	5		250														1382	5			
6	6		150														1383	6			
7	7		75														1384	7			
8	8		45														1385	8			
9	9		15														1386	9			
10	10		5														1387	10			
11																		11			
12																		12			

* The rosette only actually fired 10 times, not the attempted 11. I am therefore assuming that the trip that did not take was the first one at 550 (the one that didn't "kunk"). In which case, everything should be in order

Initials W



Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions						Sta. Designation			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD =			Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S	VIS.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
		Deg.	Min.	Deg.	W	Day	Mo.	Yr.	Hr. Min.			1014.0	ss							
114	54	5	45	7	N	16	85	32	W 15 S	EP 93	12 30	85	77	+ 438	220	21	--	020	23	122
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time				Data Location		
Press. SN 25084				on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header		
Temp. SN 701 740				Press.								at Surface				CAST 114.DAT				
Cond. SN 303 304				Temp.								Start Down								
				Cond.								at Bottom								
				Other								Start Up								
												at Surface								
												Data off								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1		at	bottom							1504.034	2.1384	?						1377	1	
2		550	NO "LTHUNK"	"FIRST TIME, SO TRAPPED	A SECOND TIME	*												1388	2	
3		450																1389	3	
4		350																1390	4	
5		250																1391	5	
6		150																1392	6	
7		75																1393	7	
8		45																1394	8	
9		15																1396	9	
10		5								4.327	8.9973	32.4445			32.4447	114	1397	10		
11																		11		
12																		12		

* situation identical to last cast. See note there.

Initials LL
✓

Consec.Cast # 115		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation 123	
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 258	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb 1011.5	S ci Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath. W	Bottom Depth, m	Sta. Name or I.D	
115	55428	N	169180	W	15	S	E P 93	1808	80	70	11	37	27528	765	2483	123			
CTD Type & SN 91220-A				Monitor Checks						Times		Data Location							
				on Deck			at Surface			JD/Time		Tape/Diskette I.D.		File Name/Header					
Press. SN 25084				Press.			Start Down					CAST 115.DAT							
Temp. SN 701 710				Temp.			at Bottom												
Cond. SN 303 304				Cond.			Start Up												
				Other			at Surface												
							Data off												
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos
				Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			Bottom						1501.853	2.2313		34.4973		34.5028	✓	1398	1		
2			550						1483 m							1399	2		
3			450						550.584	3.4451		34.0658				1400	3		
4			350						458.516	3.5886		33.9421				1401	4		
5			250						350.520	3.7015		33.7908				1402	5		
6			150						250.437	3.7650		33.5892				1403	6		
7			75						150.493	3.7290		33.3677				1404	7		
8			45						74.690	4.7146		33.1234				1405	8		
9			15						44.891	6.8058		32.8973				1406	9		
10			5						15.437	9.3511		32.7578				1407	10		
11									6.035	9.3517		32.7544				1408	11		
12																1409	12		

Initials C#



Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg			1SU93	Event #	Vessel Sta. I.D.			Instructions						Sta. Designation		
Consec. Cast #	116	Latitude	N or S	Longitude	E or W	Date	JD =	258		Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S _s	S _s /s	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
		Deg. 26	Min. 26	Deg. 30	Min. 30	Day 15	Mo. SEP	93		Hr. 20	Min. 30	080	064	12	39	2702368	12206	124			
CTD Type & SN		91220-A		Monitor Checks						Times	JD/Time	Data Location									
Press. SN		25084		on Deck			at Surface			Data on	1959	Tape/Diskette I.D.	File Name/Header								
Temp. SN		701 710		Press.						at Surface	1959	CAST 116.DAT									
Cond. SN		303 304		Temp.						Start Down	1959										
				Cond.						at Bottom	1929										
				Other						Start Up	1929										
										at Surface											
										Data off											
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos	
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			80	1929								34.4930			34.5217	116	1307	1			
2			550	19	no blank the first time second time it blanked							33.9940			33.9956	002	1308	2			
3			450	1949	no blank the first time second time it blanked							33.8543			33.8586	003	1309	3			
4			350	1952	no blank the first time second time it blanked							33.7038			33.7066	004	1310	4			
5			250	1955								33.4798			33.4817	005	1311	5			
6			150	1957								33.2587			33.2579	006	1312	6			
7			75	1958								33.1362			33.1323	007	1313	7			
8			45	1959								32.9852			32.9794	008	1314	8			
9			15	2000								32.7337			32.7346	009	1315	9			
10			5									32.7340			32.7344	/010	1316	10			
11																		11			
12																		12			

Initials CD



Consec. Cast # 117		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event # 488	Vessel Sta. I.D.		Instructions						Sta. Designation 125			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 258		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S	V	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D
Deg.	Min.	Deg.	S	Deg.	W	Day Mo. Yr.	Hr. Min.												
117	56.023	168	56.8	15	S	SEP 93	22 44	40.69	05.9	14	39320	3068	11212	125					
CTD Type & SN 91220-A		Monitor Checks						Times	JD/Time		Data Location 1085								
Press. SN 25084		on Deck			at Surface			Data on		Tape/Diskette I.D.	File Name/Header								
Temp. SN 701 710		Press.						at Surface		CAST 117.DAT									
Cond. SN 303 304		Temp.						Start Down											
		Cond.						at Bottom											
		Other						Start Up											
								at Surface											
								Data off											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		✓	at depth 224405	224900					1117.346	27163		34.3382	1107.4	270	34.3450			1	
2			550	2258														2	
3			450	2300														3	
4			350	2303														4	
5			250	2305														5	
6			150	2308														6	
7			75	2309														7	
8			45	2310														8	
9			15	2311														9	
10			5															10	
11																		11	
12																		12	

Initials CD

Consec. Cast # 118		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 491	Vessel Sta. I.D.		Instructions							Sta. Designation 126			
Consec. Cast #		Latitude	N or S		Longitude	E or W	Date	JD = 259	Time	Dry Bulb	Wet Bulb	Bar. mb	S _s	S _v	>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
Deg.		Deg.			Deg.		Day	Mo. Yr.	Hr. Min.												
118	5607	28	N	1685172	W	16	S	SEP 93	00	140900	72	14	393	152	6	381	616	126			
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time		Data Location					
				on Deck				at Surface				Data on 259/2358				Tape/Diskette I.D.	File Name/Header				
				Press.								at Surface					CAST 118.DAT				
				Temp.								Start Down									
				Cond.								at Bottom									
				Other								Start Up									
												at Surface									
												Data off									
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1			500	✓														1427	1		
2			550	✓														1428	2		
3			450	✓														1429	3		
4			350	✓														1430	4		
5			250	✓														1431	5		
6			150	✓														1432	6		
7			75	✓														1433	7		
8			45	✓														1434	8		
9			15	✓														1435	9		
10			5	✓													32.5095	32.5096	1436	10	
11																				11	
12																				12	

Initials (18)



Consec. Cast # 119	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event# 495	Vessel Sta. I.D.	Instructions								Sta. Designation 127						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 259	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S S	V S	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D	
119	56	11	93	N	168 44 94	W	16	S	E P 93	01	2009	0072	14	3931526	381	211	211	127	
CTD Type & SN 91220-A				Monitor Checks				Times JD/Time		Data Location									
Press. SN 25084				on Deck		at Surface		Data on _____		Tape/Diskette I.D.				File Name/Header					
Temp. SN 701 710				Press. _____		_____		at Surface _____		CAST 119.DAT				_____					
Cond. SN 303 304				Temp. _____		_____		Start Down _____		_____				_____					
				Cond. _____		_____		at Bottom _____		_____				_____					
				Other _____		_____		Start Up _____		_____				_____					
								at Surface _____		Remarks No notes to date				DERT H=202.0					
								Data off _____											
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			at depth							203.709	33.243	33.5704		33.5705			1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials C.J.



Consec. Cast # 120		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 498	Vessel Sta. I.D.		Instructions							Sta. Designation 128		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 259		Time	GMT	Dry	Wet	Bar.	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
		Deg. 65	Min. 65	Deg. 395	W	Day	Mo.	Yr.	Hr. Min.	Bulb	Bulb	mb	mb	vis	/vis					
		1205	616	71	N	168	39	71	W	16	808	3058	15	93	0524	281	159	128		
CTD		Monitor Checks										Times		JD/Time		Data Location				
Type & SN	91220-A	on Deck					at Surface					Data on	259/0203		Tape/Diskette I.D.	File Name/Header				
Press. SN	25084											at Surface	0203			CAST 120.DAT				
Temp. SN	701 740											Start Down	0203							
Cond. SN	303 304											at Bottom	0208							
												Start Up	0208							
												at Surface								
												Data off								
Time @				Monitor Values					Conv. Mon. Values-CTD				Sample Bot. Data					Sal.	Other Samp.	Pos.
Pos.	Bot.	T	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			surface							1.035	9.6198		32.2873			32.2849			1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD

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Consec. Cast # 121		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 500	Vessel Sta. I.D.		Instructions							Sta. Designation 129	
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 259	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	V/s.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
121		56	21	22	N	168	34 18 W	16	025608	5056	16	493052	4281	131		129			
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times JD/Time		Data Location 132									
Press. SN 25084				Press.				Data on 259 0252	at Surface 0252	Tape/Diskette I.D.	File Name/Header								
Temp. SN 701 710				Temp.				Start Down 0252	at Bottom 0256	CAST 121.DAT									
Cond. SN 303 304				Cond.				Start Up 0301	at Surface										
				Other				Data off	DEPTH = 121 m	NUTS									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal.	Other Samp.	Pos.	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.				Therm-P
1		✓	25645	025645	03045					122.231	4.0943		33.1832	117.6	4.14	33.2007		1437	1
2																		2	
3																		3	
4																		4	
5																		1438	5
6																		1439	6
7																		1440	7
8																		1441	8
9																		1442	9
10																		1443	10
11																			11
12																			12

Initials _____
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Consec. Cast # 122		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 506	Vessel Sta. I.D.		Instructions							Sta. Designation 30	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 259	Time Hr.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. ci.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	25 630 8	N	168 22 9	W	16	S E P 9 3	04	22 07 50 62	16 39 30 42 68 61	113								130	
CTD Type & SN 91220-A				Monitor Checks					Times		JD/Time		Data Location						
				on Deck		at Surface			Data on		0418		Tape/Diskette I.D.		File Name/Header				
				Press.					at Surface		0418				CAST 122.DAT				
				Temp.					Start Down		0418								
				Cond.					at Bottom										
				Other					Start Up										
									at Surface										
									Data off										
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1		100															1444	1	
2		100															1445	2	
3		75															1446	3	
4		55															1447	4	
5		35															1448	5	
6		15															1449	6	
7		5								31.9261							31.9222	1450	7
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____



Consec. Cast # 123		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 512	Vessel Sta. I.D.		Instructions								Sta. Designation 131			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 259	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S _s S _i	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
123	56402	N	168121	W	16s	EP 93	05	40	06	9064	16	3726026							102	131		
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time						Data Location		
Press. SN 25084				on Deck				at Surface				Data on						Tape/Diskette I.D.	File Name/Header			
Temp. SN 301 710				Press.								at Surface						CAST 123.DAT				
Cond. SN 303 304				Temp.								Start Down										
				Cond.								at Bottom										
				Other								Start Up										
												at Surface						Remarks				
												Data off										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.			
				Bot. Depth	Trip Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #					
1				50	0540								32.4833			32.4775	✓	1451	1			
2				75															2			
3				150															3			
4				125															4			
5				100															5			
6				75	0540														6			
7				55	0541														7			
8				35	0542														8			
9				15	0543														9			
10				5	0544														10			
II																			II			
I2																			I2			

Initials _____
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Consec. Cast # 124		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event # 518	Vessel Sta. I.D.		Instructions								Sta. Designation 132		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date JD = 259		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Si si	Vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
Deg.		Deg.		Deg.		Day Mo. Yr.	Hr. Min.													
124	56	49	N	168	02	3 W 16s EP 93	04 02	53	51	1747	31028	862	87	132						
CTD Type & SN 91220-A		Monitor Checks								Times	JD/Time		Data Location 87							
		on Deck				at Surface				Data on			Tape/Diskette I.D.	File Name/Header						
Press. SN 25084		Press.								at Surface			CAST 124.DAT							
Temp. SN 701 710		Temp.								Start Down										
Cond. SN 303 304		Cond.								at Bottom										
		Other								Start Up										
										at Surface			Remarks							
										Data off										
Pos.	Bot. Rack	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1		pt depth														1456		1		
2		115																2		
3		150																3		
4		125																4		
5		100																5		
6		75															1457		6	
7		55																1458		7
8		35																1459		8
9		15																1460		9
10		5									31.8431						31.8374	/1461		10
11																				11
12																				12

Initials

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Consec. Cast # 125		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03		Event#	Vessel Sta. I.D.		Instructions		2-1112 PC Circum. sh		Sta. Designation 133					
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 259		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
		125	56	27	8	N	169401	W	16s E P 93	11 46	70	61	25	38	3202	2 - -0	83	133	
CTD Type & SN 91220-A		Monitor Checks						Times	JD/Time		Data Location								
Press. SN 25084		on Deck			at Surface			Data on			Tape/Diskette I.D.	File Name/Header							
Temp. SN 701 710		Press.						at Surface			CAST 125.DAT								
Cond. SN 303 304		Temp.						Start Down											
		Cond.						at Bottom											
		Other						Start Up											
								at Surface											
								Data off											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			at depth	47.51									52.4	58.0				1462	1
2			15															2	
3			55						59.594	5.5722			32.3873	58.1	5.90	32.3202	125	1463	3
4			35															1464	4
5			15															1465	5
6			5															1466	6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Due to ship rolling, samples from bottles 1+2 ended up being at nearly identical depths,
despite 5m difference in wire out between the two.

Initials _____

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Consec. Cast #			Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event #		Vessel Sta. I.D.			Instructions							Sta. Designation			
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date	JD =	Time		Dry		Wet		Bar.	S	S	Wind	Wind	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	Deg.	Min.	S	Deg.		W	Day	Mo.	Hr.	Min.	Bulb	Bulb	mb	si	si	Dir.	Sp.	Cloud	Type	Weath.				
124	56	18	N	169	52	4	W	16	S	E P	93	1307	66	48	26	38	31	029	101	106	134			
CTD Type & SN 91220-A			Monitor Checks								Times		JD/Time		Data Location									
Press. SN 25084			on Deck				at Surface				Data on				Tape/Diskette I.D.			File Name/Header						
Temp. SN 701 710			Press.								at Surface							CAST .DAT						
Cond. SN 303 304			Temp.								Start Down													
			Cond.								at Bottom													
			Other								Start Up													
											at Surface													
											Data off													
P _o Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	P _o S					
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.									
1		at 118																	1167	1				
2		75																	1168	2				
3		55																	1169	3				
4		35																	1170	4				
5		15																	1171	5				
6		5											32.0687			32.0654	126	1172	6					
7																			7					
8																			8					
9																			9					
10																			10					
11																			11					
12																			12					

Initials LL

Consec. Cast # <u>127</u>		Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions <u>24 810</u>						Sta. Designation				
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD = <u>259</u>	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	<u>S</u> / <u>I</u>	<u>V</u> / <u>S</u>	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D				
Deg. Min. S	Deg. W	Day Mo. Yr.																	
127	56 09 2 N	17 00 44 W	16	EP 93	14 23	6 4	4 8	26	37	320	25 221	119	135						
CTD Type & SN <u>91220-A</u>		Monitor Checks				Times JD/Time		Data Location											
Press. SN <u>25084</u>		on Deck		at Surface		Data on _____ at Surface _____		Tape/Diskette I.D.		File Name/Header									
Temp. SN <u>701 710</u>		Press. _____		_____		Start Down _____ at Bottom _____				<u>CAST 127.DAT</u>									
Cond. SN <u>303 304</u>		Temp. _____		_____		Start Up _____ at Surface _____													
		Cond. _____		_____		Data off _____		Remarks											
		Other _____		_____															
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			<u>WT NH</u>											<u>33.1873</u>	<u>33.1248</u>	<u>127</u>	<u>1473</u>	1	
2			<u>100</u>															<u>1474</u>	2
3			<u>75</u>															<u>1475</u>	3
4			<u>55</u>															<u>1476</u>	4
5			<u>35</u>															<u>1477</u>	5
6			<u>15</u>															<u>1478</u>	6
7			<u>5</u>															<u>1479</u>	7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials LL

Consec.Cast # <u>128</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = <u>759</u>	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	<u>1028</u>	<u>si</u>	<u>si</u>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	<u>128</u>	<u>56</u>	<u>04</u>	<u>4</u>	<u>N</u>	<u>170</u>	<u>10</u>	<u>6</u>	<u>W</u>	<u>16</u>	<u>S</u>	<u>E P</u>	<u>93</u>	<u>15</u>	<u>18</u>	<u>70</u>	<u>61</u>	<u>28</u>	<u>3731</u>	<u>520481</u>	<u>i27</u>	<u>136</u>
CTD Type & SN <u>91220-A</u>					Monitor Checks on Deck at Surface					Times		JD/Time		Data Location								
Press. SN <u>25084</u>					Press. _____					Data on _____		Data on _____		Tape/Diskette I.D.		File Name/Header						
Temp. SN <u>701 710</u>					Temp. _____					at Surface _____		at Surface _____				<u>CAST/28.DAT</u>						
Cond. SN <u>303 304</u>					Cond. _____					Start Down _____		Start Down _____										
					Other _____					at Bottom _____		at Bottom _____										
										Start Up _____		Start Up _____										
										at Surface _____		at Surface _____										
										Data off _____		Data off _____										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.		
				Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1			<u>Surf</u>													<u>32.4046</u>	<u>128</u>		1			
2																			2			
3																			3			
4																			4			
5																			5			
6																			6			
7																			7			
8																			8			
9																			9			
10																			10			
11																			11			
12																			12			

Initials LL

Consec. Cast # 129		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S _s	V _s	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
		Deg.	Min.	Deg.	W	Day	Mo.	Yr.	Hr.	Min.			1030	si	>						
129		55	59	17	N	170	17	3	W	16	S E P 93	16	50	70	65	30	37	2802	2481	696	137
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time		Data Location					
				on Deck				at Surface								Tape/Diskette I.D.		File Name/Header			
				Press.														CAST 129.DAT			
				Temp.														CAST 129.B.DAT			
				Cond.																	
				Other																	
Pos	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1		✓	Bottom							614.376 607.9m	3.2798		34.1578	607.0	3.29	34.2242	1480		1		
2			550							550.663	3.4161		34.0616					1481		2	
3			450							449.749	3.5808		33.8864					1482		3	
4			350							348.855	3.7113		33.6299					1483		4	
5			250							251.555	3.7413		33.4000					1484		5	
6			150							150.843	4.3775		33.2106					1485		6	
7			75							74.968	5.1620		32.9872					1486		7	
8			45							45.319	6.5863		32.8165					1487		8	
9			15							15.289	8.6828		32.4777					1488		9	
10			5							6.901	8.6791		32.4768					1489		10	
11																				11	
12																				12	

Initials CH



Consec.Cast # 130		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation 138		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 259 Mo.	Yr.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 103.5	<i>vi</i>	<i>vis</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.
130	55 55	1	170 23	2	16	EP	93	18	26	80	60	31	4	82802448	1	1048	138			
CTD Type & SN 91220-A		Monitor Checks								Times		JD/Time		Data Location						
Press. SN 25084		on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header				
Temp. SN 701 710		Press.								at Surface						CAST130.DAT				
Cond. SN 303 304		Temp.								Start Down										
		Cond.								at Bottom										
		Other								Start Up										
										at Surface										
										Data off										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1			<i>Surface</i>							2.708	8.5421		32.5166		32.5180	✓			1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials C.H



Consec. Cast # <u>131</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event# <u>547</u>	Vessel Sta. I.D.		Instructions							Sta. Designation <u>K9</u>		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = <u>259</u>	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	Deg. Min. S	Deg. W	Day Mo. Yr.	Hr. Min.															
<u>131</u>	<u>55</u>	<u>49</u>	<u>8</u>	N	<u>170</u>	<u>28</u>	<u>5</u>	W	<u>16</u>	S	E	P	<u>93</u>	<u>1956</u>	<u>083057</u>	<u>3333</u>	<u>3927018381</u>	<u>1404</u>	<u>139</u>
CTD Type & SN <u>91220-A</u>					Monitor Checks					Times	JD/Time			Data Location					
Press. SN <u>25084</u>					on Deck	at Surface				Data on				Tape/Diskette I.D.	File Name/Header				
Temp. SN <u>701 740</u>					Press.					at Surface					<u>CAST 131.DAT</u>				
Cond. SN <u>303 304</u>					Temp.					Start Down									
					Cond.					at Bottom									
					Other					Start Up									
										at Surface									
										Data off									
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			Bottom		<u>1956</u>					<u>1402.594</u>	<u>2.3148</u>		<u>34.4685</u>		<u>34.4750</u>	✓	<u>1490</u>	1	
2			<u>550</u>		<u>2010</u>												<u>1491</u>	2	
3			<u>450</u>		<u>2013</u>												<u>1492</u>	3	
4			<u>350</u>		<u>2015</u>												<u>1493</u>	4	
5			<u>250</u>		<u>2017</u>												<u>1494</u>	5	
6			<u>150</u>		<u>2019</u>												<u>1495</u>	6	
7			<u>75</u>		<u>2021</u>												<u>1496</u>	7	
8			<u>45</u>		<u>2022</u>												<u>1497</u>	8	
9			<u>15</u>		<u>2023</u>												<u>1498</u>	9	
10			<u>5</u>		<u>2023</u>												<u>1499</u>	10	
11																		11	
12																		12	

Initials C H/CD

✓

Consec. Cast # 132		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 550	Vessel Sta. I.D.			Instructions							Sta. Designation 140	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 259		Time	GMT	Dry	Wet	Bar.	S	S	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
		Deg.	Min.	Deg.	W	Day	Mo. Yr.	Hr.	Min.	Bulb	Bulb	mb	si	/s						
132	55	40	6	N	170	40	9	W	16	S	E P 93	22	03	08	00	72	34	438260166612847	140	
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time		Data Location				
				on Deck				at Surface				Data on	259	2134	Tape/Diskette I.D.	File Name/Header				
												at Surface		2134		CAST 132.DAT				
Press. SN 25084				Press.				Start Down					2134							
Temp. SN 701 710				Temp.				at Bottom					2202							
Cond. SN 303 304				Cond.				Start Up					2203							
				Other				at Surface												
								Data off												
Remarks CTD 130 & 132 indicated large flyer values (possible slipping problem)																DEPTH=5				
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1				2202														1500	1	
2			550		2219													1501	2	
3			450		2221													1502	3	
4			350		2224													1503	4	
5			250		2226													1504	5	
6			150		2228													1505	6	
7			75		2230													1506	7	
8			45		2231													1507	8	
9			15		2231													1508	9	
10			5		2232													1509	10	
II																			11	
12																			12	

Initials CC



Consec. Cast # 133		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 553	Vessel Sta. I.D.			Instructions						Sta. Designation 141			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 260		Time	GMT	Dry	Wet	Bar.	S	S	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
Deg.		Deg.		Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Vis.	Vis.	Dir.	Sp.	Type	Weath.		
133	55	30	N	170	52	66	W	17	S	EP	93	00	170	95	07	73	42	9240	2056	13318	141
CTD Type & SN 91220-A		Monitor Checks								Times		JD/Time		Data Location							
Press. SN 25084		on Deck				at Surface				Data on 260				Tape/Diskette I.D.		File Name/Header					
Temp. SN 701 710		Press.								at Surface						CAST 133.DAT					
Cond. SN 303 304		Temp.								Start Down											
		Cond.								at Bottom											
		Other								Start Up											
										at Surface											
										Data off											
P#	Bot. Rack	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp. #		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1	✓	at depth	001725	001722					*	*	*		1483.4	2.28	344905	133	1510	1			
2		550		0043													1511	2			
3		450		0045													1512	3			
4		350		0049	no heartbeat												1513	4			
5		250		0051													1515	5			
6		150		0055													1516	6			
7		75		0056													1517	7			
8		45		0057													1518	8			
9		15		00													1519	9			
10		5																10			
11																		11			
12																		12			

no nutrients, two samples taken at
350 m because depth unit did not
indicate a bottle trigger - underway unit
triggered (after recovery) indicated bottle
had triggered ; no 5m sample

Initials _____

✓

Consec. Cast # 134		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 559	Vessel Sta. I.D.		Instructions							Sta. Designation 142						
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 260	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S si	V is	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	134	55	21	54	N	171	10	529	W	17	S	E P	93	02	32	09	60	07	034	39	250	17	3235	142
CTD Type & SN	91220-A		Monitor Checks								Times		JD/Time		Data Location									
Press. SN	25084		on Deck				at Surface				Data on	260/0200	at Surface	0200	Tape/Diskette I.D.	File Name/Header								
Temp. SN	701 710		Press.								Start Down	0200	at Bottom	0232	CAST134.DAT									
Cond. SN	303 304		Temp.								Start Up	0222	at Surface											
			Cond.								Data off													
			Other																					
P&S	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	P&S				
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.			
1																		1520	1					
2			550		0253													1521	2					
3			450		0257													1522	3					
4			350		0259													1523	4					
5			250		0301													1524	5					
6			150		0305													1525	6					
7			75		0307													1526	7					
8			45		0308													1527	8					
9			15		0309													1528	9					
10			5													32.7368		32.7353	134 1529	10				
II																				II				
I2																				I2				

Initials CSD

Consec. Cast # 135		Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03			Event# 567	Vessel Sta. I.D.		Instructions						Sta. Designation 143			
Consec. Cast #	Latitude N or S	Longitude E or W	Date Day	JD = 260	Time Hr.	GMT	Dry Bulb	Wet Bulb	Bar. mb 1033.2	<i>s₁</i>	<i>s₂</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg. Min.	Deg.	Deg.	Mo.	Yr.	Min.													
135	55 54	11	N	17 12 49	W	17	S	E P 93	0717	91	81	33	28	22020	101	3082	143	
CTD Type & SN 91220-A		Monitor Checks						Times	JD/Time	Data Location								
Press. SN 25084		on Deck			at Surface			Data on		Tape/Diskette I.D.		File Name/Header						
Temp. SN 701 710		Press.						at Surface		CAST 135.DAT								
Cond. SN 303 304		Temp.						Start Down										
		Cond.						at Bottom										
		Other						Start Up										
								at Surface										
								Data off										
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1		<i>at depth</i>								34.4924			34.4925	135		1		
2																2		
3																3		
4																4		
5																5		
6																6		
7																7		
8																8		
9																9		
10																10		
11																11		
12																12		

Initials *l/l*

Consec. Cast # 136		Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions 1-2 10+								Sta. Designation 144		
Consec. Cast #	Latitude N or Deg. Min. S		Longitude E or Deg. W		Date JD = 260	Hr.	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	<i>s</i>	<i>s</i>	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	136	54 05 0	N	171 15 4	W	17	S EP 93	09 33	9 2	8 2	3	3	2	8 2 20	20 14 126 8 5	144			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface						Times JD/Time		Data Location									
Press. SN 25084		Press.						Data on _____ at Surface _____		Tape/Diskette I.D. File Name/Header CAST 136.DAT									
Temp. SN 701 710		Temp.						Start Down _____ at Bottom _____											
Cond. SN 303 304		Cond.						Start Up _____ at Surface _____											
		Other						Data off _____		Remarks No nutrients Sal depth = 2.4 max depth = 1480.									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Bot. Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			<i>surface</i>						2.445	9.4467		32.7954			32.7969			1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials V ✓

Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions						Sta. Designation		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 260		Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S S	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
137		137	56	16	0	17		17	21	94	93	33	32	7220	20	141	*	145		
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time		Data Location		*indeterminate		
Press. SN 25084				on Deck				at Surface				Data on				Tape/Diskette I.D.	File Name/Header			
Temp. SN 701 740				Press.								at Surface				CAST 137 .DAT				
Cond. SN 303 304				Temp.								Start Down								
				Cond.								at Bottom								
				Other								Start Up								
												at Surface								
												Data off								
S Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	S P	
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1	✓	NEW METER	31.00					907.344	2.8990		34.3099	896.7	2.88	34.3105				1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Seabeam, echo sounder + pinger trail were each giving contradictory (to themselves + each other) readings;
I went w/ the shallower of the six different figures.

Initials VV

MORE NOTES ON BACK

Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions								Sta. Designation			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	GMT	Dry	Wet	Bar.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D.				
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	dir	spd	type	weath.					
138	56	15	0	N	171	08	0	W	1	S	E P	93	13	00	91	89	33	4	722021	140	425	146
CTD Type & SN 91220-A				Monitor Checks								Times		JD/Time		Data Location						
				on Deck				at Surface				Data on				Tape/Diskette I.D.	File Name/Header					
												at Surface					CAST 138.DAT					
Press. SN 25084				Press.								Start Down										
Temp. SN 701 710				Temp.								at Bottom										
Cond. SN 303 304				Cond.								Start Up										
				Other								at Surface										
												Data off				Remarks						
Pos	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos				
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.			
1			<i>surf.</i>							4.358	8.9663	32.3654			32.3653			1				
2																		2				
3																		3				
4																		4				
5																		5				
6																		6				
7																		7				
8																		8				
9																		9				
10																		10				
II																		II				
12																		12				

Initials LL

Consec.Cast # <u>139</u>		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# <u>574</u>	Vessel Sta. I.D.			Instructions 5710						Sta. Designation			
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = Mo. Yr.	Time Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S _s	/s.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	139	56	20	0	N	171	03	3	W	17	S	E P 93	13	58	90	88	33	47	22020140	130	147
CTD Type & SN		91220-A			Monitor Checks						Times		JD/Time		Data Location						
Press. SN		25084			on Deck						Data on				Tape/Diskette I.D.		File Name/Header				
Temp. SN		701 710			at Surface						at Surface						CAST 139.DAT				
Cond. SN		303 304			Press.						Start Down										
					Temp.						at Bottom										
					Cond.						Start Up										
					Other						at Surface										
											Data off						Remarks Sal dip = 116.9				
P _g Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	P _o ss.		
			Bot.	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1		100m						118.051	4.2658		33.2160			33.2180				1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
II																		II			
I2																		I2			

Initials VV

Consec.Cast # 140		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions 5-7 10							Sta. Designation		
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = Mo.	Time Hr. GMT		Dry Bulb	Wet Bulb	Bar. mb 1032.2	S us	S us	Wind Dir.	Wind Sp.	Cloud Type	Veath.	Bottom Depth, m	Sta. Name or I.D
140	56	25	0			W	17	S EP 93	14	47	90	8732	247220	20	240	123	148				
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface					Times		JD/Time		Data Location								
Press. SN 25084				Press.					Data on				Tape/Diskette I.D. File Name/Header								
Temp. SN 701 740				Temp.					at Surface				CAST 140 DAT								
Cond. SN 303 304				Cond.					Start Down												
				Other					at Bottom												
									Start Up												
									at Surface												
									Data off				Remarks								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.	
				Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				Bot. #
1									5.246	9.1360		32.1268						32.1266			1
2																					2
3																					3
4																					4
5																					5
6																					6
7																					7
8																					8
9																					9
10																					10
II																					II
I2																					I2

Initials VV

Consec.Cast # 141		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 595	Vessel Sta. I.D.		Instructions <i>24</i>						Sta. Designation 153			
Consec. Cast #	Latitude Deg. 5 Min. S		N or S	Longitude Deg. 30.3			E or W	Date Day Mo. Yr.	JD = 261	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	<i>S</i> <i>vis</i>	<i>V</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath. Bottom Depth, m	Sta. Name or I.D.
	141	5635	0	N	170	50	1	W	18s EP 93	02 43	11 3	10 03	1	9	21013			115	153	
CTD Type & SN	91220-A		Monitor Checks								Times	JD/Time	Data Location							
Press. SN	25084		on Deck				at Surface				Data on	261/0239	Tape/Diskette I.D.	File Name/Header						
Temp. SN	701 710		Press.								at Surface	0239		CAST 141.DAT						
Cond. SN	303 304		Temp.								Start Down	0239								
			Cond.								at Bottom	0242								
			Other								Start Up	0248								
											at Surface		Remarks	<i>DEPTH = 108.985 m</i>						
											Data off									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1		<i>✓ at depth</i>	<i>024258</i>						<i>110.014</i>	<i>4.1354</i>		<i>32.9877</i>	<i>107.1</i>	<i>4.15</i>	<i>32.9885</i>			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
I2																		I2		

Initials *CD*

Consec. Cast # 142		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 598	Vessel Sta. I.D.		Instructions								Sta. Designation 154		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 260	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	Si Si	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	142	5644	7	N	170414	W	18	S E P 93	0358	12410030	920014481							106	154
CTD Type & SN 91220-A		Monitor Checks								Times	JD/Time	Data Location							
Press. SN 25084		on Deck				at Surface				Data on	0354	Tape/Diskette I.D.	File Name/Header						
Temp. SN 701 710		Press.								at Surface	0354	CAST142.DAT							
Cond. SN 303 304		Temp.								Start Down	0354								
		Cond.								at Bottom	0358								
		Other								Start Up	0358								
										at Surface									
										Data off									
										DEPTH = 3.544 m									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			<i>Surface</i>						3.577	9.0896	32.0611			32.0628			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 # 143A		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 604	Vessel Sta. I.D.		Instructions								Sta. Designation 155		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 261	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S	V	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	Deg. Min.	S	Deg. 3	W	Day Mo. Yr.	Hr. Min					s	s							
143	56	54	8	N	17 03 26	W 18 S EP 93	05 07 09	20 09 03	02 92 30	16 66	1	91				155			
CTD Type & SN 91220-A				Monitor Checks				Times		JD/Time		Data Location							
				on Deck		at Surface		Data on				Tape/Diskette I.D.	File Name/Header						
				Press.				at Surface				CAST143A.DAT							
				Temp.				Start Down											
				Cond.				at Bottom											
				Other				Start Up											
								at Surface											
								Data off											
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			50 depth						88.713	4.4484		32.4834		32.4833			1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials CD



Consec. Cast # 143B		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.			Instructions								Sta. Designation 150	
Consec. Cast #	Latitude N or S		Longitude E or W		Date	JD = 260		Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. si.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	S	Deg.	W	Day	Mo.	Yr.	Hr. Min.										213	150	
	143	56	27	8	N	171	27	5	W	1	S	E P	93	18	48	09	20	90	32	238225	18
CTD Type & SN <u>91220-A</u>		Monitor Checks								Times		JD/Time		Data Location							
		on Deck				at Surface								Tape/Diskette I.D.	File Name/Header						
Press. SN <u>25084</u>		Press.												<u>CAST143B.DAT</u>							
Temp. SN <u>701 710</u>		Temp.																			
Cond. SN <u>303 304</u>		Cond.																			
		Other																			
		Monitor Values								Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.	
Pos.	Bot. Rack	T	Trip Depth	Time @	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1																				1	
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
II																				II	
12																				12	

Initials CD

Consec.Cast # 144A		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 593	Vessel Sta. I.D.		Instructions 1-2'						Sta. Designation 152		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 260	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. wi	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D	
	56 34 4	N	172 08 3	W	17 S	SEP 93	22	56 14 0	1 2 6 3 2	9 2 2 5 1 6 3 6 1							204	152	
CTD Type & SN 91220-A			Monitor Checks on Deck at Surface						Times JD/Time			Data Location							
Press. SN 25084									Data on _____ at Surface _____			Tape/Diskette I.D.			File Name/Header				
Temp. SN 701 710									Start Down _____ at Bottom _____						CAST144A.DAT				
Cond. SN 303 304									Start Up _____ at Surface _____										
									Data off _____										
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
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 # 144B		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions						PC	Sta. Designation 156			
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 261	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 1024.9	S vi	V is	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
144	57	19	8	17	34	0	W	18	S	E P 9 3	0 8	53	90	87	27	2002	0761	99	156		
CTD Type & SN		91220-A			Monitor Checks				Times		JD/Time		Data Location								
Press. SN		25084			on Deck				Data on				Tape/Diskette I.D.		File Name/Header						
Temp. SN		701 710			at Surface				at Surface				CAST144B.DAT								
Cond. SN		303 304			Press.				Start Down												
					Temp.				at Bottom												
					Cond.				Start Up												
					Other				at Surface												
									Data off						Remarks						
															Max depth = 87 trip depth = 5						
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.			
1			at depth														144	1530	1		
2			75															1531	2		
3			55															1532	3		
4			35															1533	4		
5			15															1534	5		
6			5										32.1142		32.1138	✓	1535	6			
7																		7			
8																		8			
9																		9			
10																		10			
11																		11			
12																		12			

Initials lk

Consec.Cast #			Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions						Sta. Designation	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = Mo.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D			
145	57	145	171	51	4	18	S	E P 93	10	11	92	80	27	18522	661	104	157			
CTD Type & SN 91220-A			Monitor Checks						Times JD/Time			Data Location								
Press. SN 25084			on Deck			at Surface			Data on _____			Tape/Diskette I.D.			File Name/Header					
Temp. SN 701 710			Press. _____			_____			at Surface _____			CAST 145.DAT			_____					
Cond. SN 303 304			Temp. _____			_____			Start Down _____			_____			_____					
_____			Cond. _____			_____			at Bottom _____			_____			_____					
_____			Other _____			_____			Start Up _____			_____			_____					
_____			_____			_____			at Surface _____			_____			_____					
_____			_____			_____			Data off _____			_____			_____					
Pos	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot.Data			Sal. Bot. #	Other Samp.	P o		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.	
1		at depth							94.305	3.7884		32.5605		32.5634	145	1536	1			
2		75							93.932	3.7865		32.5620				1537	2			
3		55							54.399	3.4570		32.4481				1538	3			
4		35							35.358	8.6680		32.1468				1539	4			
5		15							15.141	8.7704		32.1510				1540	5			
6		5							6.017	8.7706		32.1494				1541	6			
7																7				
8																8				
9																9				
10																10				
11																11				
12																12				

Initials _____
✓ _____

Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions						Sta. Designation						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = Mo.	Yr.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
146	57	03	33	N	172	02	9	W	18	S	E	P	93	11	30	94	90	26	200	26	762	112	158
CTD Type & SN 91220-A					Monitor Checks					Times		JD/Time		Data Location									
					on Deck		at Surface							Tape/Diskette I.D.		File Name/Header							
					Press.											CAST 146.DAT							
					Temp.																		
					Cond.																		
					Other																		
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos				
				Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.			
1																		1542	1				
2																		1543	2				
3																		1544	3				
4																		1545	4				
5																		1546	5				
6										4.329	9.0433		32.1816		32.1821	✓146	1547	6					
7																		7					
8																		8					
9																		9					
10																		10					
11																		11					
12																		12					

Initials VV

Consec. Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg ISU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions						Sta. Designation			
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD =			Time	GMT	Dry	Wet	Bar.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	vis.							
14	9	5	45	49	N	172	170	W	18	S	E P 93	12	47	95	87	25	18525	762	120	15K
CTD Type & SN		91220-A		Monitor Checks						Times		JD/Time		Data Location						
Press. SN		25084		on Deck			at Surface			Data on		Data on		Tape/Diskette I.D.		File Name/Header				
Temp. SN		701 710		Press.						at Surface						CAST 147.DAT				
Cond. SN		303 304		Temp.						Start Down										
				Cond.						at Bottom										
				Other						Start Up										
										at Surface										
										Data off										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1			at depth							108.171	4.1593		32.8099					see attached	1	
2			100	49.00						98.831	4.1569		32.8130	74.3	4.14	32.8124	147	1548	2	
3			75							74.434	4.1412		32.7453	↓	↓	32.7456	1549	1549	3	
4			55							55.103	4.8810		32.5703			32.5331	1550	1550	4	
5			35							33.881	9.0570		32.2769			32.2801	1551	1551	5	
6			15							14.908	9.1312		32.2880			32.2853	1552	1552	6	
7			5							5.264	9.1282		32.2872			32.2838	1553	1553	7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials _____

* samples from all casts for correlation.



Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	Dry	Wet	Bar.	Wind	Wind	Cloud	Bottom	Sta. Name			
		Deg.	Min.	Deg.	Day	Mo.	Yr.	Hr.	Bulb	Bulb	mb	Dir.	Sp.	Type	Depth, m	or I.D.				
148		56	46	8				14	12	96	87	23	31	85	74	126	160			
CTD Type & SN		91220-A		Monitor Checks								Times	JD/Time	Data Location						
Press. SN		25084		on Deck				at Surface				Data on		Tape/Diskette I.D.	File Name/Header					
Temp. SN		701 710		Press.								at Surface			CAST 148.DAT					
Cond. SN		303 304		Temp.								Start Down								
				Cond.								at Bottom								
				Other								Start Up								
												at Surface								
												Data off								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P				Avg Tw
1		at depth																1554	1	
2		100																1555	2	
3		75																1556	3	
4		55																1557	4	
5		35																1558	5	
6		15																1559	6	
7		5							5.663	8.9642		32.2607		32.2589	V148	1560		7		
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials LL

Consec.Cast # <u>149</u>			Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# <u>C2-</u>		Vessel Sta. I.D.			Instructions							Sta. Designation		
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = Mo.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S S	S S	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D		
	149	56	42	1	N	172	38	0	W	18	S	E P 93	15	16	92	90	23	175	30	76	2	129	161
CTD Type & SN <u>91220-A</u>			Monitor Checks									Times		JD/Time		Data Location							
Press. SN <u>25084</u>			on Deck				at Surface					Data on _____		Data on _____		Tape/Diskette I.D.		File Name/Header					
Temp. SN <u>701 710</u>			Press. _____				Press. _____					at Surface _____		at Surface _____				<u>CAST 149.DAT</u>					
Cond. SN <u>303 304</u>			Temp. _____				Temp. _____					Start Down _____		Start Down _____									
			Cond. _____				Cond. _____					at Bottom _____		at Bottom _____									
			Other _____				Other _____					Start Up _____		Start Up _____									
												at Surface _____		at Surface _____									
												Data off _____		Data off _____									
Pos. Bot.	T Rack	Trip Depth	Time @			Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.			
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.								
			1	<u>depth</u>					120.990	4.1598		33.0640			33.0648	149						1	
			2																			2	
			3																			3	
			4																			4	
			5																			5	
			6																			6	
			7																			7	
			8																			8	
			9																			9	
			10																			10	
			11																			11	
12																12							

Initials LL

Consec.Cast # 150		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation 162	
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 261	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb 1022.2	S si	V si	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
150	56 38 2	N	17 24 49	W	18 S	EP 93	16 13	95	90	22 47	175329				128	162			
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location							
Press. SN 25084										Data on		Tape/Diskette I.D.	File Name/Header						
Temp. SN 701 710										at Surface			CAST /50.DAT						
Cond. SN 303 304										Start Down									
										at Bottom									
										Start Up									
										at Surface									
										Data off									
Pos. Bot. Rack	T Trip Depth	Time @ Depth	Trip	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp. Pos.		
				Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
				119.200	4.2817			33.1856										1561	
				99.561	4.51658			33.1705										1562	
				76.565	5.1120			33.0634										1563	
				55.809	5.6219			32.9453										1564	
				35.052	8.4201			32.6998										1565	
				15.411	8.5978			32.6553										1566	
				4.881	8.5896			32.6547										1567	
																			8
																			9
																			10
																			11
													12						

Initials CM



Consec.Cast # 151		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions						Sta. Designation 163		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 261	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb 1021.1	S us >	Wind Dir.	Wind Sp.	Cloud Type	W eath.	Bottom Depth, m	Sta. Name or I.D	
151	56 34 0	N	172 51 8	W	18	S EP 93	17 27	95	90 21	185 30	593						593	163	
CTD Type&SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location							
Press. SN 25084		Press.								Data on		Tape/Diskette I.D.	File Name/Header						
Temp. SN 701 710		Temp.								at Surface			CAST 151.DAT						
Cond. SN 303 304		Cond.								Start Down									
		Other								at Bottom									
										Start Up									
										at Surface									
										Data off									
Remarks Salinity spike ~100m 2 bottles tripped. 1st Mrk didn't click. 567m max. gear depth																			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1		✓	Bottom						503.752	3.5279		34.0028	495.0	3.55	34.0025	✓		1	
2									(499m)									2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CH



Consec.Cast # <u>152</u>		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions						Sta. Designation <u>164</u>			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = <u>261</u>		Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb 1020.1	S v _i s _v	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D
	<u>152</u>	<u>56298</u>	<u>N</u>	<u>172</u>	<u>587</u>	<u>W</u>	<u>18</u>	<u>S</u>	<u>E P</u>	<u>93</u>	<u>19</u>	<u>00</u>	<u>95</u>	<u>95</u>	<u>20</u>	<u>47</u>	<u>18028862</u>	<u>2292</u>	<u>164</u>
CTD Type&SN <u>91220-A</u>		Monitor Checks on Deck at Surface						Times	JD/Time	Data Location									
Press. SN <u>25084</u>		Press.							Data on		Tape/Diskette I.D.	File Name/Header							
Temp. SN <u>701 710</u>		Temp.							at Surface		CAST <u>152</u> .DAT								
Cond. SN <u>303 304</u>		Cond.							Start Down										
		Other							at Bottom										
									Start Up										
									at Surface										
									Data off										
											Remarks <u>1501 gear depth</u> <u>3 sal & 1 temp spike</u>						<u>DEPTH=1480m</u>		
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Pos	
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			Avg Tw
1			Bottom														<u>1568</u>	1	
2			550															<u>1569</u>	2
3			450															<u>1570</u>	3
4			350															<u>1571</u>	4
5			250															<u>1572</u>	5
6			150															<u>1573</u>	6
7			75															<u>1574</u>	7
8			45															<u>1575</u>	8
9			15															<u>1576</u>	9
10			5											30.5965		32.3704	✓	<u>1577</u>	10
II																			II
I2																			I2

Initials CH

Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation								
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 261		Time	GMT	Dry	Wet	Bar.	Wind	Wind	Cloud	Bottom	Sta. Name									
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Dir.	Sp.	Type	Depth, m	or I.D.									
153		153	56	21	3	N	17	31	13	W	18	S	SEP	93	21	26	09	7092	18	37	185	308	155	2611	165		
CTD				Monitor Checks								Times				JD/Time				Data Location							
Type & SN 91220-A				on Deck at Surface								Data on 261/2053								Tape/Diskette I.D.							
Press. SN 25084				Press.								at Surface 2053								File Name/Header							
Temp. SN 701 710				Temp.								Start Down 2053								CAST 153.DAT							
Cond. SN 303 304				Cond.								at Bottom 2126															
				Other								Start Up 2126															
												at Surface 2126															
												Data off															
																								Remarks 5 sal spikes 2 temp/sal spike			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.							
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.						
1		at depth		2126					?	—	—	—	34.5002				✓	—	—	1							
2		550		2142					?	—	—	—	—					—	—	2							
3		450		2145										33.9918				33.9902	1578	3							
4		350		2147															1579	4							
5		250		2150															1580	5							
6		150		2152															1581	6							
7		75		2154															1582	7							
8		45		2155															1583	8							
9		15		2155															1584	9							
10		5												32.8897				32.8881	✓	1585	10						
11																				11							
12																				12							

Only eight bottles tripped - deck unit indicated 10 trips -
either bottle is malfunctioning or wasn't reset after last cast

Initials CD✓

Consec Cast # 154	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event# 642	Vessel Sta. I.D.	Instructions										Sta. Designation 166		
Consec Cast #	Latitude Deg. Min. N or S	Longitude Deg.	E or W	Date JD = 261 Day Mo. Yr.	Time Hr. Min. GMT	Dry Bulb	Wet Bulb	Bar. mb	S	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	154 56 13 10 N	173 25 75 W		19 S EP 93	00 01 096	096	16	719030855	3206						166		
CTD Type & SN 91220-A	Monitor Checks on Deck at Surface					Times	JD/Time	Data Location									
Press. SN 25084	Press.	Start Down	2325	Tape/Diskette I.D.	File Name/Header												
Temp. SN 701 710	Temp.	at Bottom		CAST 154.DAT													
Cond. SN 303 304	Cond.	Start Up															
	Other	at Surface															
		Data off															
Pos.	Bot. Rack	T	Trip Depth	Time @ Depth	Monitor Values	Conv. Mon. Values-CTD	Sample Bot. Data				Sal.	Other Samp.	Pos.				
1		at depth			Press. Temp. Cond. Other	Press. Temp. Cond. Sal.	Therm-P	Avg Tw	Sal.			1586	1				
2		550											1587	2			
3		450												1588	3		
4		350												1589	4		
5		250												1590	5		
6		150												1591	6		
7		75												1592	7		
8		45												1593	8		
9		15												1594	9		
10		5				5.231 9.2455	32.8957							32.8959	154	1595	10
11																11	
12																12	

Computer stopped being able to communicate w/Sea-Bird deck unit (when soft-hitting for download to upcast file) - turned off computer & re-started

Initials _____



Consec Cast # 155		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 649	Vessel Sta. I.D.		Instructions								Sta. Designation 167	
Consec Cast #	Latitude Deg. 5 Min. N or S	N	Longitude Deg.	E or W	Date JD = 262	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S _{si}	V _{si}	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
155	560462	N	1734100	W	19S E P 93	02 33 09 7 09 5	1456	19028	855	3380			167							
CTD Type & SN 91220-A	Monitor Checks on Deck at Surface							Times	JD/Time	Data Location										
Press. SN 25084	Press.	261/0202	Tape/Diskette I.D.	File Name/Header																
Temp. SN 701 710	Temp.	0202	CAST 155.DAT																	
Cond. SN 303 304	Cond.	0202																		
	Other	0233																		
		Start Up 0238																		
		at Surface																		
		Data off																		
		Remarks 4 T15 spines (2 were huge @ ~925m) 2 50 pike (1 huge ~1450m)																		
		Lots of spikes in last 30 m DEPTH=1483 m																		
Pos	Bot. Rack	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				Bot. #
1	✓	550	023330	023830					1502.390	2.2270		34.4950			34.4974	/	1596	1		
2		550		0300													1597	2		
3		450		0303													1598	3		
4		350		0305													1599	4		
5		250		0307													1600	5		
6		150		0310													1601	6		
7		75		0312													1602	7		
8		45															1603	8		
9		15															1604	9		
10		5															1605	10		
11																		11		
12																		12		

too many spikes to count on the way up - huge spikes

Initials SD

✓

Consec Cast # 156		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 653	Vessel Sta. I.D.		Instructions 1-2 10						Sta. Designation 168					
Consec Cast #		Latitude	N or S	Longitude	E or W	Date JD = 262		Time GMT	Dry Bulb	Wet Bulb	Bar. mb 1007.5	Si	Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
156	57	46	6	17 44 56	W	19 S	E P 93	11 43	9 0	8 9 0	8 37	245	0 78	7 22	288	168				
CTD				Monitor Checks				Times JD/Time				Data Location								
Type & SN 91220-A				on Deck at Surface				Data on _____				Tape/Diskette I.D.				File Name/Header				
Press. SN 25084				Press. _____				at Surface _____				CAST 156.DAT								
Temp. SN 701 710				Temp. _____				Start Down _____												
Cond. SN 303 304				Cond. _____				at Bottom _____												
				Other _____				Start Up _____												
								at Surface _____												
								Data off _____												
#	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Bot.	Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			<i>Surface</i>						3.461	9.1498		32.6860			32.6847	156		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
12																		I2		

Initials LL

Consec Cast # <u>157</u>				Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # <u>658</u>	Vessel Sta. I.D.			Instructions ³⁻⁴ 4-5						Sta. Designation	
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date	JD = <u>262</u>	Time		Dry Bulb	Wet Bulb	Bar. mb	Si	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	Deg.	Min.		Deg.			Day	Mo.	Hr. Min.			1006.0	Si	Vis.							
157	57	54.3	N	174	27.8	W	19	S E P 93	1359	90	90	16	3602524875	288						169	
CTD				Monitor Checks								Times		JD/Time		Data Location <u>1243</u>					
Type & SN <u>91220-A</u>				on Deck at Surface								Data on _____		Data on _____		Tape/Diskette I.D.				File Name/Header	
Press. SN <u>25084</u>				Press. _____								at Surface		at Surface						<u>CAST 157.DAT</u>	
Temp. SN <u>701 710</u>				Temp. _____								Start Down		Start Down							
Cond. SN <u>303 304</u>				Cond. _____								at Bottom		at Bottom							
				Other _____								Start Up		Start Up							
												at Surface		at Surface							
												Data off		Data off							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.
1		at depth							1241.476	2.5827		34.4084					32.4107			1	
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials LL

Consec.Cast #		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation				
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = <i>262</i>	Time GMT	Hr.	Dry Bulb	Wet Bulb	Bar. mb <small>1000.1</small>	<i>Si</i>	<i>Vi</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.		Deg.		Day	Mo.	Min.													
158	57 58	1	N	174 16 0	W	19	S	16	17	59	57 05	37005	3083	2	1472	170					
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface				Times JD/Time				Data Location									
Press. SN 25084								Data on _____				Tape/Diskette I.D.				File Name/Header					
Temp. SN 701 710								at Surface _____								CAST 158.DAT					
Cond. SN 303 304								Start Down _____													
								at Bottom _____													
								Start Up _____													
								at Surface _____													
								Data off _____													
																Remarks					
P#	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1			<i>surface</i>													32.4076	158	1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
II																		II			
12																		12			

Initials _____



Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation		
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD =	Time	Dry	Wet	Bar.	Wind	Wind	Cloud	Type	Weath.	Bottom	Sta. Name			
	Deg.	Min.	Deg.		Day	Mo.	GMT	Bulb	Bulb	mb	Dir.	Sp.	Cloud	W.	Depth, m	or I.D.				
159	58	00	9	N	174	080	W	19	S	1004.8	17	000	30	86	Z	947	171			
CTD	Monitor Checks														Data Location					
Type & SN	on Deck at Surface														Tape/Diskette I.D.	File Name/Header				
Press. SN	Press.														CAST 159.DAT					
Temp. SN	Temp.																			
Cond. SN	Cond.																			
	Other														Remarks					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.	
				Bot.	Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.				Therm-P
1										925.804	2.9521		34.2957				34.2955			1
2																				2
3																				3
4																				4
5																				5
6																				6
7																				7
8																				8
9																				9
10																				10
11																				11
12																				12

Initials C.H.

Consec.Cast # 160		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event# 67L	Vessel Sta. I.D.		Instructions								Sta. Designation 172				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 262		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	Wind Dir. si si V	Wind Sp. 44	Cloud Type 735029	Weath. 761	Bottom Depth, m	Sta. Name or I.D					
	Deg.	Min.																				
CTD	160	58	05	9	N	174	01	0	W	19	S	E P 93	20	02	60	50	04	44	735029	761	127	172
Type & SN	Monitor Checks												Times	JD/Time	Data Location							
Press. SN	on Deck												Data on		Tape/Diskette I.D.	File Name/Header						
Temp. SN	at Surface												at Surface		CAST 160.DAT							
Cond. SN	Press.												Start Down									
	Temp.												at Bottom	2001								
	Cond.												Start Up									
	Other												at Surface									
	Data off												Data off									
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.	
1									1.786	8.6415		32.3293					32.3274		1			
2																			2			
3																			3			
4																			4			
5																			5			
6																			6			
7																			7			
8																			8			
9																			9			
10																			10			
II																			II			
12																			12			

Initials _____

✓

Consec Cast # 161		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event # 679	Vessel Sta. I.D.		Instructions								Sta. Designation 173		
Consec Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr. JD = 262	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	vis vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
161	58107	N		50		173498 W 19S EP 93	210306	50600	34733030862	115						115	173		
CTD Type & SN		91220-A		Monitor Checks				Times		JD/Time		Data Location							
Press. SN		25084		on Deck at Surface				Data on		262/2101		Tape/Diskette I.D.				File Name/Header			
Temp. SN		701 710		Press.				at Surface		2101						CAST 161.DAT			
Cond. SN		303 304		Temp.				Start Down		2101									
				Cond.				at Bottom		2103									
				Other				Start Up		2108									
								at Surface											
								Data off											
S No	T Bot. Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	✓	210335	2108					106.031	3.5780	32.8038			32.8032			1			
2																2			
3																3			
4																4			
5																5			
6																6			
7																7			
8																8			
9																9			
10																10			
11																11			
12																12			

Initials CD✓

Consec.Cast # 162		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 681	Vessel Sta. I.D.		Instructions								Sta. Designation 174			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 262	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	Vis. us	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
		162	58	15	9	1993	22 14 06	30 54	02 47	7020	20862	112	174							
CTD	Type & SN	91220-A		Monitor Checks				Times	JD/Time	Data Location										
Press. SN	25084			on Deck		at Surface		Data on		Tape/Diskette I.D.	File Name/Header									
Temp. SN	701 710			Press.				at Surface		CAST 162.DAT										
Cond. SN	303 304			Temp.				Start Down												
				Cond.				at Bottom												
				Other				Start Up												
								at Surface												
								Data off		Remarks										
<i>DEPTH = 0.7 m</i>																				
S	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			<i>surface</i>						0.710	8.5088		32.3626			32.3629			1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials *(S)**✓*

Consec.Cast # 163		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event# 684	Vessel Sta. I.D.		Instructions								Sta. Designation 175		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 262		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
163		58	22.0	N	173	21	9	W	19	S	EP 93	23	31	06	50	600	0277	0272	5862	111	175
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times JD/Time		Data Location 111									
Press. SN 25084		Press.								Data on 2327	Tape/Diskette I.D.	File Name/Header CAST 163.DAT									
Temp. SN 701 710		Temp.								at Surface 2327											
Cond. SN 303 304		Cond.								Start Down 2327											
		Other								at Bottom											
										Start Up											
										at Surface											
										Data off											
										Remarks DEPTH = 100 M											
#	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.	
				Bot.	Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1			depth						100.717	3.4053		32.7716			32.7717					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 # 164		Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03		Event # 688	Vessel Sta. I.D.		Instructions								Sta. Designation 176				
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 263	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	<i>Si Si</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
	Deg. 30 Min.		Deg. 4		Day Mo. Yr.															
164	58	30	0	N	173040	W 20S	E P 93	005406406001	1	70	1030	855	110	176						
CTD Type & SN 91220-A		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location								
Press. SN 25084										Data on	0050					Tape/Diskette I.D.	File Name/Header			
Temp. SN 701 710										at Surface	0050						CAST 164.DAT			
Cond. SN 303 304										Start Down	0050									
										at Bottom										
										Start Up										
										at Surface										
										Data off										
										Remarks	DEPTH = 1M									
Pos.	Bot.	Rack	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1				surface						1.140	8.5287		32.3180					32.3168		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 # 165		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event # 693	Vessel Sta. I.D.		Instructions <i>3 9/15 27/15 = 5.33 ft 8-10 lot</i>						Sta. Designation 137			
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day Mo. Yr.	JD = <i>263</i>	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	<i>Si</i> <i>Si</i>	<i>Vis</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.
165	5	9	S	175	27	0	W	20 S E P 93	11 26	40	31	10	5	83	253	20	-0	118	177	
CTD Type & SN 91220-A				Monitor Checks on Deck at Surface						Times JD/Time			Data Location							
Press. SN 25084										Data on _____				Tape/Diskette I.D.	File Name/Header					
Temp. SN 702 710										at Surface _____				CAST 165 DAT						
Cond. SN 303 304										Start Down _____										
										at Bottom _____										
										Start Up _____										
										at Surface _____										
										Data off _____										
										Remarks							<i>sul depth = 106.8</i>			
Pos. #	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.	
				Bot. Depth	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P				Avg Tw
1			<i>at depth</i>						107.765	2.5596		32.7476			32.7468	165	1606	1		
2			100														1607	2		
3			75														1608	3		
4			55														1609	4		
5			35														1610	5		
6			15														1611	6		
7			5														1612	7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____



Consec.Cast #		Vessel NOAA Ship SURVEYOR	Proj. & Leg	1SU93 SU-93-03	Event#	Vessel Sta. I.D.	Instructions						Sta. Designation			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 263	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb 1010.0	vis vis	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D
	14 45 94 72	N	175 33 9	W	20 S EP 93	1247	42	40	10		47	32526331		125	178	
CTD Type & SN	91220-A		Monitor Checks				Times	JD/Time	Data Location							
Press. SN	25084		on Deck at Surface				Data on		Tape/Diskette I.D.	File Name/Header						
Temp. SN	701 710		Press.				at Surface		CAST	.DAT						
Cond. SN	303 304		Temp.				Start Down									
			Cond.				at Bottom									
			Other				Start Up									
							at Surface									
							Data off									
									Remarks							
									GOOD MORNING, MIKE	(Sal. depth = 5.1) T.D.S., NO THERMS TILL CAST 175						

S q	Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
					Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		at MLH														1613	1	
2		100														1614	2	
3		75														1615	3	
4		55														1616	4	
5		35														1617	5	
6		15														1618	6	
7		5							5.158	8.3275				32.3466	166	1619	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials LL

Consec Cast #			Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.			Instructions						Sta. Designation	
Consec Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 263	Time GMT Hr.	Dry Bulb Min.	Wet Bulb Min.	Bar. mb	Vis Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
167598373	175415	N	W	20	S E P 93	1404	41	40	10	5732525771	133					179				
CTD Type & SN	91220-A			Monitor Checks						Times	JD/Time	Data Location								
Press. SN	25084			on Deck			at Surface			Data on		Tape/Diskette I.D.	File Name/Header							
Temp. SN	701 710			Press.						at Surface		CAST .DAT								
Cond. SN	303 304			Temp.						Start Down										
				Cond.						at Bottom										
				Other						Start Up										
										at Surface										
										Data off		Remarks	Sal depth = 125.0							
S. a.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1		at su mn								126.226	2.2485	32.9004		32.9034	167	1620	1			
2		100														1621	2			
3		75														1622	3			
4		55														1623	4			
5		35														1624	5			
6		15														1625	6			
7		5														1626	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials VV✓

Consec Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event #	Vessel Sta. I.D.		Instructions							Sta. Designation		
Consec Cast #		Latitude	N or S	Longitude	E or W	Date JD =			Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Vis	Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr. Min.			100.9								
168		59	27	6	N	175	49	4	W 21 S E P 93	15 26	44	38	11	37	28	210	782	138	180	
CTD				Monitor Checks								Times		JD/Time		Data Location				
Type & SN 91220-A				on Deck				at Surface				Data on				Tape/Diskette I.D.		File Name/Header		
Press. SN 25084												at Surface						CAST 168.DAT		
Temp. SN 701 710				Press.								Start Down								
Cond. SN 303 304				Temp.								at Bottom								
				Cond.								Start Up								
				Other								at Surface								
												Data off								

S. No	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #		
1			at depth							126.116	2.2339		32.9078					1627	1
2			100							100.188	2.6231		32.858					1628	2
3			45							75.363	3.0030		32.8156					1629	3
4			55							54.408	3.8678		32.7938					1630	4
5			35							35.055	8.3642		32.4653					1631	5
6			15							14.270	8.3621		32.4720					1632	6
7			5							5.194	8.3585		32.4713		32.4697	168	1633	7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials LL



rg. _____ of _____

Initials CH

✓

Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 263		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	<i>1011.1</i>	<i>Si</i>	<i>Vi</i>	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
170		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr. Min.											133	182
170 59 08.1	N	176 04 3		W	20 S	E	P	93	18 05 50	45 11	38 000	26	781								
CTD		Monitor Checks										Times	JD/Time				Data Location				
Type & SN		on Deck at Surface										Data on					Tape/Diskette I.D.	File Name/Header			
Press. SN		Press.										at Surface					CAST 170 .DAT				
Temp. SN		Temp.										Start Down									
Cond. SN		Cond.										at Bottom									
		Other										Start Up									
												at Surface									
												Data off									
Remarks																					

S. No	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.		
				Bot.	Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			Bottom										136.328	2.4755		32.9715				1641	1
2			100										100.259	2.4611		32.9635				1642	2
3			75										74.588	3.0673		32.8876				1643	3
4			55										54.901	3.6329		32.8442				1644	4
5			35										36.303	8.3255		32.6033				1645	5
6			15										14.456	8.3276		32.6090				1646	6
7			5										2.771	8.3210		32.6089			✓	1647	7
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials CH



Consec.Cast #		Vessel NOAA Ship SURVEYOR			Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation				
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 263		Time	GMT	Dry	Wet	Bar.	Wind	Wind	Cloud	Bottom	Sta. Name				
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Dir.	Sp.	Type	Depth, m	or I.D				
171		58	58	4	N	176	11	9	W	20	S	E P 93	19	22	51	45	11	38	3302	6767	130	183
CTD		Monitor Checks										Times	JD/Time	Data Location								
Type & SN		on Deck at Surface										Data on		Tape/Diskette I.D.	File Name/Header							
Press. SN												at Surface		CAST 171.DAT								
Temp. SN		Press.										Start Down										
Cond. SN		Temp.										at Bottom										
		Cond.										Start Up										
		Other										at Surface										
												Data off		Remarks								

S o	Bot.	T rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1			Bottom							119.970 118.8m	2.9729		33.0079			33.0506	✓	1648	1	
2			100							100.633	3.0173		33.0050						1649	2
3			75							75.197	3.6194		32.9424						1650	3
4			55							55.862	3.6912		32.8455						1651	4
5			35							34.889	8.5090		32.6357						1652	5
6			15							15.135	8.5105		32.6397						1653	6
7			5							4.025	8.5065		32.6902						1654	7
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials CW

Consec.Cast # 172		Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03			Event# 722	Vessel Sta. I.D.	Instructions							Sta. Designation 184				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 263 Mo.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	Vis Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	58 49 0	N	176 19 5	W	20	S EP 93	20	35 06 9	06 0	124	731220	761	123	184					
CTD Type & SN	Monitor Checks													Times	JD/Time	Data Location			
91220-A	on Deck at Surface													Data on		Tape/Diskette I.D.	File Name/Header		
Press. SN	Press.													at Surface			CAST 172.DAT		
25084														Start Down					
Temp. SN	Temp.													at Bottom					
701 710														Start Up					
Cond. SN	Cond.													at Surface					
303 304														Data off					
Remarks																	DEPTH = 6 m		
#	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1			at depth															1	
2			100															2	
3			75															3	
4			55															4	
5			35															5	
6			15															6	
7			5										32.5357		32.5360 N			7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CD



Consec Cast # 173		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event #: 726	Vessel Sta. I.D.		Instructions								Sta. Designation 185		
Consec Cast #		Latitude	N or S	Longitude	E or W	Date JD = 263		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
Deg.	Min.	Deg.		Deg.		Day Mo. Yr.	Hr. Min.					Vis								
173	58 38	5	N	176 26	7	W 26 SEP 93	08 05	2039	13	73 15 22	862	140	185							
CTD Type & SN 91220-B		Monitor Checks						Times	JD/Time		Data Location 139									
Press. SN 25084 26072		on Deck at Surface						Data on			Tape/Diskette I.D. File Name/Header									
Temp. SN 701 710		Press.						at Surface			CAST 173.DAT									
Cond. SN 303 303		Temp.						Start Down												
		Cond.						at Bottom												
		Other						Start Up												
								at Surface												
								Data off												
Remarks switched to 91220-B + 303 prior to this cast (cont'd) - 133M SURV933.com																				
P#	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1		at depth								133.953	3.1315	32.9710		32.9716	/	1662	1			
2		125															1663	2		
3		100															1664	3		
4		75															1665	4		
5		55															1666	5		
6		35															1667	6		
7		15															1668	7		
8		5															1669	8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD



Consec.Cast # 174		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 729	Vessel Sta. I.D.		Instructions								Sta. Designation 186				
Consec. Cast #	Latitude Deg. Min. N or S		Longitude Deg. E or W		Date Day Mo. Yr.	JD = 263		Time Hr. GMT		Dry Bulb	Wet Bulb	Bar. mb	si ✓	si ✓	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	174	58	33	6	N	176	30	3	W	20	S	E P 93	23	11	06	10	37	1	34731020862	458	186
CTD Type & SN 91220-4B		Monitor Checks on Deck at Surface								Times		JD/Time		Data Location 431							
Press. SN 25084 26072										Data on	2359			Tape/Diskette I.D.		File Name/Header					
Temp. SN 701 710										at Surface	2359					CAST 174.DAT					
Cond. SN 303 304 305										Start Down	2359										
										at Bottom	2310										
										Start Up	2311										
										at Surface											
										Data off											
										Remarks		No nutrients		DEPTH = 4 m							

#	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	
1			surface							3.632	8.4378		32.5874			32.5921	074		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials CD



Consec.Cast # 175		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03		Event# 733	Vessel Sta. I.D.		Instructions								Sta. Designation 187		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 264	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	vis vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
175		55 28 6	N	176 34 0	W	21 SEP 93	0031062034	144831015661	1655									187	
CTD Type & SN 91220-B						Monitor Checks on Deck		Times		JD/Time				Data Location 1456					
Press. SN 25084 26072						at Surface		Data on				Tape/Diskette I.D.		File Name/Header					
Temp. SN 701 710						Press.		at Surface								CAST 135.DAT			
Cond. SN 303 304 303						Temp.		Start Down											
						Cond.		at Bottom											
						Other		Start Up											
								at Surface											
								Data off											
Sg	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1		✓	at depth, 003150	003650					1512.322	2.2567		34.4940	1481.1	2.35	34.4940	075	1670	1	
2			550	0058														1671	2
3			450	0100														1672	3
4			350	0104														1673	4
5			250	0106														1674	5
6			150	0110														1675	6
7			75	0112														1676	7
8			45	0113														1677	8
9			15	0113														1678	9
10			5															1679	10
11																			11
12																			12

Initials _____
 ✓ _____

Consec Cast # 176		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event#	Vessel Sta. I.D.		Instructions								Sta. Designation 188	
Consec Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 264	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	Vis us	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
176	582403	N	1763796	W	21	S EP 93	022306	1036	14	3731014	12894							188	
CTD	Type & SN	91220-AB		Monitor Checks				Times	ID/Time	Data Location									
Press. SN	25004	26072		on Deck at Surface				Data on	264/0152	Tape/Diskette I.D.	File Name/Header								
Temp. SN	701	710		Press.				at Surface	0152	CAST 176.DAT									
Cond. SN	303	304.303		Temp.				Start Down	0152										
				Cond.				at Bottom											
				Other				Start Up											
								at Surface											
								Data off											
Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.		Other Samp.		Pos.			
Si	Bot.	T	Trip	Time @	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1				surface					7.112	8.0531		32.5678			32.5662	076	I		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials CD



Consec.Cast # 177		Vessel NOAA Ship SURVEYOR		Proj. & Leg 1SU93 SU-93-03			Event# 741	Vessel Sta. I.D.		Instructions							Sta. Designation 189 189		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 264	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	Vis us	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
Deg.	Min.	Deg.		Deg.		Day	Mo.	Hr. Min.											
177	58	19	N	176	41	6	W 21 SEP 93	03 59	06 30	45 15	52 83	05 08	76 13	04 61	30	46	189		
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface								Times JD/Time		Data Location					
Press. SN 25004 26072				Press.								Data on 264 0332	Tape/Diskette I.D.	File Name/Header					
Temp. SN 701 710				Temp.								at Surface 0332		CAST 177.DAT					
Cond. SN 303 304 303				Cond.								Start Down 0332							
				Other								at Bottom 0400							
												Start Up							
												at Surface							
												Data off							
												Remarks DEPTH = 1481 m							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Bot. Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1		at depth		0359					1500.404	2.3002		34.4840			34.4834	✓	1680	1	
2		550		0416														1681	2
3		450		0419														1682	3
4		350		0422														1683	4
5		250		0423														1684	5
6		150		0426														1685	6
7		75		0429														1686	7
8		45		0429														1687	8
9		15		0429														1688	9
10		5		0430														1689	10
11																			11
12																			12

Initials _____
✓ _____

Consec. Cast # 178	Vessel NOAA Ship SURVEYOR	Proj. & Leg 1SU93 SU-93-03	Event# 748	Vessel Sta. I.D.	Instructions								Sta. Designation 190						
Consec. Cast #	Latitude Deg. Min.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 264	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. V.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D
178	58 09 5	N	176 49 4	W	21 SEP 93	Q 6	05 06	20 45	15									2585	190
CTD Type & SN 91220-43	Monitor Checks on Deck at Surface								Times JD/Time	Data Location									
Press. SN 25084 26072	Press.	Temp. SN 201 710	Temp.	Start Down	0533	Tape/Diskette I.D.	File Name/Header												
Temp. SN 303 304 303	Cond.	Other	at Bottom	0605	CAST 178.DAT														
			Start Up	0605															
			at Surface	Data off															
					Remarks DEPTH = 5M								done cell tn 176						
S. #	Bot. Rack	T	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		at depth	0605														1690	1	
2		550	0620														1691	2	
3		450	0622														1692	3	
4		350															1693	4	
5		250	0628														1694	5	
6		150	0631														1695	6	
7		75	0633														1696	7	
8		45	0634														1697	8	
9		15	0636														1698	9	
10		5	0637						4.997 8.3080		32.5800						32.5768 ✓	1699	10
11																		11	
12																		12	

Initials _____
✓ _____

Consec. Cast # 179		Vessel NOAA Ship SURVEYOR	Proj. & Leg 15U93 SU-93-03		Event # 754	Vessel Sta. I.D.		Instructions 46 / 10								Sta. Designation 191			
Consec. Cast #		Latitude N or S	Longitude E or W	Date JD = 264		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D				
Deg.	Min.	Deg.	Deg.	Day Mo. Yr.	Hr. Min.					>									
179	57 59.6	17 657.8	8	21 SEP 93	08	11	61	44	16	47	--	0026	13120	191					
CTD Type & SN 91220-30		Monitor Checks on Deck at Surface				Times	JD/Time		Data Location										
Press. SN 26072		Press.	Data on _____ at Surface _____	Tape/Diskette ID.	File Name/Header														
Temp. SN 710		Temp.	Start Down _____ at Bottom _____																
Cond. SN 30.3		Cond.	Start Up _____ at Surface _____																
		Other	Data off _____					Remarks Dept = 1483.5											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1		✓	at depth	11'40	11'40				1502.501	2.2765		34.4889	1490.9	2.23	34.4889	179	1700	1	
2			550														1701	2	
3			450														1702	3	
4			350														1703	4	
5			250														1704	5	
6			150														1705	6	
7			75														1706	7	
8			45														1707	8	
9			15														1708	9	
10			5														1709	10	
11																		11	
12																		12	

Initials ll
✓

Initials J.L.