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SCIENCE APPLICATIONS, INC.

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SUMMARY CRUISE REPORT
R/V SUNCOASTER
November 10-21, 1983

February 1984

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TABLE OF CONTENTS

Section	Page
TABLE OF CONTENTS	i
LIST OF FIGURES	ii
LIST OF TABLES	iii
Introduction	1
Sampling Pattern	1
Data Analysis	1
Appendix A	8
Appendix B	12
Appendix C	26
Appendix D	28

LIST OF FIGURES

Figure	Caption	Page
1	Proposed sampling plan superimposed over sea-surface frontal map for 18 November 1983	2
2	Map of study area showing location of all XBT, CTD and thermosalinograph stations for the R/V SUNCOASTER cruise (10-21 November 1983)	3
3	Bar graph detailing time spent steaming and sampling during the R/V SUNCOASTER cruise (10-21 November 1983)	5

LIST OF TABLES

Table	Caption	Page
1	Actual at sea schedule.. . . . .”. . .	4
2	Station summary	6
3	Sample summary	7

Introduction

Between 10 and 21 November 1983, the second of two planned eastern Gulf of Mexico regional hydrographic cruises was conducted using the R/V SUNCOASTER. This report provides a summary and overview of activities and conditions which occurred in conjunction with that cruise.

Sampling Pattern

During the sampling period the Loop Current was observed to penetrate as far as 27°30'N and 88°30'W. This can be seen in Figure 1. Also included in this figure are the originally planned hydrographic sections. The actual completed cruise track is shown in Figure 2 and is identical to the proposed plan except along the northernmost line. The northern line was initiated further offshore due to the absence of the Loop Current from the region, but was soon interrupted by adverse weather conditions which forced the vessel to return to St. Petersburg one day early. A summary of the actual at sea schedule is presented in Table 1, and a bar graph depicting the time spent steaming and sampling is presented in Figure 3. A detailed description of cruise activities (including a list of cruise participants) is provided in Appendix A and a complete summary of station locations, the time stations were begun and ended, weather, etc. is provided in Appendix B. Appendix C summarizes equipment lost or damaged.

Along each line the station spacing varied, tightening to 5 nm between CTD casts when passing through the Loop Current front, which was well off the shelf break, and widened to 10 nm on the shelf and to as much as 30 nm in the western portions of the Loop Current. Except when passing through the Loop Current front, XBT's alternated with CTD casts. Sampling along Section III was briefly interrupted (slowed) by the passage of a meteorological front and several XBT casts were used to substitute for CTD casts as conditions were inappropriate for CTD sampling. AH other sampling, except as noted above, was generally unaffected by weather. A station summary and a sample summary are presented in Tables 2 and 3.

Data Analysis

At present, data and samples taken during this cruise are being processed and analyzed at Skidaway Institute of Oceanography. (A detailed summary of samples taken at each station and along each section is provided in Appendix D). Sample results should be available in the near future. Data analysis and associated graphics production will be done at that time and the results and any additionally needed analyses will be provided to the relevant program participants.

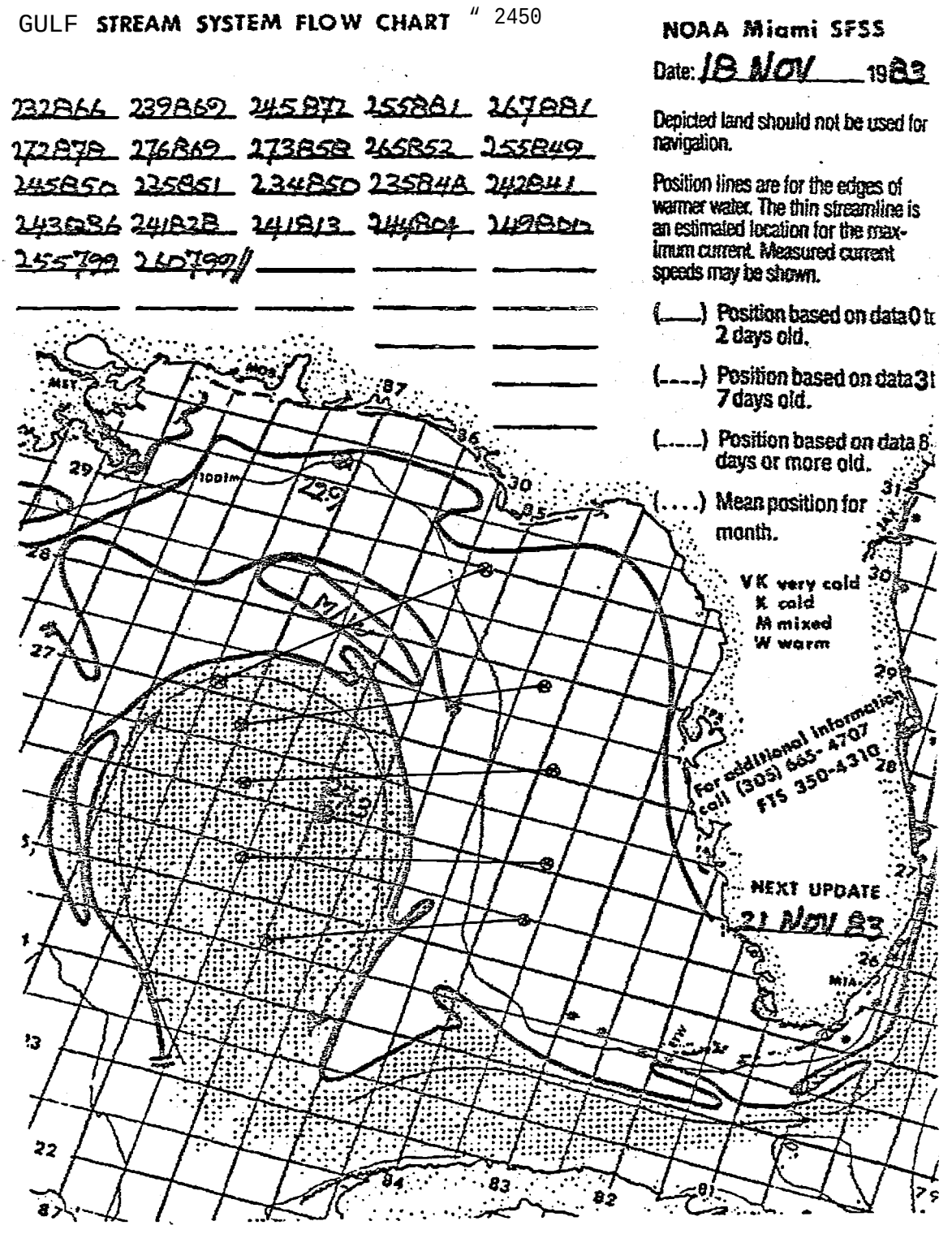

Figure 1. Proposed sampling plan superimposed over sea-surface frontal map for 18 November 1983. The patterned area within the solid line indicates regions of appreciably warmer water. This data product is created and made available by Dr. Steven Baig, NOAA/NESS/Miami.

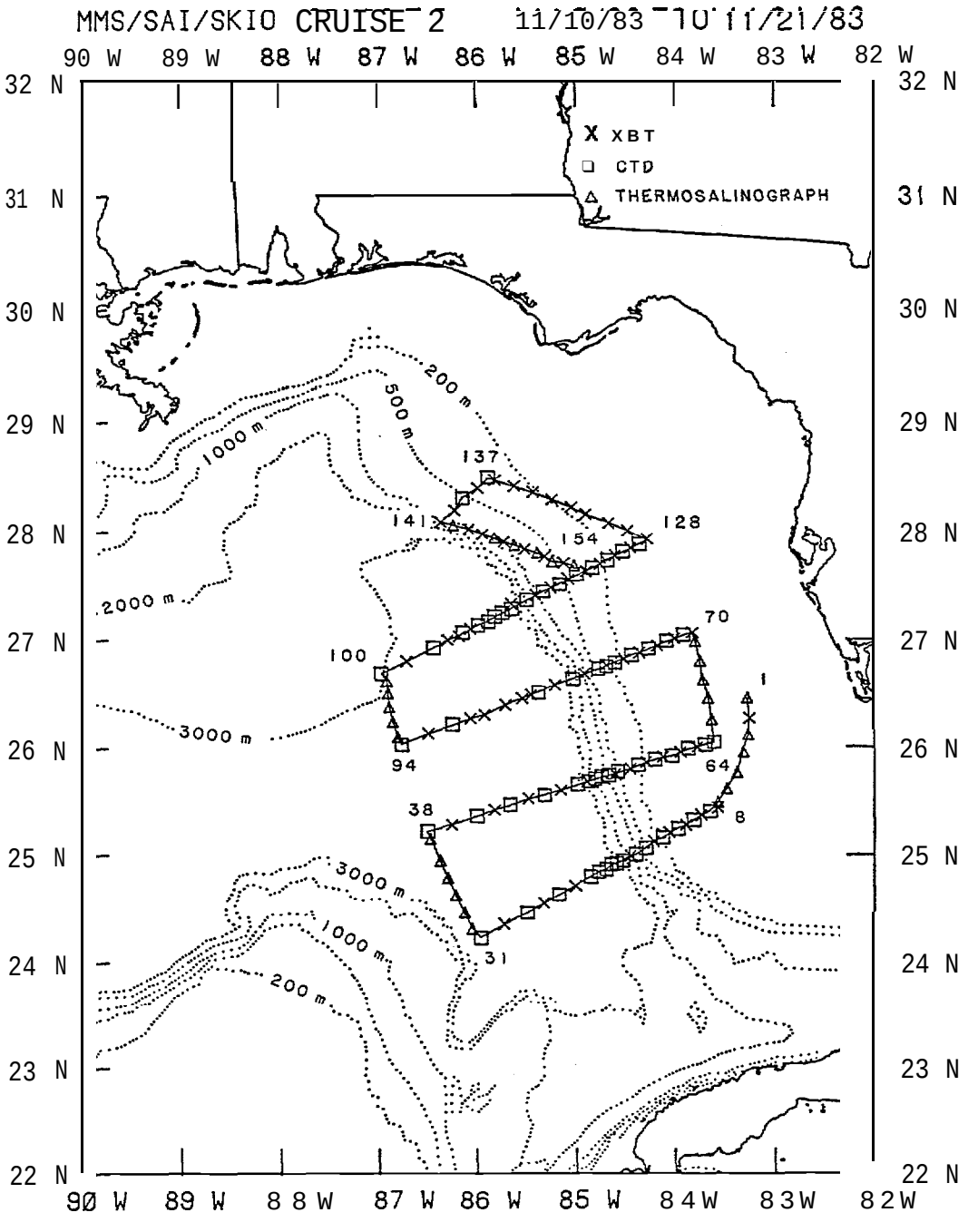

Figure 2. Map of study area showing location of all XBT, CTD, and thermosalinograph stations for the R/V SUNCOASTER cruise (10-21 November 1983).

Table 1.

ACTUAL AT SEA SCHEDULE
MMS/SAI/SKIO
NOVEMBER 1983
R/V SUNCOASTER CRUISE

	(EST)	CTD/XBT Section Time	*Time Between CTD/XBT Sections
Leave St. Petersburg:	2230 Thursday 10 November		14 3/4 hrs
Arrive Station 8X: (Leg I)	1315 Friday 11 November	36 hrs	
Leave Station 31C: (Leg I)	0115 Sunday 13 November		6 1/2 hrs
Arrive Station 38C: (Leg II)	0745 Sunday 13 November	36 hrs	
Leave Station 64C: (Leg 11)	1945 Monday 14 November		6 hrs
Arrive Station 70X: (Leg III)	0145 Tuesday 15 November	44 1/2 hrs	
Leave Station 94C: (Leg III)	2215 Wednesday 16 November		5 1/2 hrs
Arrive Station 100C: (Leg IV)	0345 Thursday 17 November	36 1/4 hrs	
Leave Station 128X: (Leg IV)	1600 Friday 18 November		8 1/2 hrs
Arrive Station 137C: (Leg V)	0030 Saturday 19 November	9 1/4 hrs	
Leave Station 141X: (Leg V)	0945 Saturday 19 November		39 hrs
Arrive St. Petersburg:	0045 Monday 21 November		
		162 hrs	80 1/4 hrs

TOTAL HOURS: 242 1/4 hours
TOTAL DAYS: 10.1 days

*Surface temperature and salinity data were collected hourly between all sections. XBTS were dropped hourly and every two hours while steaming to and from Section V (between Sections IV and V), respectively.

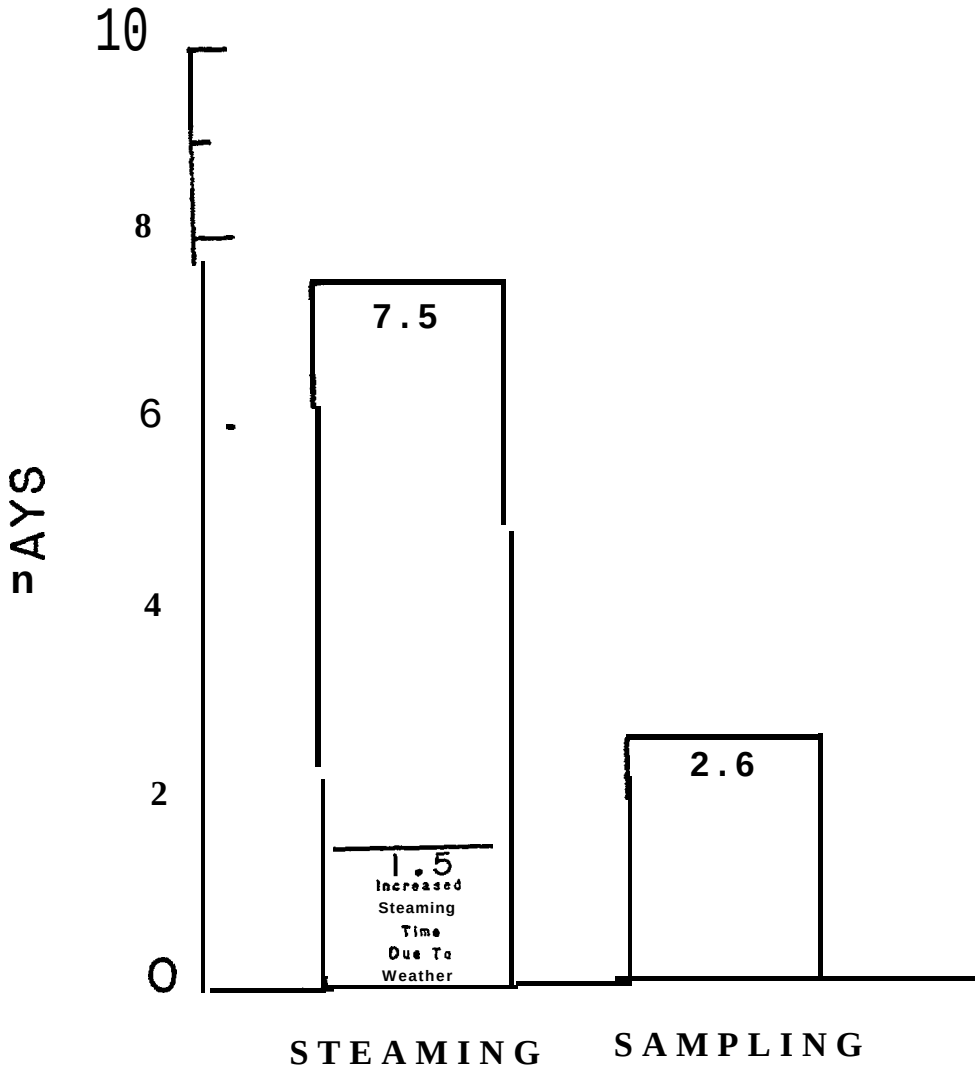

Figure 3. Bar graph detailing time spent steaming and sampling during the R/V STJNCOASTER cruise (10-21 November 1983).

Table 2.

STATION SUMMARY
R/V SUNCOASTER CRUISE
10-21 November 1983

Section	Date (EST)	Station Numbers
I	11-13 November	2X*, 8X, 9C, 10X, 11C, 12X, 13C, 14x, 15C, 16x, 17c, 18C, 19X, 20c, 21C, 22C, 23C, 24C, 25C, 26X, 27C, 28X, 29C, 30X, 31C
II	13-14 November	38C, 39X, 40C, 41X, 42C, 43X, 44C, 45X, 46C, 47X, 48C, 49C, 50C, 51C, 52X, 53C, 54X, 55C, 56X, 57C, 58X, 59C, 60X, 61c, 62X, 63C, 64C
III	15-16 November	70X, 71C, 72X, 73C, 74X, 75C, 76X, 77C, 78X, 79C, 80X, 81C, 82C, 83X, 84C, 85X, 86C, 87X, 88X, 89X, 90X, 92C, 93X, 94C
IV	17-18 November	100C, 101X, 102C, 103X, 104X, 105C, 106x, 107C, 108C, 109C, 110C, 111C, 112X, 113C, 114X, 115C, 116X, 117C, 118X, 119C, 120X, 121C, 122X, 123C, 124X, 125C, 126X, 127C, 128X
(To) V	18-19 November	129X, 130X, 131X, 132X, 133X, 134X, 135X, 136X
V	19 November	137C, 138X, 139C, 140X, 141X
(From) V	19 November	143X, 145X, 147X, 149X, 151X, 153X

*Dropped while enroute to Section I.

Between sections, surface temperature and salinity were collected at hourly intervals:

Stations 1TS-7TS (To Section I)
Stations 32TS-37TS (To Section II)
Stations 65TS-69TS (To Section III)
Stations 95TS-99TS (To Section IV)
Stations 142TS, 146TS, 148TS, 150TS, 152TS (From Section V)

Table 3.

SAMPLE SUMMARY
R/V SUNCOASTER CRUISE

Section	CTD	XBT	Nutrients	Oxygens	Chlorophyll In Vivo	Chlorophyll Filtered	Salinity
I (8X-31C)	15	*10	143	143	58	44	14
II (38C-64C)	16	11	135	135	60	46	15
III (70X-94C)	11	14	85	85	45	33	12
IV (100C-128X)	16	13	131	134	56	44	14
(To) V (129X-136X)	0	8	0	0	0	0	0
V (137C-141X)	2	3	14	14	8	6	2
(From) V (143X-153X)	0	6	0	0	0	0	0
TOTALS	60	65	508	511	227	173	57

*Includes XBT dropped at Station 2X *to* test Bathy Systems unit.

APPENDIX A

CRUISE SUMMARY

CRUISE SUMMARY
R/V SUNCOASTER CRUISE
(SC-83-10]
10-21 November 1983

	(EST)	
Wednesday 9 November	1730	• All participants arrive
	2130	• Load gear onto ship
	2230	• All gear loaded
Thursday 10 November	0800	• Begin tying down/checking out equipment
	1800	• All equipment secured; waiting on arrival of ships Loran C gear (repair shipment delayed in Chicago)
	2130	• Loran C gear arrives
	2215	• Loran C gear checked out
	2230	• Depart St. Petersburg, Fla. with: • Jim Singer (SAI-Chief Scientist) • Bill Chandler (Skidaway) • Jerry Miller (Skidaway) e Curt Emanuele (Skidaway) • Frank Flynn (Skidaway) • Ann Grindle (Skidaway) • Terry Herring (Skidaway) • Bob Guest (Independent) • Frank Gupton (N.C. State) . Mark Wood (F.I.O.)
Friday 11 November	1315	• Arrive first station on Leg I (Stations 8X-31C)
Sunday 13 November	0115	• Complete Leg I (with Station 31C) and begin steaming north for Leg 11
	0740	• Begin Leg II (Stations 38C-64C)
Monday 14 November	1950	• Complete Leg II (with Station 64C) and begin steaming north for Leg 111
Tuesday 15 November	0145	• Begin Leg III (Stations 70X-94C)
	1745	• Complete Station 86C; weather deteriorating; plan to continue line doing XBTS only • Winds 15-20 mph @ 250 degrees • Seas 6 feet
Wednesday 16 November	0100	• Starboard generator shut down (it was smoking)

Wednesday 16 November	0635	• Complete Station 89X (8 hrs between Stations 88X and 89X do to winds, seas and current)
	0800	• Chemical fire extinguisher goes off in scientific quarters; all scientists topside while crew cleans up.
	0845	• Scientific quarters cleaned.
	1230	• Stop to make repairs to starboard generator
	1430	• Able to resume CTD casts with Station 92C
	2210	• Complete Leg III (with Station 94C) and begin steaming for Leg IV
Thursday 17 November	0350	• Begin Leg IV (Stations 100C-128X)
	1130	• Encounter problems with XBT launcher attached to Bathy Systems deck box at Station 103C; cast repeated 4 times; get data using grey box (MK2A unit)
	1330	• XBT problem rectified and begin steaming for Station 105C (bad cable to launch gun, replaced with spare)
	1510	• Rosette bottles fail to trip; check connections and lower to 50 m; bottles trip okay; steam to next station.
	1900	• At Station 107C, all but 50 m bottle again fail to trip after descent to 1500 m; re-do cast to 500 m and get bottles to trip (now suspect a pressure dependent problem)
	2040	• At Station 108C (no bottles planned) but trip mechanism was tested to 1000 m and operated okay
	2100	• Steaming for Station 109C; all future casts planned to 1000 m only unless further problems necessitate re-scotch casting
Friday 18 November	1600	• Complete Leg IV (with Station 128X) and begin steaming for Leg V; plan to pick up proposed line at approximately 300 m and work offshore to Loop Current and then plan new line running to South across the Loop Current; anticipate that the weather will deteriorate over the next two days.

Saturday 19 November	0730	● Plan to do Station 141X and then steam for shelter as 9-11 foot seas and 25-45 mph winds projected for area. Seas expected to intensify through the night. Present Weather Conditions: e winds 25-30 mph @ 160° ● seas 8 feet
	0940	● Complete Station 141X; turn & steam along 110° @ 5½ knots
Sunday 20 November	0700	● Change course to ride with seas ● winds 25-30 mph @ 120° ● seas 8-13 feet ● ETA for *St.* Petersburg is 1200 on 21 November.
	1600	● Present weather conditions: ● winds 10-15 mph @ 145° ● seas 4 feet
Monday 21 November	0045	0 Arrive St. Petersburg
	0130	● Ship unloaded

APPENDIX B

BRIDGE LOG

D = S... Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC-83-10

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/11/83
E 11/11/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	1983 Day	EST Time	Depth	Wave Dir.	W... 3700 Sea State	Wind Dir.	Wind Spd. MPH	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	1TS	[illegible]	44484.13	26 21 83°16	11-11	0700	29FA. 55m	deg 290	code 4	deg 290	30	30.02	70	X 1
E	2X	13923.65	44413.33	26 16 83 15	11-11	0807 0800	27FA. 50m	deg 290	code 4	deg 290	25-30	30.02	71	X 1
B	3TS	13907.40	44391.50	26 07.42 83 15.30	11-11	0900	151FT 46m	deg 290	code 4	deg 290	25	30.02	71	X 1
E	4TS	[illegible]	44379.[illegible]	25 57.59 [illegible]	11-11	1000	162FT 49m	deg 290	code 4	deg 290	25	30.02	73	X 1
B	5TS	[illegible].67	44365.91	25 46.53 83 22.58	11-11	1100	171FT 52m	deg 290	code 4	deg 290	25	30.02	71	X 1
E	6TS	13814.04	44357.46	25 37.41 83 25.94	11-11	1200	179FT 55m	deg 290	code 4	deg 290	25-30	30.02	70	X 1
B	7TS			25 27.15 83 34.12	11-11	1300	210FT 64m	deg 290	code 4	deg 290	25-30	30.03	70	X 1
E	8X	13769.59	44379.31	25 27.03 [illegible]	11-11	1320 1310	215FT 72m	deg 290	code 4	deg 290	25-30	30.03	70	X 1
B	9C	13752.40	44400.00	25 [illegible] 83 39.02	11-11	1435 [illegible]	218FT [illegible]	deg 290	code 4	deg 290	25-30	30.03	70	X 1
E	9C	13753.35	44392.41	25 24.66 83 38.64	11-11	1445	218FT 73m	deg 290	code 4	deg 290	25-30	30.03	70	X 1
B	10X	13732.39	44424.50	25 22.18 83 44.24	11-11	1533 1528	215FT 93m	deg 290	code 4	deg 290	20-30	30.01	69	X 1
B	11C	13713.00	44445.00	25 18.22 83 52.20	11-11	1610 1611	320FT 107m	deg 300	code 4	deg 300	15-20	30.02	68	X 1
E	11C	13713.53	44443.34	25 19.37 83 48.70	11-11	1640	321FT 107m	deg 300	code 4	deg 300	15-20	30.02	68	X 1
E	12X	13695.00	44464.00	25 16.82 83 53.44	11-11	1721 1714	360FT 118m	deg 300	code 4	deg 300	15-20	30.02	68	X 1
B	13C	13676.00	44487.00	25 14.90 83 58.30	11-11	1758 1758	380FT 127m	deg 300	code 4	deg 300	15-20	30.02	65	X 1
E	13C	13676.45	44485.69	25 14.82 83 58.14	11-11	1818	380FT 127m	deg 300	code 4	deg 300	15-20	30.02	61	X 1
B	14X	13655.50	44507.90	25 12.51 84 03.33	11-11	1910 1905	386FT 134m	deg 300	code 4	deg 300	15-20	30.02	61	X 1
E	15C	13651.38	44525.01	25 07.57 84 07.69	11-11	2010 1911	400 [illegible]	deg 300	code 4	deg 300	15-20	30.02	60	X 1

D = S. Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC-83-10

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/11/83
E 11/12/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	1983 Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd. MPH	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	16X	13617.05	44546.02	84°12.71	11-11	2105	300 m	300	code 3	300	15-20	30.02	62	X /
E	17C	13598.10	44526.22	25 04.58 84°17.42		2149	388 m	deg	code	deg				X
B	17C	13597.88	44563.36	84 17.29	11-11	2220	388 m	300	3	300	15	30.02	62	X /
E	18C	13570.08	44588.16	25 00.48 84 23.51	11-11	2345 2330	1263 m	deg 290	code 3	deg 270	10-15	30.03	60	X /
B	18C	13568.85	44585.90	24 59.74 84 23.92	11-12	0115	1263 m	deg 290	code 3	deg 270	10-15	30.03	60	X /
E	19X	13555.00	44605.00	24 39.94 84 27.25	11-12	0217	1830 m	deg 290	code 3	deg 270	10-15	30.03	60	X /
B	20C	13539.00	44621.00	24 57.21 84 31.80	11 12	0258 0257	2000 m	deg 270	code 3	deg 270	10-15	30.03	60	X /
E	20C	13536.10	44620.50	24 56.31 84 32.21	11-12	0425	—	deg 270	code 3	deg 260	5-10	30.03	58	X /
B	21C	13526.00	44636.00	24.56.11 84 35.15	11-12	0519 0508	300 m	deg 270	code 3	deg 260	5-10	30.03	58	X /
E	21C	13523.88	44633.76	24 55.14 84 35.35	11-12	0610	—	deg 270	code 3	deg 235	5-10	30.03	59	X /
B	22C	13512.91	44649.72	24 54.85 84 38.49	11-12	0648 0650	340 m	deg 270	code 2	deg 235	5-10	30.04	60	X /
E	22C	13510.82	44648.09	24 53.99 84 38.71	11-12	0750	—	deg 270	code 2	deg 235	5-10	30.04	62	X /
B	23C	13499.10	44659.40	24 52.61 84 41.42	11-12	0849 0850	340 m	deg 320	code 2	deg 350	5-10	30.04	64	X /
E	23C	13497.10	44657.77	24 51.82 84 41.81	11-12	0945	—	deg 320	code 2	deg 350	5-10	30.04	64	X /
B	24C	13481.03	44676.93	24 50.73 84 46.10	11-12	1019 1015	340 m	deg 320	code 2	deg 356	5-10	30.06	68	X /
E	24C	13477.48	44677.11	24 49.01 84 46.70	11-12	1120	—	deg 320	code 2	deg 350	5-10	30.06	68	X /
B	25C	13459.74	44685.28	24 48.13 84 51.21	11-12	1204 1202	340 m 90F	deg 320	code 3	deg 290	5-10	30.03	70	X /
E	25C	13454.08	44689.80	24 45.58 84 51.73	11-12	1340	—	deg 320	code 3	deg 270	5-10	30.03	70	X /

D = S. Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC - 83 10

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/12/83
E 11/13/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	1983 Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind 'i'"	Spd MPH	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	26X	13420.40	44727.35	24 43.11 85 06.61	11-12	1440 1444	3400m	deg 290	code 2	deg 270	5-10	30.02	71	X 1
B	27C	13379.93	44759.73	24 38.15 85 10.22	11-12	1539 1541	3400m 1855F	deg 225	code 2	deg 270	5-10	30.06	72	X 1
E	27C	13369.43	44757.45	24 38 21 85 10 27	11-12	1730	(2000)	deg 225	code 2	deg 270	5-10	30 06	68	X 1
E	(28X)	13339.90	44750.22	24 33 08 85 19.87	11-12	1820	bad probe	deg 225	code 2	deg 270	5-10	30 06	64	X 1
B	28X	13340.60	44787.41	24 33.13 85 19.62	11-12	1823 1830	3400m 1850F	deg 225	code 2	deg 270	5-10	30.06	64	X 1
E	29C	[illegible]	[illegible]	24 28 04 85 29 40	11-12	1923 1925	3400m	deg 225	code 2	deg 270	5-10	30.06	62	X 1
B	29C	13291.50	[illegible]	24 25 87 85 31.02	11-12	2055	—	deg 225	code 2	deg 240	5-10	30.06	62	X 1
E	30X	13240.98	44863.06	24 20.99 85 43.60	11-12	2206 2210	3400m	deg 225	code 2	deg 230	5-10	30.06	61	X 1
B	31C	13182.75	44904.03	24 13.92 85 57.83	11-12	2332 2335	3400m	deg 225	code 2	deg 230	5-10	30.06	61	X 1
E	31C	13178.31	44904.46	24 12.80 85 58.75	11-13	0100	—	deg 225	code 2	deg 240	5-10	30.03	61	X 1
B	32TS	13167.68	44941.06	24 18.66 86 03.18	11-13	0200	3325	deg 225	code 2	deg 240	5-10	30.03	61	X 1
E	33TS	13158.06	44993.80	24 27.70 86 07.99	11-13	0300	3325m	deg 300	code 2	deg 300	5-10	30.03	61	X 1
B	34TS	13148.37	45048.40	24 37.36 86 12.86	11-13	0400	3325m	deg 300	code 2	deg 300	5-10	30.03	61	X 1
E	35TS	13138.00	45105.21	24 47.24 86 17.89	11-13	0500	3325	deg 300	code 2	deg 300	5-10	30.03	61	X 1
B	36TS	13128.49	45160.58	24 56.97 86 22.58	11-13	0600	3300m	deg 300	code 2	deg 295	5-10	30.03	61	X 1
E	37TS	13115.84	45232.92	25 09.17 86 28.41	11-13	0726 0700	3300m	deg 300	code 2	deg [illegible]	5-10	30.03	63	X 1
B	38C	13110.00	45258.15	25 13.07 86 30.61	11-13	0748 0740	3275	deg 300	code 2	deg 295	5-10	30.03	64	X 1
E	38C	13111.98	45256.82	25 13.40 86 30.17	11-13	0905	—	deg 300	code 2	deg 295	5-10	30.03	66	X 1

D = Drift
C = CTD
X = XBT
P = CURRENT PROFILE

B = Begin
E = End

CRUISE SC-83-IO

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/13/83
E 11/14/83

	Station#	LORAN C TD i	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd.	Bar, Pres.	Air Temp.	Who 4501 Weather
B	39X	13178.00	45208.69	25 17.22 / 86 15.15	11--13	1035 / 1040	3255 / 1780	deg 270	code 2	deg 265	5-10	30.30	68	X /
B	40C	13246.60	45158.89	25 21.59 / 86 00.10	11-13	1208 / 1215	3230 / 1765	deg 340	code 2	deg 360	5-10	30.02	70	X /
E	40C	13247.46	45153.96	25 20.88 / 85 59.69	11-13	1335	—	deg 340	code 2	deg 360	5-10	30.02	70	X /
E	41X	13295.38	45123.21	25 25.18 / 85 49.26	11-13	1441 / 1445	3255 / 1780	deg 345	code 2	deg 010	5-10	30.03	70	X /
B	42C	13337.86	45088.23	25 27.92 / 85 39.72	11-13	1546 / 1546	3275 / 1790	deg 315	code 2	deg 315	5-10	30.03	69	X /
E	42C	13337.63	45079.01	25 26.21 / 85 39.19	11-13	1714	—	deg 315	code 2	deg 315	5-10	30.03	68	X /
B	43X	13385.20	[illegible]	25 31.30 / 85 29.07	11-13	1833 / 1838	3300 / 1800	deg 315	code 2	deg 315	5-10	30.03	64	X /
E	44C	13427.95	45009.57	25 33.68 / 85 14.15	11-13	1940 / 1935	3300 / 1800	deg 315	code 2	deg 315	5-10	30.03	62	X / "
B	44C	13425.76	44997.44	25 31.36 / 85 19.75	11-13	2103	—	deg 315	code 2	deg 315	5-10	30.03	62	X /
E	45X	13472.91	44967.36	25 36.67 / 85 08.71	11-13	2237 / 2242	3310 / 1810	deg 315	code 2	deg 315	5-10	30.03	62	X /
B	46C	13516.99	44924.21	25 39.65 / 84 58.40	11-14	0015 / 0015	3330 / 1820	deg 070	code 2	deg 070	10-15	30.03	61	X /
E	46C	13517.60	44906.45	25 37.14 / 84 57.05	11-14	0148	—	deg 070	code 2	deg 070	10-15	30.03	60	X /
B	47X	13538.00	44903.09	25 41.17 / 84 53.43	11-14	0236 / 0239	996/810	deg 060	code 2	deg 045	10-15	30.03	60	X /
B	48C	13542.80	44897.10	25 41.31 / 84 52.22	11-14	0253 / 0254	1750m	deg 060	code 2	deg 045	10-15	30.03	60	X /
E	48C	13452.77	44883.90	25 39.43 / 84 51.29	11-14	0425	—	deg 045	code 2	deg 030	5-10	30.03	60	X /
B	49C	13559.03	44880.68	25 42.56 / 84 48.37	11-14	0513 / 0515	1362m	deg 045	code 2	deg 070	5-10	30.03	60	X /
E	49C	13559.24	44873.45	25 41.68 / 84 47.83	11-14	0604	—	deg 045	code 2	deg 045	5-10	30.03	61	X /
E	50C	13575.80	44863.77	25 43.77 / 84 44.37	11-14	0655 / 0655	1120m	deg 045	code 2	deg 090	5-10	30.03	62	X /

D = S Drift
C . CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC-83-10 ..DATES: B 11/14/83
XBT/CTD/CURRENT PROFILE LOG "E 11/14/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	50C	13574.23	44857.95	25 42.65 84 44.25	11-14	0830	1120m 1100M	deg 070	code 2	deg 090	5	30.03	68	X 1
E	51C	13592.48	44843.09	25 44.67 84 40.19	11-14	0917 1002	805m	deg 070	code 2	deg 090	5	30.03	68	X 1
B	52X	13607.43	44827.95	25 45.95 84 36.63	11-14	1043 1025	490m	deg 070	code 2	deg 090	5-10	30.03	68	X 1
B	53C	13625.11	44807.01	25 46.80 84 34.70	11-14	1115 1105	296m	deg 070	code 2	deg 090	5-10	30.03	68	X 1
E	53C	13628.41	44807.41	25 45.72 84 33.20	11-14	1155	—	deg 070	code 2	deg 090	5-10	30.03	68	X 1
E	54X	13645.19	44782.64	25 48.35 84 27.18	11-14	1227 1230	207m	deg 080	code 3	deg 090	5-10	30.03	70	X 1
B	55C	13364.92	44761.18	25 50.10 82 22.44	11-14	1311 1308	196m	deg 080	code 3	deg 090	10-15	30.03	70	X 1
E	55C	13364.85	44763.17	25 50.33 84 22.61	11-14	1334	—	deg 090	code 3	deg 090	10-15	30.03	70	X 1
B	56X	13686.00	44738.00	25 51.98 84 17.33	11-14	1412 1412	165m	deg 090	code 3	deg 090	10-15	30.03	70	X 1
B	57C	13703.80	44713.07	25 53.02 84 12.58	11-14	1446 1445	167m	deg 090	code 3	deg 090	10-15	30.03	69	X 1
E	57C	13704.00	44714.90	25 53.25 84 12.70	11-14	1505	—	deg 090	code 3	deg 090	10-15	30.03	69	X 1
E	58X	13724.41	4466.88	25 54.62 84 07.47	11-14	1541 1541	157m	deg 090	code 3	deg 090	10-15	30.03	68	X 1
B	59C	13743.85	44661.10	25 56.08 84 02.25	11-14	1610 1613	142m	deg 090	code 3	deg 090	10-15	30.03	67	X 1
E	59C	13743.85	44661.97	25 56.19 84 02.34	11-14	1627	—	deg 090	code 3	deg 110	10-15	30.03	67	X 1
B	60X	13763.07	44632.46	25 57.32 83 56.92	11-14	1706 1705	132m	deg 090	code 3	deg 110	10-15	30.03	66	X 1
E	61C	13783.90	44606.10	25 59.28 83 51.68	11-14	1736 1735	108m	deg 090	code 3	deg 110	10-15	30.03	66	X 1
B	61C	13783.93	44606.01	25 59.39 83 51.76	11-14	1750	—	deg 090	code 3	deg 110	10-15	30.03	66	X 1
E	62X	13801.30	44581.40	26 00.73 83 46.92	11-14	1818 1825	94m	deg 090	code 3	deg 110	10-15	30.03	66	X 1

63C 1855 . 73m 44835 8436

D = S. Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC-83-0

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/14/83
E 11/15/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	63C	13920.25	44549.76	26 01.85 / 83 41.56	11-14	1855 / 1855	73m	deg 070	code 3	deg 090	10	30.03	63	X 1
E	[illegible]	[illegible]	[illegible]	2601.89 / [illegible]	11-14	1910	—	deg 070	code 3	deg 090	10	30.03	[illegible]	X 1
B						934 / 40		70		deg 090	0	30.	6	
E						50				deg 090	10			
B							5m			deg 090	0	3		
E	66TS	13888.77	44641.71	26 [illegible] / 83 40.09	11-14	2200	65m	070	3	090	5	30.03	63	X 1
B	67TS	13899.52	44720.96	26 [illegible] / 83 43.52	11-14	2300	67m	070	3	090	5	30.03	63	X 1
E	68TS	13982.00	44798.00	25 48.30 / 83 45.20	11-15	0000 / 2400	—	deg 080	code 3	deg 100	5	30.03	62	X 1
B	69TS	13936.94	44876.48	25 58.94 / 83 47.80	11-15	0100	55m	deg 090	code 3	deg 110	5	30.02	61	X 1
E	70X	13942.95	44916.34	27 04.12 / 83 49.54	11-15	0144 / 0146	63m / 160FT	deg 130	code 3	deg 140	5-10	30.02	61	X 1
B	71C	13922.01	44942.94	27 02.39 / 83 55.07	11-15	0218 / 0216	72m / 210FT	deg 140	code 3	deg 140	10-15	30.03	60	X 1
E	71C	13922.40	44944.43	27 02.69 / 83 55.09	11-15	0232	210FT	deg 140	code 3	deg 140	10-15	30.03	60	X 1
B	72X	13898.80	44967.63	27 00.21 / 84 00.55	11-15	0315 / 0315	240FT / 82m	deg 140	code 3	deg 140	10-15	30.03	60	X 1
B	73C	13879.10	44992.22	26 58.87 / 84 05.29	11-15	0348 / 0348	280FT / 95m	deg 140	code 3	deg 140	10-15	30.03	60	X 1
E	73C	13870.83	44993.90	26 57.29 / 84 06.90	11-15	0406	280FT	deg 140	code 3	deg 140	10-15	30.03	60	X 1
E	74X	13854.54	45017.95	26 56.58 / 84 10.99	11-15	0449 / 0449	360FT / 118m	deg 140	code 3	deg 140	10-15	30.03	60	X 1
B	75C	13833.06	45037.9[illegible]	26 54.66 / 84 15.74	11-15	0516 / 0516	132m	deg 140	code 3	deg 140	10-15	30.03	60	X 1
E	75C	13833.53	45039.4[illegible]	26 54.93 / [illegible]	11-15	0530	—	deg 125	code 3	deg 135	10-15	30.03	60	X

D = Si[illegible] Drift
C = CTD B = Begin
X = AXBT E = End
P = CURRENT PROFILE

CRUISE SC- 83 10

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/15/83
E 11/15/83

	Station#	LORAN TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather I	I
B	76X	13[illegible].80	45064.53	26 53.11 84 21.25	11-15	0608 (0606)	155m	deg 135	code 3	deg 135	10-15	30.03	61	X	1
E	77C	13787.03	45088.26	26 51.49 84 26.38	11-15	0645 (0641)	167m	deg 135	code 3	deg 135	10-15	30.03	61	X	1
B	77C	13787.40	45090.08	26 51.70 84 26.44	11-15	0700	—	deg 135	code 3	deg 135	15-20	30.03	61	X	1
E	78X	137[illegible]5.06	45166.05	26 49.85 84 31.05	11-15	0730 (0726)	182m	deg 165	code 3	deg 190	20-25	30.03	63	X	1
B	79C	13740.16	45129.92	26 47.67 84 36.50	11-15	0810 (0805)	204m	deg 165	code 3	deg 190	20	30.03	63	X	1
E	79C	[illegible]	[illegible]	26 47.85 [illegible]	11-15	0815	—	deg 165	code 3	deg 190	20	30.03	63	X	1
B	80X	13717.04	45148.70	26 45.72 84 41.39	11-15	0905 (0901)	235m	deg 210	code 3	deg 220	15-20	30.03	64	X	1
E	81C	13715.86	45149.68	26 45.64 84 41.61	11-15	0910 (0904)	238m	deg 210	code 3	deg 220	15-20	30.03	64	X	1
B	81C	[illegible]	[illegible]	26 45.93 [illegible]	11-15	0935	—	deg 220	code 3	deg 220	15-20	30.03	65	X	1
E	82C	13692.01	45164.45	[illegible]	11-15	1008 (1010)	277m	deg 220	code 3	deg 220	15-20	30.03	65	X	1
B	82C	13693.11	45173.63	26 44.40 84 46.74	11-15	1253	—	deg 220	code 3	deg 220	15-20	30.03	68	X	1
E	83X	13653.79	45200.00	26 40.86 [illegible]	11-15	1145 (1142)	1215m	deg 220	code 3	deg 220	15	30.03	69	X	1
B	84C	13619.96	45228.99	26 38.69 85 01.70	11-15	1235 (1231)	2830m 1550F	deg 220	code 3	deg 220	15	30.03	70	X	1
E	84C	13621.11	45233.44	26 39.40 85 01.85	11-15	1402	—	deg 220	code 3	deg 220	10-15	30.03	70	X	1
B	85X	13567.06	45269.36	26 35.05 85 12.65	11-15	1520 (1517)	3300m 1800F	deg 230	code 3	deg 230	10-15	30.03	69	X	1
B	86C	13516.00	45301.58	26 31.04 85 22.60	11-15	1622 (1626)	3300m 1900F	deg 235	code 3	deg 235	10-15	30.02	69	X	1
E	86C	13517.68	45283.53	26 29.00 85 21.28	11-15	1750	—	deg 160-320	code 1	deg 230	15-20	30.02	68	X	1
E	87X	1349.53	45320.10	26 29.48 85 27.28	11-15	2015 (2012)	3300m 1800F	deg 320	code 3	deg 235	15-20	30.02	67	X	1

D = S. Drift
C = CTD B = Begin
X = AUXOT E = End
P = CURRENT PROFILE

CRUISE SC-83-10 DATES: B 11/15/83

XBT/CTD/CURRENT PROFILE LOG

E 11/17/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	88X	1346513	4533348	26 27.29 85 62.35	11-15	2215 2217	3270m 179°F	deg 320	code 3	deg 285	20-25	30.03	65	X 1
E	89X	1341385	4536690	26 23.95 85 43.01	11-15	0636 0640	3250m 178°F	deg 320	code 3	deg 310	20-25	30.03	59	X 1
B	90X	1334871	45397.50	26 18.41 85 55.04	11-15	0929 0930	3230m 177°F	deg 320	code 3	deg 310	20-30	30.06	59	X 1
E	91X	13304551	4542711	26 14.13 86 03.92	11-16	1110 1111	3220m 176°F	deg 320	code 3	deg 310	30	30.06	61	X 1
B	92C	13249.98	4545586	26 12.43 86 14.44	11-16	1430 1432	3180m 174°F	deg 330	code 4	deg 330	20-25	30.04	62	X 1
E	92C	13252.75	45445.86	26 11.26 86 13.48	11-16	1556	—	deg 330	code 4	deg 340	15-20	30.04	63	X 1
B	93X	13370.80	4546.31	26 07.74 86 29.75	11-16	1841 1845	3130m 171°F	deg 330	code 4	deg 340	15-20	30.04	62	X 1
E	94C	13087.99	45535.02	26 01.74 86 45.84	11-16	2038 2045	3160m 173°F	deg 330	code 4	deg 340	15-20	30.06	60	X 1
B	94C	13090.78	45531.60	26 01.53 86 45.17	11-16	2207	—	deg 330	code 4	deg 340	15-20	30.06	58	X 1
E	95TS	13086.85	45562.9	26 05.64 86 48.12	11-16	2300	3150m 172°F	deg 330	code 4	deg 340	15-20	30.06	56	X 1
B	96TS	13074.88	45614.45	26 13.75 86 50.96	11-17	2400	3130m 171°F	deg 340	code 4	deg 340	15-20	30.05	55	X 1
E	97TS	13071.06	45664.46	26 22.11 86 53.35	11-17	0100	3090m 169°F	deg 340	code 4	deg 340	15-20	30.05	55	X 1
B	98TS	13073.20	45710.13	26 30.20 86 54.51	11-17	0200	3050m 167°F	deg 340	code 4	deg 340	15-20	30.05	54	X 1
E	99TS	13077.77	45746.76	26 36.92 86 54.96	11-17	0300	2980m 163°F	deg 340	code 4	deg 340	15-20	30.05	54	X 1
B	100C	13067.04	45779.88	26 41.19 86 52.29	11-17	0352 0346	2940m 161°F	deg 340	code 4	deg 345	10-15	30.05	55	X 1
E	100C	13079.81	45772.54	26 41.40 86 55.49	11-17	0525	—	deg 340-045	code 4	deg 045	5-10	30.05	55	X 1
B	101X	13155.35	45760.65	26 48.03 86 42.87	11-17	0709 0715	3110m 170°F	deg 360	code 3	deg 050	5-10	30.05	60	X 1
E	102C	13254.57	45738.18	26 54.01 86 35.91	11-17	0856 0910	3150m 172°F	deg 050	code 3	deg 030	5-10	30.04	68	X 1

D = S[illegible] Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC-83-0

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/17/83
E 11/18/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
B	102C	[illegible]	45727.51	26 59.18 86 25.86	11-17	1025	1720F	deg 050	code 3	deg 030	5-10	30.04	68	X 1
E	(103X)	[illegible]	[illegible]	26 59.56 86 18.31	11-17	1135	~~1740F~~	deg 050	code 3	deg 030	5-10	30.04	69	X 1
B	(104X)	13324.01	45725.51	27 01.77 86 14.94	11-17	1204	~~1740F~~	deg 050	code 3	deg 050	5-10	30.04	69	X 1
E	103X No 3	1330.340	45726.11	26 59.53 86 18.14	11-17	1255	1740F	deg 050	code 3	deg 055	5-10	30.04	69	X 1
B	104X	13344.26	45711.75	27 02.15 86 11.21	11-17	1328 1332	1740F	deg 050	code 3	deg 055	5-10	30.04	69	X 1
B	105C	[illegible]	45710.79	27 03.75 86 08.[illegible]	11-17	1347 1347	1745F	deg 055	code 3	deg 055	5-10	30.05	70	X 1
E	105C	10368.40	45695.88	27 02.70 86 06.89	11-17	1515	—	deg 065	code 3	deg 065	5-10	30.05	69	X 1
E	106X	13389.90	45702.98	27 06.07 86 03.94	11-17	1608 1613	1750F	deg 065	code 3	deg 065	5-10	30.05	68	X 1
B	107C	13419.94	45693.88	27 08.26 85 58.93	11-17	1715 1652	1770F	deg 065	code 3	deg 065	5-10	30.05	67	X 1
E	107C	13428.20	45678.10	27 07.23 85 [illegible]	11-17	1820	—	deg 065	code 3	deg 065	5-10	30.05	58	X 1
E	107C	10433.08	45665.09	27 06.10 85 55.40	11-17	1900	—	deg 065	code 3	deg 065	5-10	30.05	57	X 1
E	108C	13452.31	45679.86	27 10.21 85 53.37	11-17	1945 2000	1775F	deg 75	code 3	deg 75	5-10	30.05	57	X 1
B	108C	13456.61	45667.19	27 09.09 85 53.05	11-17	2055	—	deg 75	code 3	deg 75	5-10	30.05	55	X 1
E	109C	13479.565	45678.34	27 13.11 85 44.21	11-17	2129 2130	1775F	deg 75	code 3	deg 75	5-10	30.05	55	X 1
B	109C	13483.75	45665.70	27 12.04 85 47.94	11-17	2230	—	deg 75	code 3	deg 75	5-10	30.05	55	X 1
E	110C	13509.25	45667.32	27 15.14 85 44.19	11-17	2306 2315	1780F	deg 75	code 3	deg 75	5-10	30.05	55	X 1
B	110C	13511.66	45657.52	27 14.27 85 43.82	11-18	0008	—	deg 75	code 3	deg 75	5-10	30.05	54	X 1
B	111C	13537.91	45656.91	27 17.20 85 39.37	11-18	0043 0042	1780F	deg 75	code 3	deg 75	5-10	30.05	52	X 1

D = S. Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC 83-10

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/18/83
E 11/18/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
E	111C	13538.32	45649.67	27.1639 85 38.91	11-18	0134	—	deg 090	code 3	deg 100	5-10	30.05	54	X 1
E	112X	13567.01	45648.10	27 19.58 85 34.54	11-18	0216 0218	1780F	deg 090	code 3	deg 100	5-10	30.05	54	X 1
B	113C	13594.88	45639.00	27 21.78 85 29.91	11-18	0252 0250	1600F	deg 090	code 3	deg 100	5-10	30.05	54	X 1
E	113C	13595.40	45634.80	27 21.59 85 27.92	11-18	0350	—	deg 100	code 3	deg 100	5-10	30.05	54	X 1
B	114X	13642.94	45629.20	27 24.26 85 24.85	11-18	0443 0445	660F	deg 100	code 3	deg 100	5-10	30.05	54	X 1
E	115C	13653.98	45619.00	27 26.56 85 20.03	11-18	0522 0515	550F	deg 140	code 3	deg 165	5-10	30.05	55	X 1
	115C	13653.48	45619.10	27 26.51 85 20.11	11-18	0610	—	deg 130	code 3	deg 115	5-10	30.05	56	X 1
E	116X	13684.06	45606.76	27 28.87 85 14.80	11-18	0710 0715	780m	deg 130	code 3	deg 115	5-10	30.05	56	X 1
B	117C	13713.63	45592.46	27 30.58 85 09.65	11-18	0745 0750	633m	deg 130	code 3	deg 115	5-10	30.05	60	X 1
E	117C	13712.92	45596.12	27 30.41 85 08.31	11-18	0820	—	deg 130	code 3	deg 115	5-10	30.05	61	X 1
B	118X	13743.90	45581.42	27 32.62 85 04.57	11-18	0854 0900	457m	deg 130	code 3	deg 115	5-10	30.05	64	X 1
E	119C	13773.41	45568.60	27 35.97 84 59.34	11-18	0925 0930	364m	deg 130	code 3	deg 115	5-10	30.05	66	X 1
B	119C	13772.27	45568.12	27 35.76 84 59.86	11-18	0955	—	deg 130	code 3	deg 115	5-10	30.05	68	X 1
E	120X	13800.00	45553.54	27 37.94 84 54.38	11-18	1024 1020	290m	deg 130	code 3	deg 115	5-10	30.05	70	X 1
B	121C	13825.30	45541.73	27 40.02 84 49.93	11-18	1053 1045	242m	deg 130	code 3	deg 115	5-10	30.05	72	X 1
E	121C	13824.46	45542.60	27 40.00 84 50.12	11-18	1115	—	deg 130	code 3	deg 115	5-10	30.05	72	X 1
B	122X	13850.44	45528.54	27 45.10 84 25.46	11-18	1146 1147	214m	deg 120	code 3	deg 115	7-10	30.05	72	X 1
E	123C	3873.98	45517.31	27 44.17 84 41.07	11-18	1211	187m	deg 080	code 3	deg 085	5-10	30.05	72	X 1

D = St. Drift
C = CTD B = Begin
X = XBT E = End
P = CURRENT PROFILE

CRUISE SC-83-10

XBT/CTD/CURRENT PROFILE LOG

DATES: B 11/18/83
E 11/19/83

	Station#	LORAN C TD 1	LORAN C TD 2	LATITUDE LONGITUDE	Day	EST Time	Depth	Wave Dir.	3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
E	123C	[illegible]	4551958	[illegible]	11-18	1236	—	090	code 3	110	10-15	30.05	71	X 1
E	124X	13900.75	4550240	27 46.43 84 25.99	11-18	1313	153m	deg 090	code 3	deg 110	10-15	30.05	71	X 1
B	125C	13925.90	4548802	27 48.04 84 31.29	11-18	1340	112m	090	code 3	100	10-15	30.05	70	X 1
E	125C	13925.32	4549911	27 48.70 84 31.52	11-18	[illegible]	—	deg 100	code 3	deg 100	10-15	30.05	69	X 1
B	126X	13947.88	4547430	27 50.48 84 27.07	11-18	1432 1431	79m	deg 100	code 3	deg 100	10-15	30.05	68	X 1
E	127C	13973.78	4545838	27 5756 84 2196	11-18	1504 1501	73m	deg 100	code 3	deg 100	10-15	30.05	[illegible]	X 1
B	127C	[illegible]	[illegible]	27 52.87 [illegible]	18	[illegible]	—	deg 100	code 3	deg 100	10-15	30.05	[illegible]	X 1
E	128X	13998.75	4540289	27 55.23 84 16.95	11-18	1552 1553	61m	deg 100	code 3	deg 100	10-15	30.05	69	X 1
B	129X	13972.69	4556565	28 00.36 84 28.70	11-18	1702 1702	76m	deg 100	code 3	deg 100	10-15	30.04	68	X 1
E	130X	13941.38	4566162	28 04.66 84 40.30	11-18	1800	85m	deg 100	code 3	deg 100	10-15	30.04	65	X 1
B	131X	13906.14	45765.85	2809.12 8454.14	11-18	1900	131m	deg 100	code 3	deg 100	10-15	30.04	66	X 1
E	132X	13872.74	45857.40	2813.31 8502.63	11-18	2000	168m	deg 100	code 3	deg 100	10-15	30.04	64	X 1
B	133X	13831.19	45952.05	2817.55 8514.26	11-18	2100	193m	deg 100	code 3	deg 100	10-12	30.04	64	X 1
E	134X	13783.26	45038.44	2821.18 8525.94	11-18	2200	220m	deg 100	code 3	deg 100	10-15	30.045	62	X 1
B	135X	13731.29	46120.56	2824.82 8537.65	11-18	2300	265m	deg 120	code 3	deg 120	10-15	30.04	62	X 1
E	136X	13673.33	46198.76	2828.41 8549.53	11-18	0000 2400	299m	deg 120	code 3	deg 120	10-15	30.04	62	X 1
B	137C	1365532	4621897	25 29.50 85 50.84	11-19	0026 0022	308m	deg 170	code 3	deg 175	10-15	30.04	62	X 1
E	137C	1365560	4622074	28 29.48 85 [illegible]	11-19	0052	—	deg 110-170	code 3	deg 175	10-15	30.04	62	X 1

untry = 3.
ip = CI
= CTD
= XBT

CRUISE: SC-83-10 B: 11/19/83
XBT - CTD BRIDGE LOG E: 11/19/83

at on#	LORANC ~~Lat.~~	LORANC ~~Long.~~	LAT LONG Loran C	Day	EST Time	Depth	Wave Dir.	3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
138X	13599.77	46203.23	28 23.80 85 59.30	11-19	0202	390m	deg 175	code 3	deg 175	10-15	30.04	62	X 1
139C	13544.31	4618.803	28 18.26 86 08.82	11-19	0259	530m	deg 170	code 3	deg 160	10-15	30.14	62	X 1
139C	13343.22	46191.28	28 18.55 86 06.13	11-19	0341	—	deg 145	code 3	deg 145	15-20	30.04	62	X 1
140X	13481.25	46167.01	28 11.44 86 13.15	11-19	0519	758m	deg 160	code 3	deg 160	15-20	30.04	62	X 1
141X	13413.38	46153.81	28 05.11 86 21.58	11-19	0945	1100m	deg 160	code 6	deg 160	25-30	30.02	66	X 1
142TS	13456.16	46118.86	28 03.09 86 13.[illegible]	11-19	1100	985m 539F	deg 170	code 6	deg 170	25-30	30.02	66	X 1
143X	13493.70	46047.18	28 01.49 86 06.89	11-19	1200	985m	deg 140	code 5	deg 140	20-25	30.03	66	X 1
143X	13508.43	46059.94	28 00.98 86 04.27	11-19	1239	985m	deg 140	code 5	deg 140	20-25	30.03	66	X 1
145X	13549.73	46006.76	27 55.26 85 56.00	11-19	1400	870m 475F	deg 135	code 5	deg 135	20-25	30.02	66	X 1
146TS	13581.21	45962.01	27 55.99 85 49.32	11-19	1505	835m	deg 135	code 5	deg 140	20-25	30.02	66	X 1
147X	13608.63	45921.63	27 54.04 85 43.38	11-19	1605	805m 440F	deg 135-145	code 5	deg 150	20-25	30.02	65	X 1
148TS	13635.07	45880.23	27 52.09 85 37.44	11-19	1700	770m	deg 135	code 5	deg 150	20-25	30.02	64	X 1
149X	13661.18	45836.81	27 50.13 85 31.44	11-19	1800	730m 400F	deg 135	code 5	deg 160	20-25	30.02	63	X 1
150TS	13692.42	45781.81	274765 852373	11-19	1915	670m	deg 135	code 5	deg 160	20-25	30.02	63	X 1
151X	13711.46	45746.46	274612 851900	11-19	2000	605m 330F	deg 135	code 5	deg 170	20-25	30.02	63	X 1
152TS	13725.63	45700.54	274313 851109	11-19	2100	500m	deg 135	code 6	deg 170	30-35	30.02	61	X 1
153X	13755.62	45660.60	274264 850749	11-19	2200	400m 220F	deg 135	code 6	deg 170	30-35	30.02	60	X 1
154TS	13777.98	45613.08	274075 850133	11-19	2300		deg 140	code 6	deg 170	30-35	30.02	60	X 1
							deg	code	deg				X

ountry = 3
hip = CI
= CTD
= XBT

CRUISE: SC-83-10 B: 11/20/83
E: 11/20/83

XBT - CTD BRIDGE LOG

cation#	Lat.	Long.	Loran C	Day	EST Time	Depth	Wave Dir.	WMO 3700 Sea State	Wind Dir.	Wind Spd.	Bar. Pres.	Air Temp.	WMO 4501 Weather
Weather	13981.48	45292.85	27 41.02 84 04.73	11-20	0800	160'	deg 160	code 5	deg 120	25-30	30.01	68	X 6
Weather	14187.65	45330.56	28 16.88 83 78.12	11-20	1200	125	deg 195	code 4	deg 045	15-20	30.02	67	X 5
Weather	14288.03	45133.06	28 24.84 83 04.54	11-20	1600	30 FT	deg 170	code 4	deg 145	10-15	30.02	66	X 5
							deg	code	deg				X
							deg	code	deg				X
							deg	code	deg				X
							deg	code					X
							deg	code	deg				X
													X
							deg	code	deg				X
							deg	code	deg				X
							deg	code	deg				X
							deg	code	deg				X
							deg	code	deg				X
							deg	code	deg				X
							deg	code	deg				X

APPENDIX C

EQUIPMENT LOST OR DAMAGED

R/V SUNCOASTER
CRUISE sC-83-10
EQUIPMENT LOST OR DAMAGED

SCIENTIFIC EQUIPMENT

- One Niskin bottle was broken; two others were damaged and repaired at sea.
- Three dissolved oxygen bottles were broken.
- Water damage to an HP switch and an HP counter (water ran down the wires through an inlet to the vessel's interior and into the respective units).

SHIP'S EQUIPMENT

- Lower head became inoperative.
- Eland-held (LM-3A) XBT launcher gun became defective.
- Conductor cable termination appears to be going bad.

APPENDIX D

SAMFLING SUMMARY

BY STATION AND SECTION

SAMPLING SUMMARY
R/V SUNCOASTER CRUISE
Section I
(Stations 8X-31C)
11-13 November 1983

CTD Casts	XBT Casts	Nutrients	Oxygens	Chlorophylls In Vivo	Chlorophylls Filtered	Salinity
---	8X	0	o	o	0	o
9C	---	4	4	4	3	1
---	lox	0	0	0	0	0
11C	---	5	5	5	3	1
---	12X	0	0	0	0	0
13C	---	6	6	6	4	1
---	14X	0	0	0	0	0
15C		6	6	6	4	1
---	16x	0	0	0	0	0
17C	---	8	8	4	3	1
18C	---	13	13	4	3	1
---	19X	0	0	0	0	0
20C	---	13	13	4	3	1
21C	---	0	0	0	0	0
22C	---	12	12	3	3	1
23C	---	12	12	4	3	1
24C	---	12	12	3	3	1
25C	---	13	13	3	3	1
---	26X	0	0	0	0	0
27C	---	13	13	4	3	1
---	28X	0	0	0	0	0
29C	---	13	13	4	3	1
---	30X	0	0	0	0	0
31C	---	13	13	4	3	1

SAMPLING SUMMARY
R/V SUNCOASTER CRUISE
Section II
(Stations 38C–64C)
13-14 November 1983

CTD Casts	XBT Casts	Nutrients	Oxygens	Chlorophylls In Vivo	Chlorophylls Filtered	Salinity
38C	---	13	13	4	3	1
---	39X	0	0	0	0	0
40C	---	13	13	4	3	1
---	41X	0	0	0	0	0
42C	---	12	12	4	3	1
---	43X	0	0	0	0	0
44C	---	13	13	5	4	1
---	45X	0	0	0	0	0
46C	---	13	13	4	3	1
---	47X	0	0	0	0	0
48C	---	13	13	4	3	1
49C	---	0	0	0	0	0
50C	---	13	13	4	3	1
51C	---	11	11	4	3	1
---	52x	0	0	0	0	0
53C	---	7	7	4	3	1
---	54X	0	0	0	0	0
55C	---	5	5	4	3	1
---	56X	0	0	0	0	0
57C	---	5	5	4	3	1
---	58X	0	0	0	0	0
59C	---	5	5	3	3	1
---	60x	0	0	0	0	0
61C	---	4	4	4	3	1
---	62X	0	0	0	0	0
63C	---	4	4	4	3	1
64C	---	4	4	4	3	1

SAMPLING SUMMARY
R/V SUNCOASTER CRUISE
Section III
(Stations 70X-94C)
15-16 November 1983

CTD Casts	XBT Casts	Nutrients	Oxygens	Chlorophylls In Vivo	Chlorophylls Filtered	Salinity
---	70X	0	0	0	0	0
71C	---	4	4	4	3	1
---	72X	0	0	0	0	0
73C	---	4	4	4	3	1
---	74X	0	0	0	0	0
75C	---	4	4	4	3	1
---	76X	0	0	0	0	0
77C	---	5	5	5	3	1
---	78X	0	0	0	0	0
79C	---	5	5	4	3	1
---	80X	0	0	0	0	0
81C	---	6	6	4	3	1
82C	---	6	6	4	3	1
---	83X	0	0	0	0	0
84C	---	13	13	4	3	1
---	85X	0	0	0	0	0
86C	---	13	13	4	3	1
---	87X	0	0	0	0	0
---	88X	0	0	0	0	0
---	89X	0	0	0	0	0
---	90X	0	0	0	0	0
---	91X	0	0	0	0	0
92C	---	13	13	4	3	1
---	93X	0	0	0	0	0
94C	---	12	12	4	3	2

SAMPLING SUMMARY
R/V SUNCOASTER CRUISE
Section IV
(Stations 100C-128X)
16-18 November 1983

CTD Casts	XBT Casts	Nutrients	Oxygens	Chlorophylls In Vivo	Chlorophylls Filtered	Salinity
100C	---	13	13	4	3	1
..-	101X	0	0	0	0	0
102C	---	13	13	4	3	1
---	103X(MK2A)	0	0	0	0	0
---	104X	0	0	0	0	0
105C	---	2	2	2	2	0
---	106x	0	0	0	0	0
107C	---	14	14	4	3	1
108c	---	0	0	0	0	0
109C	---	12	12	4	3	1
110C	---	12	12	4	3	1
111C	---	12	12	4	3	1
---	112X	0	0	0	0	0
113C	---	12	12	4	3	1
---	114X	0	0	0	0	0
115C	---	12	12	4	3	1
---	116x	0	0	0	0	0
117C	---	7	9	4	3	1
---	118X	0	0	0	0	0
119C	---	6	7	4	3	1
---	120X	0	0	0	0	0
121C	---	5	5	4	3	1
---	122X	0	0	0	0	0
123C	---	5	5	4	3	1
---	124X	0	0	0	0	0
125C	---	3	3	3	3	1
---	126X	0	0	0	0	0
127C	---	3	3	3	3	1
---	128X	0	0	0	0	0

SAMPLING SUMMARY
R/V SUNCOASTER CRUISE
TO, DURING, AND FROM Section V
(Stations 129X-153X)
18-19 November 1983

CTD Casts	XBT Casts	Nutrients	Oxygens	Chlorophylls In Vivo	Chlorophylls Filtered	Salinity
---	129X	0	0	0	0	0
---	130X	0	0	0	0	0
---	131X	0	0	0	0	0
---	132X	0	0	0	0	0
---	133X	0	0	0	0	0
---	134X	0	0	0	0	0
---	135X	0	0	0	0	0
---	136X	0	0	0	0	0
137C	---	6	6	4	3	1
---	138X	0	0	0	0	0
139C	---	8	8	4	3	1
---	140X	0	0	0	0	0
---	141X	0	0	0	0	0
---	143X	0	0	0	0	0
---	145X	0	0	0	0	0
---	147X	0	0	0	0	0
---	149X	0	0	0	0	0
---	151X	0	0	0	0	0
---	153X	0	0	0	0	0