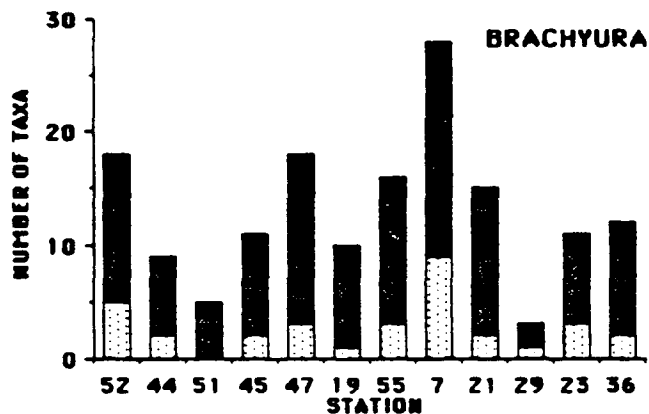
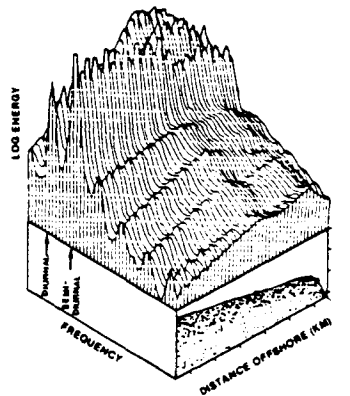
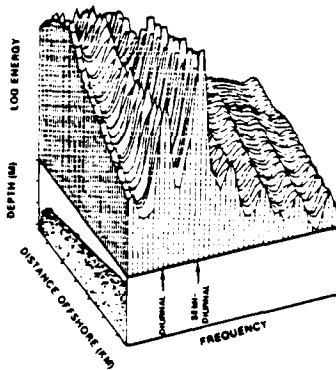


SOUTHWEST FLORIDA SHELF BENTHIC COMMUNITIES STUDY YEAR 5 ANNUAL REPORT

VOLUME III -- APPENDICES



**THIS NARRATIVE REPORT HAS NOT BEEN EDITED FOR CONFORMITY
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**SOUTHWEST FLORIDA SHELF
BENTHIC COMMUNITIES STUDY
YEAR 5 ANNUAL REPORT**

Volume III — Appendices

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APPENDIX A

APPENDIX A
STATION SAMPLING PLOTS

Appendix A presents sampling location data for the underwater television, dredging, and trawling surveys. Hydrographic and sediment sampling locations were not indicated to keep the plots from becoming too cluttered.

The sampling tracks were usually based on the beginning and ending LORAN coordinates. The beginning and ending coordinates were defined as those coordinates during which sampling occurred (e.g., the beginning coordinate during a trawl was the position of the ship at the time the net first started fishing, not the ship's position as the net was in the water). Because certain operations such as trawling and dredging were actually conducted astern of the vessel, the lay-back had to be calculated and the sampling plots adjusted to reflect this lay-back. This was done by estimating the wire out (the vessel trawl winch was not equipped with a meter wheel), determining the depth of the water, and from this, calculating the distance of the dredge or trawl from the ship. The beginning and ending coordinates (as measured from the ship) were then offset the appropriate amount.

Since underwater television surveys were conducted with the vessel either drifting or motoring slowly, the lay-back that was involved would have fallen within the accuracy of the LORAN; therefore, no lay-back was calculated.

The station plot appendix is arranged first by cruise (Cruise V through IX) and then by station. The stations (Figure A-1) are presented in the following order: 52, 55, 7, 21, 29, 23, and 36 (with increasing depth). There are no Station 44 plots because the sampling activities at this station were limited to an array and hydrographic sampling only.

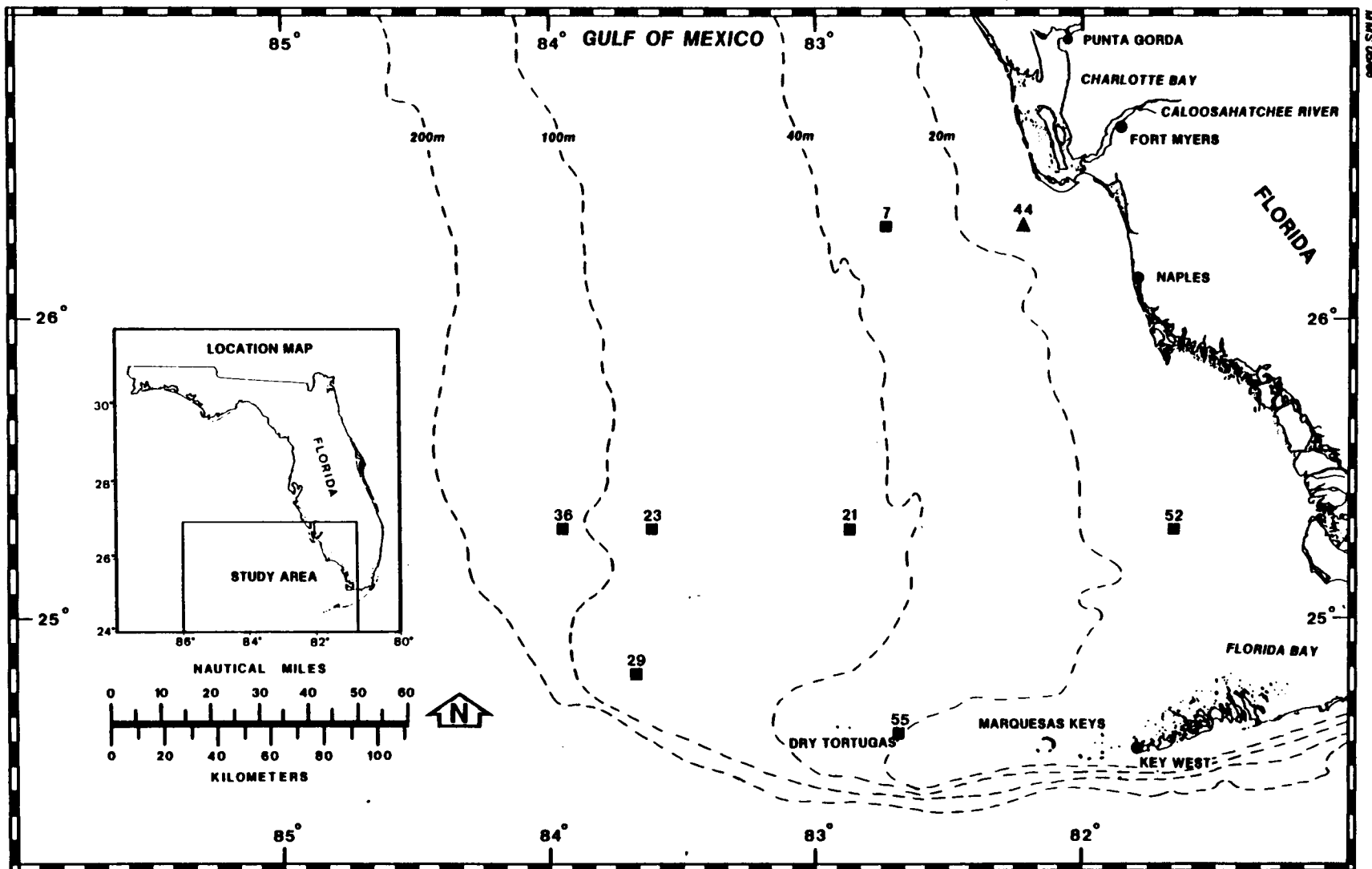


Figure A-1 YEAR 5 STATION LOCATIONS

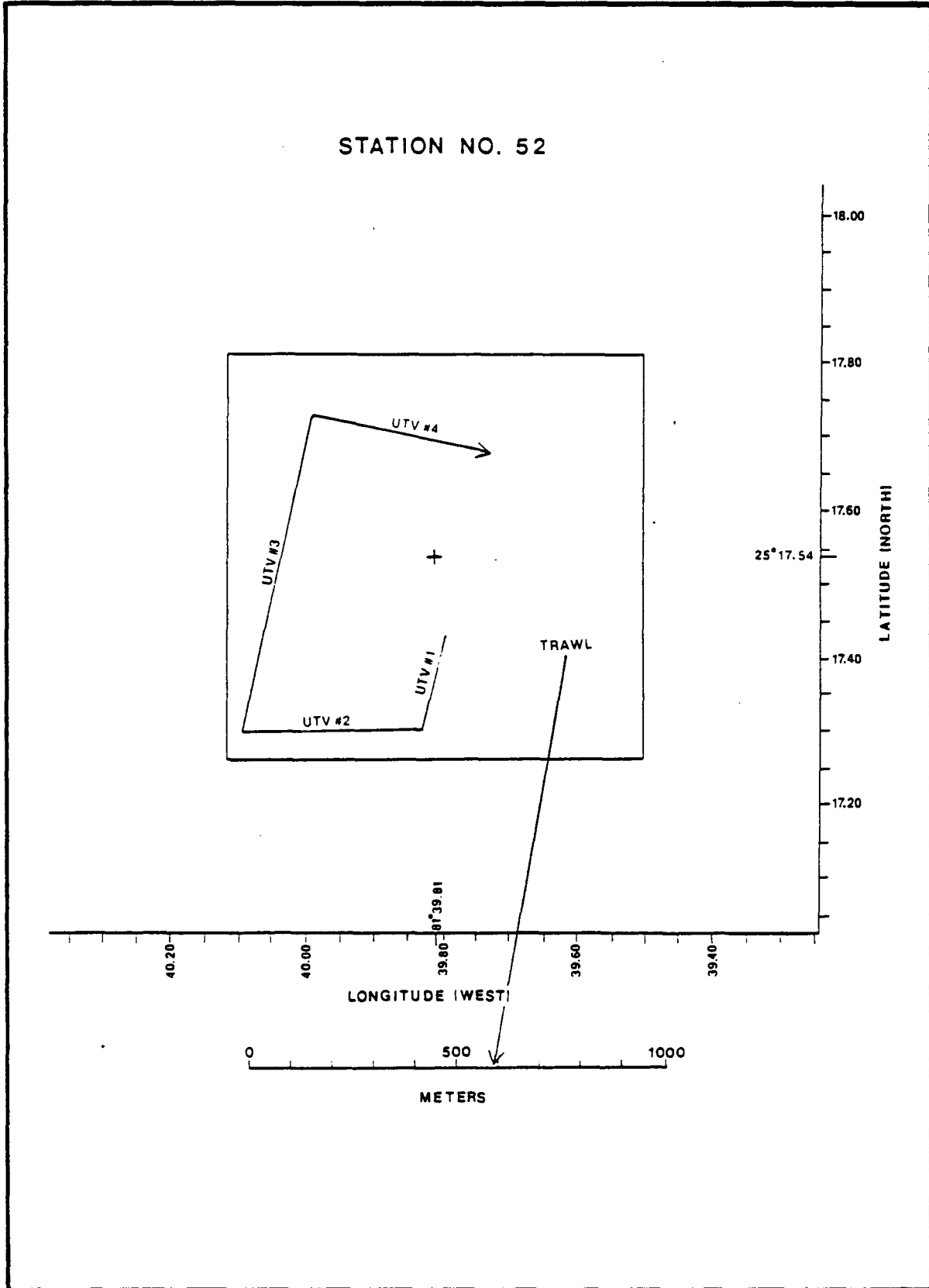


Figure A-2 STATION PLOT FOR STATION 52, CRUISE V
(4 - 14 DECEMBER 1984)

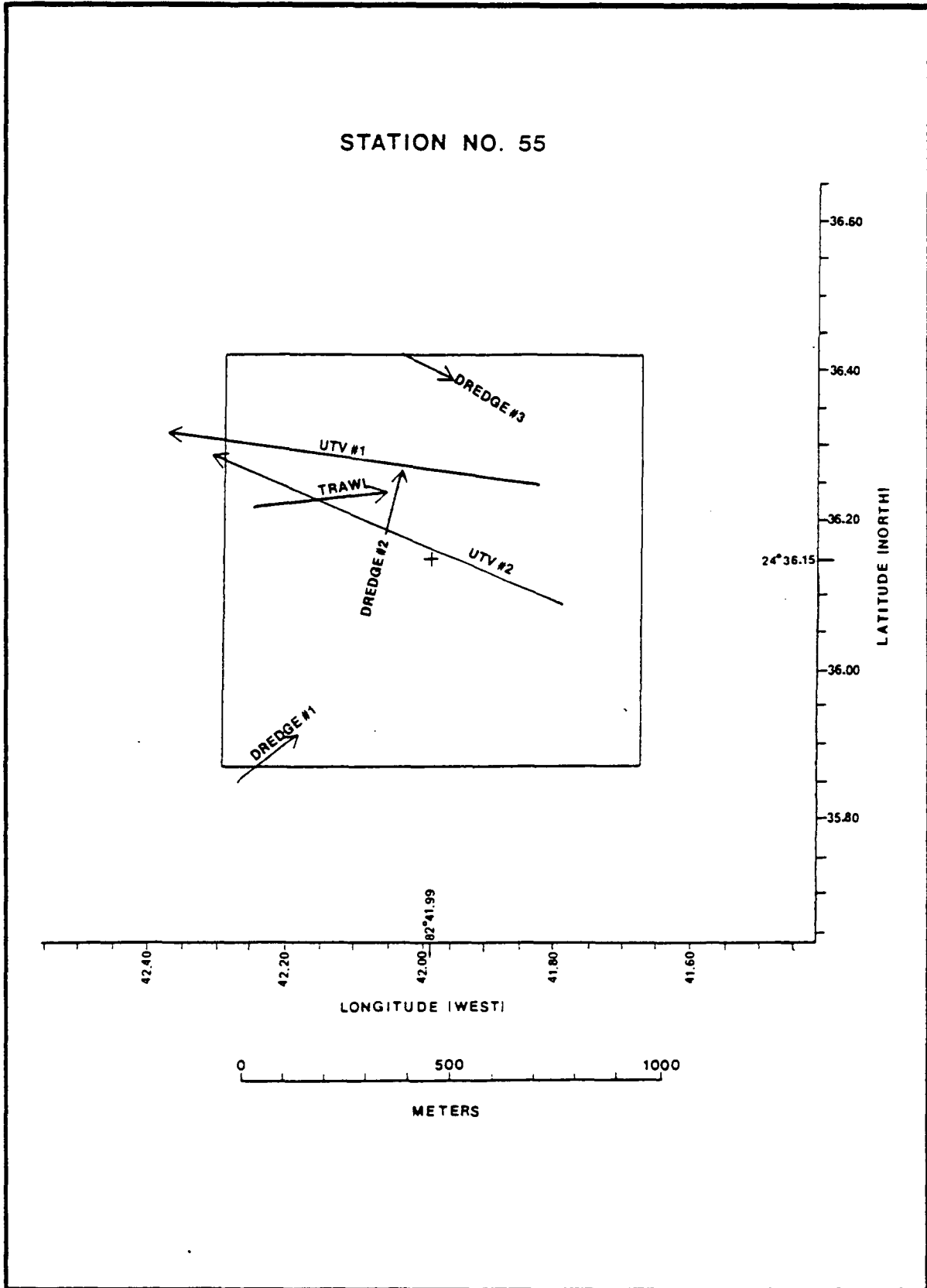


Figure A-3 STATION PLOT FOR STATION 55, CRUISE V
(4 - 14 DECEMBER 1984)

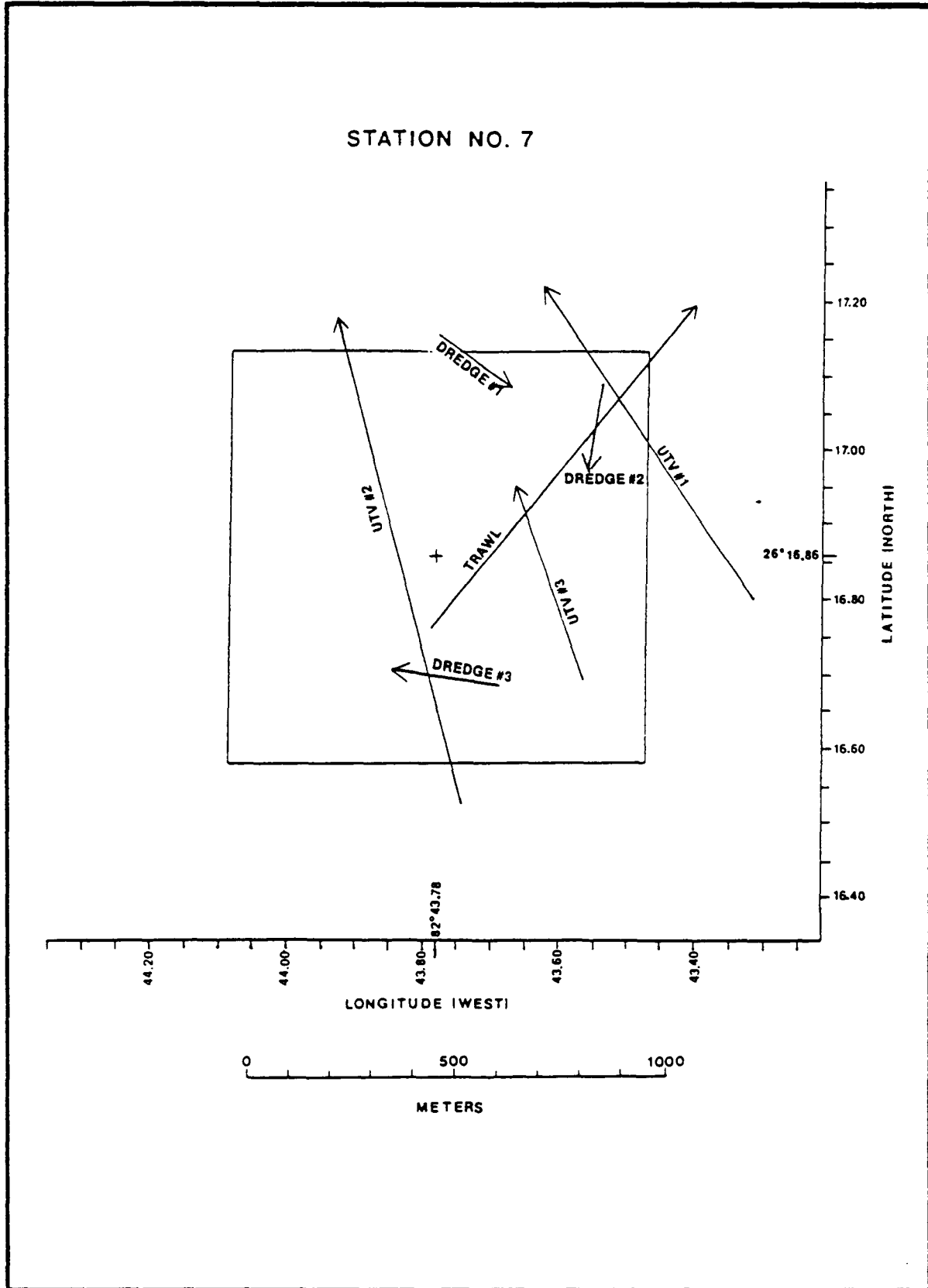


Figure A-4 STATION PLOT FOR STATION 7, CRUISE V
(4 - 14 DECEMBER 1984)

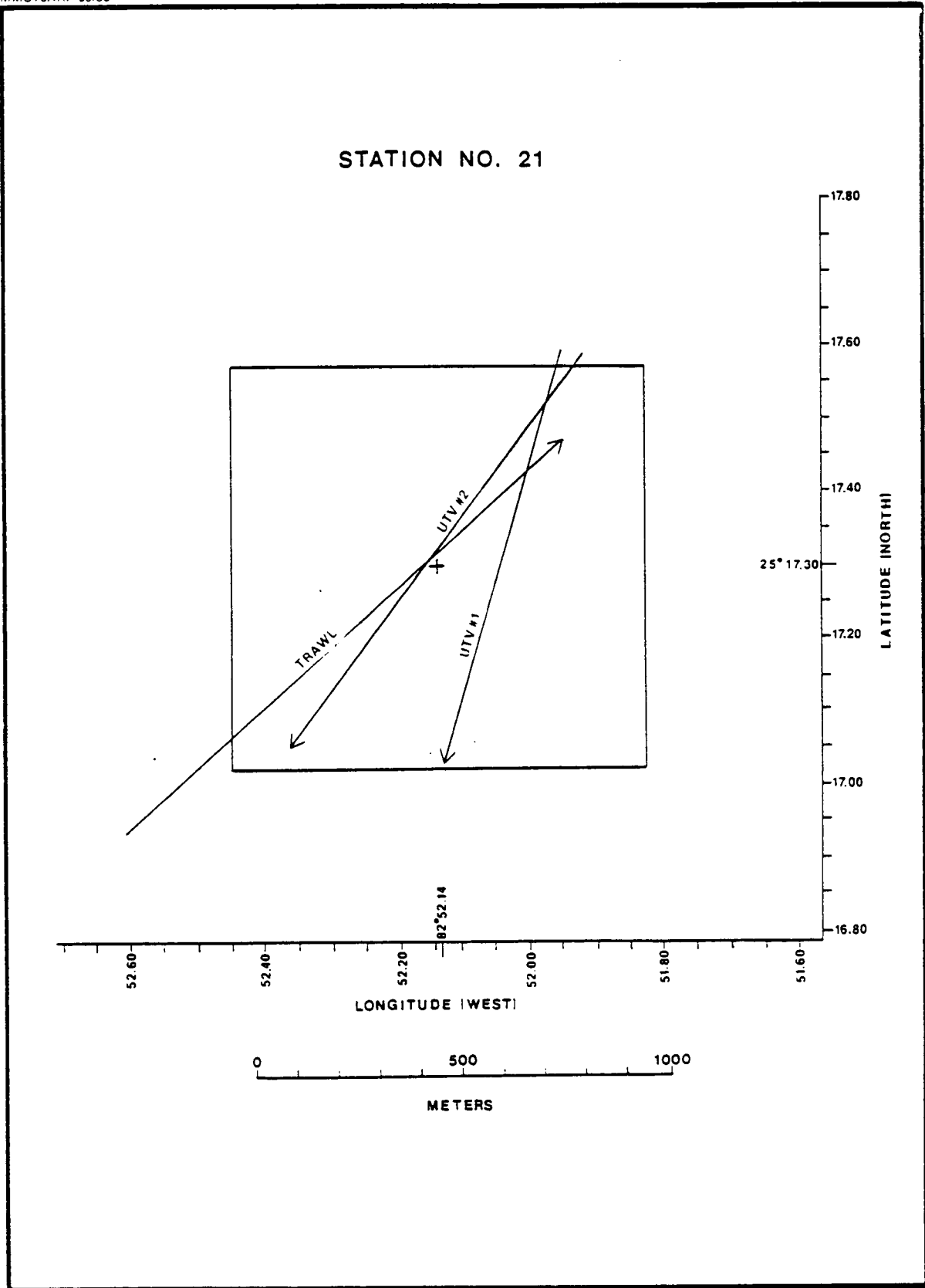


Figure A-5

STATION PLOT FOR STATION 21, CRUISE V
(4 - 14 DECEMBER 1984)

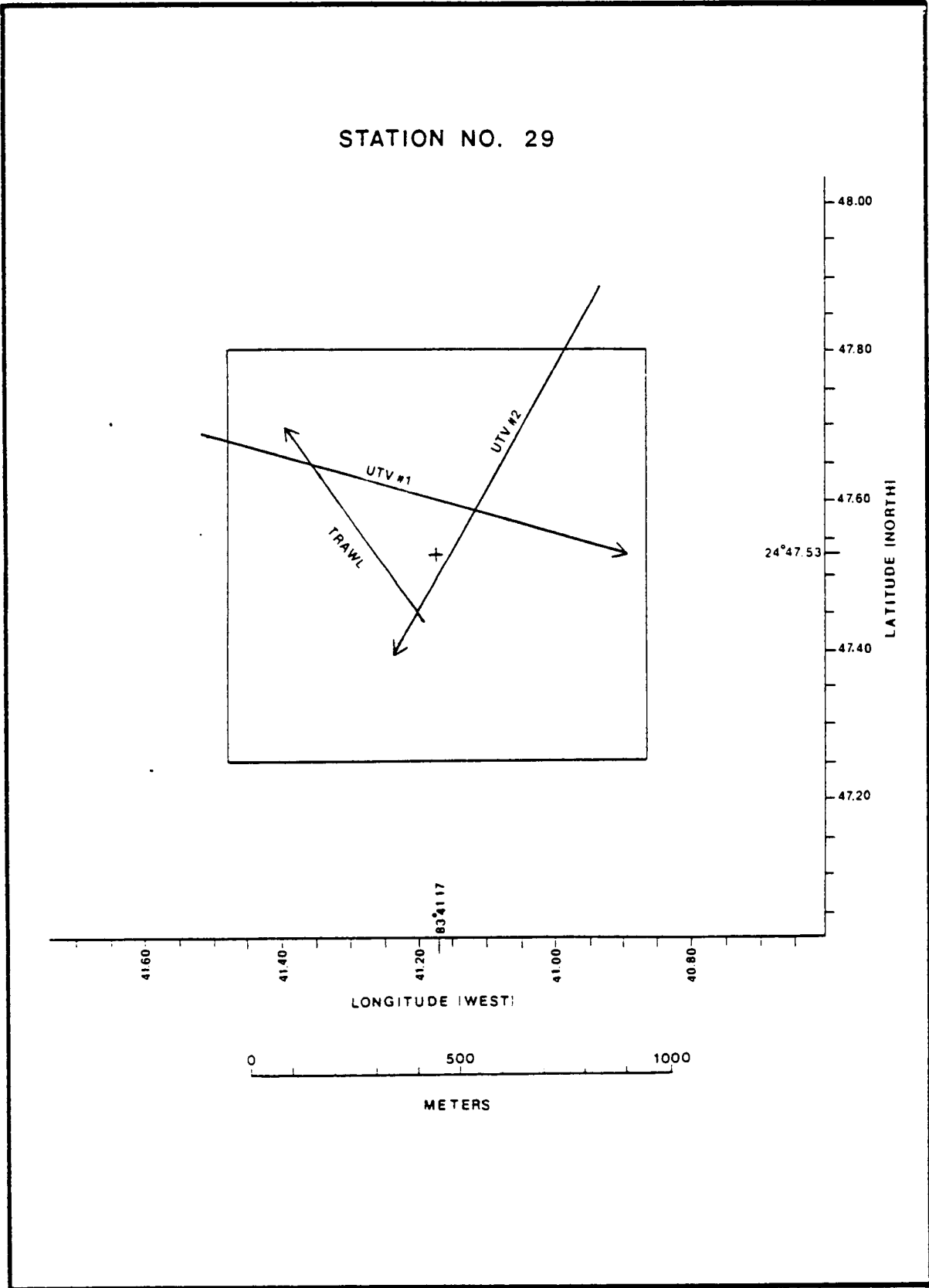


Figure A-6 STATION PLOT FOR STATION 29, CRUISE V
(4 - 14 DECEMBER 1984)

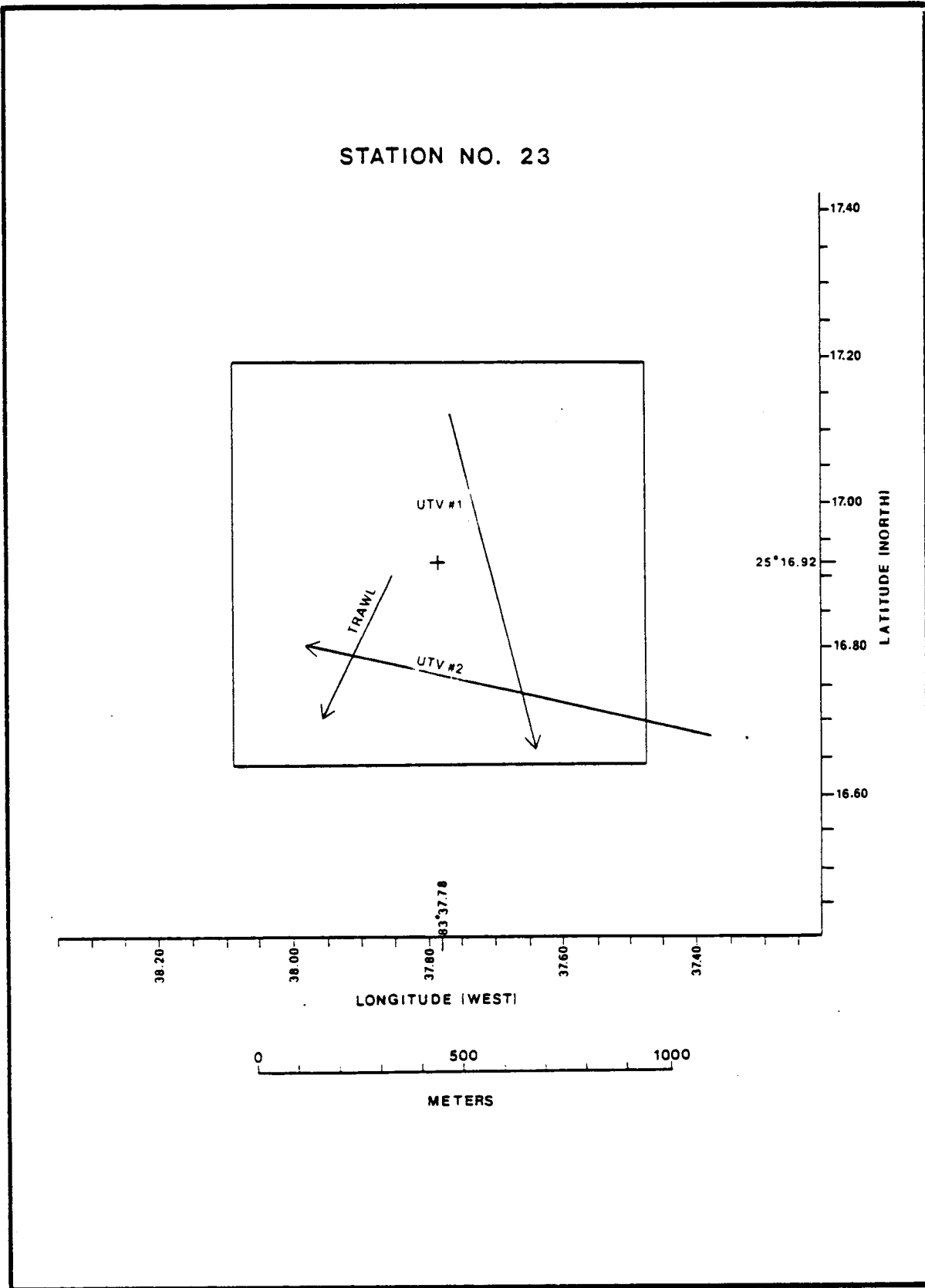


Figure A-7 STATION PLOT FOR STATION 23, CRUISE V
(4 - 14 DECEMBER 1984)

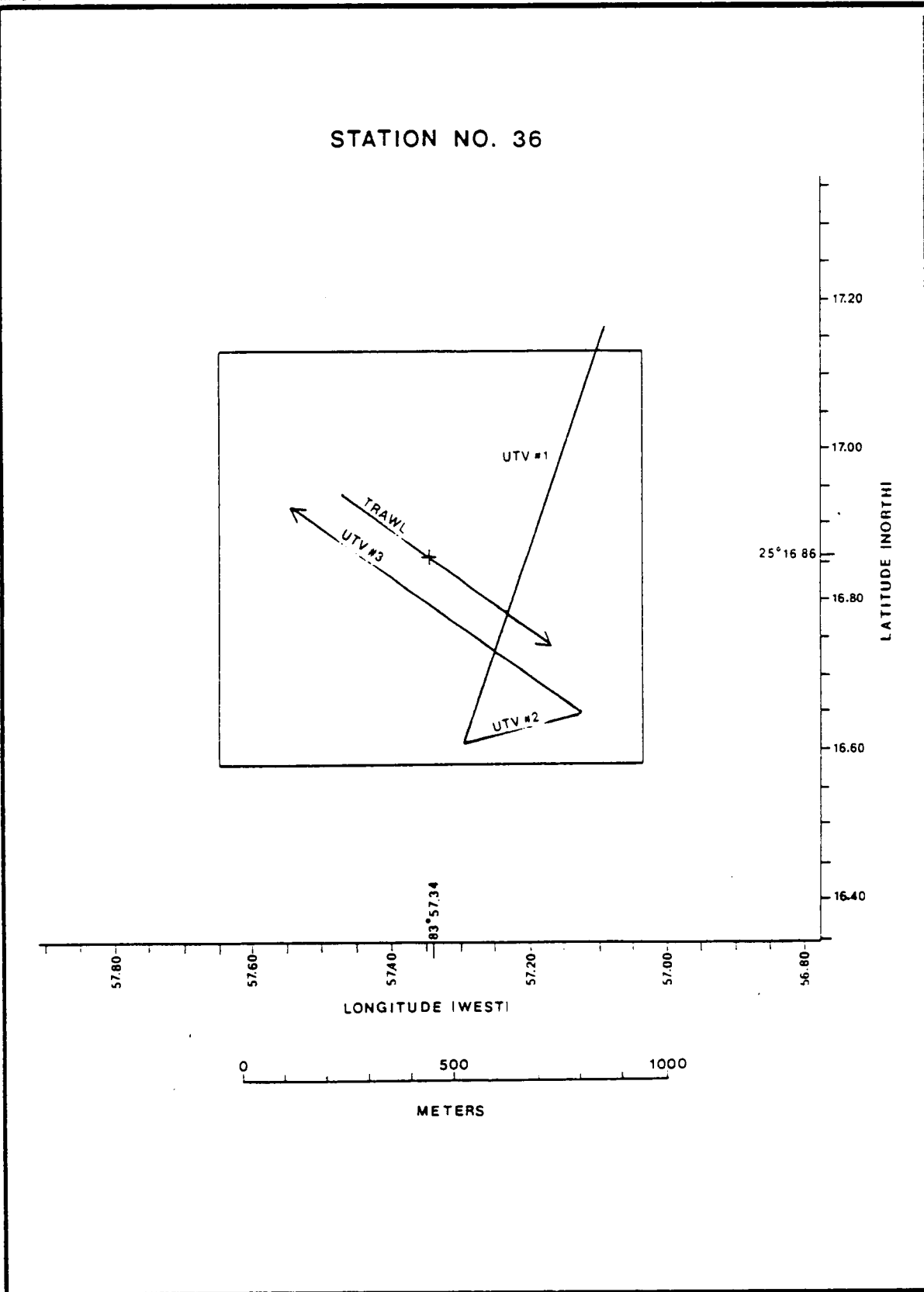


Figure A-8 STATION PLOT FOR STATION 36, CRUISE V
(4 - 14 DECEMBER 1984)

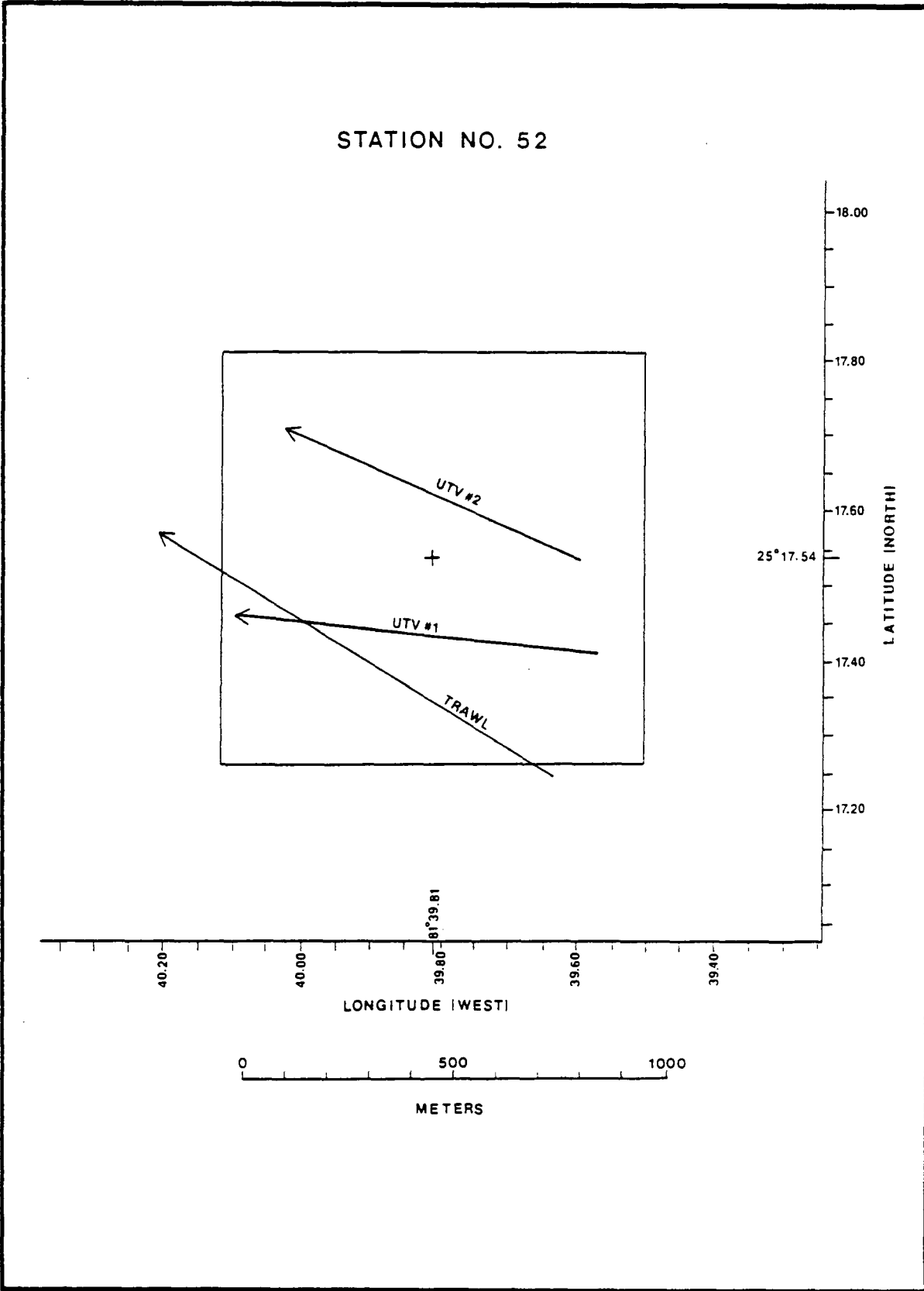


Figure A-9 STATION PLOT FOR STATION 52, CRUISE VI (19 - 31 MARCH 1985)

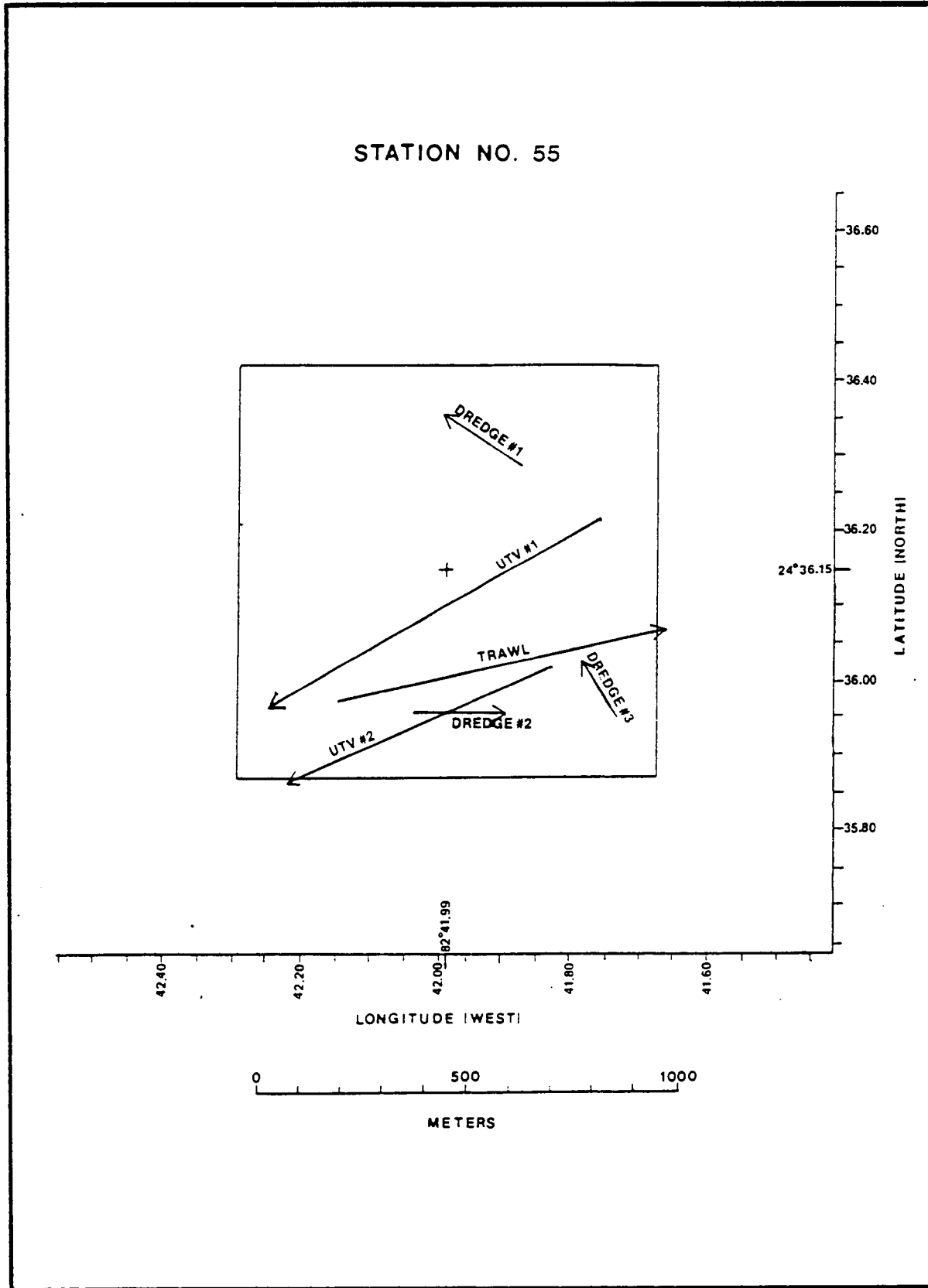


Figure A-10 STATION PLOT FOR STATION 55, CRUISE VI
(19 - 31 MARCH 1985)

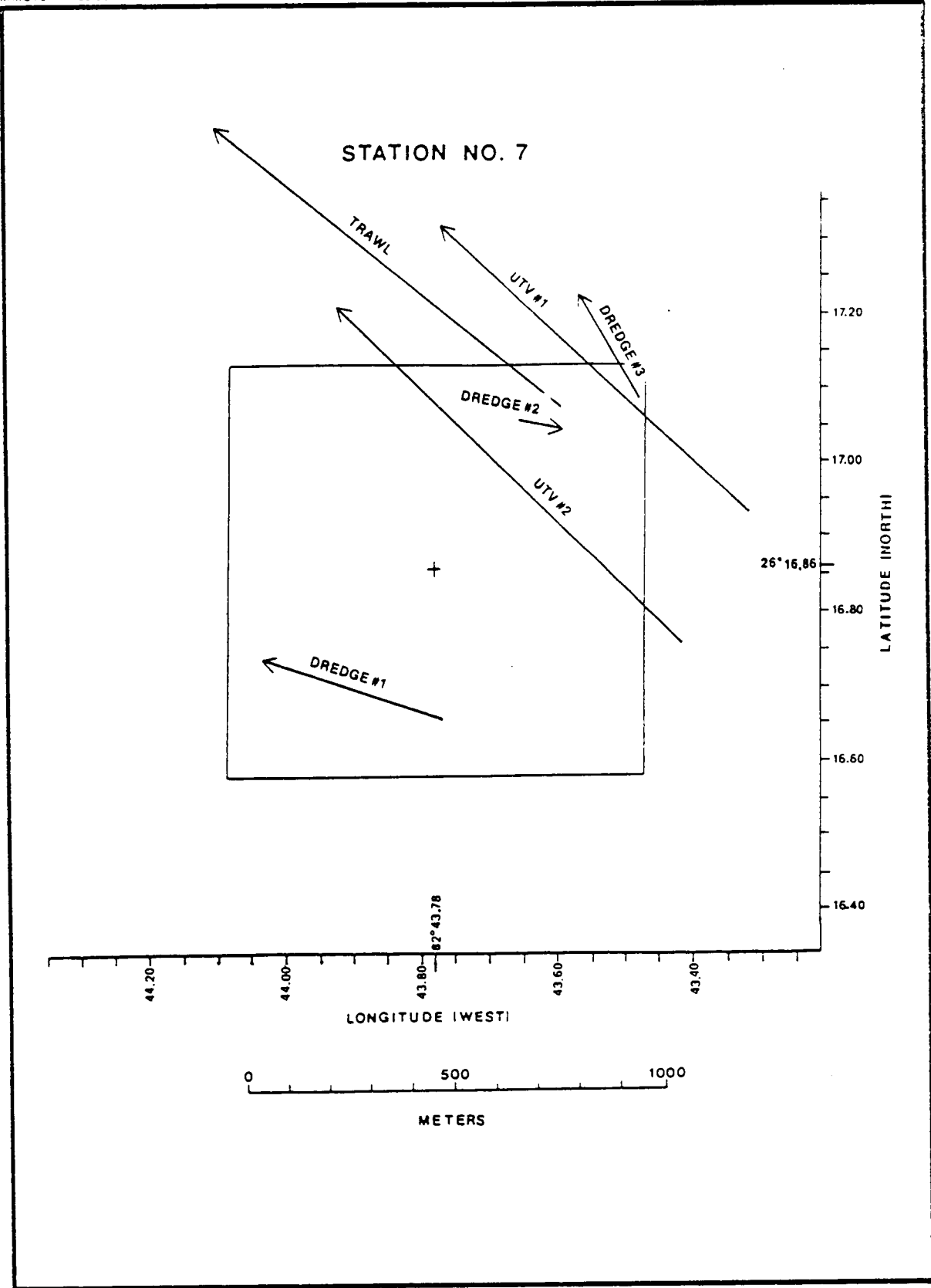


Figure A-11 STATION PLOT FOR STATION 7, CRUISE VI (19 - 14 MARCH 1985)

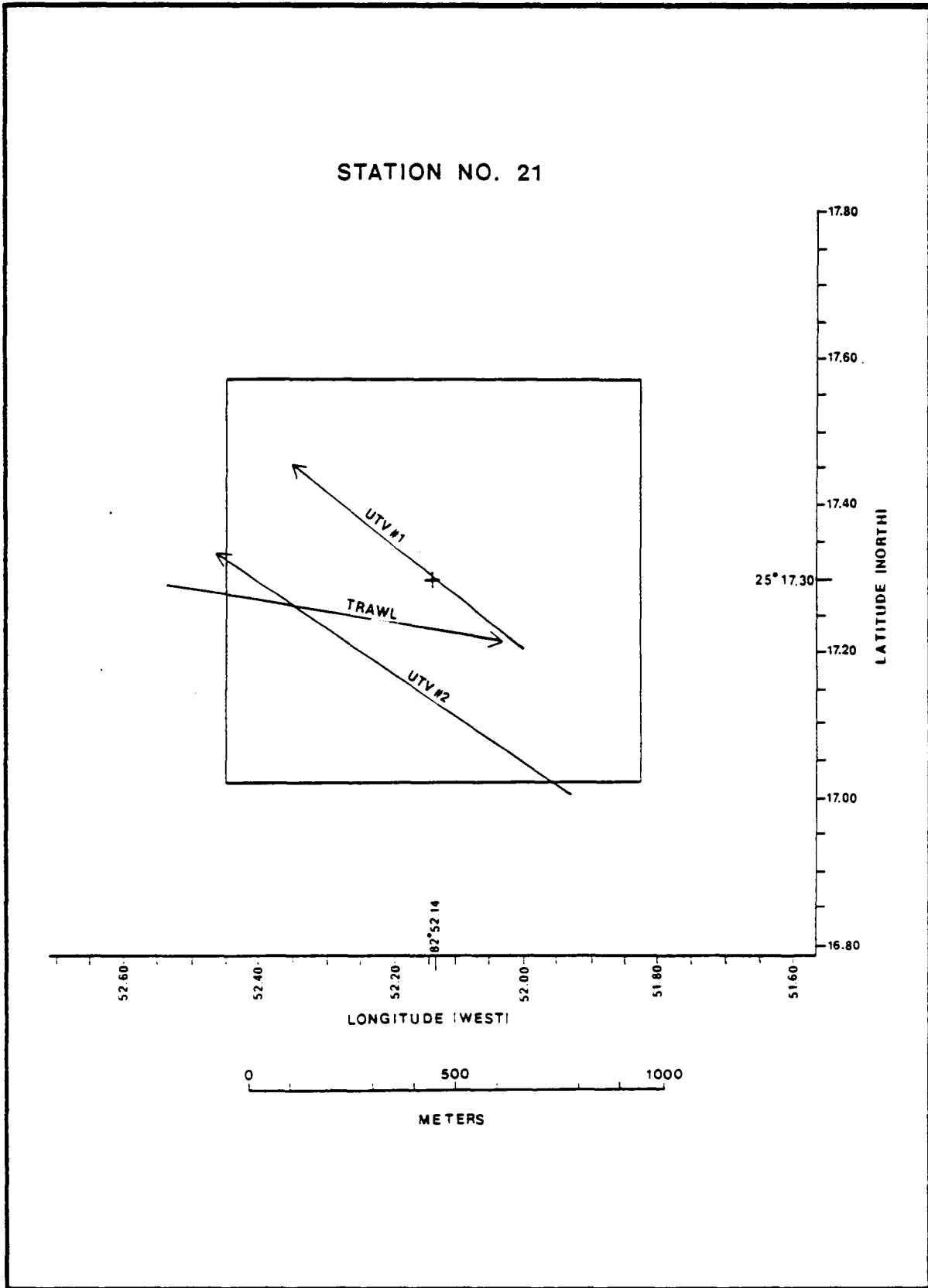


Figure A-12 STATION PLOT FOR STATION 21, CRUISE VI (19 - 31 MARCH 1985)

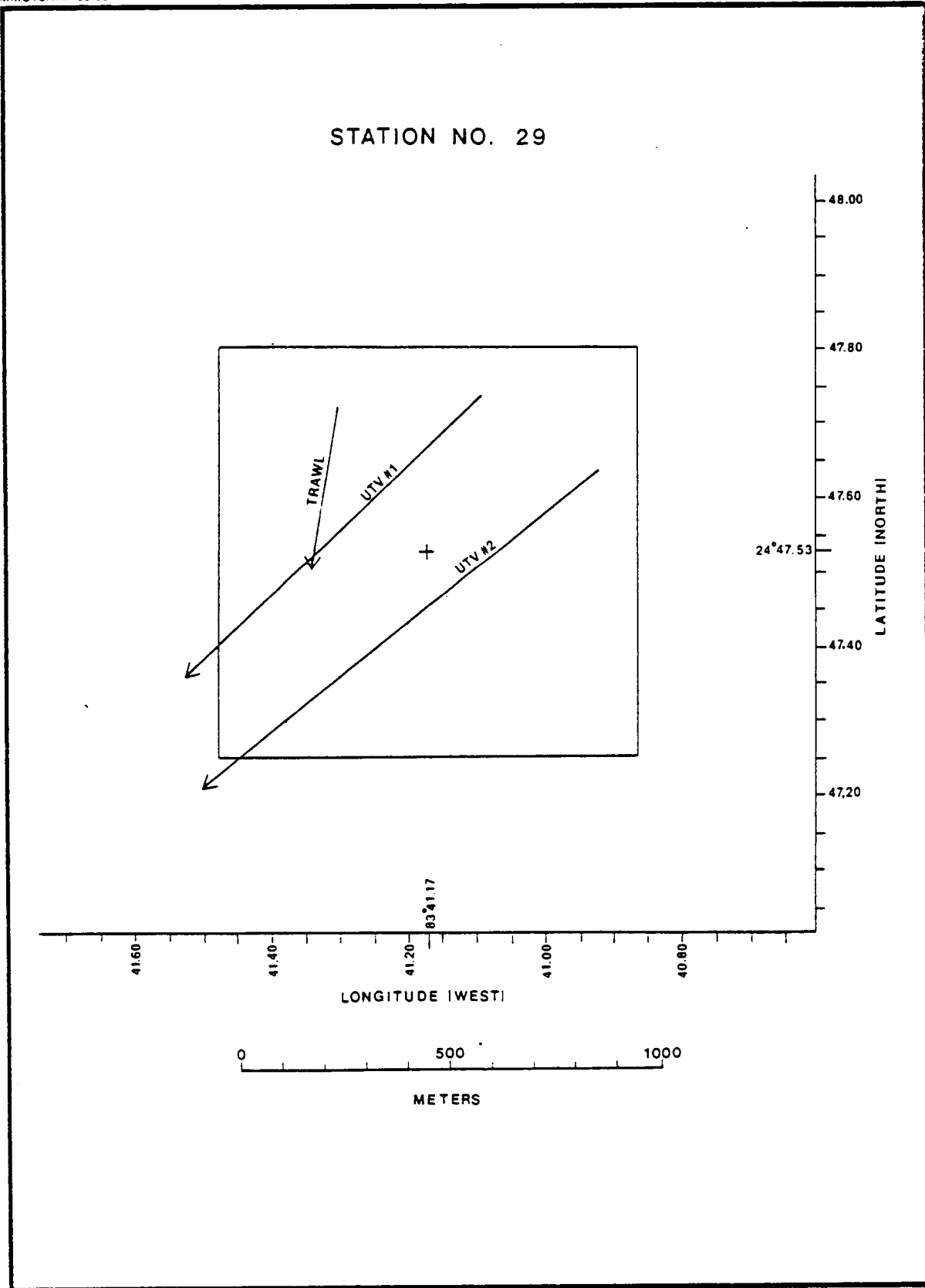


Figure A-13 STATION PLOT FOR STATION 29, CRUISE VI
(19 - 31 MARCH 1985)

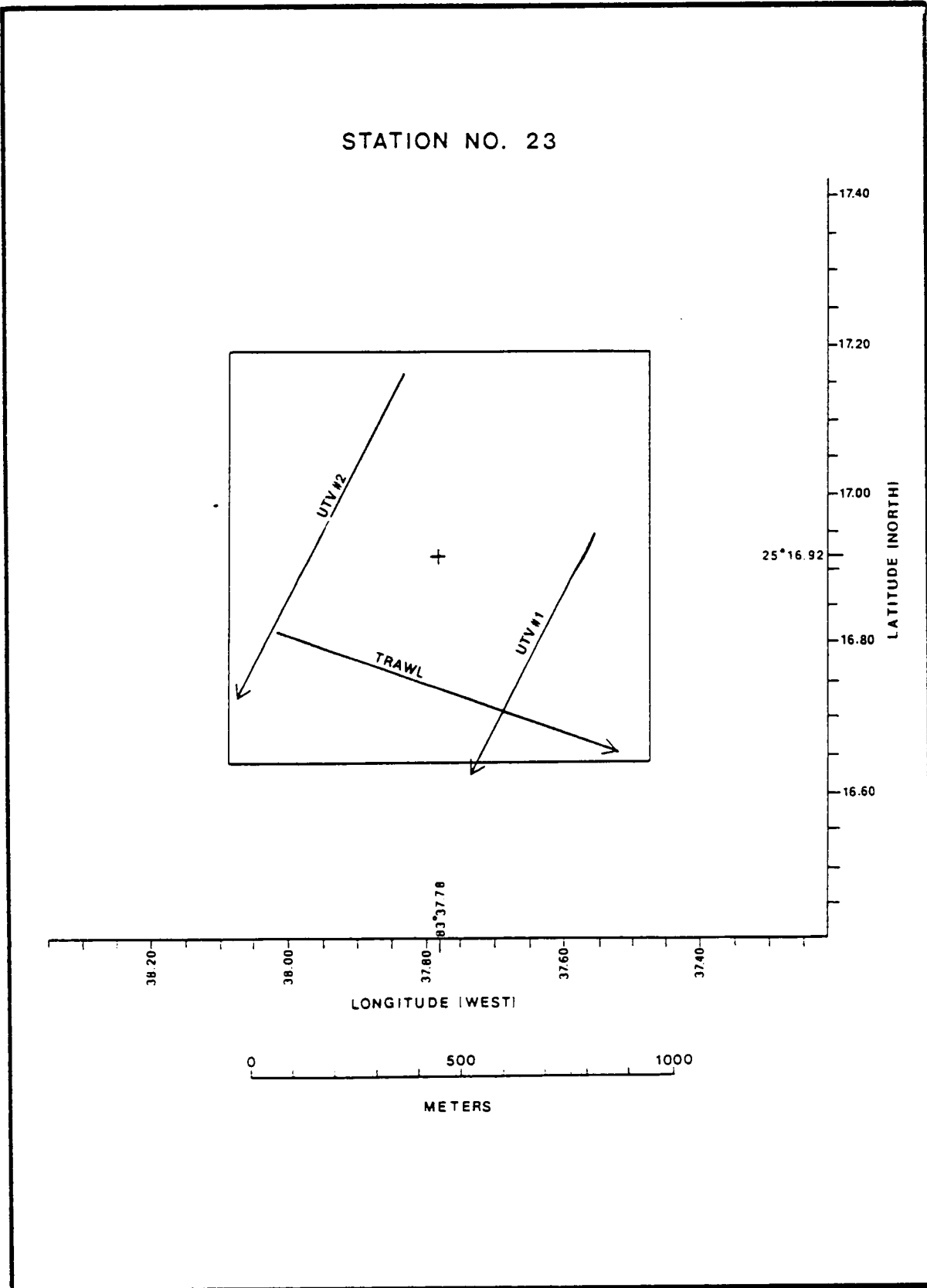


Figure A-14 STATION PLOT FOR STATION 23, CRUISE VI
(19 - 14 MARCH 1985)

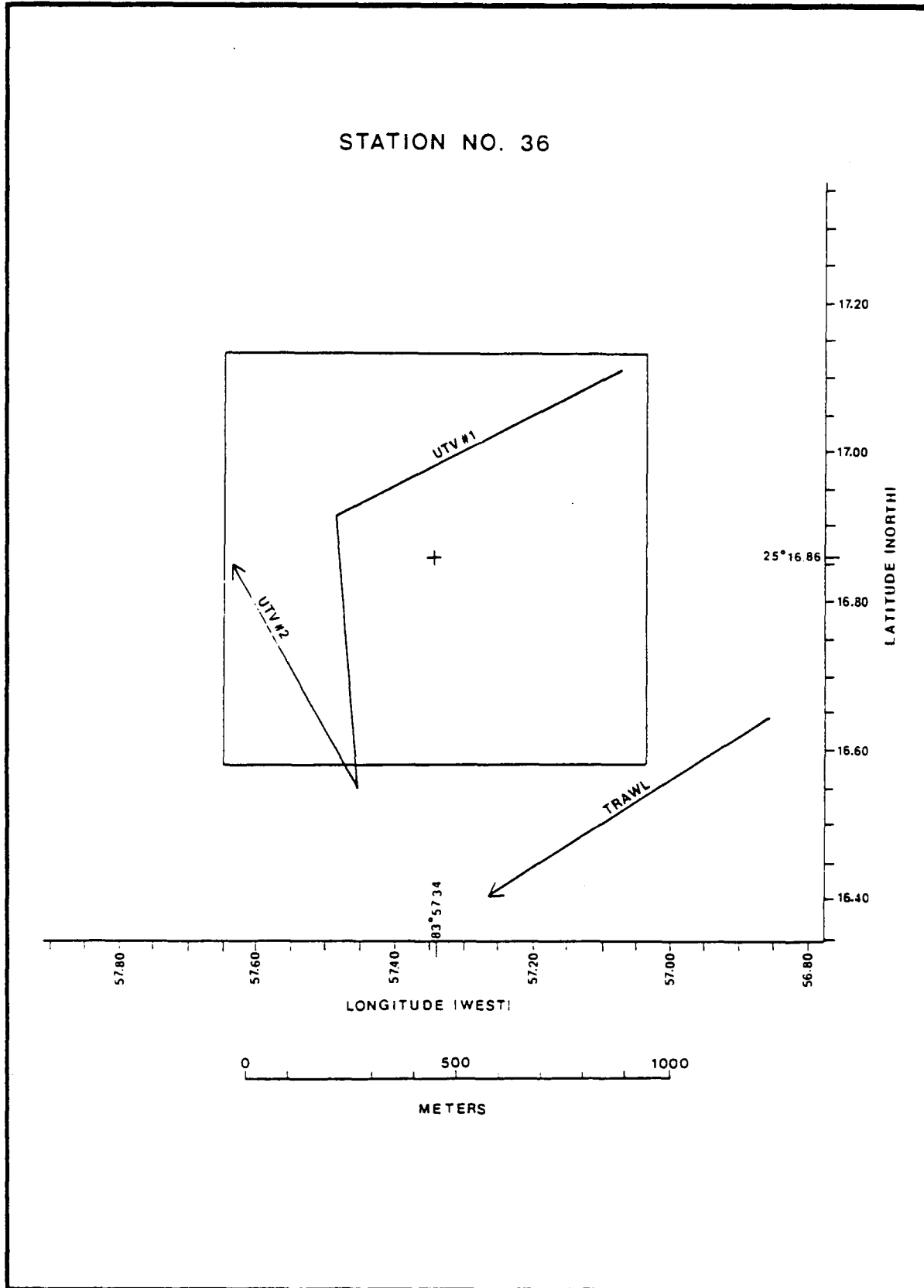


Figure A-15 STATION PLOT FOR STATION 36, CRUISE VI (19 - 31 MARCH 1985)

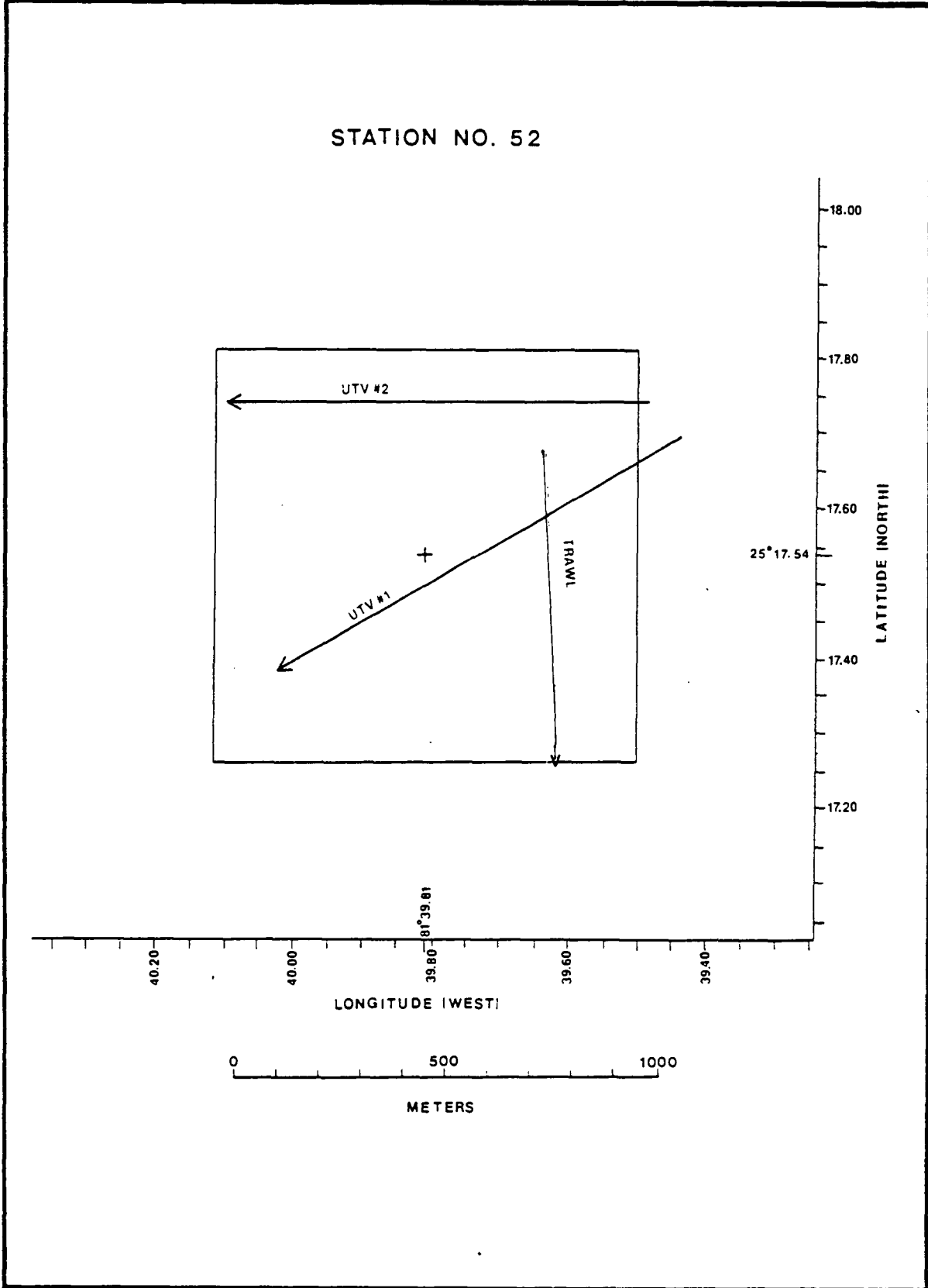


Figure A-16 STATION PLOT FOR STATION 52, CRUISE VII
(24 JUNE - 3 JULY 1985)

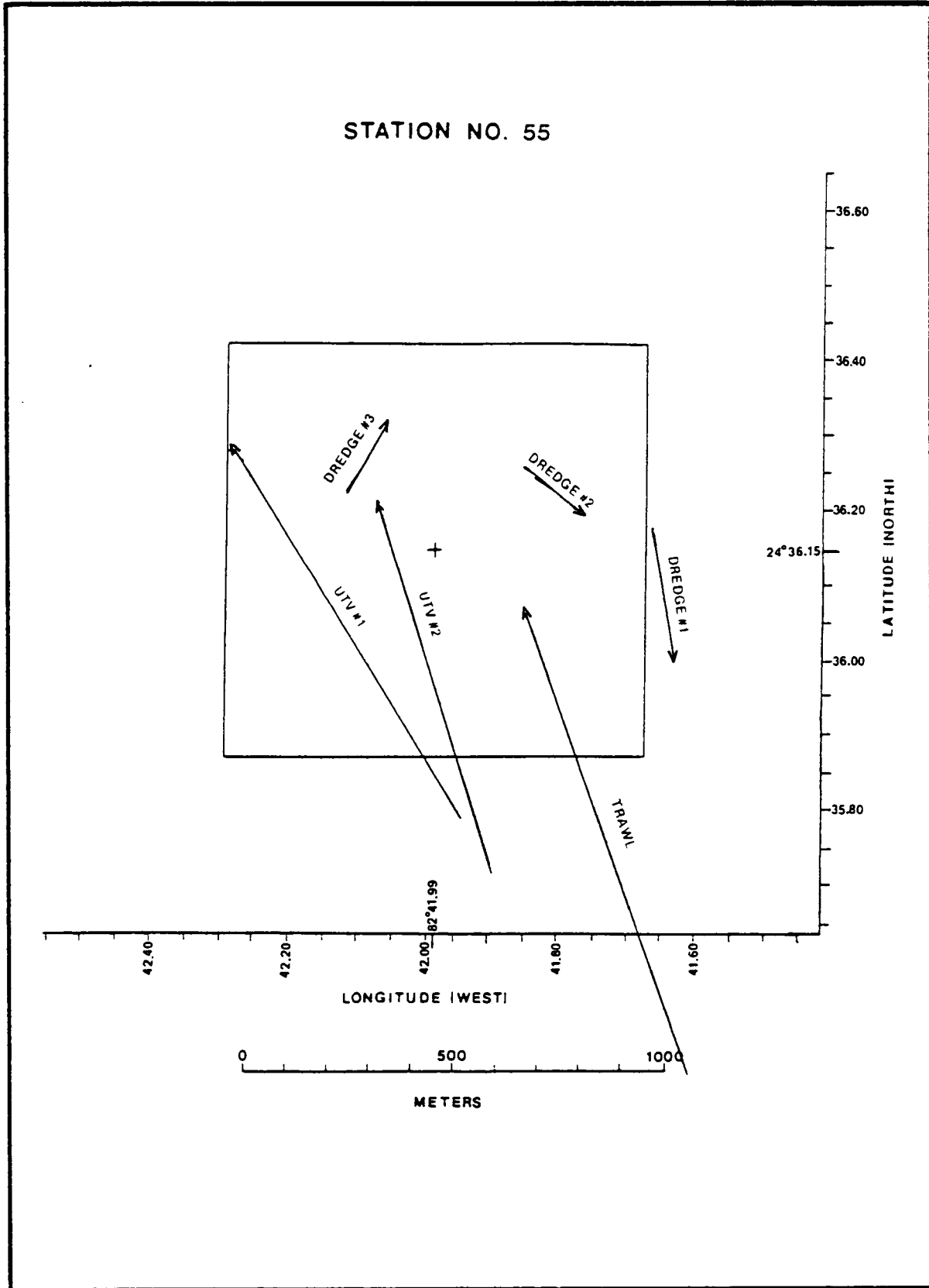


Figure A-17 STATION PLOT FOR STATION 55, CRUISE VII
(24 JUNE - 3 JULY 1985)

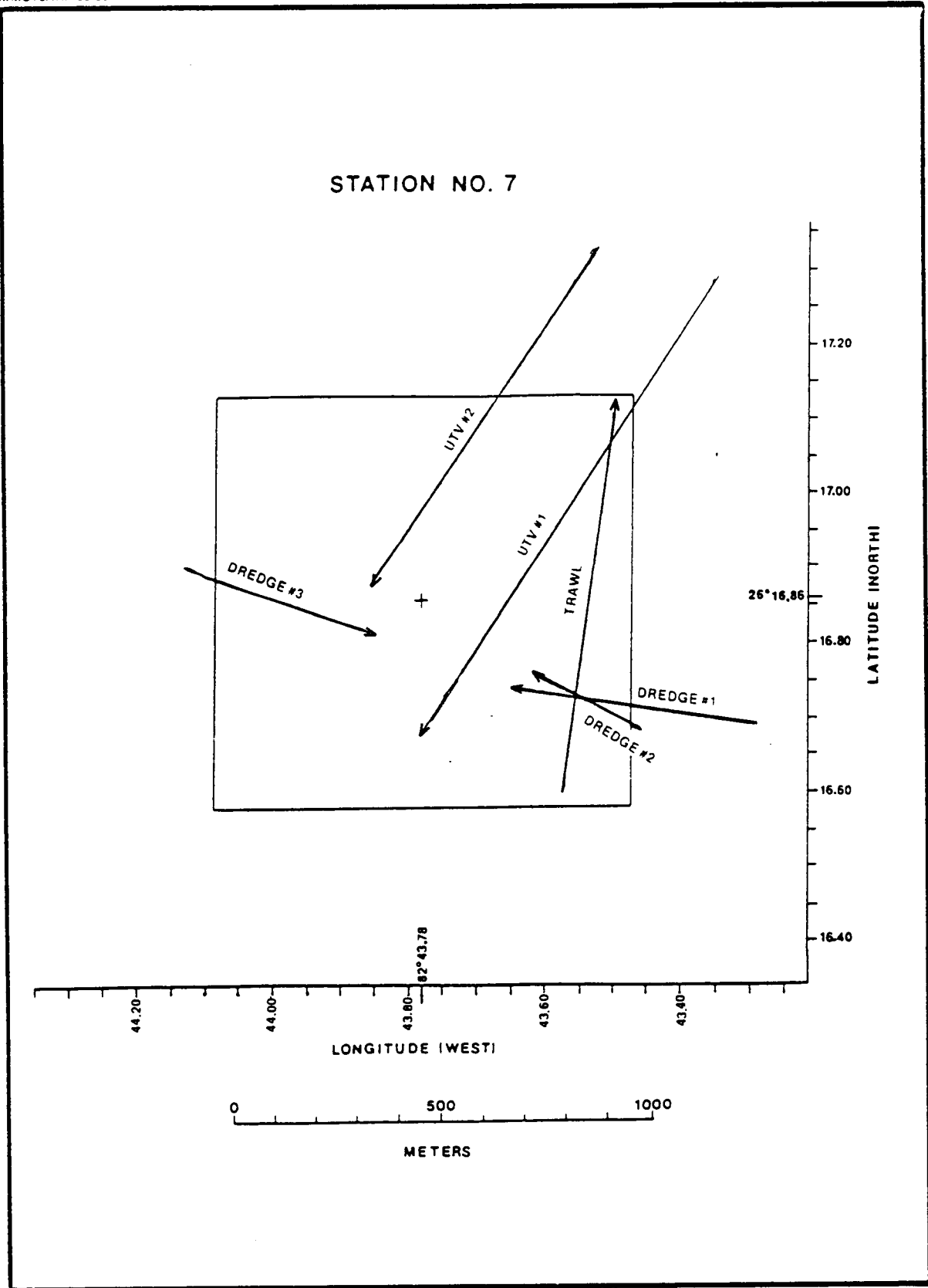


Figure A-18 STATION PLOT FOR STATION 7, CRUISE VII
(24 JUNE - 3 JULY 1985)

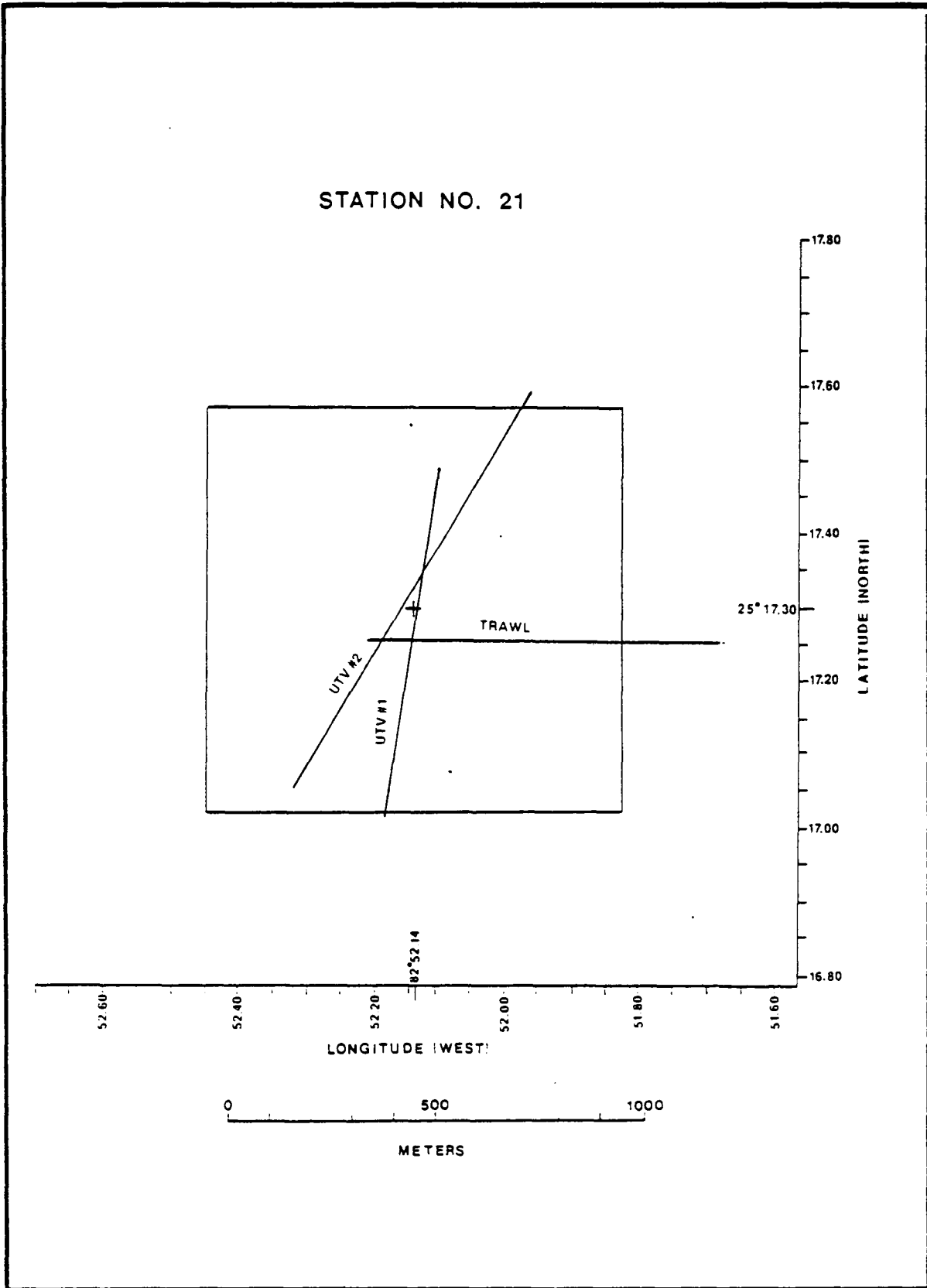


Figure A-19 STATION PLOT FOR STATION 21, CRUISE VII
(24 JUNE - 3 JULY 1985)

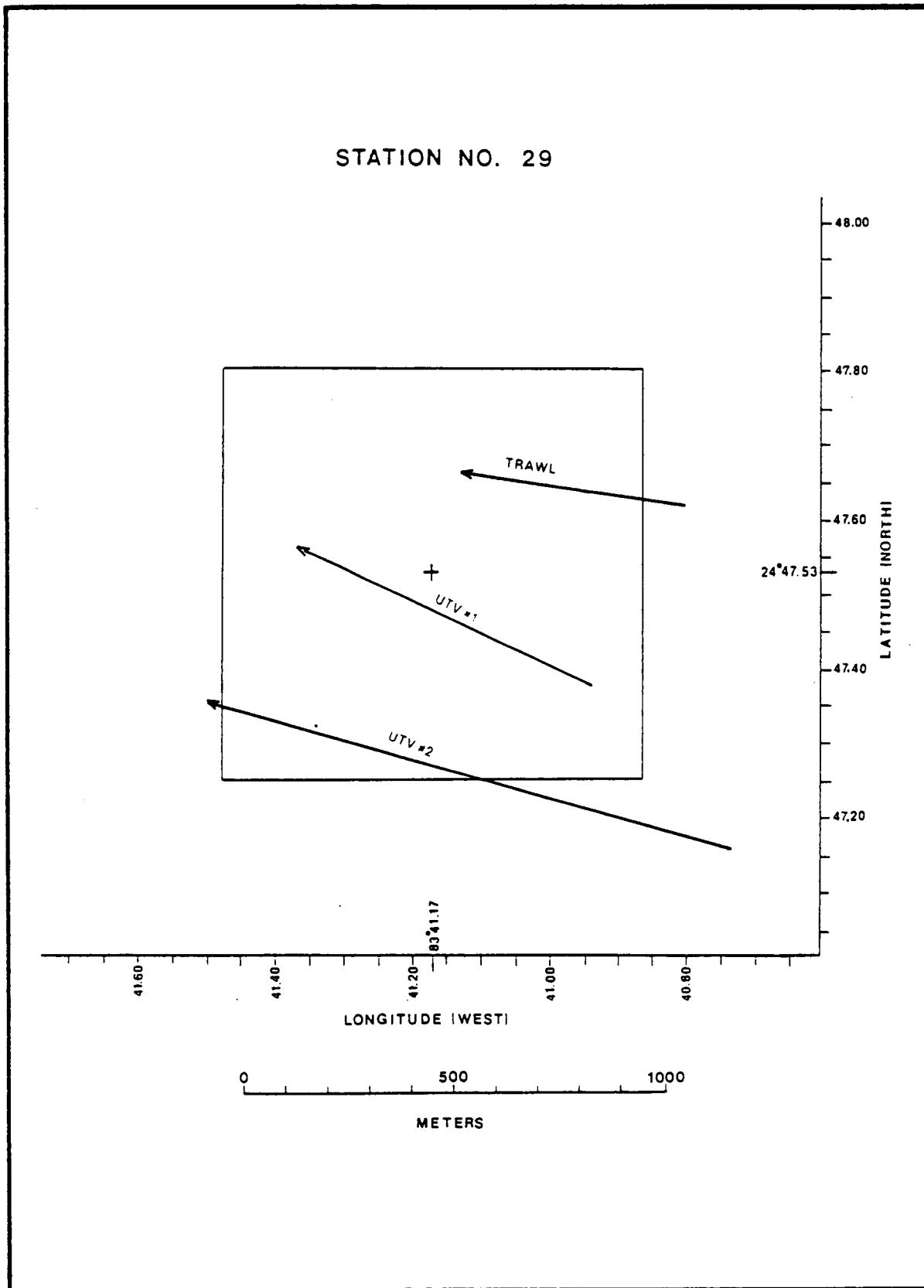


Figure A-20 STATION PLOT FOR STATION 29, CRUISE VII
(24 JUNE - 3 JULY 1985)

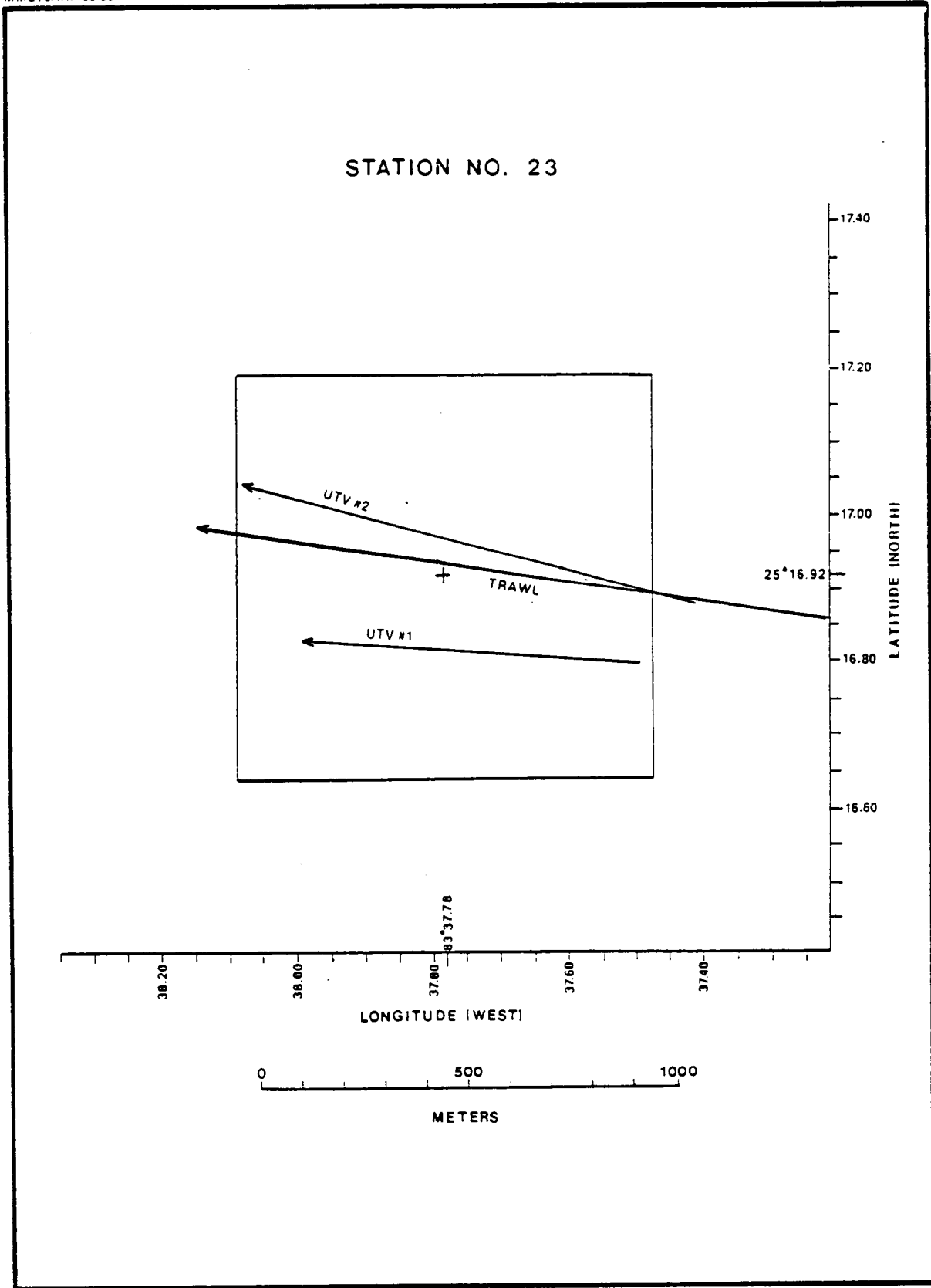


Figure A-21

STATION PLOT FOR STATION 23, CRUISE VII
(24 JUNE - 3 JULY 1985)

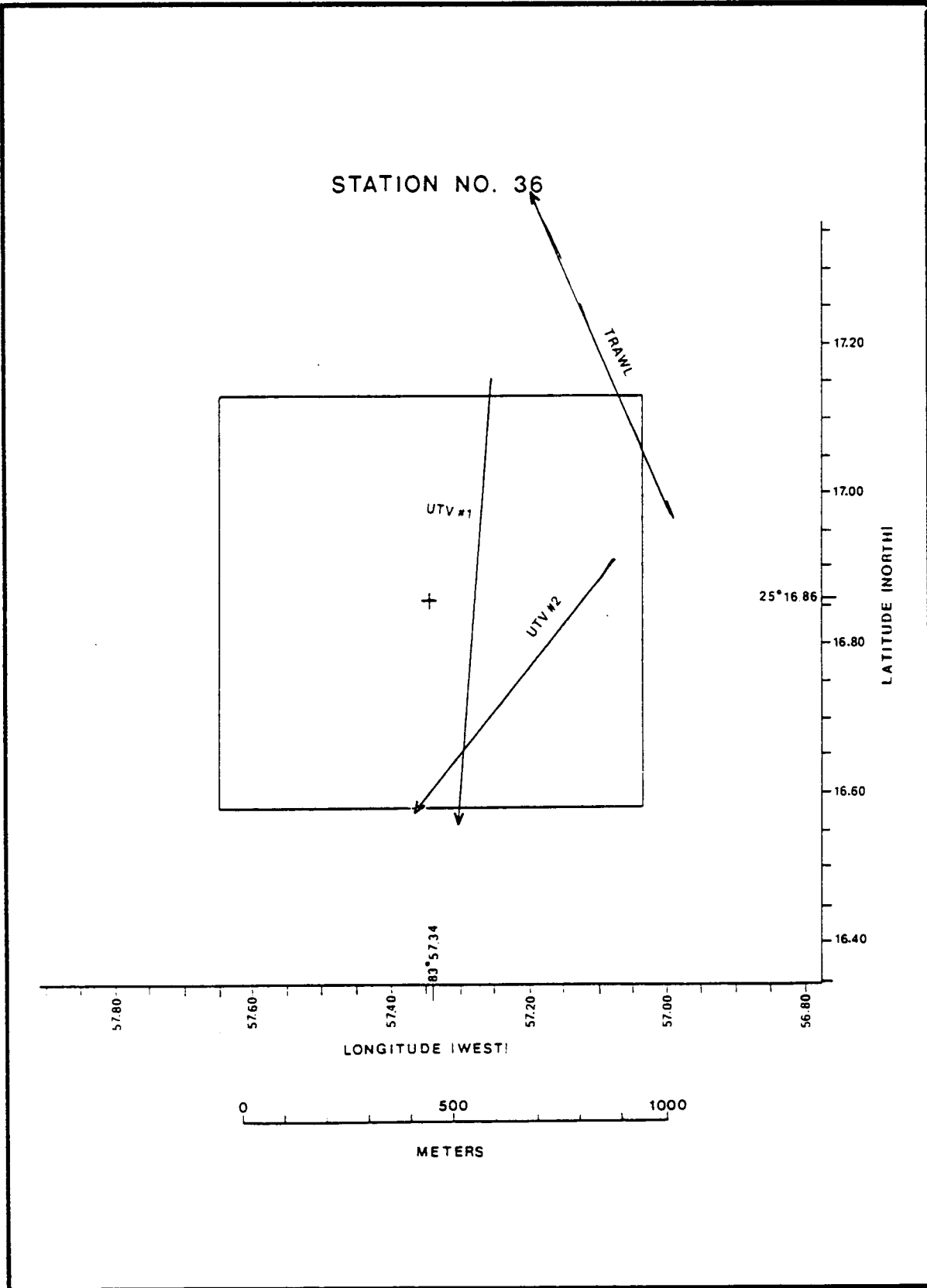


Figure A-22 STATION PLOT FOR STATION 36, CRUISE VII
(24 JUNE - 3 JULY 1985)

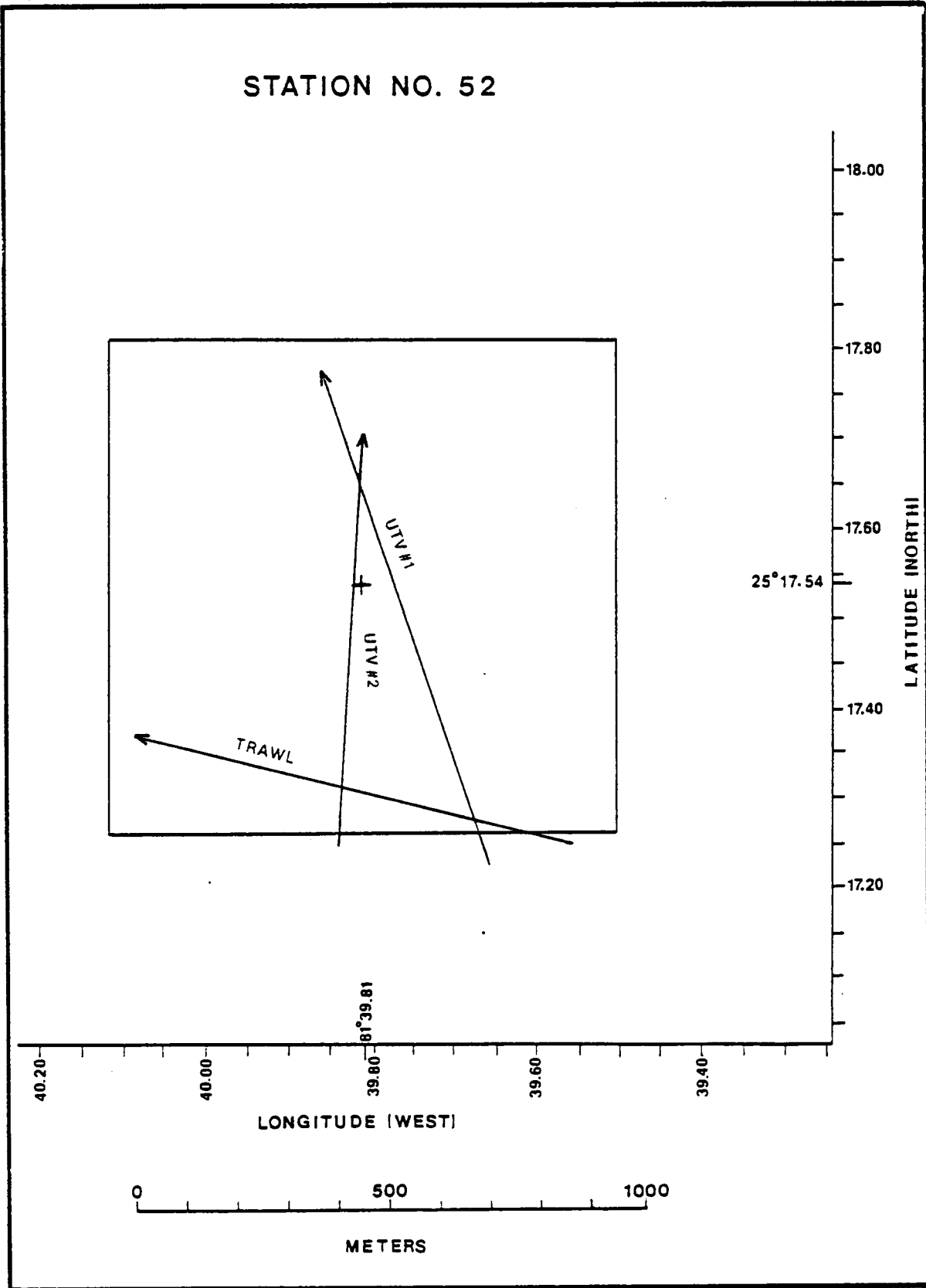


Figure A-23 STATION PLOT FOR STATION 52, CRUISE VIII
(12 - 21 SEPTEMBER 1985)

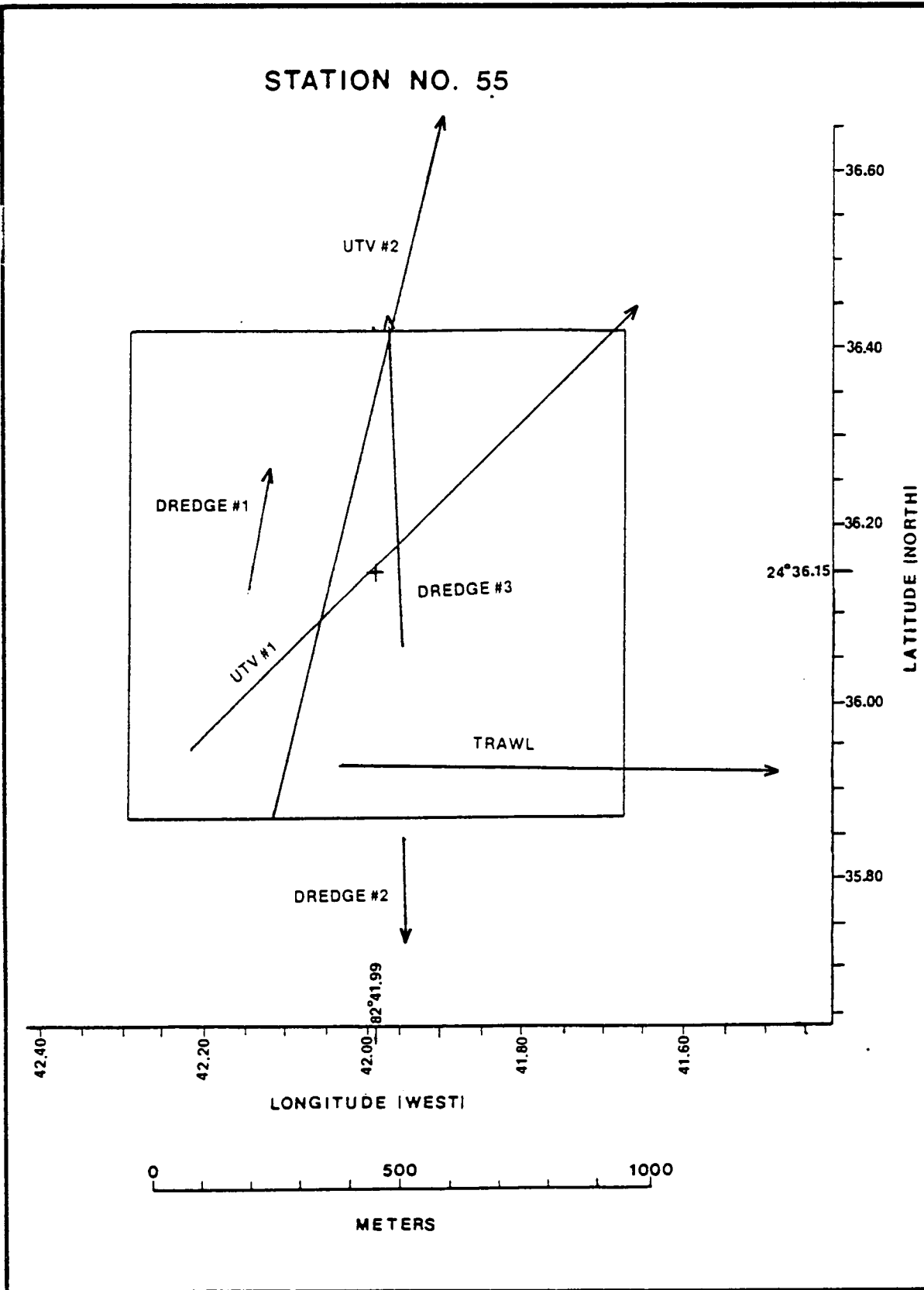


Figure A-24 STATION PLOT FOR STATION 55, CRUISE VIII (12 - 21 SEPTEMBER 1985)

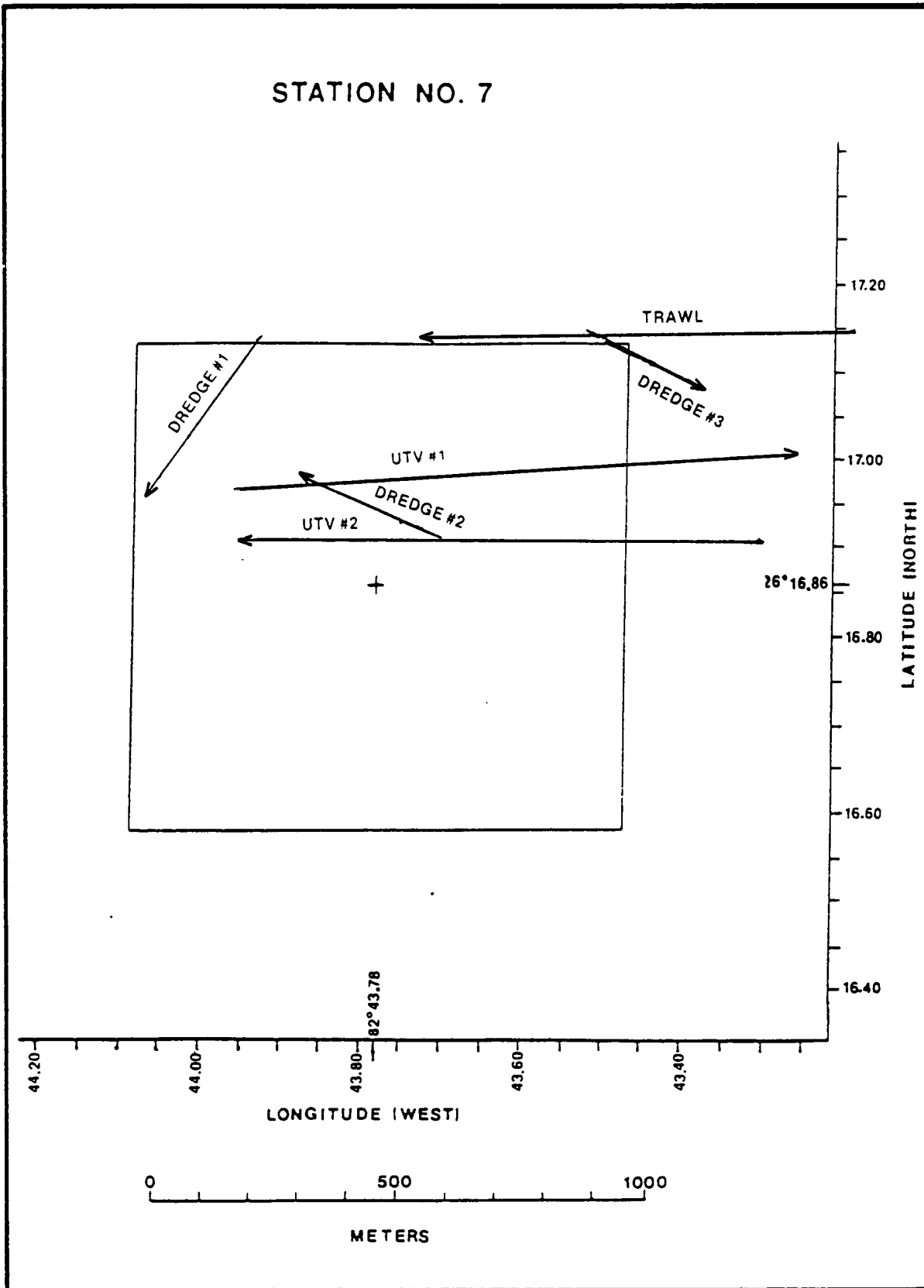


Figure A-25 **STATION PLOT FOR STATION 7, CRUISE VIII**
(12 - 21 SEPTEMBER 1985)

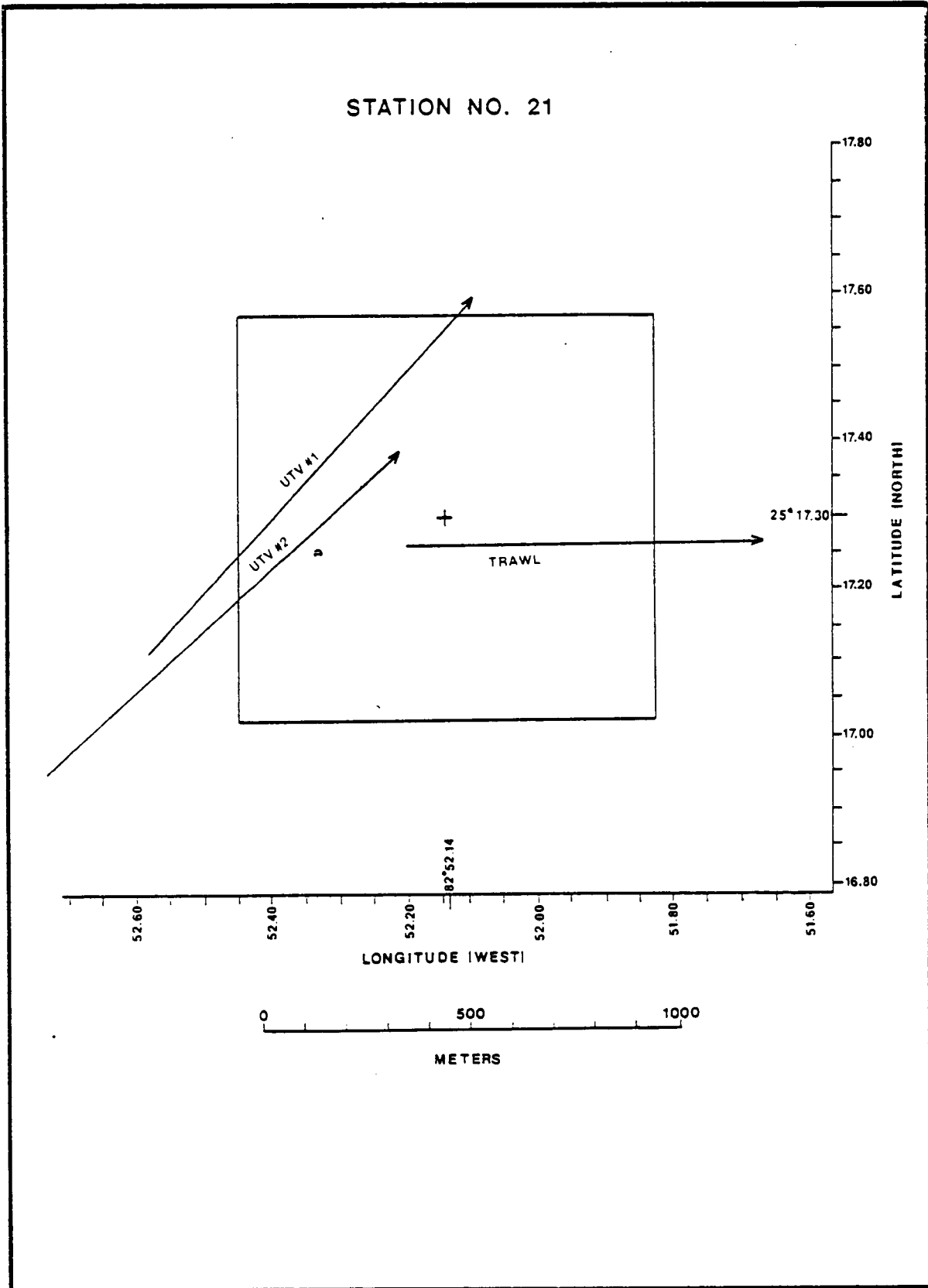


Figure A-26 STATION PLOT FOR STATION 21, CRUISE VIII
(12 - 21 SEPTEMBER 1985)

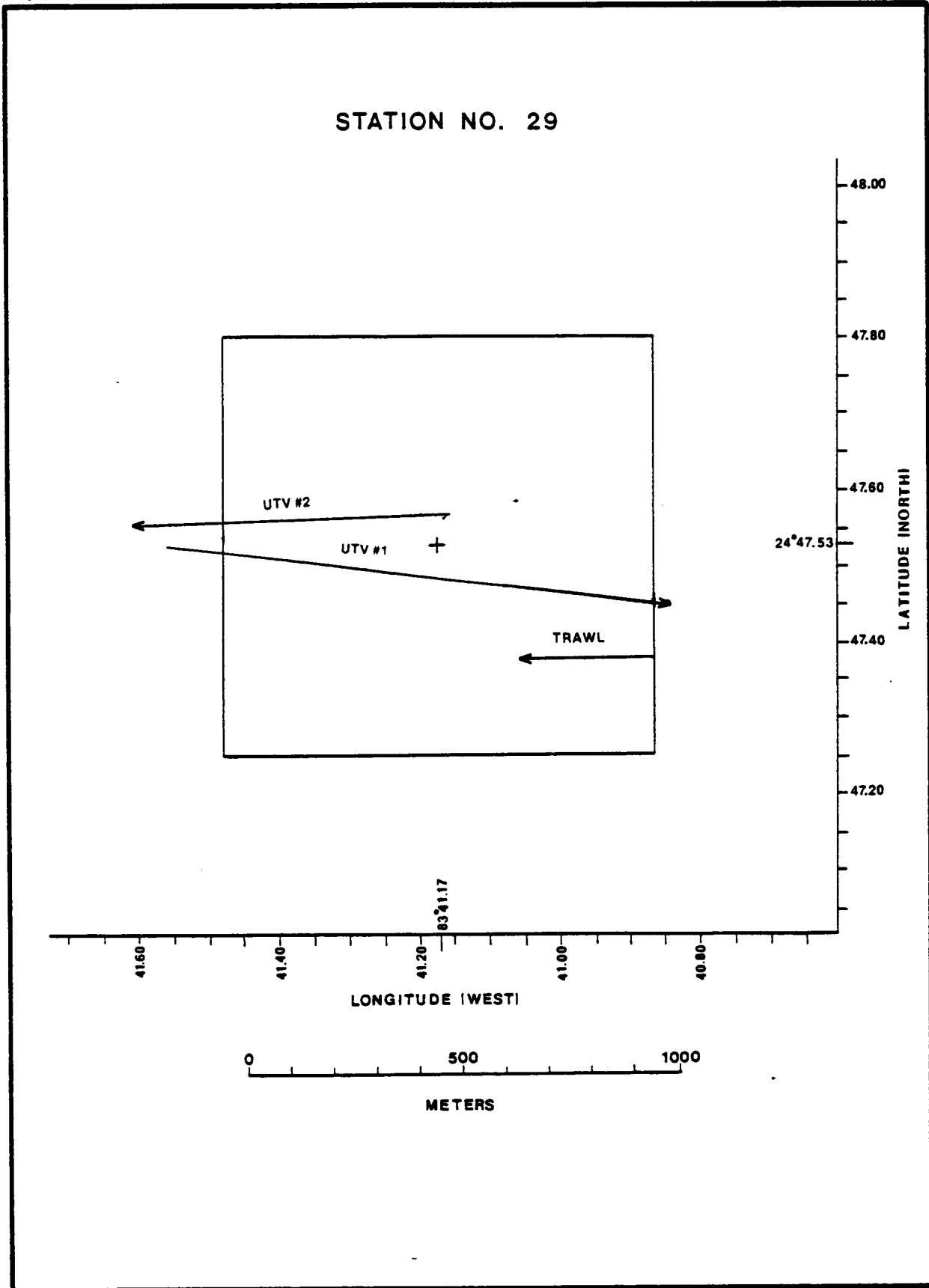


Figure A-27 STATION PLOT FOR STATION 29, CRUISE IX
(1 - 14 DECEMBER 1985)

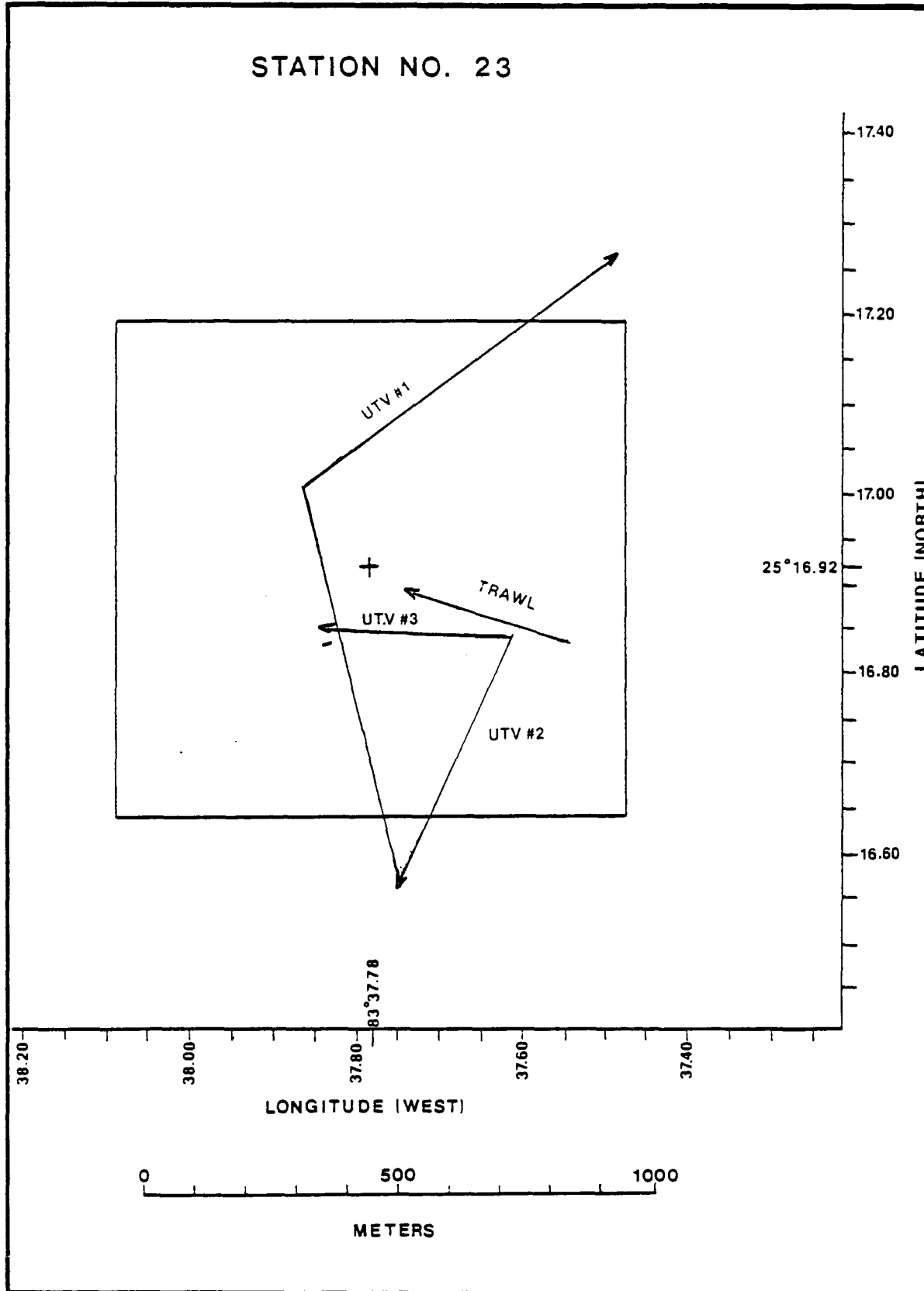


Figure A-28 STATION PLOT FOR STATION 23, CRUISE IX
(1 - 14 DECEMBER 1985)

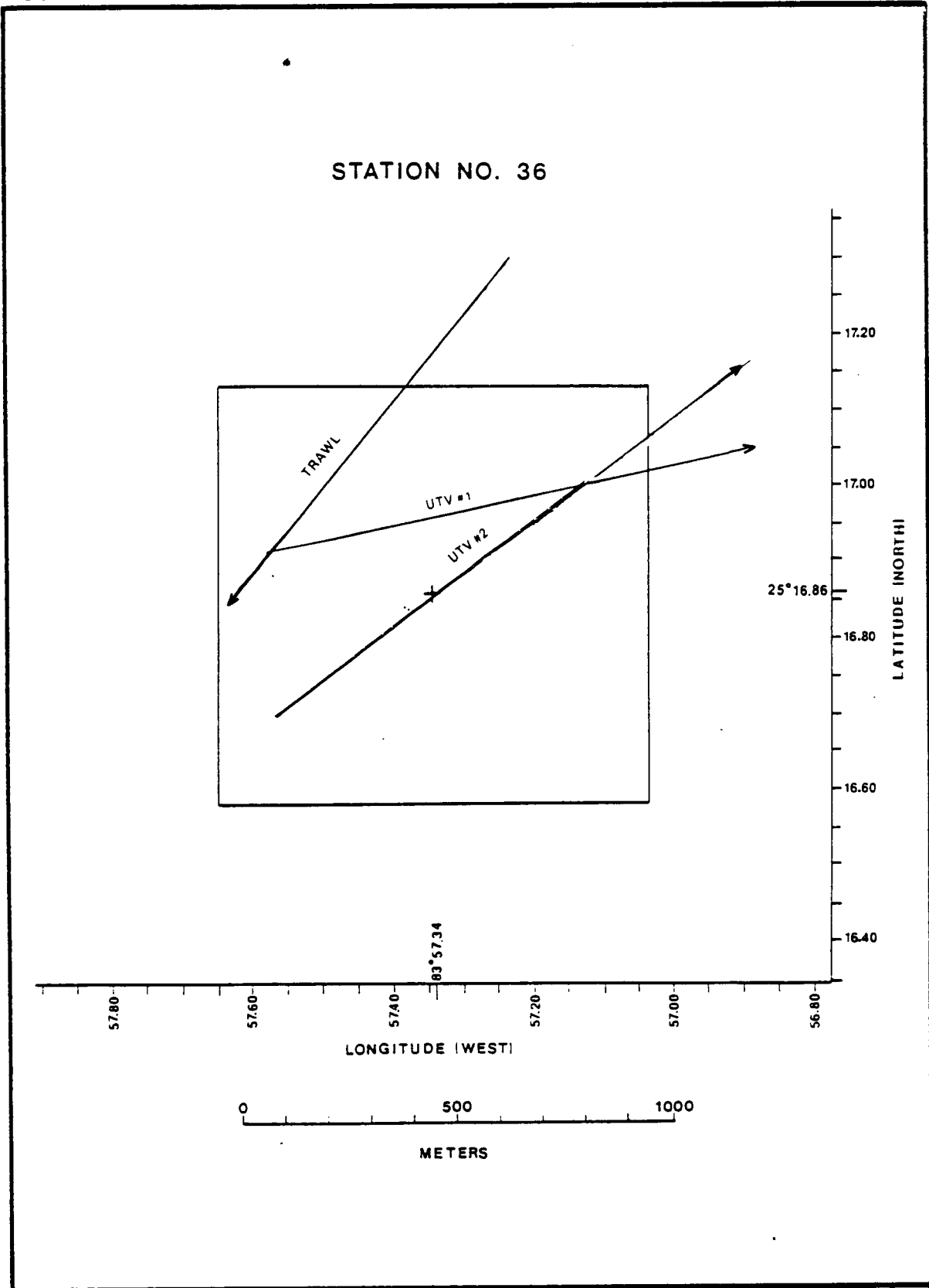


Figure A-29 STATION PLOT FOR STATION 36, CRUISE IX
(1 - 14 DECEMBER 1985)

APPENDIX B

APPENDIX B
PHYSICAL OCEANOGRAPHIC DATA

Physical oceanographic data were collected at all eight Year 5 stations (Figure B-1). These data included CSTD hydrographic data, water current and temperature data collected with ENDECO Model 174 Current Meters, and wave and tide data collected with Sea Data Model 635-11 Wave and Tide Gages.

The tabulated CSTD data (Tables B-1 through B-5) are organized by cruise (Cruises V through IX) and then by station as follows: 52, 44, 55, 7, 21, 29, 23, and 36 (increasing depth). The CSTD data consist of depth, conductivity, salinity, temperature, sigma-t (calculated from salinity and temperature) dissolved oxygen, dissolved oxygen saturation (calculated from dissolved oxygen concentration, salinity, and temperature), pH, and transmissivity. Occasional CSTD probe malfunctions resulted in the loss of some data; however, whenever possible, these data were augmented with data collected by a Hydrolab Model 4041, deep sea reversing thermometers, and dissolved oxygen bottle samples analyzed using a modified Winkler titration.

Stations 23, 29, and 36 were not occupied during Cruise VIII because of inclement weather; therefore, there are no hydrographic data presented. These stations were, however, occupied during Cruise IX, and the hydrographic data collected during that cruise are presented.

Monthly time-series plots of current speed and direction and progressive vector plots of current velocity are presented in Figures B-2 through B-75. The Station 52 data are presented in Figures B-2 through B-12. A few days of data are missing in the months of March, August, September, and October; this was caused either by battery failure or the data tape ended prior to servicing. All of November is missing because the tape ran out.

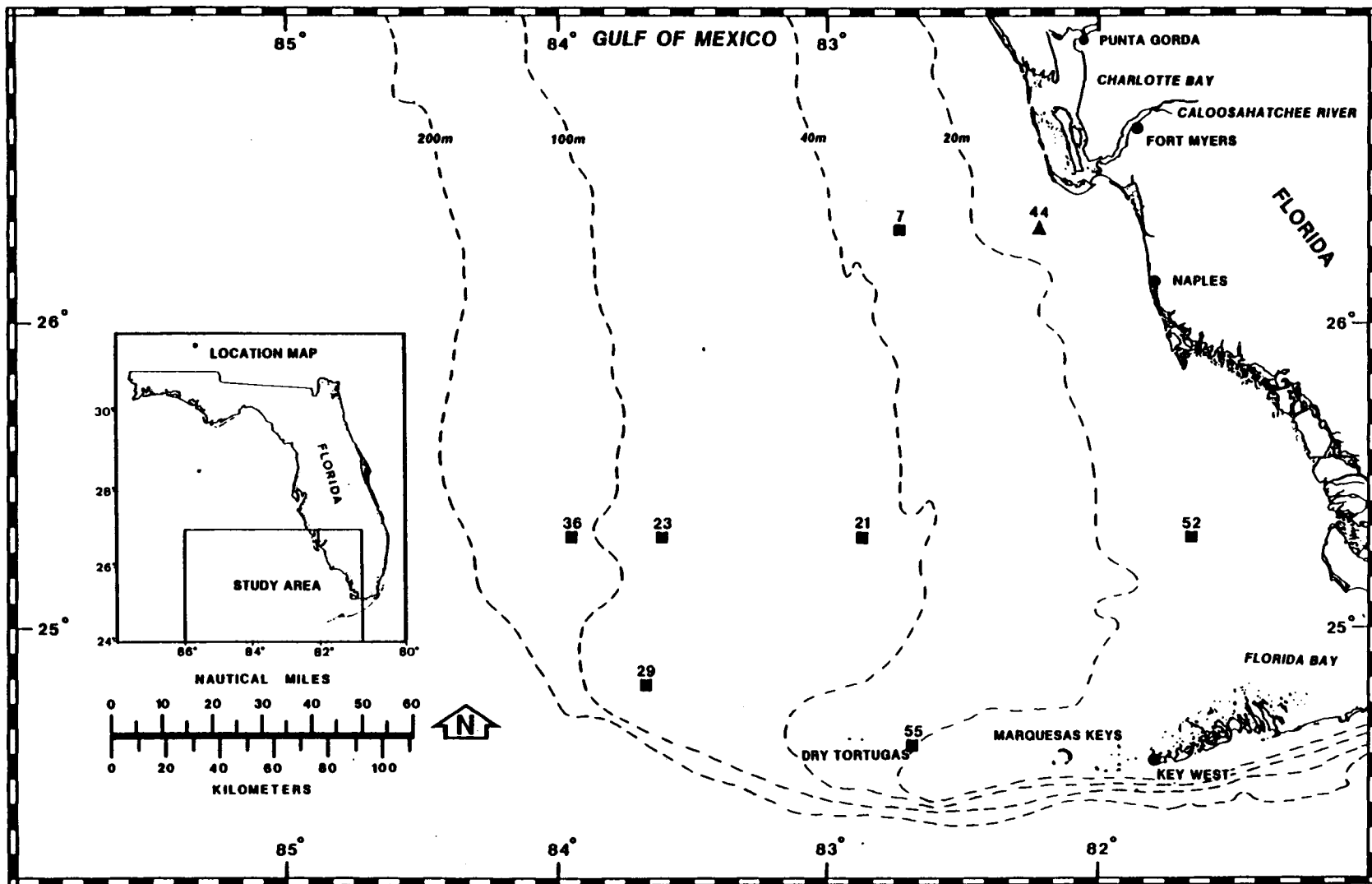


Figure B-1 PHYSICAL OCEANOGRAPHIC STATION LOCATIONS

Station 44 current velocity data are presented in Figures B-13 through B-20. The speed data for December 1984 through March 1985 are usable; however, because of a compass malfunction, the direction data are incorrect. Therefore, no progressive vector plots were prepared for this time period. This array was not located until Cruise VII, consequently the batteries were exhausted and no data were obtained for April through June. Battery exhaustion also explains the missing data in the latter part of the year.

Station 55 current velocity data (Figures B-21 through B-33) are complete except for part of May and June. The cause for this data gap is unknown. There were no obvious reasons for a malfunction of the current meter at Station 55. The current velocity data for Station 7 is presented in Figures B-34 through B-46; the record is complete. Because the array at Station 21 was not serviced during Cruise VIII, the batteries were exhausted resulting in a loss of data from September to December 1985. The preceding record is complete (Figures B-47 through B-56).

Only current velocity data for December 1984 to March 1985 (Figures B-57 through B-60) were obtained at Station 29 because of the loss of the array. Numerous attempts were made to recover this array with no success. At nearby Station 23, the data recovery was considerably better. The current velocity data, presented in Figures B-61 through B-71, were nearly complete. Two small gaps occurred because of battery failure, and direction data are bad for two months because of the loss of the subsurface buoy. The current velocity data for Station 36 are presented in Figures B-72 through B-75. Because of a current meter malfunction, the data cover only the period extending from March through June 1985.

These same current velocity data are presented as monthly joint speed-

direction frequency distribution tables. These tables are organized as follows:

<u>Station Number</u>	<u>Table Number (inclusive)</u>
52	B-6 to B-16
44	B-17 to B-24
55	B-25 to B-37
7	B-38 to B-50
21	B-51 to B-60
29	B-61 to B-64
23	B-65 to B-75
36	B-76 to B-79

Continuous near-bottom temperature data, also collected by the ENDECO Type 174 Current Meters, was presented in the Technical Discussion (Volume 2) and will not be repeated here.

Wave and tide data were collected at Stations 52 and 55 using Sea Data Model 635-11 Wave and Tide Gages. These data were reduced and analyzed, and are presented in various ways. Monthly plots of significant wave height and dominant wave period were prepared for Station 52 (Figures B-76 through B-88) and Station 55 (Figures B-89 through B-101). These same data were then tabulated and are presented in Tables B-80 through B-92 (Station 52) and B-93 through B-105 (Station 55).

The tide data for Stations 52 and 55 are presented as plots of low-pass (33 hour) filtered water level records for winter (Figure B-102), spring (Figure B-103), summer (Figure B-104), and autumn 1985 (Figure B-105). High-pass (33 hour) tidal spectra for Stations 52 and 55 are presented in Figure B-106; high frequency tidal spectra for these two stations are presented in Figure B-107.

Table B-1. CTD Hydrographic Data for Cruise V (Page 1 of 3)

STATION NUMBER: 52 TRIP NUMBER: 5 3/29/85 TIME: 2208

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	51.84	35.96	7.45	105.9	22.74	92.00	25.05	7.56
5	51.85	35.96	7.72	109.9	22.75	91.43	25.05	7.65
8	51.85	35.96	9.00	128.0	22.75	91.15	25.05	7.69
11	51.86	35.97	9.41	133.8	22.75	90.68	25.05	7.75

STATION NUMBER: 44 TRIP NUMBER: 5 12/ 5/84 TIME: 1652

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	49.37	34.85	8.36	115.8	21.67	97.92	24.51	7.82
5	49.02	34.74	8.50	117.1	21.46	96.04	24.48	7.78
9	48.89	34.79	10.13	139.1	21.26	93.97	24.57	7.73

STATION NUMBER: 55 TRIP NUMBER: 5 12/12/84 TIME: 2136

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	54.02	36.36	7.81	114.5	24.28	96.32	24.90	8.05
5	54.04	36.37	7.67	112.5	24.29	96.23	24.90	8.04
10	54.03	36.37	8.21	120.5	24.28	96.23	24.91	8.02
14	54.02	36.36	8.85	129.8	24.28	96.51	24.90	8.01
20	54.01	36.37	9.08	133.2	24.26	95.85	24.91	8.00
26	53.95	36.38	9.31	136.4	24.19	96.60	24.94	7.99

Table B-1. CTD Hydrographic Data for Cruise V (Page 2 of 3)

STATION NUMBER: 7 TRIP NUMBER: 5 12/ 5/84 TIME: 722

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	51.42	35.91	7.46	105.4	22.40	100.4	25.11	8.02
5	51.42	35.91	7.46	105.4	22.40	99.99	25.11	8.00
10	51.41	35.91	7.55	106.7	22.39	99.80	25.11	7.99
15	51.33	35.92	7.57	106.8	22.30	99.70	25.15	7.98
20	51.29	35.92	8.24	116.1	22.27	99.33	25.15	7.95
25	51.30	35.92	8.98	126.5	22.27	99.05	25.15	7.92
31	51.29	35.92	9.43	132.9	22.27	98.76	25.15	7.82

STATION NUMBER: 21 TRIP NUMBER: 5 12/ 8/84 TIME: 925

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
2	53.28	36.51	8.57	123.9	23.44	101.9	25.26	8.08
8	53.27	36.50	8.34	120.6	23.44	101.7	25.26	8.10
15	53.27	36.50	8.44	122.1	23.44	100.4	25.26	8.08
24	53.27	36.50	9.30	134.5	23.45	97.64	25.25	8.08
32	53.28	36.50	9.98	144.2	23.45	97.64	25.25	8.07
42	53.22	36.66	9.13	131.5	23.21	96.23	25.45	8.07

STATION NUMBER: 29 TRIP NUMBER: 5 12/11/84 TIME: 703

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	55.81	36.25	7.11	107.7	26.03	97.92	24.27	8.11
10	55.84	36.25	7.05	106.9	26.06	97.82	24.26	8.11
20	55.85	36.25	7.40	112.2	26.06	98.01	24.27	8.10
30	55.33	36.49	7.92	118.5	25.26	98.11	24.69	8.11
40	54.86	36.36	8.50	126.5	25.01	98.01	24.67	8.10
52	54.39	36.41	8.62	127.1	24.55	97.73	24.85	8.10
64	54.39	36.47	8.37	123.4	24.48	97.54	24.92	8.11

Table B-1. CTD Hydrographic Data for Cruise V (Page 3 of 3)

STATION NUMBER: 23 TRIP NUMBER: 5 12/ 9/84 TIME: 1941

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	55.66	36.17	8.72	132.0	25.99	96.13	24.23	8.10
10	55.69	36.17	8.12	122.9	26.01	96.13	24.23	8.10
20	55.66	36.18	8.10	122.5	25.97	96.23	24.24	8.10
30	55.18	36.24	8.64	129.4	25.41	96.32	24.46	8.10
40	54.67	36.22	9.31	138.4	25.00	96.32	24.57	8.10
50	54.63	36.25	9.55	141.7	24.93	96.51	24.62	8.08
60	54.74	36.32	9.89	147.0	24.95	96.60	24.66	8.07
71	53.47	36.61	8.27	119.8	23.50	96.13	25.32	8.10

STATION NUMBER: 36 TRIP NUMBER: 5 12/10/84 TIME: 1954

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	54.43	36.15	7.27	107.7	24.88	97.17	24.55	8.07
15	54.44	36.15	7.23	107.1	24.88	97.73	24.56	8.06
30	54.45	36.15	7.63	113.1	24.89	98.29	24.56	8.04
45	53.58	36.34	7.46	108.7	23.91	98.95	24.99	8.02
60	50.92	36.23	7.48	104.2	21.52	99.05	25.59	8.05
75	50.47	36.31	7.06	97.44	20.96	98.67	25.82	8.06
89	49.37	36.25	6.63	89.83	19.97	97.54	26.04	8.08

Cruise B-2. CTD Hydrographic Data for Cruise VI (Page 1 of 3)

STATION NUMBER: 52 TRIP NUMBER: 6 3/29/85 TIME: 2216

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	52.20	36.46	7.39	104.2	22.12	80.70	25.58	8.10
4	53.00	37.10	7.29	103.2	22.12	80.60	26.06	8.10
6	53.00	37.10	7.29	103.2	22.12	80.79	26.06	8.10
8	53.20	37.26	7.29	103.3	22.12	81.08	26.19	8.10
10	53.30	37.34	7.29	103.4	22.12	81.08	26.25	8.10
12	53.50	37.50	7.29	103.5	22.12	81.37	26.37	8.00

STATION NUMBER: 44 TRIP NUMBER: 6 3/22/85 TIME: 933

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	49.30	35.51	7.58	103.0	20.40	93.58	25.33	8.00
3	49.29	35.51	7.49	101.6	20.39	93.58	25.34	8.00
5	49.25	35.52	7.58	102.9	20.34	82.52	25.35	8.00
8	49.22	35.52	7.39	100.1	20.31	80.31	25.36	8.00
10	49.22	35.53	7.39	100.1	20.29	79.06	25.38	8.00
12	49.22	35.53	7.39	100.1	20.29	76.75	25.38	8.00

STATION NUMBER: 55 TRIP NUMBER: 6 3/25/85 TIME: 2236

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	53.13	36.53	6.99	100.1	22.90	82.72	25.41	8.10
6	53.13	36.51	6.90	98.72	22.92	82.52	25.39	8.10
10	53.14	36.51	7.09	101.6	22.93	82.62	25.39	8.10
16	53.14	36.52	6.99	100.1	22.92	82.72	25.40	8.10
20	53.13	36.50	7.09	101.6	22.93	82.91	25.38	8.10
26	53.12	36.50	7.19	102.9	22.92	82.72	25.39	8.10

Table B-2. CTD Hydrographic Data for Cruise VI (Page 2 of 3)

STATION NUMBER: 7 TRIP NUMBER: 6 3/20/85 TIME: 923

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	48.30	35.53	8.18	109.1	19.43	102.2	25.61	7.60
5	48.30	35.54	7.98	106.4	19.42	94.54	25.62	7.80
9	48.30	35.54	7.98	106.4	19.42	95.31	25.62	7.80
15	48.30	35.54	7.98	106.4	19.42	93.48	25.62	7.90
19	48.31	35.55	7.98	106.4	19.42	93.39	25.62	7.90
25	48.60	36.14	8.08	107.4	19.06	91.56	26.16	7.90
30	48.60	36.14	7.68	102.2	19.06	91.37	26.16	7.90

STATION NUMBER: 21 TRIP NUMBER: 6 3/28/85 TIME: 2200

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	53.80	37.74	7.39	105.1	22.12	83.39	26.55	8.10
8	54.50	38.30	7.29	104.1	22.12	83.39	26.98	8.10
14	54.80	38.55	7.29	104.2	22.12	83.58	27.17	8.10
21	55.00	38.71	7.19	102.9	22.12	83.87	27.29	8.10
29	55.00	38.71	7.19	102.9	22.12	84.35	27.29	8.10
36	52.80	37.23	7.09	99.90	21.78	84.35	26.26	8.10
45	55.20	40.55	6.80	95.21	20.26	82.33	29.22	8.00

STATION NUMBER: 29 TRIP NUMBER: 6 3/24/85 TIME: 1903

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	52.50	36.32	7.19	102.1	22.56	86.08	25.35	8.20
8	52.48	36.32	7.09	100.7	22.55	86.08	25.35	8.20
15	52.29	36.33	7.19	101.8	22.36	86.56	25.41	8.20
25	52.19	36.37	6.99	98.74	22.21	86.85	25.49	8.10
35	51.99	36.39	7.19	101.1	22.00	86.95	25.56	8.10
45	50.87	36.39	7.29	100.5	20.91	86.75	25.86	8.10
55	50.37	36.37			20.42	85.89	25.99	
66	50.07	36.36			20.13	85.79	26.05	

Table B-2. CTD Hydrographic Data for Cruise VI (Page 3 of 3)

STATION NUMBER: 23 TRIP NUMBER: 6 3/24/85 TIME: 637

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	51.91	36.40	7.58	106.5	21.91	86.85	25.60	8.10
13	51.92	36.40	7.39	103.8	21.92	87.04	25.59	8.10
23	51.77	36.41	7.49	104.9	21.77	87.23	25.64	8.10
32	51.76	36.41	7.29	102.1	21.76	87.33	25.64	8.10
42	51.50	36.39	7.29	101.6	21.53	87.62	25.69	8.10
53	50.60	36.37			20.66	87.43	25.92	
63	50.10	36.37			20.15	87.04	26.05	
74	50.11	36.37			20.16	86.85	26.05	

STATION NUMBER: 36 TRIP NUMBER: 6 3/23/85 TIME: 628

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	52.04	36.33	7.49	105.5	22.12	88.20	25.48	8.10
15	51.83	36.35	7.29	102.3	21.90	88.48	25.56	8.10
34	51.81	36.38	7.29	102.2	21.84	88.77	25.60	8.00
45	55.60	39.76	7.39	105.3	21.50		28.27	8.10
55	50.06	36.29			20.21	88.68	25.98	
75	49.60	36.28			19.79	88.87	26.08	
94	49.27	36.28			19.50	88.48	26.16	

Table B-3. CTD Hydrographic Data for Cruise VII (Page 1 of 3)

STATION NUMBER: 52 TRIP NUMBER: 7 6/25/85 TIME: 1946

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	60.48	36.22			30.34	90.21	22.37	7.70
4	60.48	36.21			30.35	88.82	22.36	7.70
6	60.49	36.22			30.35	88.61	22.37	7.70
8	60.49	36.22			30.34	88.61	22.38	7.71
10	60.50	36.22			30.35	88.61	22.37	7.70
12	60.51	36.23			30.35	88.08	22.38	7.70

STATION NUMBER: 44 TRIP NUMBER: 7 7/ 2/85 TIME: 658

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	59.25	35.92	5.72	92.48	29.61	85.95	22.40	7.71
2	59.27	35.93	5.62	90.93	29.62	86.06	22.40	7.71
4	59.28	35.94	5.82	94.09	29.62	84.89	22.41	7.71
6	59.28	35.94	5.72	92.51	29.62	84.89	22.41	7.71
8	59.29	35.94	5.82	94.09	29.62	83.82	22.41	7.71
10	59.30	35.95	5.72	92.52	29.62	83.82	22.42	7.71
12	59.31	35.96	5.62	90.94	29.62	84.89	22.42	7.71

STATION NUMBER: 55 TRIP NUMBER: 7 6/27/85 TIME: 732

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	59.47	36.47	5.43	87.21	29.14	93.82	22.98	7.68
5	59.46	36.47	5.23	84.07	29.14	94.14	22.97	7.67
8	58.58	36.50	5.52	87.41	28.36	94.14	23.26	7.68
11	58.23	36.45	5.62	88.49	28.12	95.10	23.30	7.67
14	57.46	36.46	5.72	88.83	27.44	95.63	23.53	7.68
17	55.50	36.39	5.72	85.92	25.74	95.74	24.01	7.70
20	51.83	36.49	5.82	82.10	22.35	93.61	25.10	7.72
23	51.62	36.51	5.82	81.78	22.14	92.44	25.17	7.73
26	51.41	36.50	5.92	82.87	21.95	89.68	25.22	7.77

Table B-3. CTD Hydrographic Data for Cruise VII (Page 2 of 3)

STATION NUMBER: 7 TRIP NUMBER: 7 7/ 1/85 TIME: 710

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	58.38	36.14	6.79	107.8	28.63	92.65	22.89	7.79
4	58.39	36.14	6.79	107.8	28.63	92.12	22.90	7.79
8	58.39	36.14	6.79	107.8	28.63	91.91	22.90	7.79
12	58.39	36.14	6.79	107.8	28.63	92.02	22.90	7.79
16	58.38	36.15	6.60	104.7	28.62	91.80	22.90	7.79
20	55.29	36.37	7.38	110.5	25.55	91.27	24.06	7.82
24	53.07	36.63	8.16	117.3	23.31	91.91	24.93	7.84
28	51.98	36.50	7.97	112.7	22.49	90.74	25.06	7.83
31	51.97	36.50	7.77	109.9	22.48	90.95	25.07	7.83

STATION NUMBER: 21 TRIP NUMBER: 7 6/26/85 TIME: 617

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	58.82	35.94	6.40	102.8	29.24	95.63	22.54	7.73
5	58.82	35.94	6.89	110.6	29.24	95.95	22.54	7.72
10	58.58	35.96	6.79	108.5	29.01	96.80	22.64	7.72
14	57.32	36.26	8.06	125.4	27.56	96.70	23.33	7.72
18	55.35	36.29	10.31	154.7	25.72	98.19	23.94	7.75
22	52.79	36.34	10.60	152.4	23.39	99.46	24.69	7.74
26	51.93	36.44	8.65	122.4	22.51	99.99	25.02	7.75
30	50.92	36.41	9.43	131.2	21.59	96.70	25.25	7.75
34	50.13	36.39	8.65	118.7	20.85	100.4	25.44	7.75
38	49.62	36.38	7.38	100.3	20.36	99.78	25.56	7.77
42	49.57	36.41			20.26	98.61	25.62	7.77
46	49.57	36.41	6.11	82.94	20.26	96.16	25.62	7.81

STATION NUMBER: 29 TRIP NUMBER: 7 6/28/85 TIME: 615

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
23	57.63	36.06			28.08	100.2	23.02	7.96
33	54.74	36.44			24.93	98.08	24.30	7.80
44	52.70	36.42			23.22	96.27	24.79	7.76
54	51.85	36.48			22.39	95.42	25.08	7.75
64	51.16	36.40			21.84	93.93	25.17	7.75

Table B-3. CTD Hydrographic Data for Cruise VII (Page 3 of 3)

STATION NUMBER: 23 TRIP NUMBER: 7 6/29/85 TIME: 617

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
2	57.86	35.83	5.92	93.55	28.56	93.19	22.68	7.72
10	57.97	35.87	6.50	102.9	28.61	92.55	22.70	7.72
18	57.78	36.05	6.50	102.3	28.22	94.46	22.96	7.71
26	56.31	36.19	6.99	106.9	26.74	95.85	23.55	7.71
34	52.33	36.19	7.77	111.1	23.16	97.12	24.64	7.71
41	50.95	36.40	7.38	102.7	21.64	97.65	25.23	7.71
50	50.05	36.48			20.66	98.19	25.56	7.72
58	49.32	36.25			20.21	98.19	25.50	7.70
66	49.33	36.26			20.20	97.87	25.52	7.70
74	49.34	36.27			20.20	96.80	25.52	7.72

STATION NUMBER: 36 TRIP NUMBER: 7 6/30/85 TIME: 2134

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	58.12	35.84	6.70	106.4	28.77	93.93	22.63	7.78
10	58.17	35.89	6.60	104.8	28.76	93.40	22.66	7.79
20	58.07	35.94	6.89	109.2	28.60	92.65	22.76	7.79
30	56.65	36.35	7.58	116.2	26.85	92.65	23.63	7.81
40	56.00	36.37	7.77	117.8	26.22	92.76	23.84	7.81
50	53.90	36.30			24.40	92.97	24.35	7.82
60	51.95	36.40			22.57	93.40	24.96	7.82
70	51.45	36.66			21.81	94.57	25.38	7.80

Table B-4. CTD Hydrographic Data for Cruise VIII (Page 1 of 2)

STATION NUMBER: 52 TRIP NUMBER: 8 9/13/85 TIME: 1613

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	59.16	36.37	9.50	152.7	29.13	104.7	23.06	8.30
3	59.16	36.37			29.13	101.8	23.06	8.30
5	59.15	36.36			29.12	99.89	23.05	8.32
7	59.15	36.35			29.12	100.3	23.05	8.33
9	59.12	36.35			29.12	98.40	23.05	8.33
12	59.10	36.33	8.80	141.4	29.12	96.26	23.03	8.30

STATION NUMBER: 44 TRIP NUMBER: 8 9/20/85 TIME: 1139

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
0	55.45	35.17	6.50	99.92	27.28	105.3	22.77	7.98
3	55.44	35.17	6.40	98.38	27.28	98.61	22.77	8.00
5	55.44	35.18	6.30	96.85	27.28	95.94	22.77	8.01
8	55.43	35.17	6.30	96.84	27.28	94.02	22.77	8.02
10	55.43	35.17	6.30	96.84	27.28	91.99	22.77	8.04
12	55.43	35.17	6.10	93.77	27.28	92.31	22.77	8.06

STATION NUMBER: 55 TRIP NUMBER: 8 9/17/85 TIME: 948

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	57.20	35.83			27.92	104.7	23.05	8.22
3	57.20	35.82			27.92	98.29	23.05	8.18
6	57.20	35.83			28.03	97.12	23.02	8.18
9	57.20	35.82			28.03	96.58	23.01	8.16
12	57.20	35.83	6.60	103.4	28.03	96.15	23.02	8.16
15	57.20	35.83	6.60	103.4	28.03	95.41	23.02	8.14
18	57.20	35.83	6.60	103.4	28.03	94.02	23.02	8.12
22	57.19	35.83	6.60	103.4	28.03	93.70	23.02	8.09
25	57.19	35.83	6.50	101.8	28.03	93.70	23.02	8.04

Table B-4. CTD Hydrographic Data for Cruise VIII (Page 2 of 2)

STATION NUMBER: 7 TRIP NUMBER: 8 9/21/85 TIME: 719

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
0	56.55	35.61			27.80	95.73	22.93	7.94
4	56.54	35.60			27.80	95.51	22.92	7.93
8	56.56	35.61			27.80	95.51	22.93	7.93
13	56.56	35.61			27.80	95.51	22.93	7.93
16	56.61	35.63			27.80	95.41	22.94	7.91
20	56.59	35.62			27.80	95.51	22.94	7.89
24	56.61	35.63			27.80	95.73	22.94	7.83
27	56.61	35.63			27.80	95.83	22.94	7.79
30	56.62	35.57			27.80	95.62	22.90	7.71

STATION NUMBER: 21 TRIP NUMBER: 8 9/14/85 TIME: 713

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
2	57.72	35.88	6.51	102.8	28.41	100.9	22.93	8.32
6	57.73	35.89	6.57	103.8	28.41	100.9	22.94	8.30
10	57.74	35.89	6.66	105.2	28.41	101.1	22.94	8.29
15	57.74	35.90	6.82	107.7	28.41	101.4	22.95	8.29
20	57.74	35.91	6.74	106.5	28.41	101.6	22.95	8.28
25	57.00	36.10	6.80	105.5	27.45	101.7	23.41	8.29
30	56.54	36.25	7.00	107.4	26.82	101.8	23.73	8.30
35	56.23	36.24	6.84	104.4	26.57	102.0	23.80	8.29
40	54.41	36.34	6.40	94.64	24.85	100.7	24.41	8.35
44	54.16	36.34	6.40	94.09	24.54	100.2	24.50	8.36

Table B-5. CTD Hydrographic Data for Cruise IX (Page 1 of 1)

STATION NUMBER: 29 TRIP NUMBER: 9 12/ 5/85 TIME: 718

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	55.16	36.14	6.50	97.68	25.77	97.22	23.99	8.16
7	55.18	36.13			25.77	96.90	23.98	8.16
13	55.18	36.14			25.77	96.69	23.99	8.14
20	55.19	36.15			25.77	96.58	24.00	8.13
31	55.20	36.15	6.60	99.19	25.77	96.47	24.00	8.16
41	55.21	36.15			25.78	96.26	23.99	8.13
51	54.91	36.16			25.51	96.26	24.08	8.16
61	53.97	36.06	6.60	97.12	24.68	96.15	24.26	8.16

STATION NUMBER: 23 TRIP NUMBER: 9 12/ 5/85 TIME: 1947

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	54.70	36.10	6.70	99.83	25.33	97.12	24.10	8.14
10	54.70	36.11			25.32	96.80	24.11	8.13
21	54.69	36.11			25.31	96.58	24.11	8.13
38	54.71	36.12	6.70	99.82	25.32	96.15	24.11	8.12
50	53.97	36.12			24.72	95.94	24.30	8.12
61	53.91	36.11			24.53	96.05	24.35	8.12
71	51.89	36.13	6.40	90.59	22.56	95.73	24.94	8.14

STATION NUMBER: 36 TRIP NUMBER: 9 12/ 4/85 TIME: 659

DEPTH (M)	CONDUCT. (MMHOS)	SALINITY (PPT)	D.OXYGEN (MG/L)	D.O.SATUR- ATION (%)	TEMPERA- TURE(C)	TRANSPAR- ENCY (%)	SIGMA-T	PH
1	54.27	35.95	6.75	100.1	25.14	97.76	24.04	7.62
6	54.30	35.94			25.14	97.22	24.03	7.73
10	54.31	35.96			25.14	97.33	24.05	7.87
20	54.32	35.96			25.14	97.33	24.05	7.89
30	54.32	35.96	6.60	97.88	25.13	97.22	24.05	7.91
41	53.53	35.88			24.45	97.01	24.20	7.93
51	53.41	35.90			24.31	96.90	24.25	7.94
60	53.71	36.02			24.44	97.01	24.30	7.97
70	52.34	36.20			22.75	97.12	24.94	7.94
80	51.34	36.30			21.70	97.44	25.31	7.93
125		36.39	4.60	63.23	20.88		25.61	

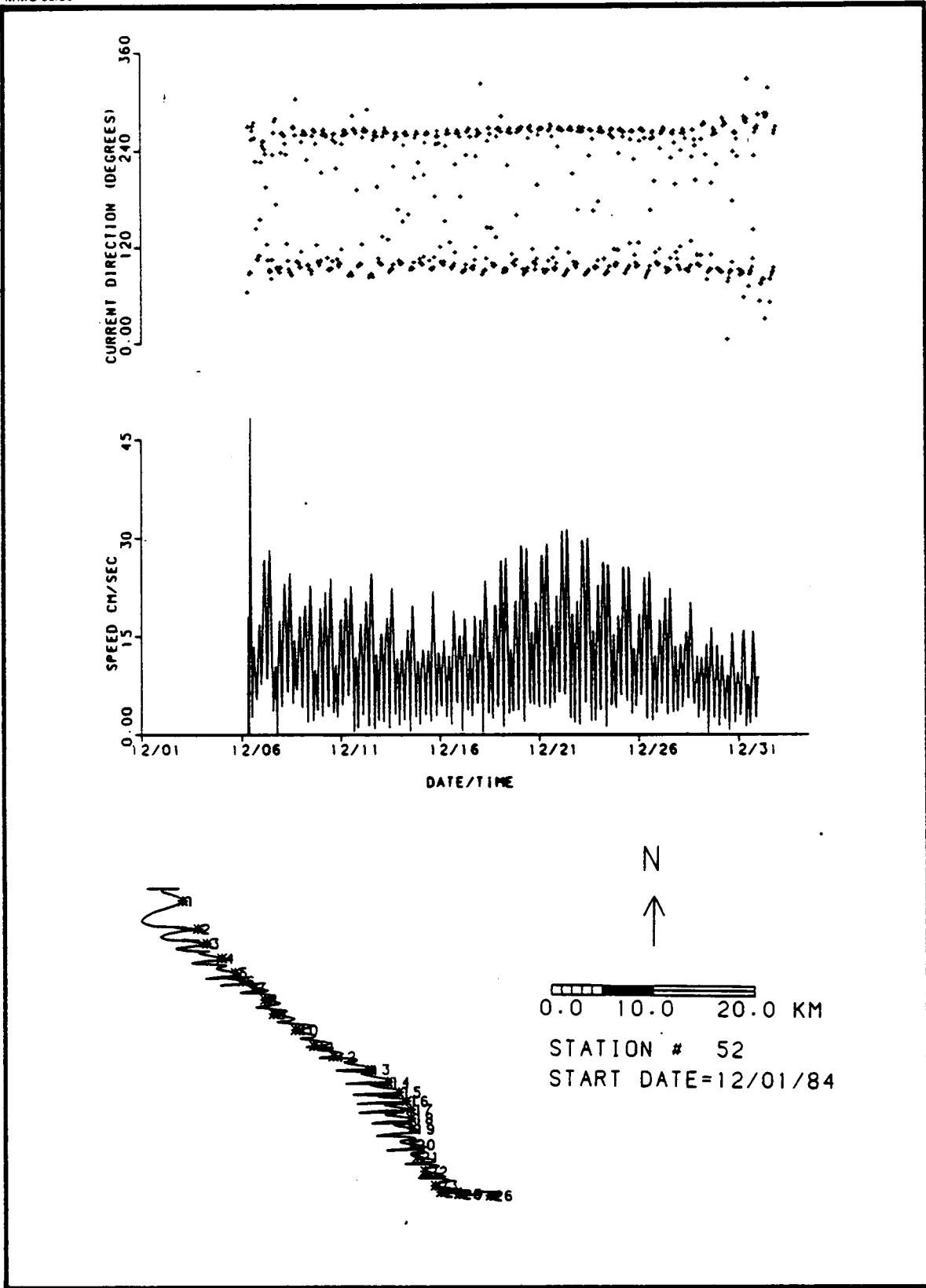


Figure B-2

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

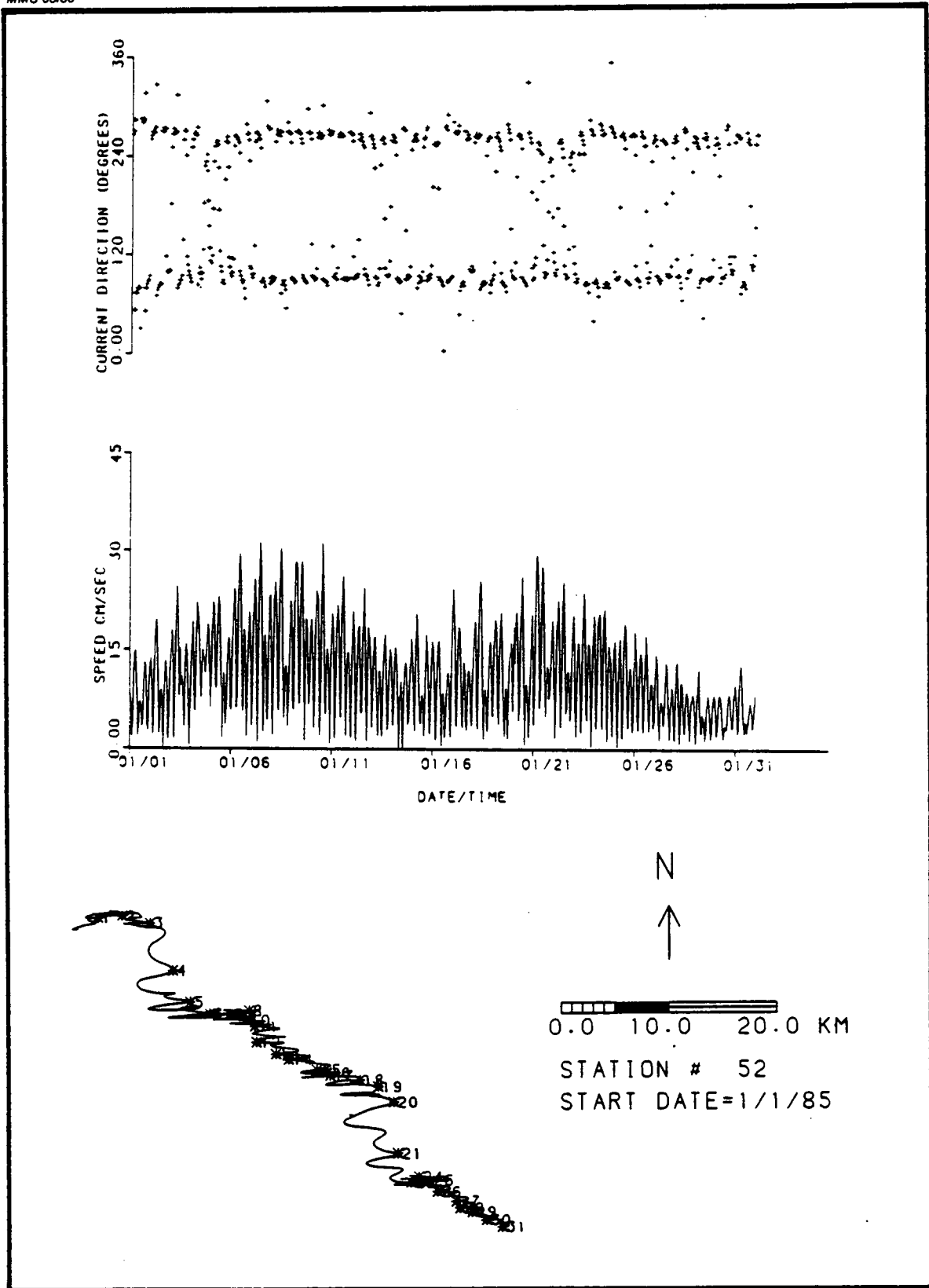


Figure B-3

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JANUARY 1985

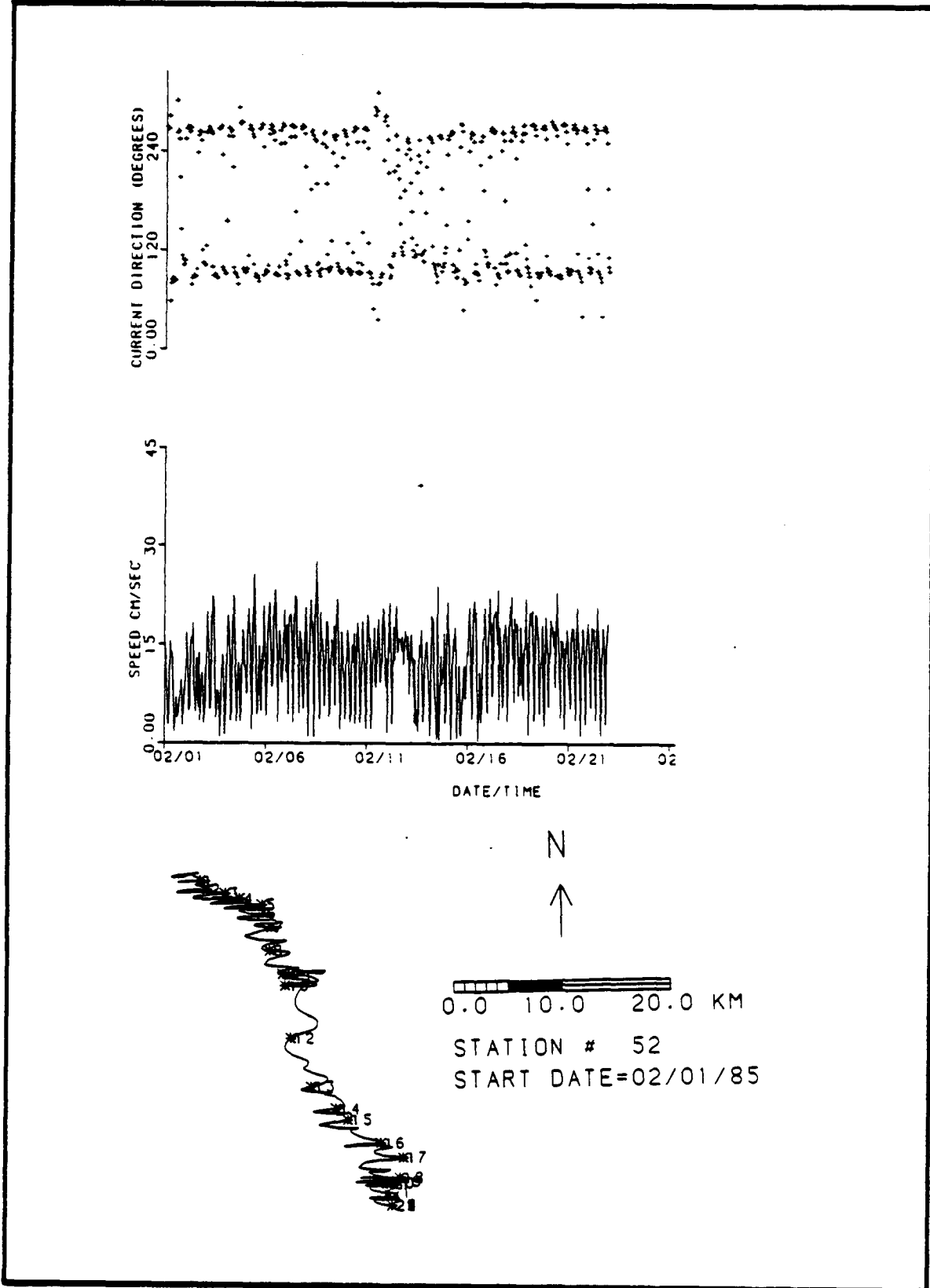


Figure B-4

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

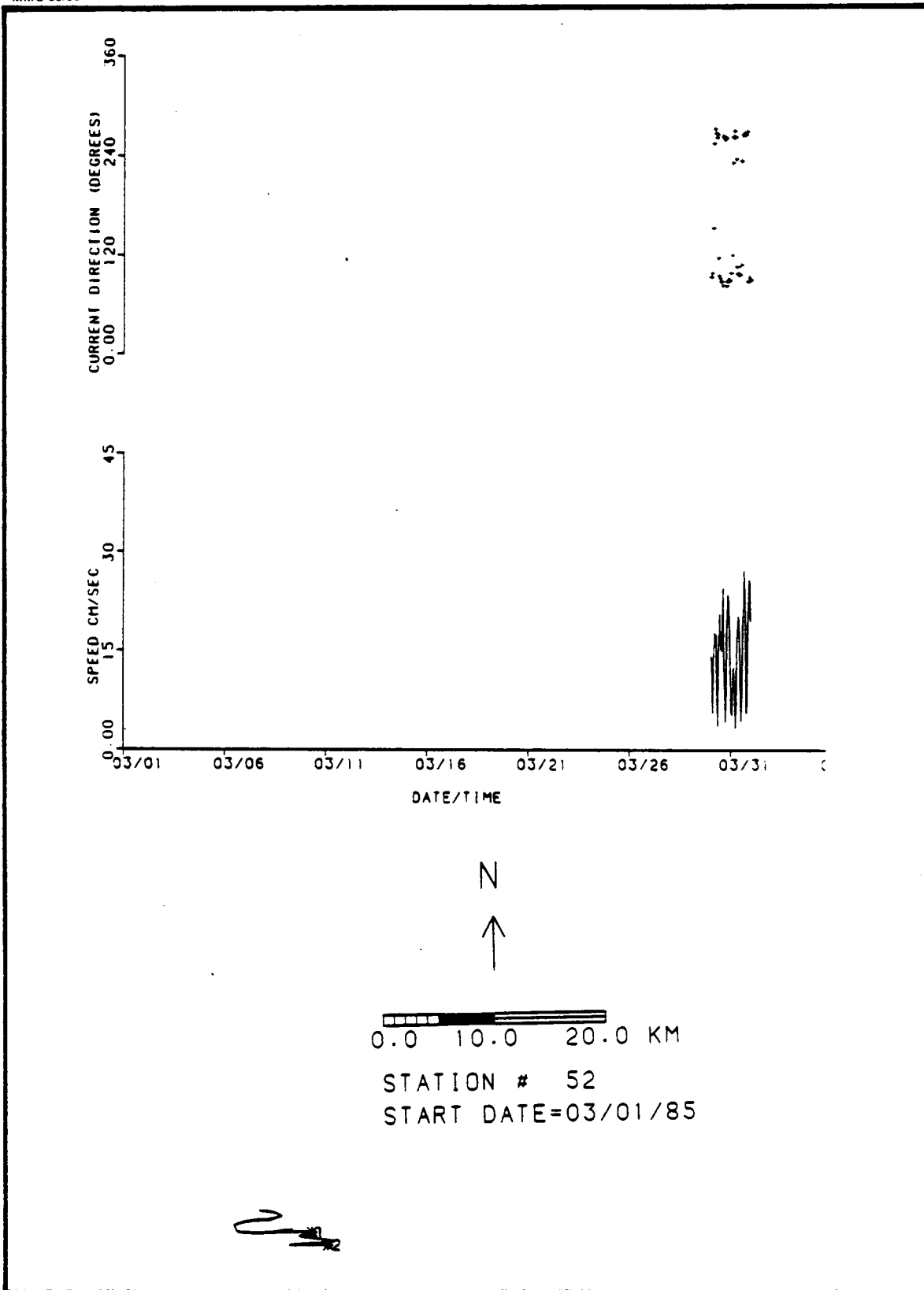


Figure B-5

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MARCH 1985

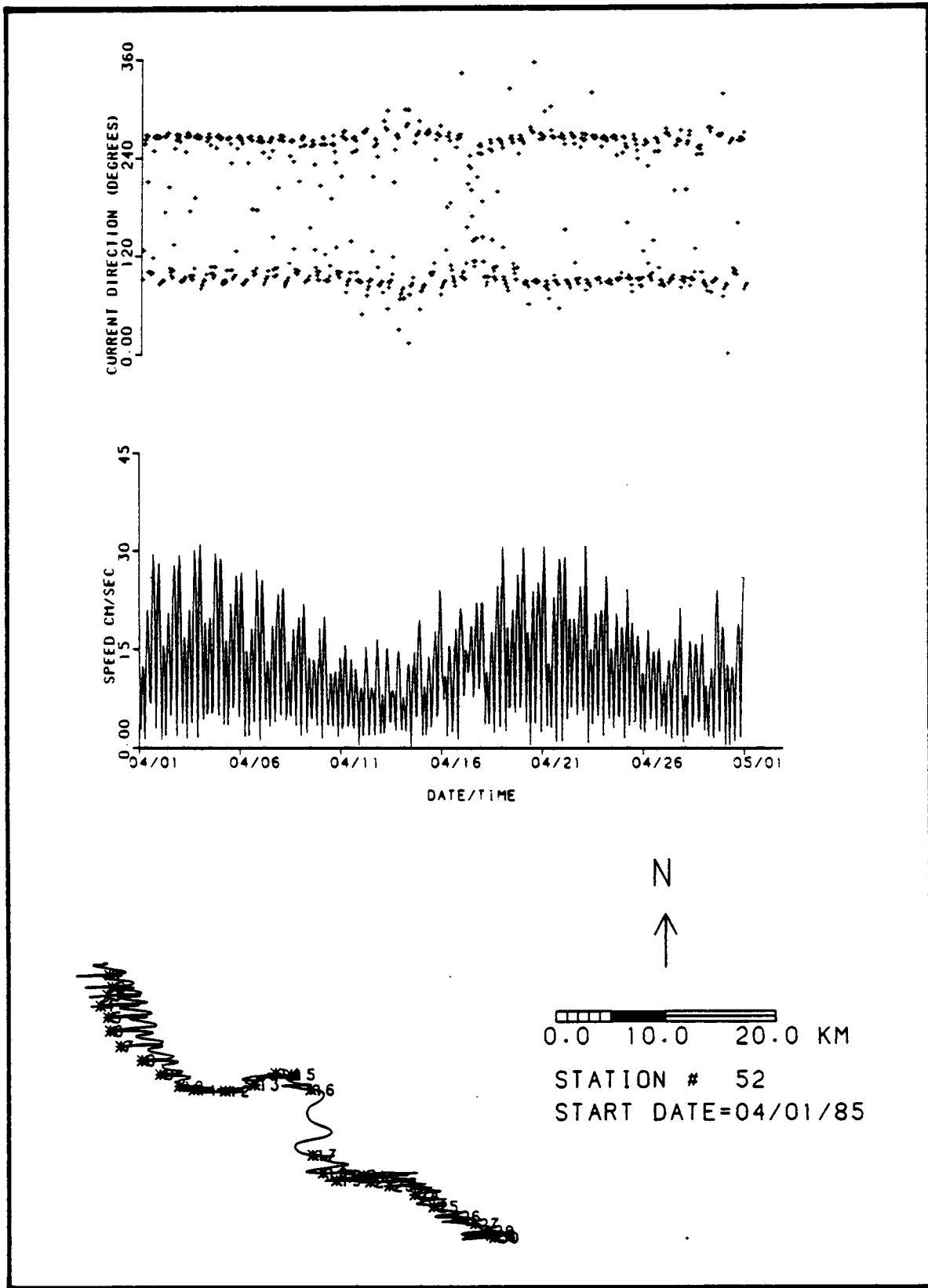


Figure B-6

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - APRIL 1985

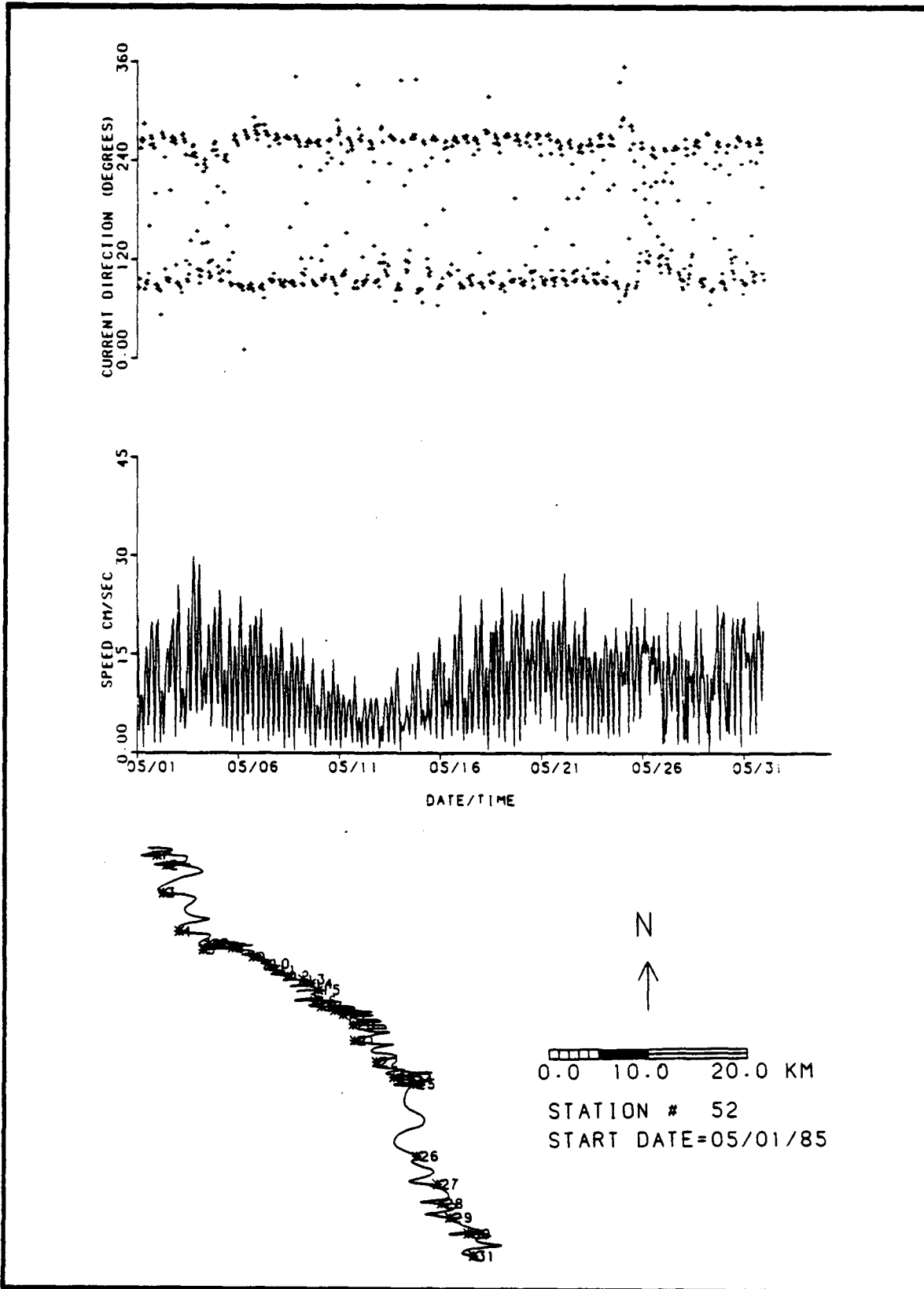


Figure B-7 **STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MAY 1985**

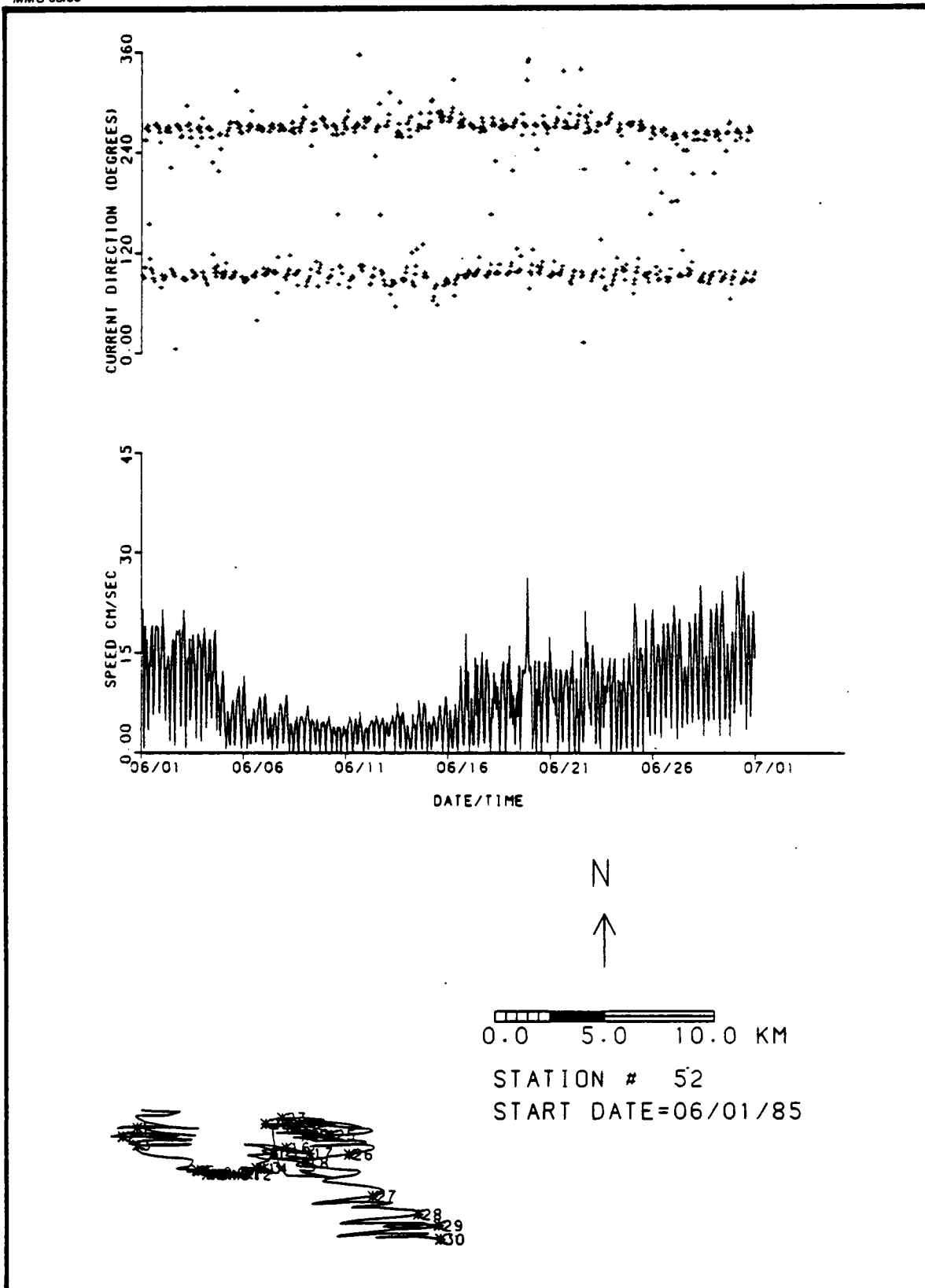


Figure B-8

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JUNE 1985

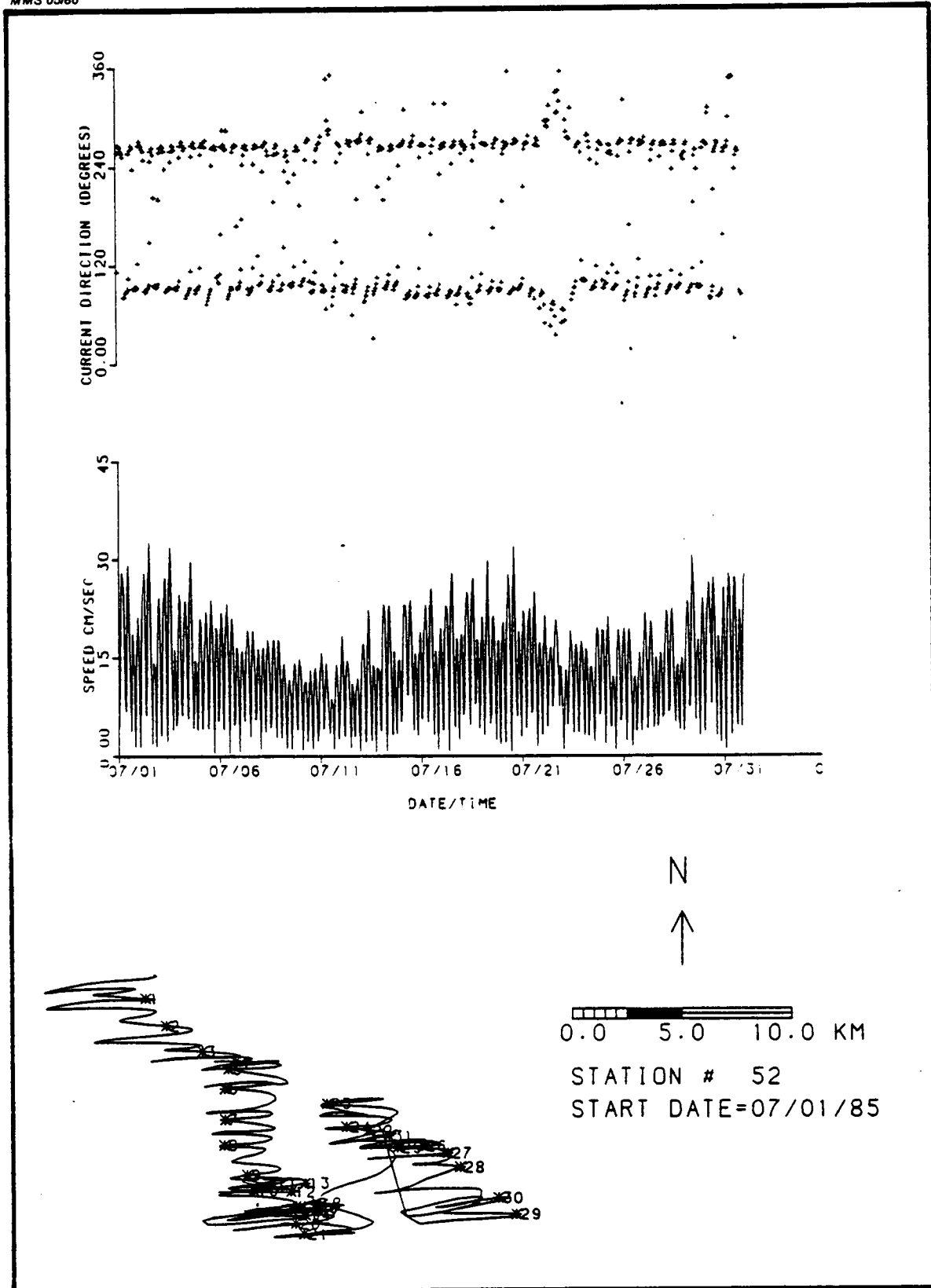


Figure B-9

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JULY 1985

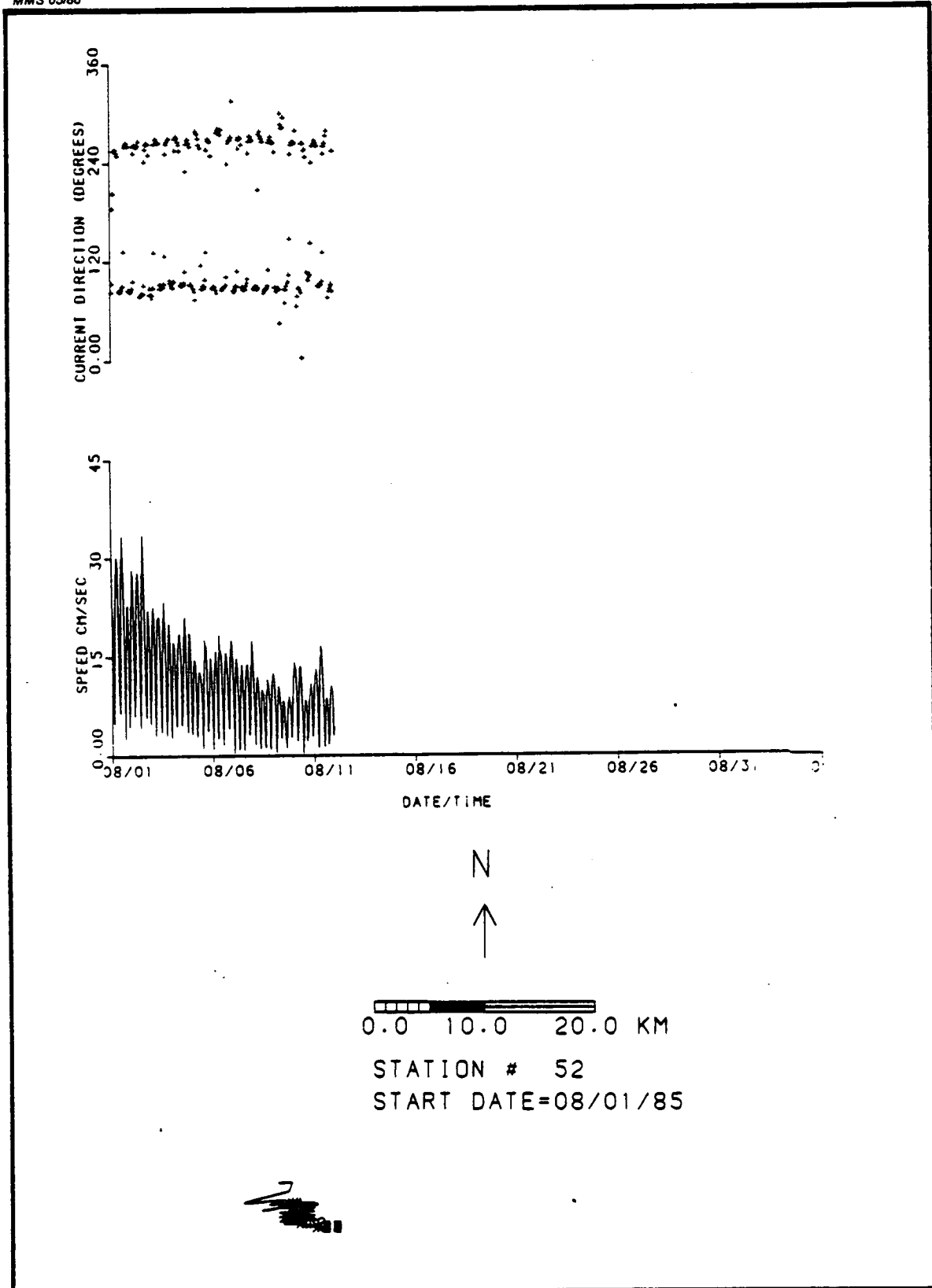


Figure B-10

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - AUGUST 1985

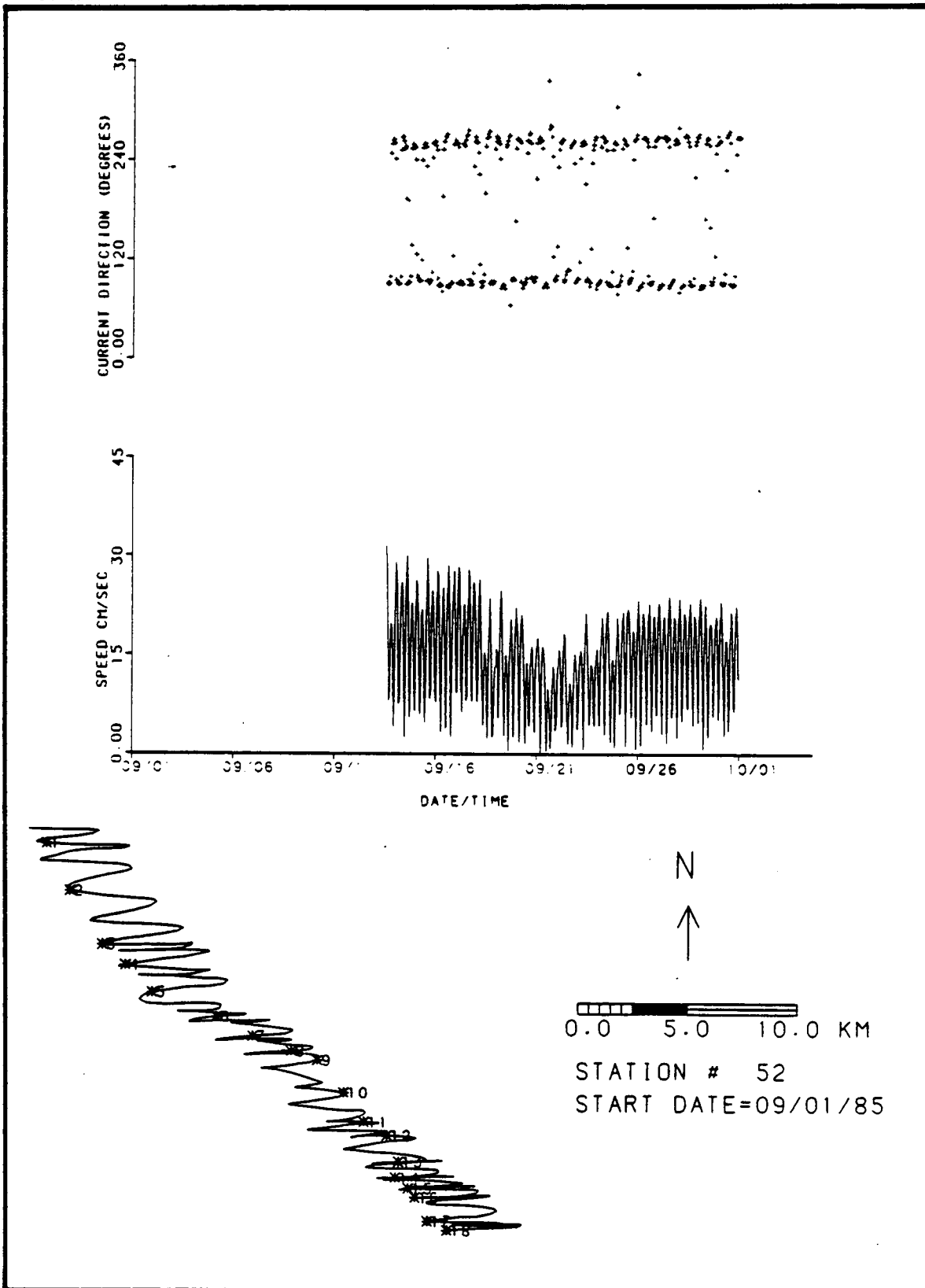


Figure B-11 STATION 52 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - SEPTEMBER 1985

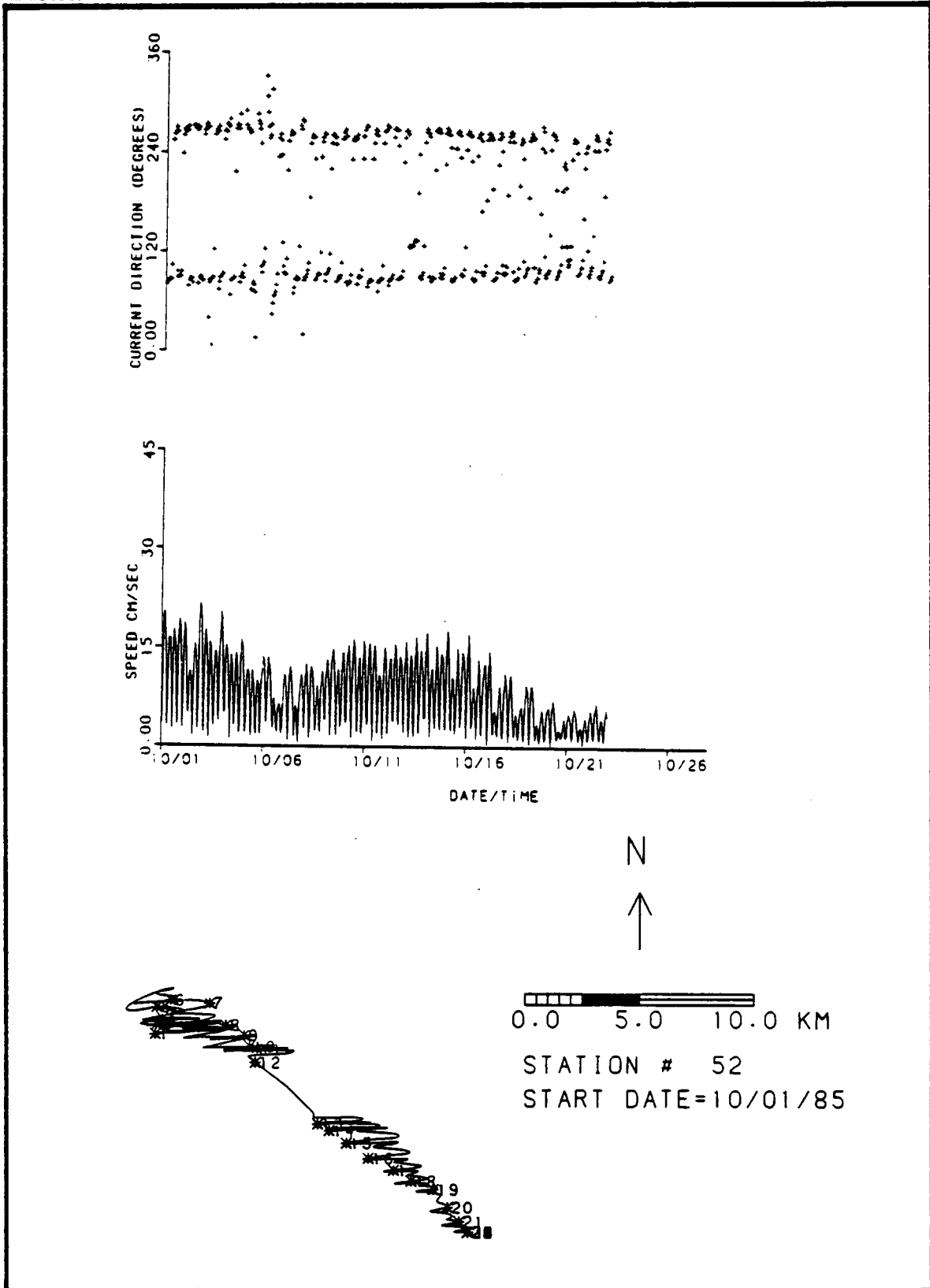


Figure B-12

STATION 52 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - OCTOBER 1985

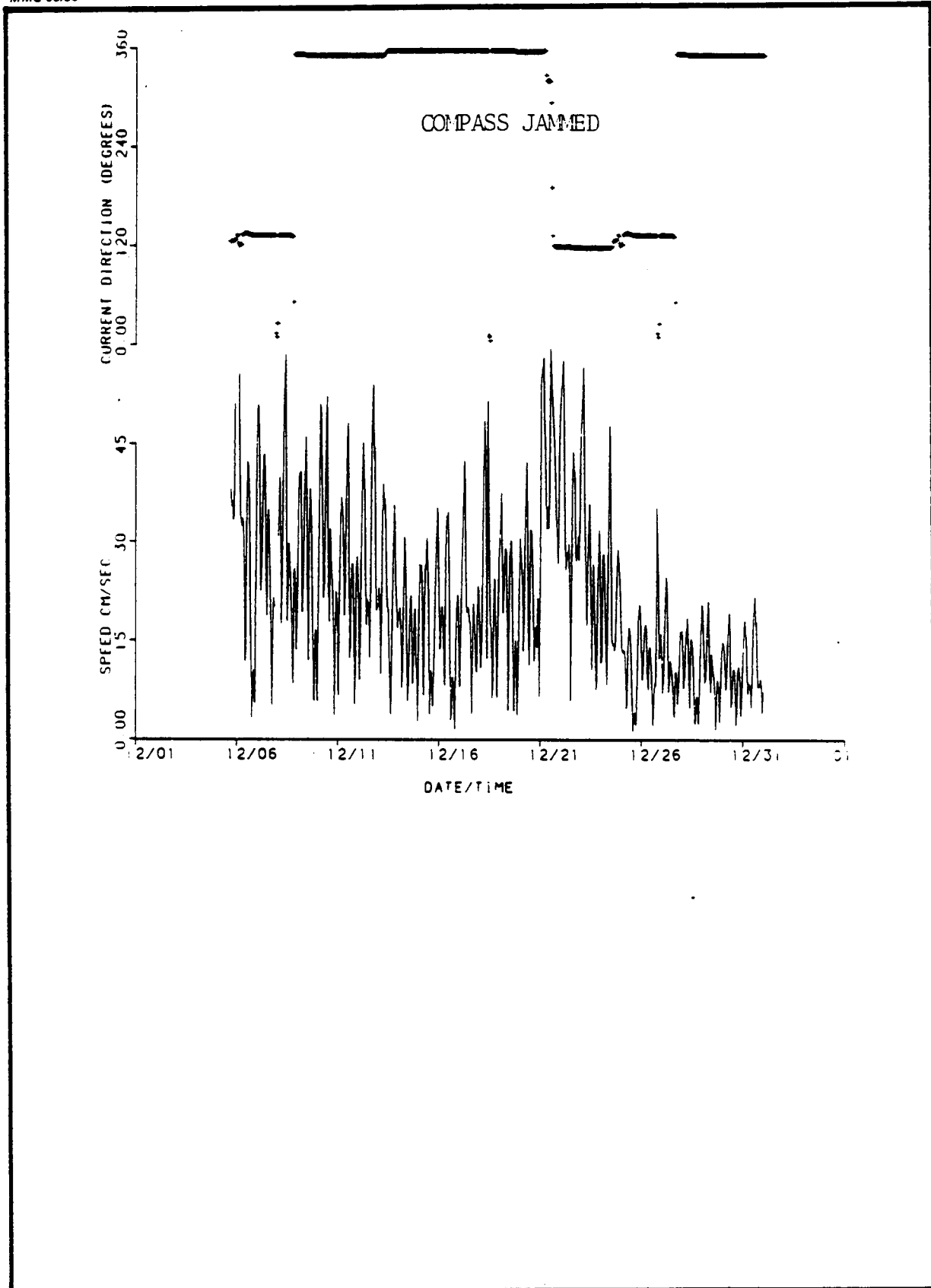


Figure B-13 STATION 44 STATION SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

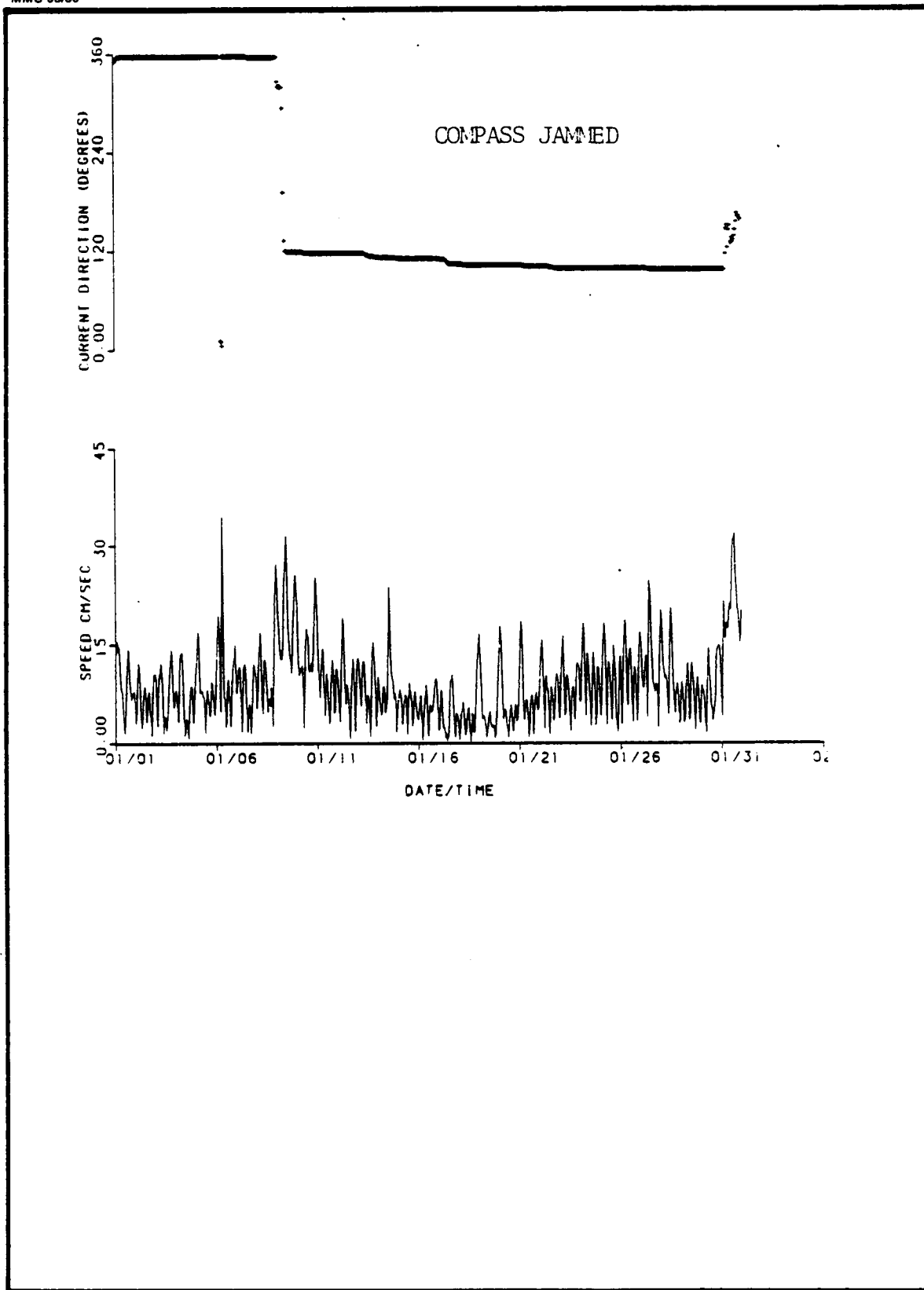


Figure B-14

STATION 44 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JANUARY 1985

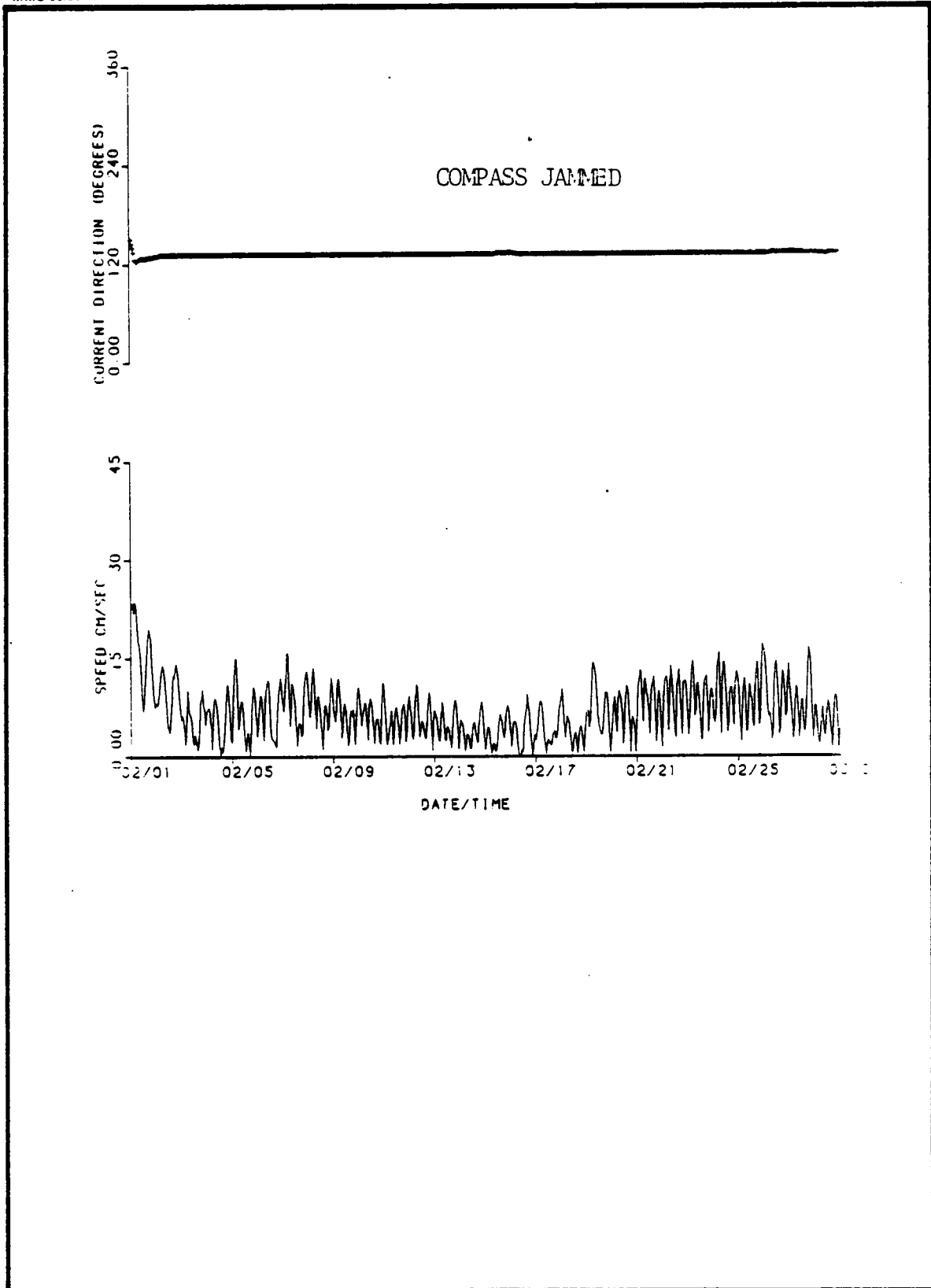


Figure B-15

STATION 44 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

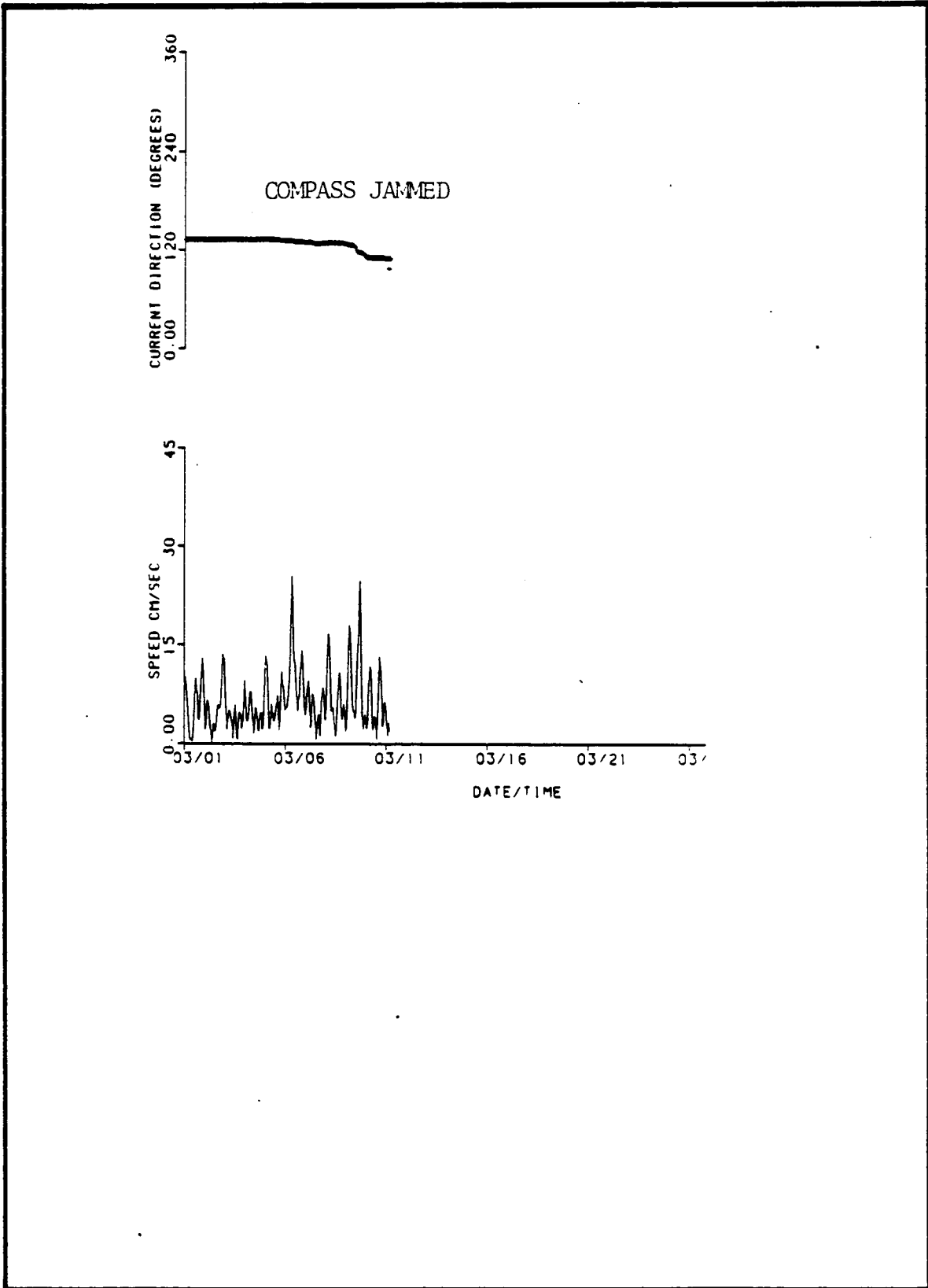


Figure B-16

STATION 44 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MARCH 1985

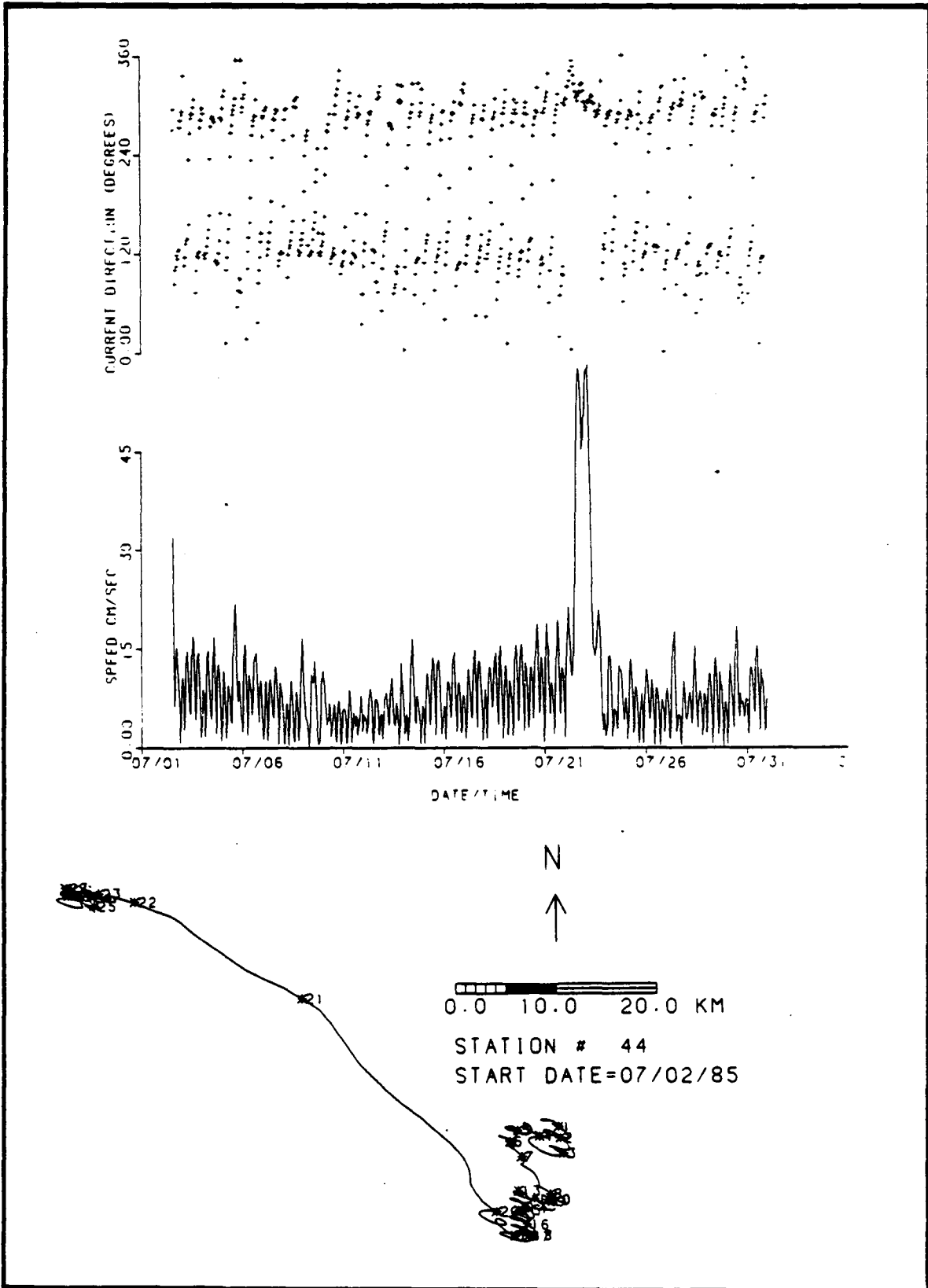


Figure B-17

STATION 44 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JULY 1985

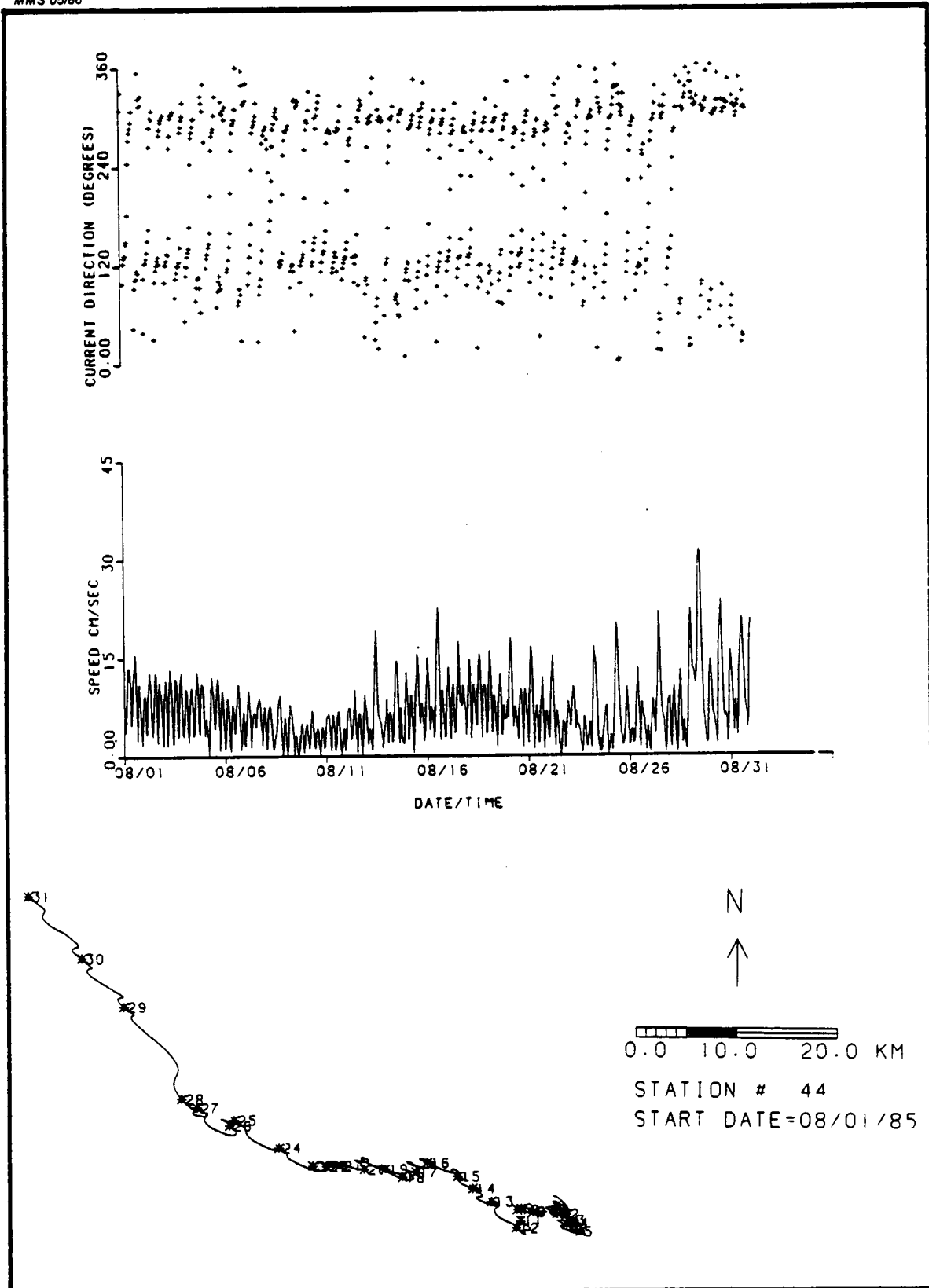


Figure B-18

STATION 44 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - AUGUST 1985

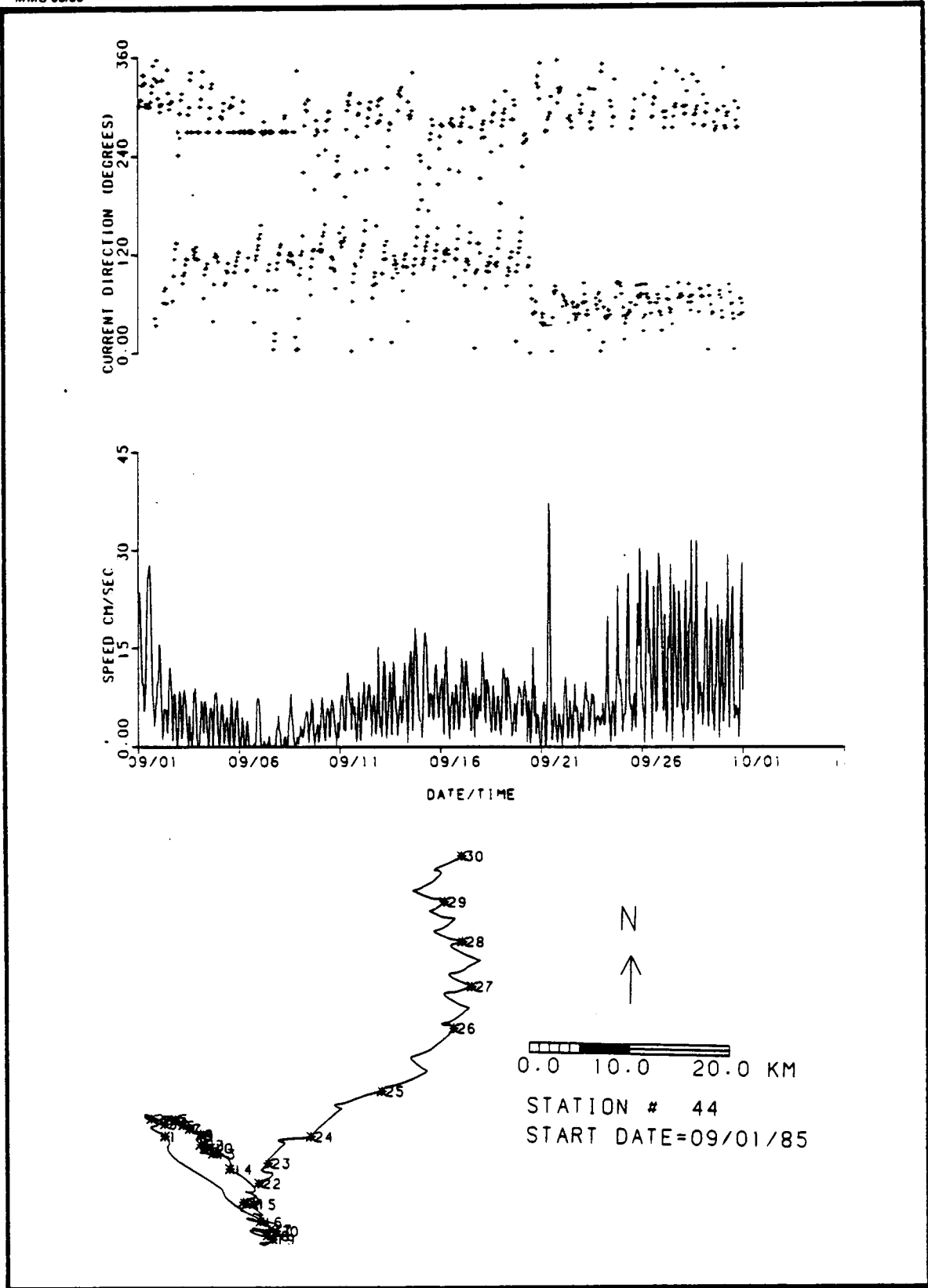


Figure B-19

STATION 44 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - SEPTEMBER 1985

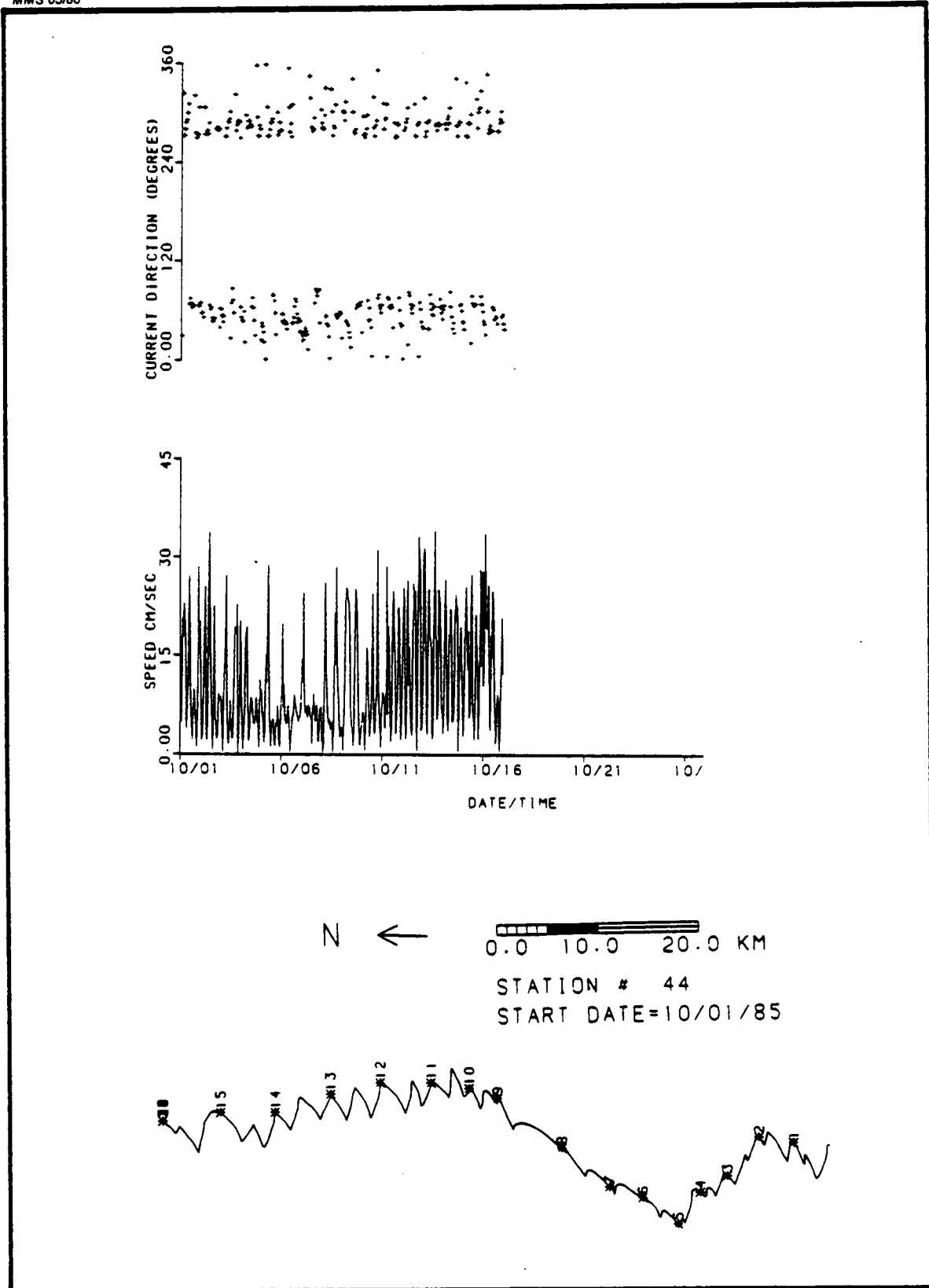


Figure B-20

STATION 44 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - OCTOBER 1985

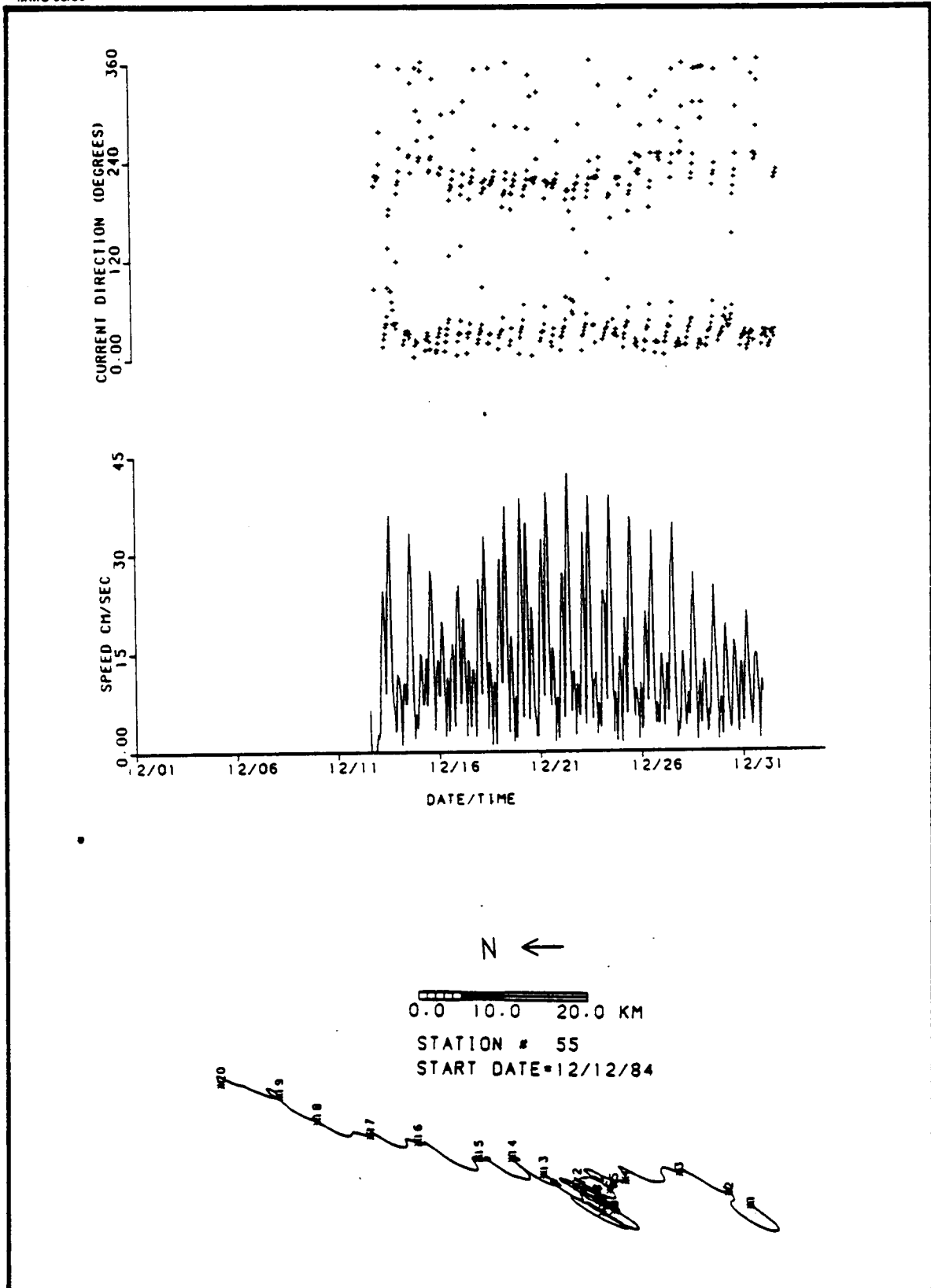


Figure B-21

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

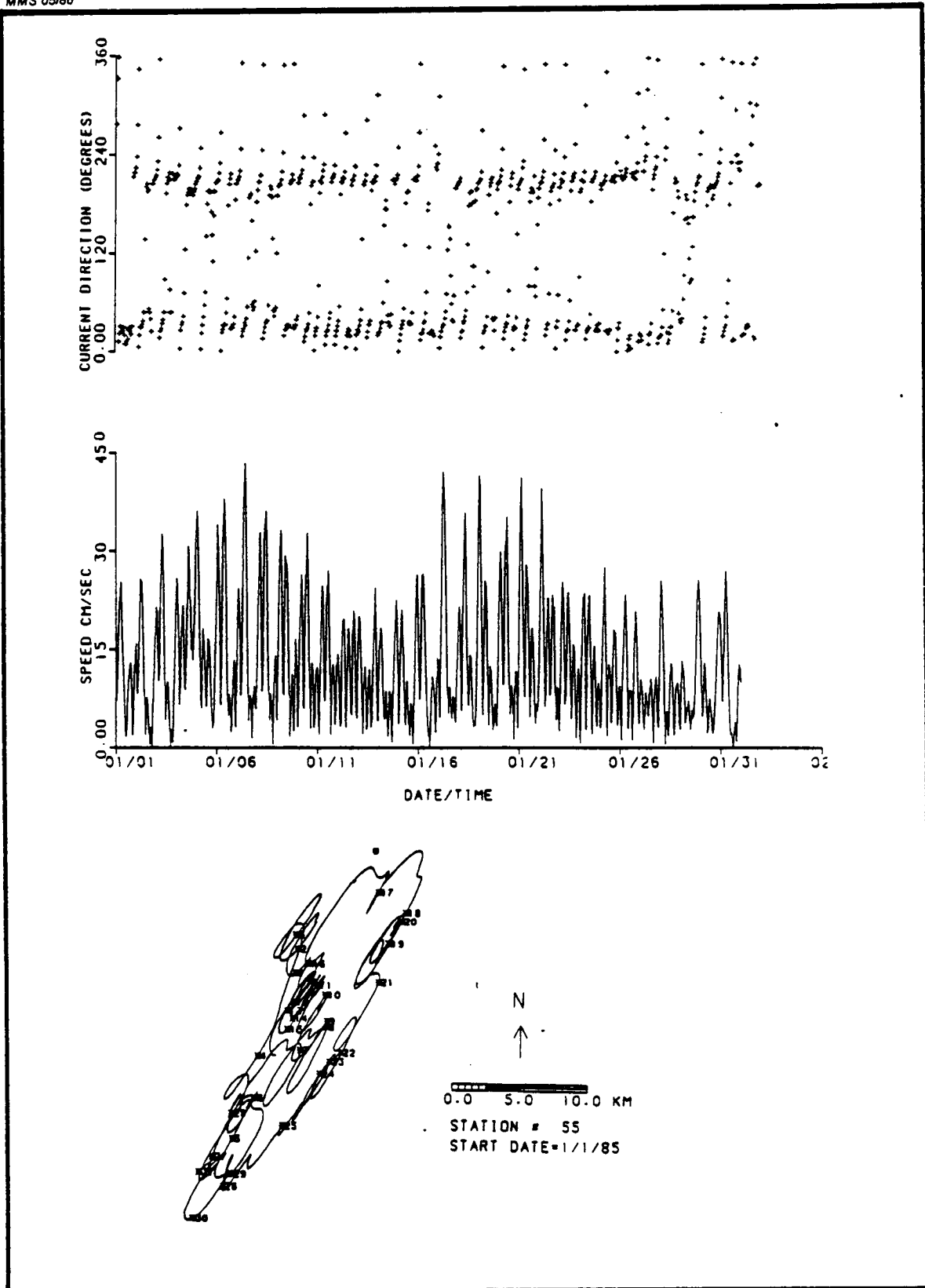


Figure B-22

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JANUARY 1985

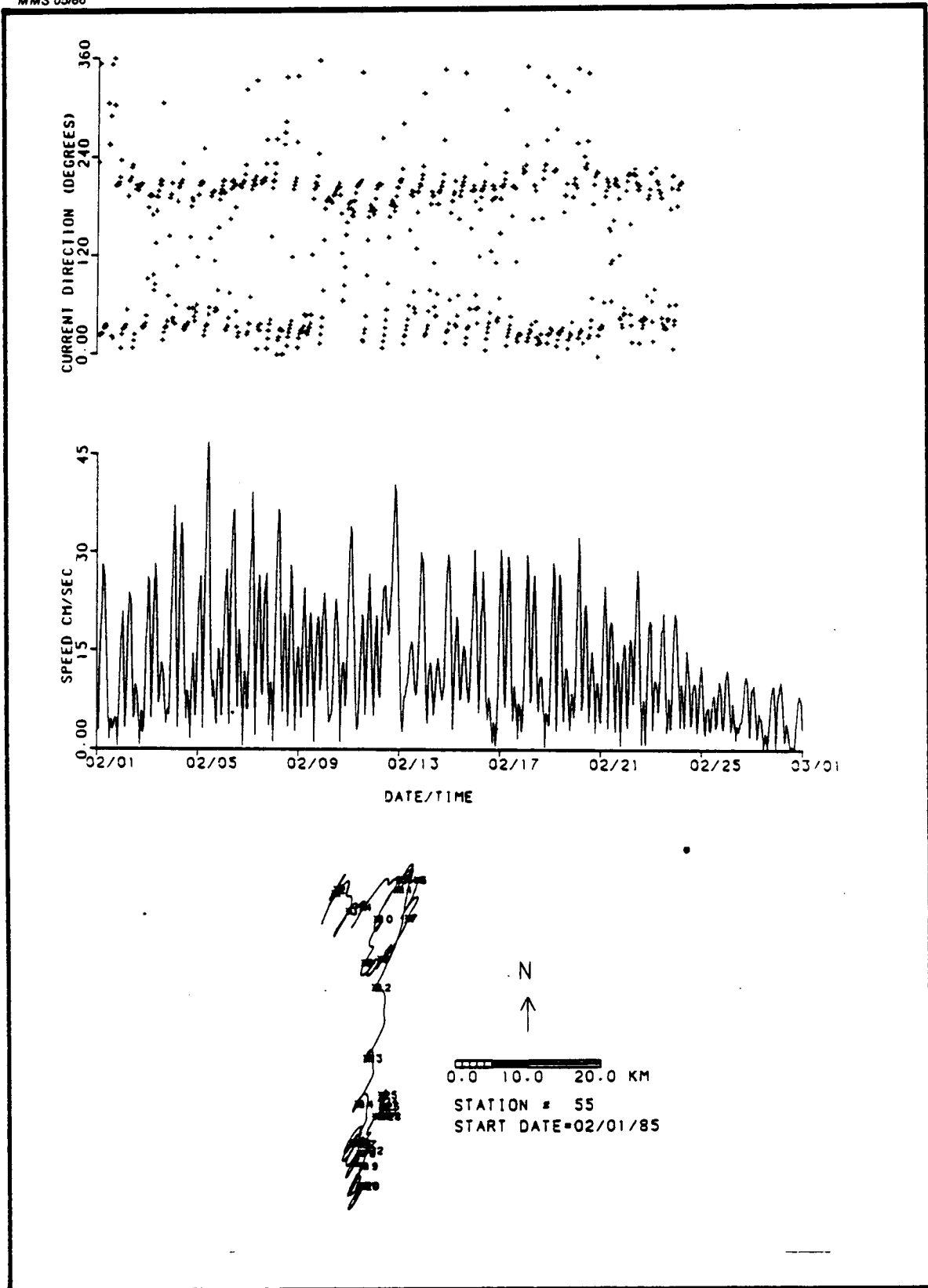


Figure B-23

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

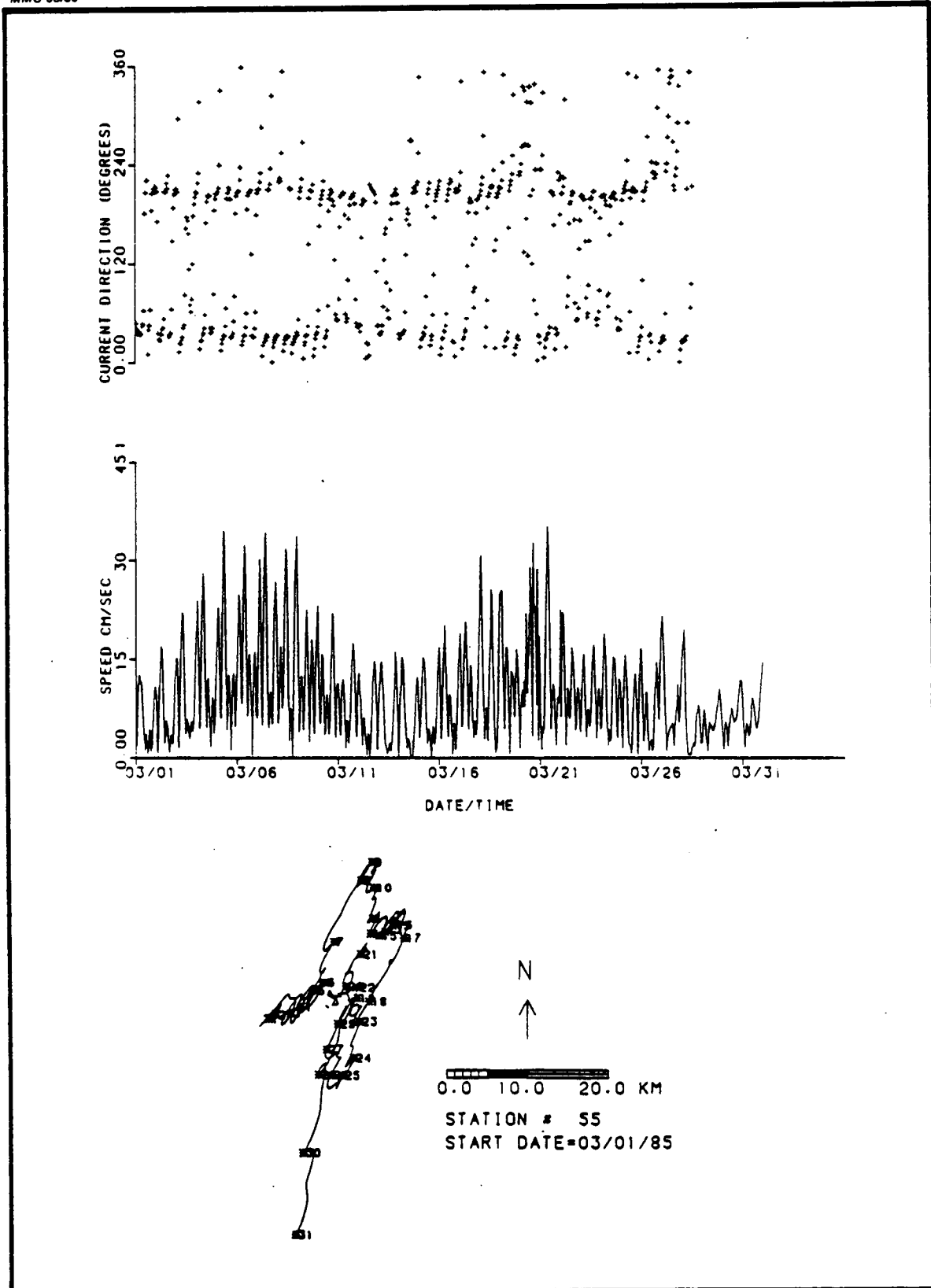


Figure B-24

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MARCH 1985

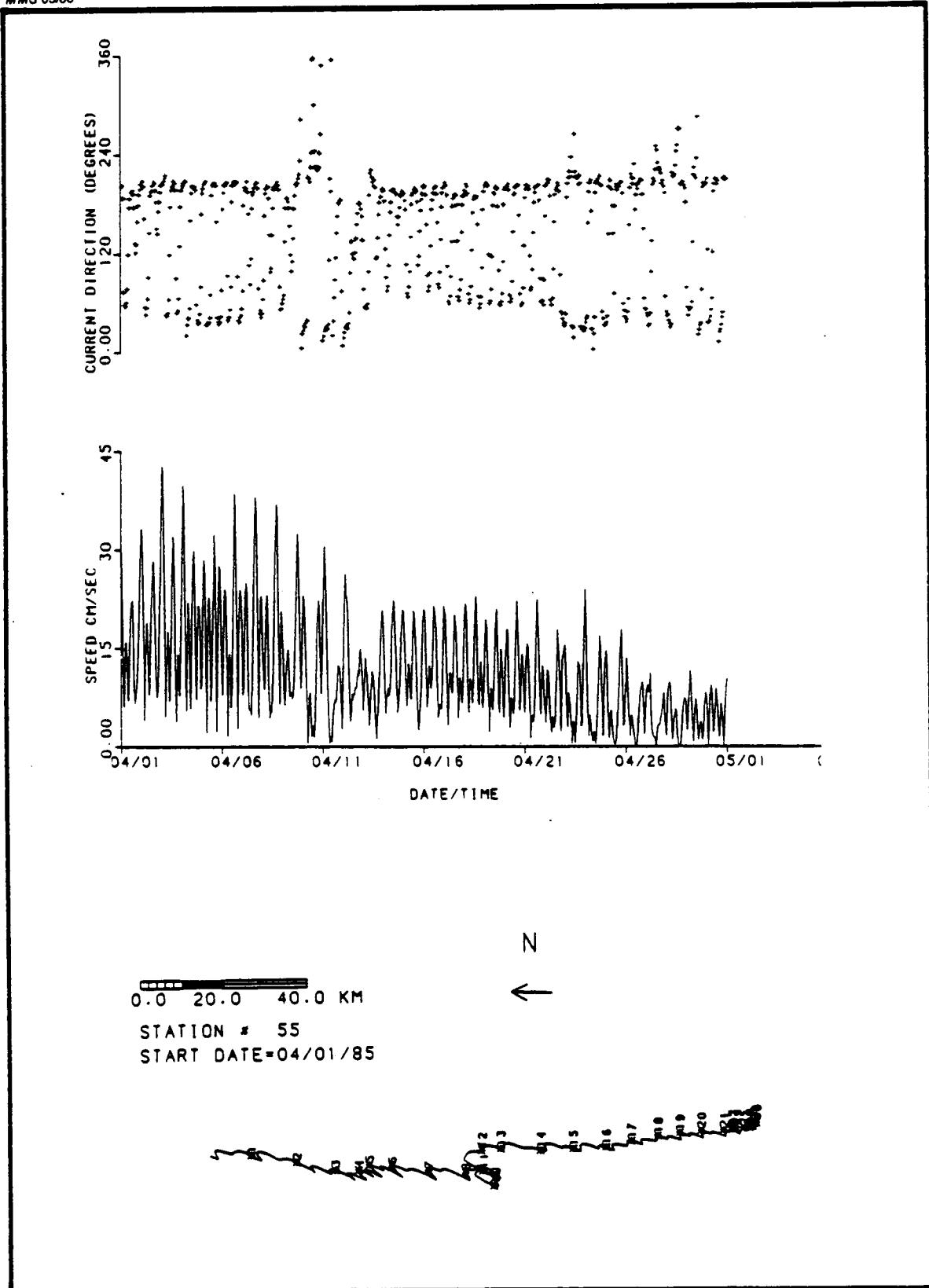


Figure B-25

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - APRIL 1985

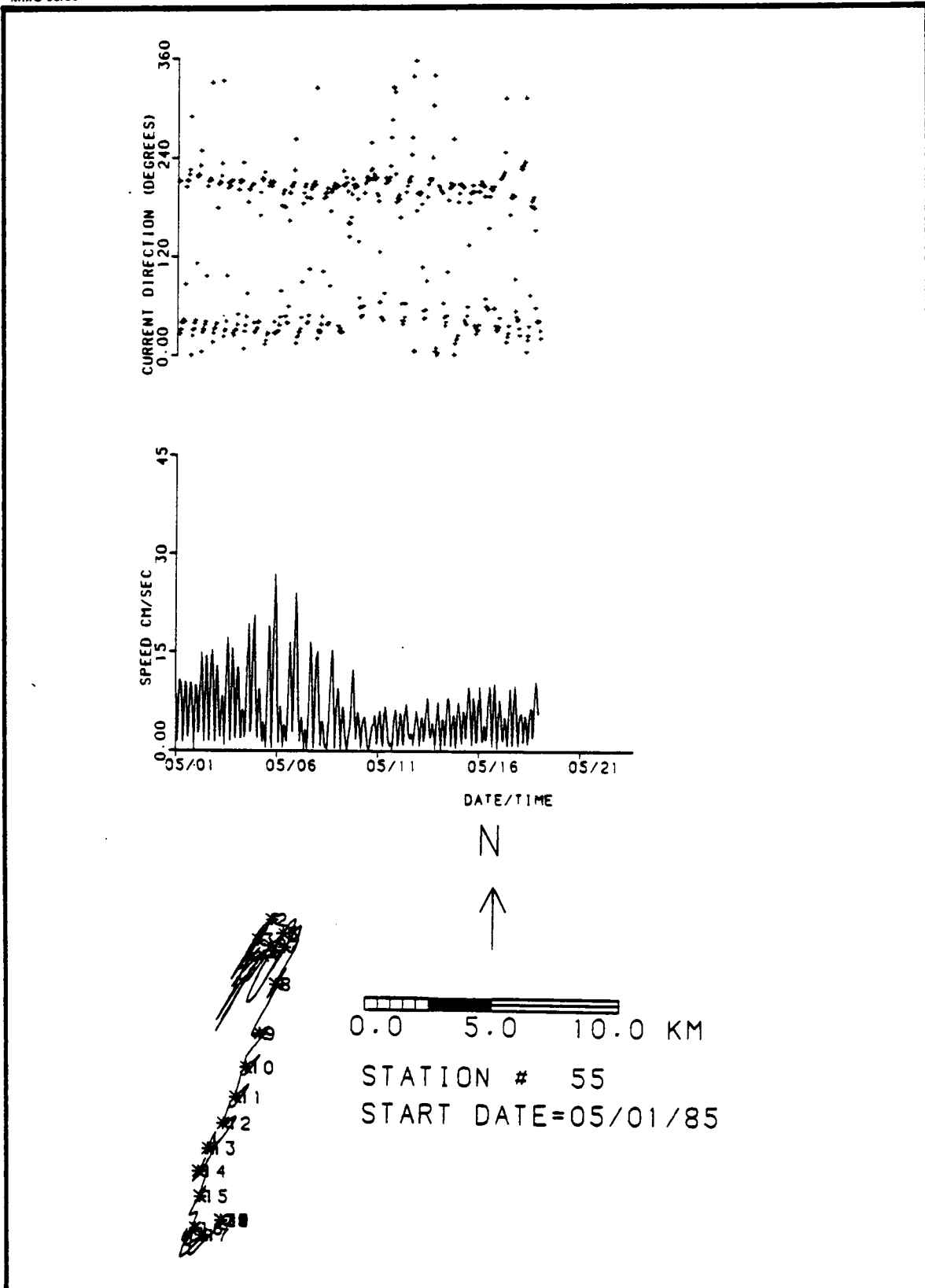


Figure B-26

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MAY 1985

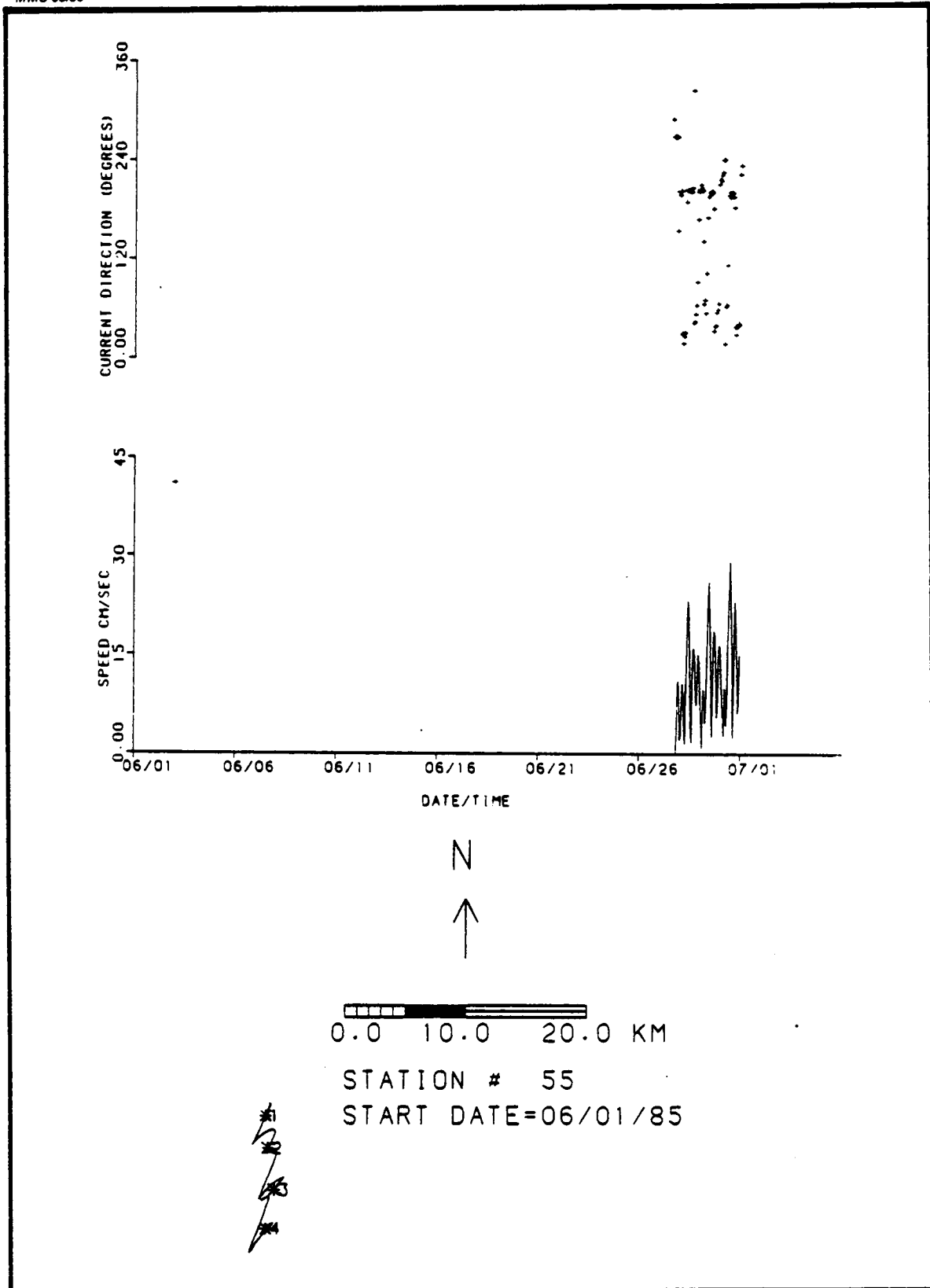


Figure B-27

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JUNE 1985

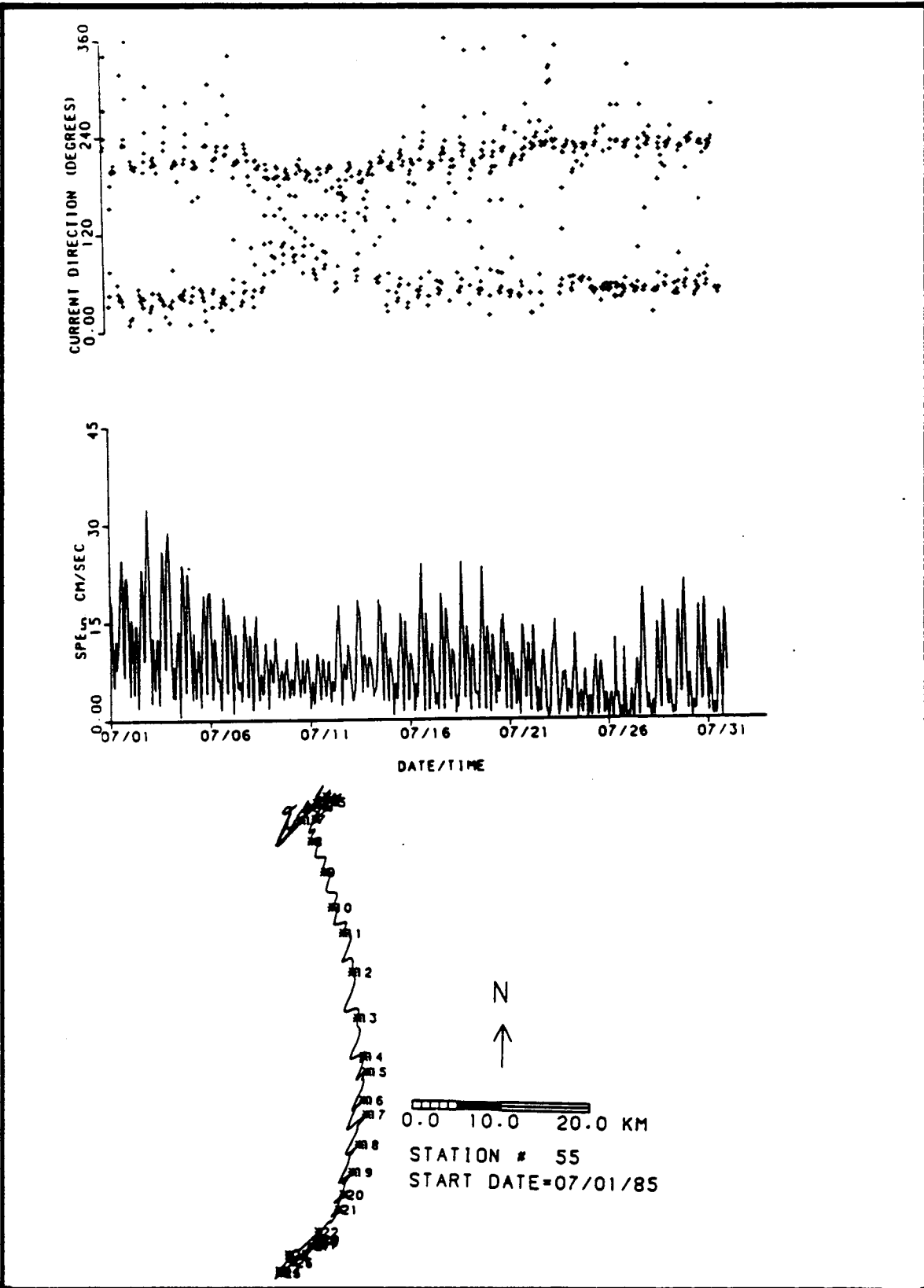


Figure B-28

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JULY 1985

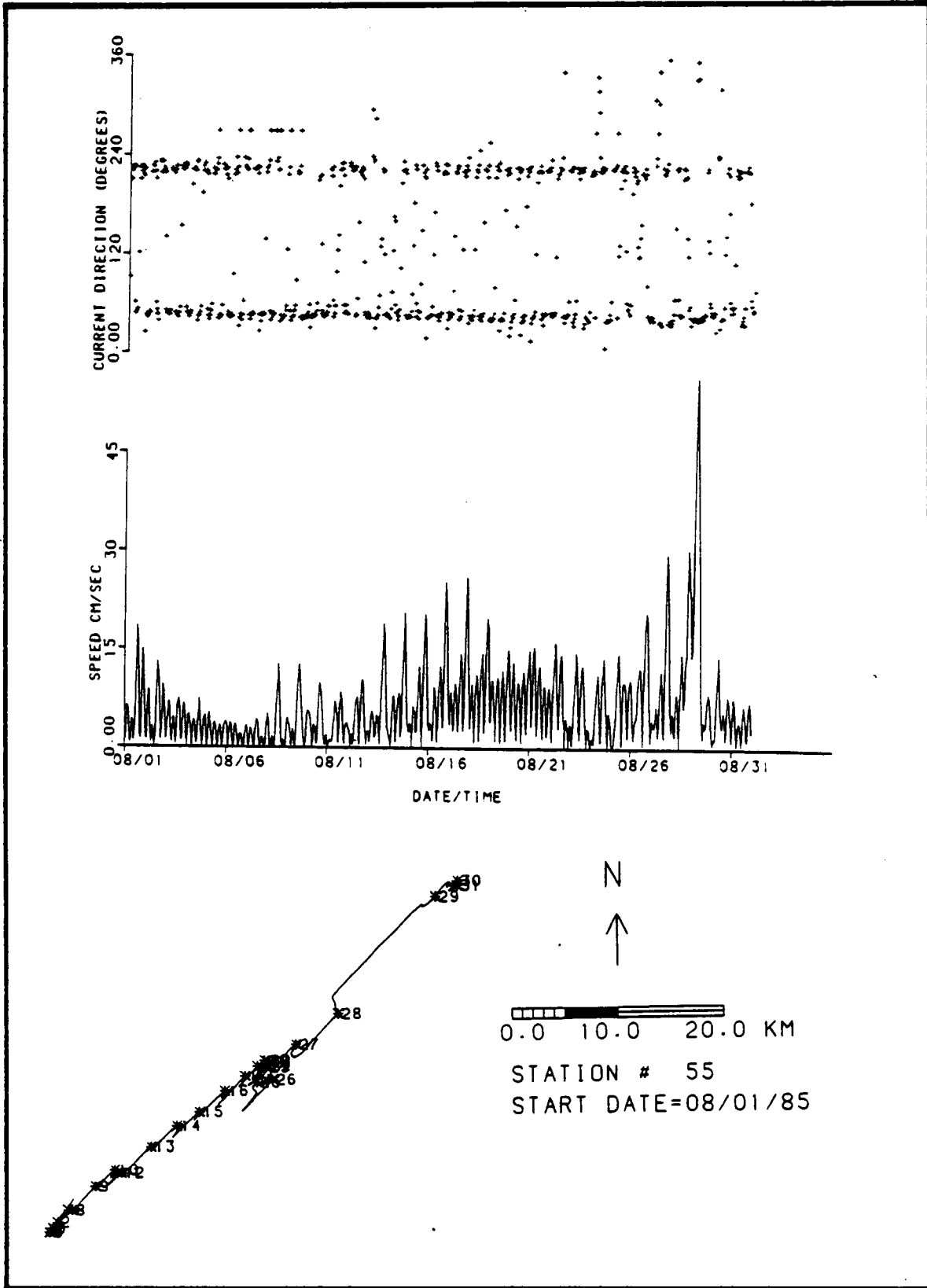


Figure B-29 **STATION 55 CURRENT SPEED, DIRECTION AND**
PROGRESSIVE VECTOR PLOTS - AUGUST 1985

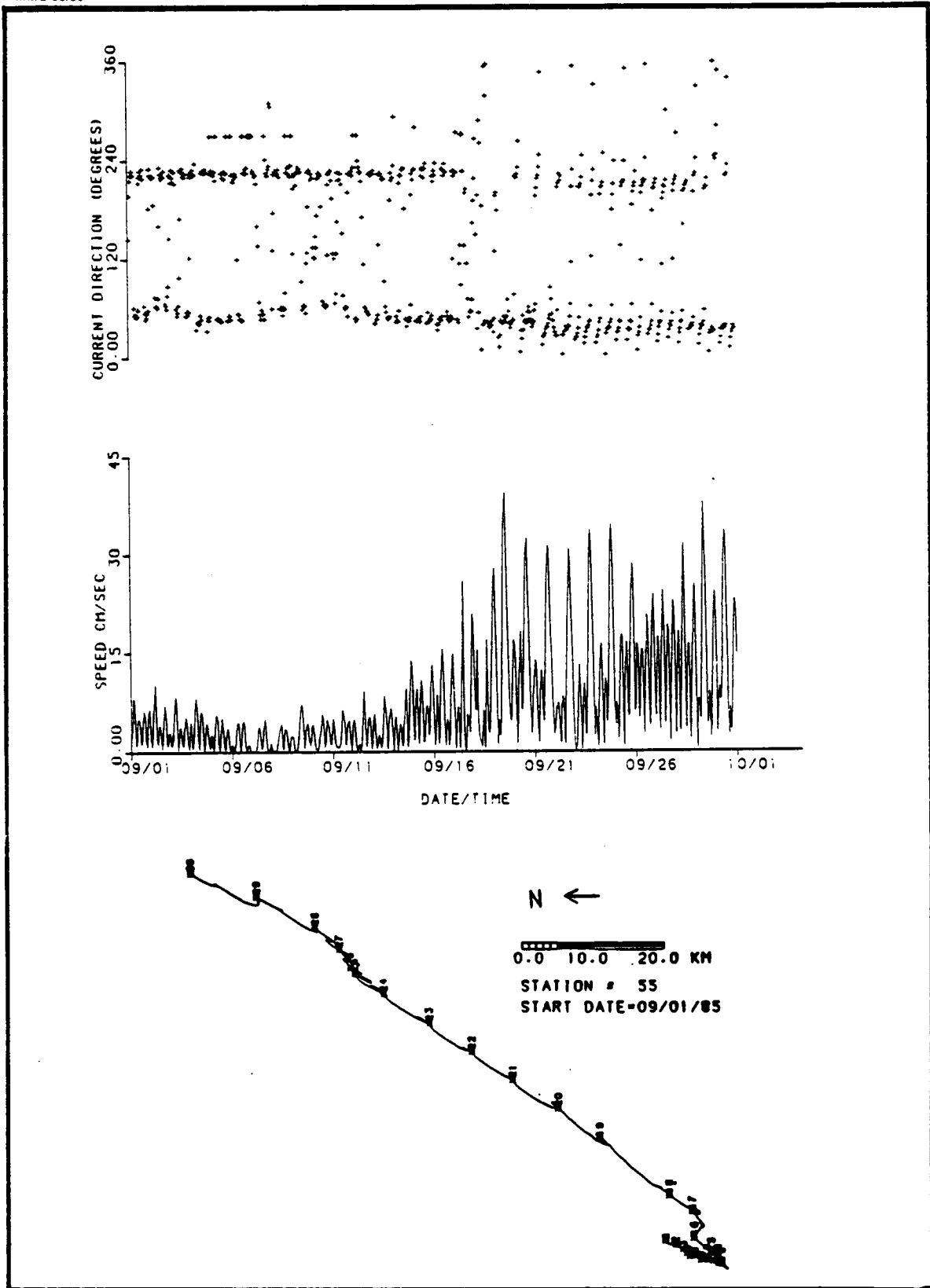


Figure B-30 STATION 55 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - SEPTEMBER 1985

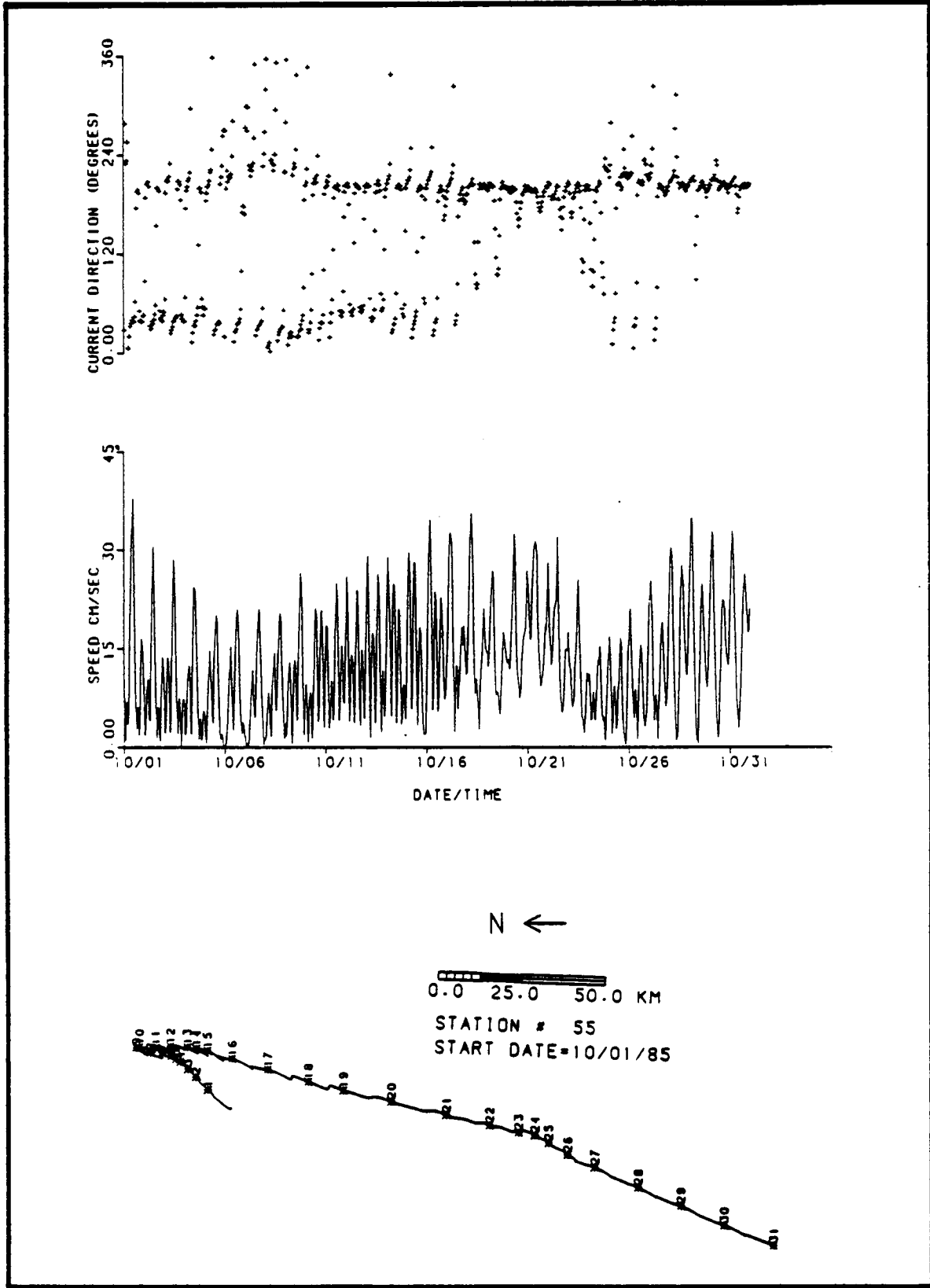


Figure B-31 STATION 55 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - OCTOBER 1985

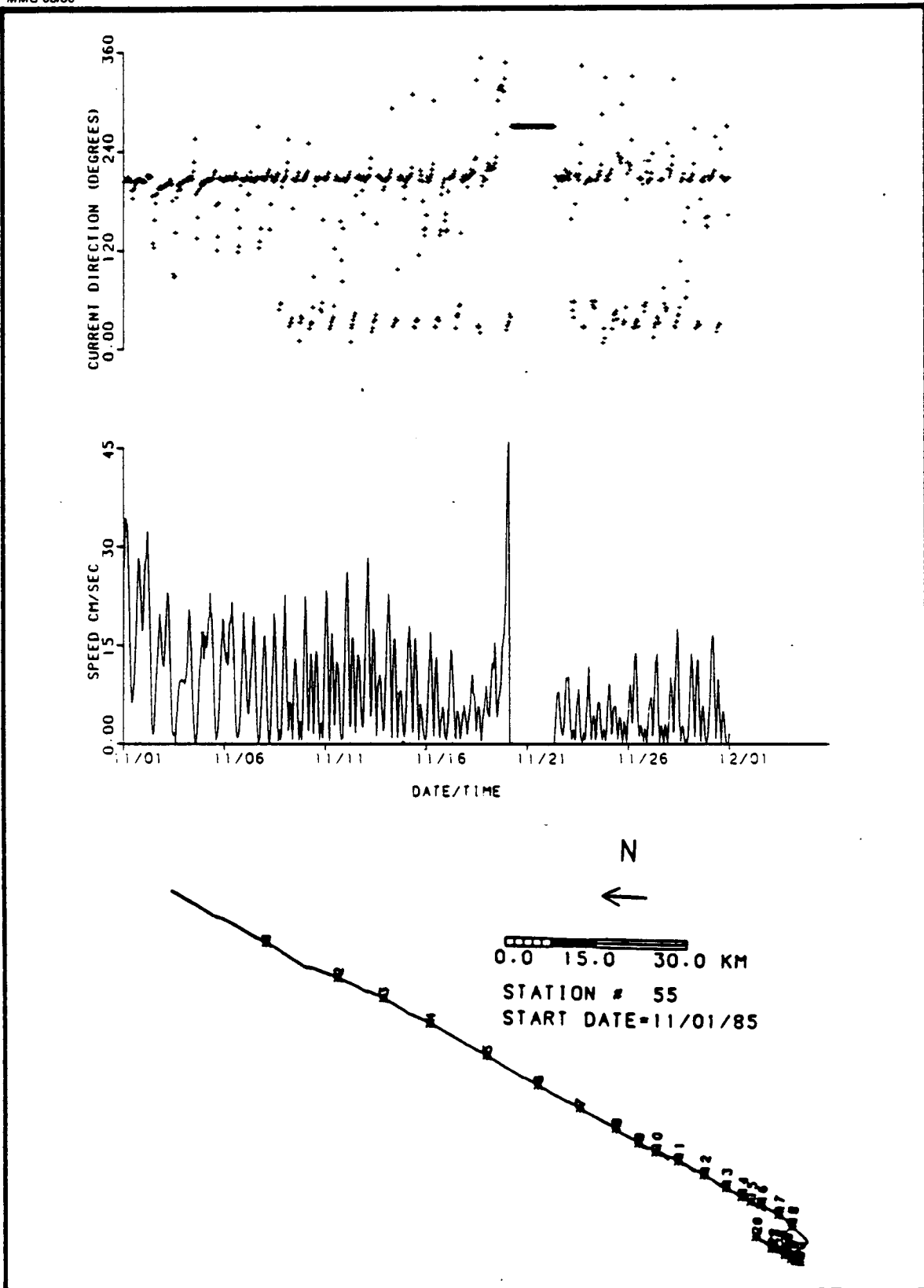


Figure B-32 STATION 55 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - NOVEMBER 1985

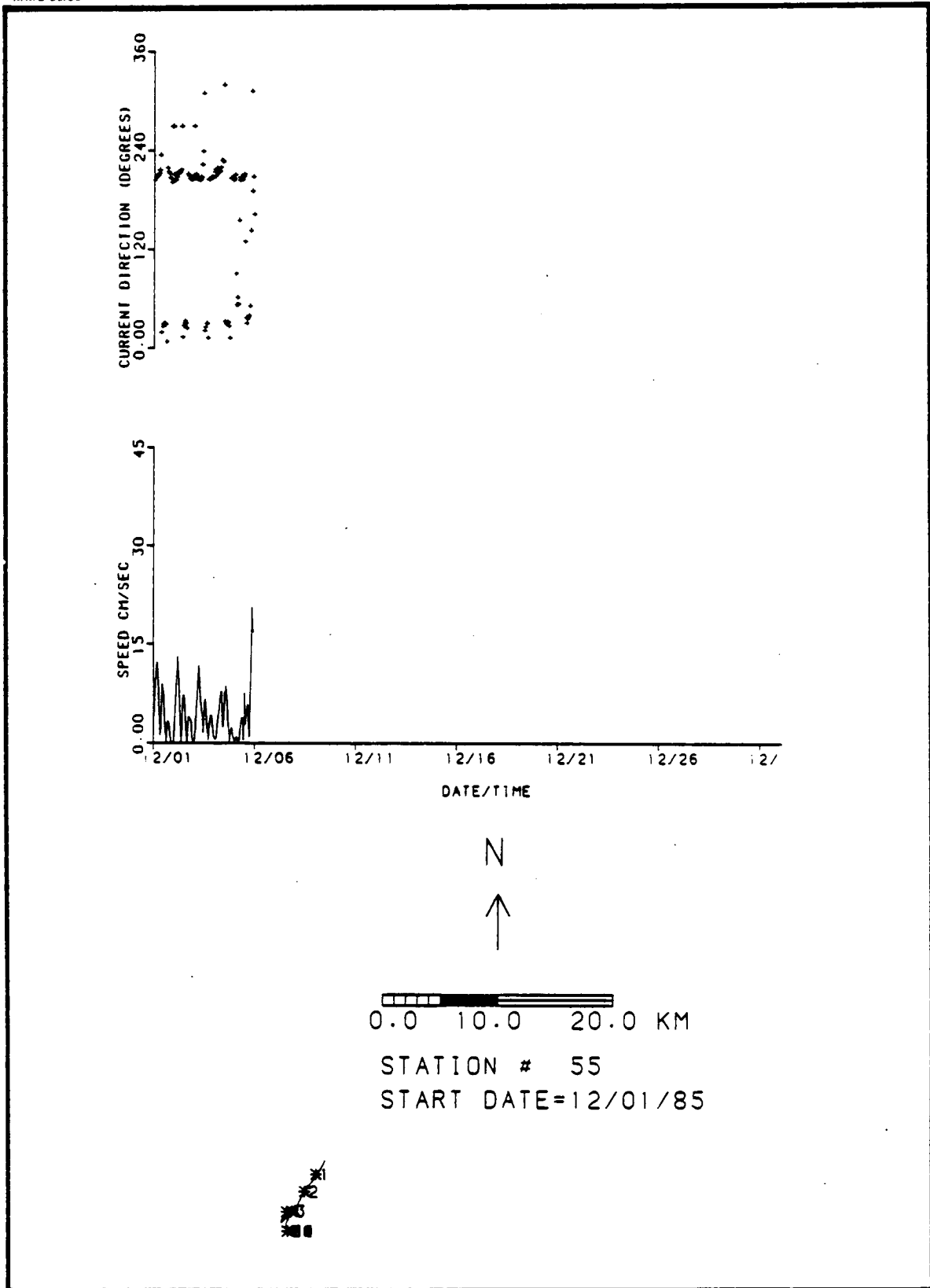


Figure B-33

STATION 55 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1985

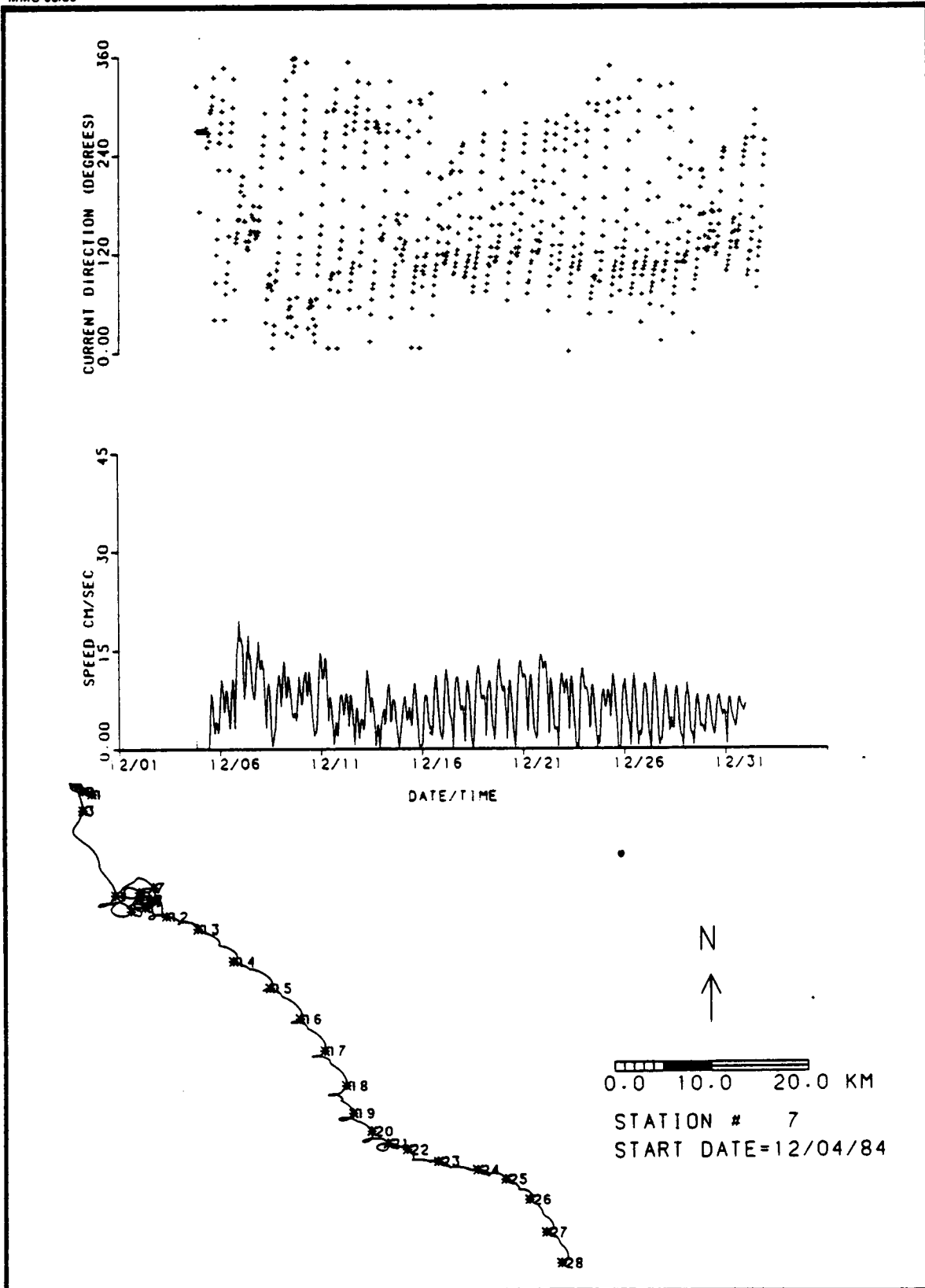


Figure B-34

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

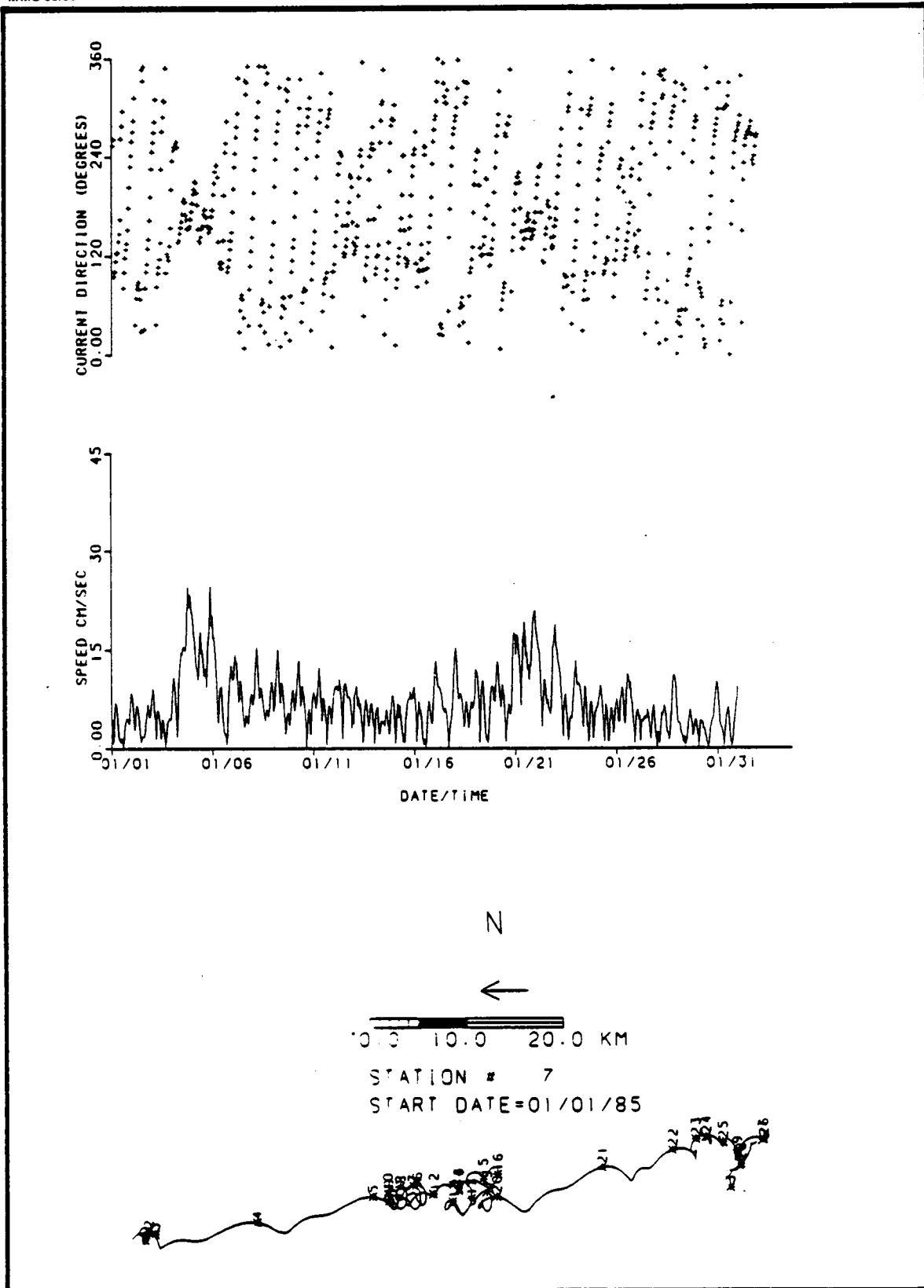


Figure B-35

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JANUARY 1985

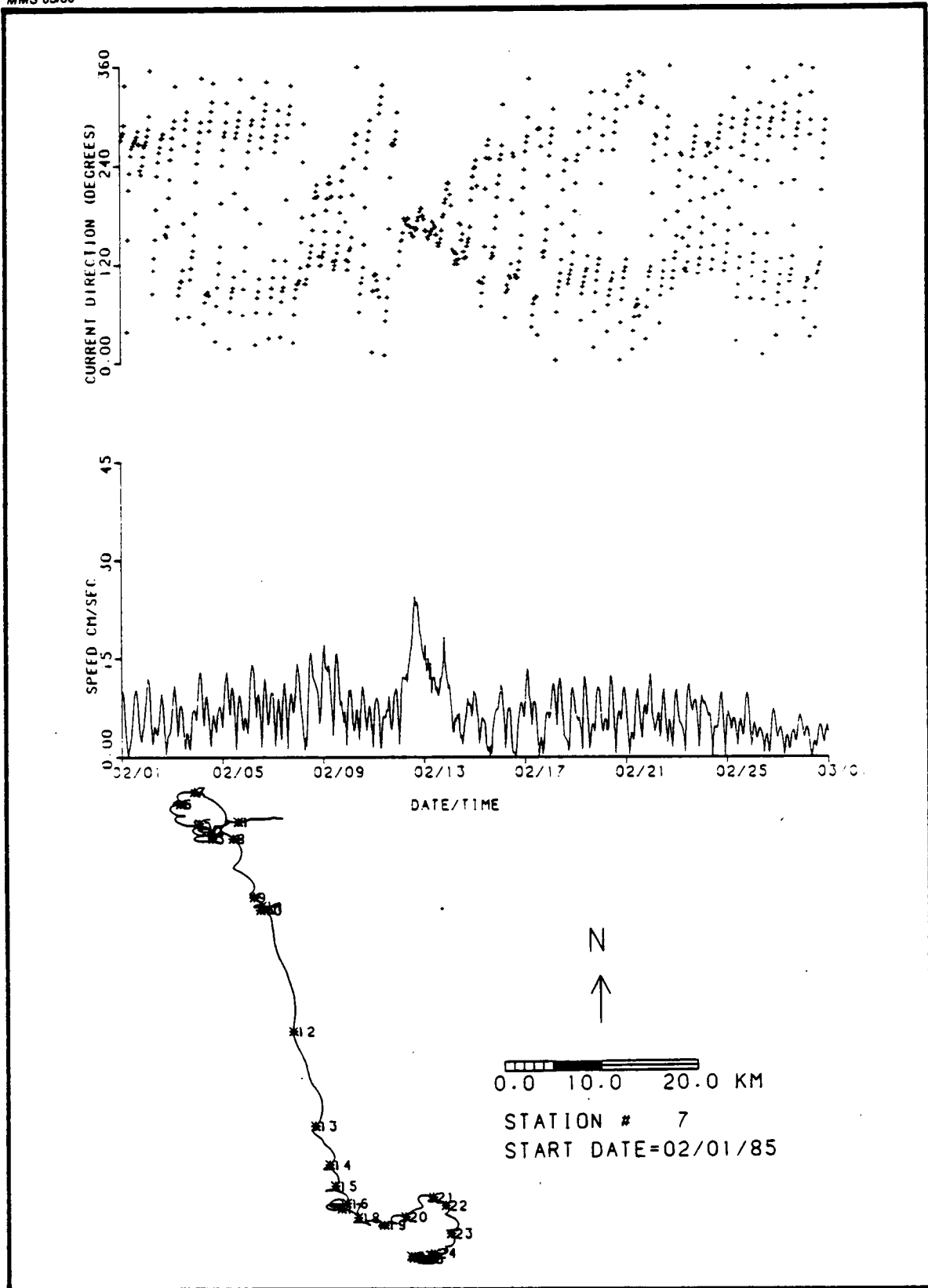


Figure B-36

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

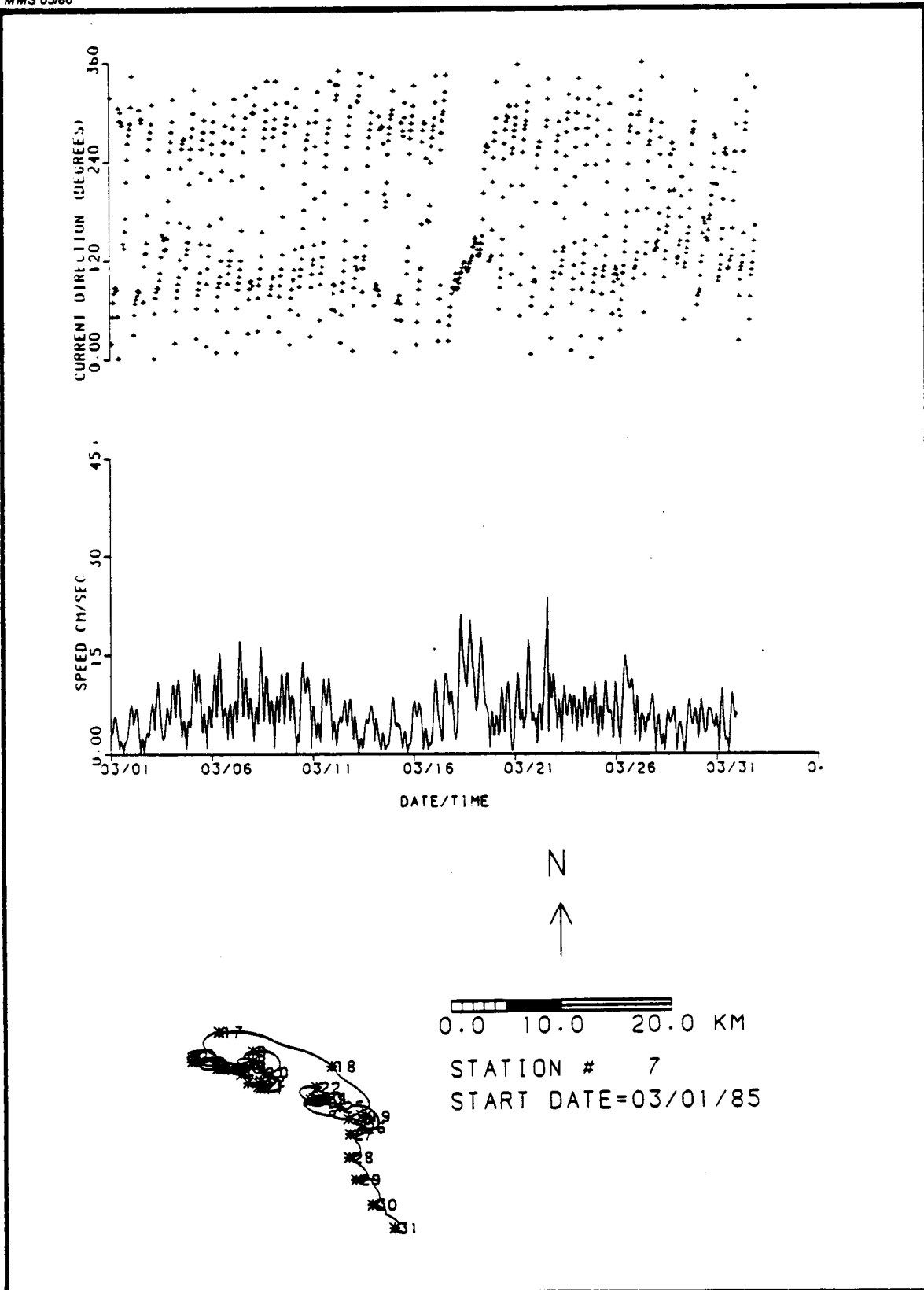


Figure B-37

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MARCH 1985

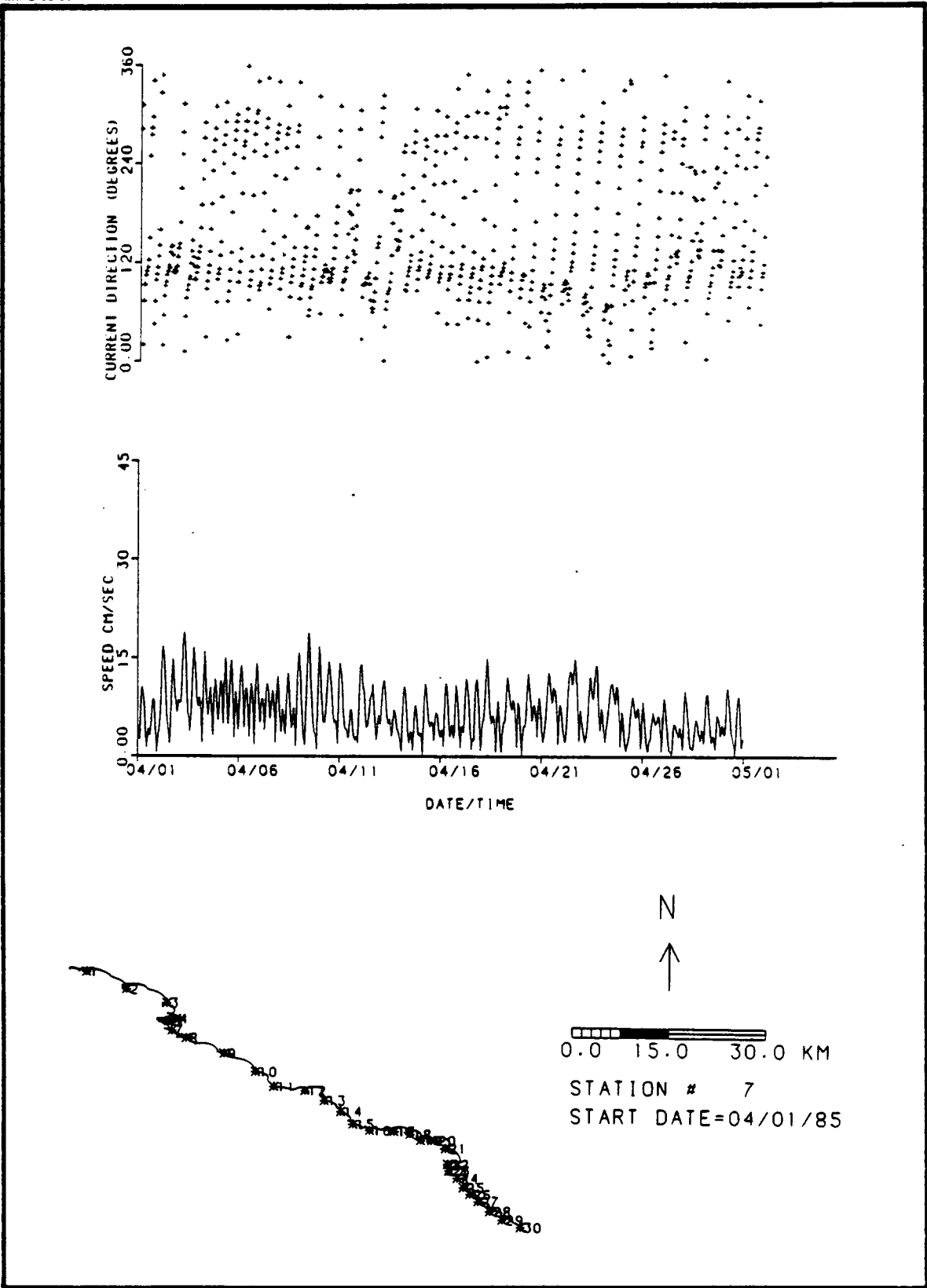


Figure B-38

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - APRIL 1985

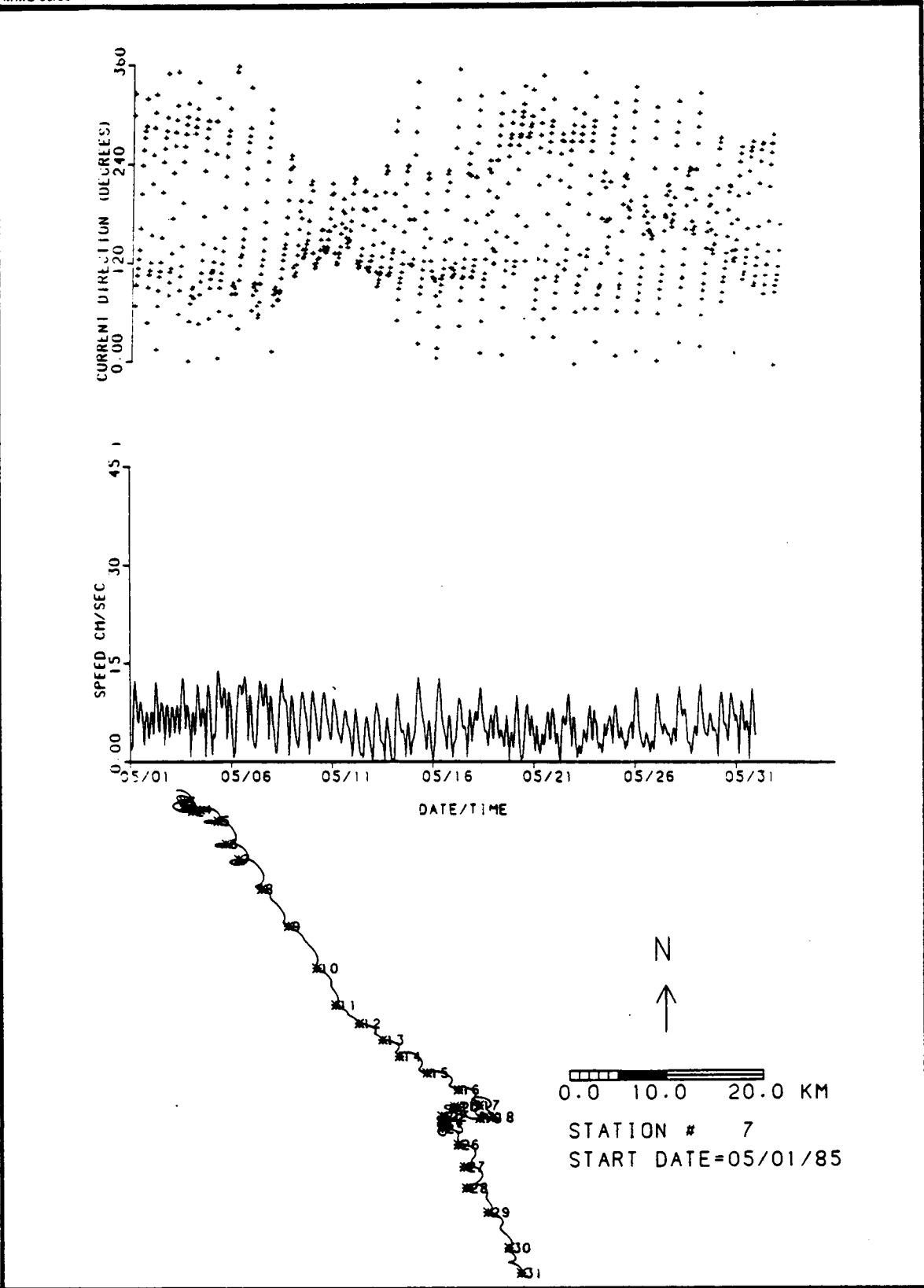


Figure B-39

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MAY 1985

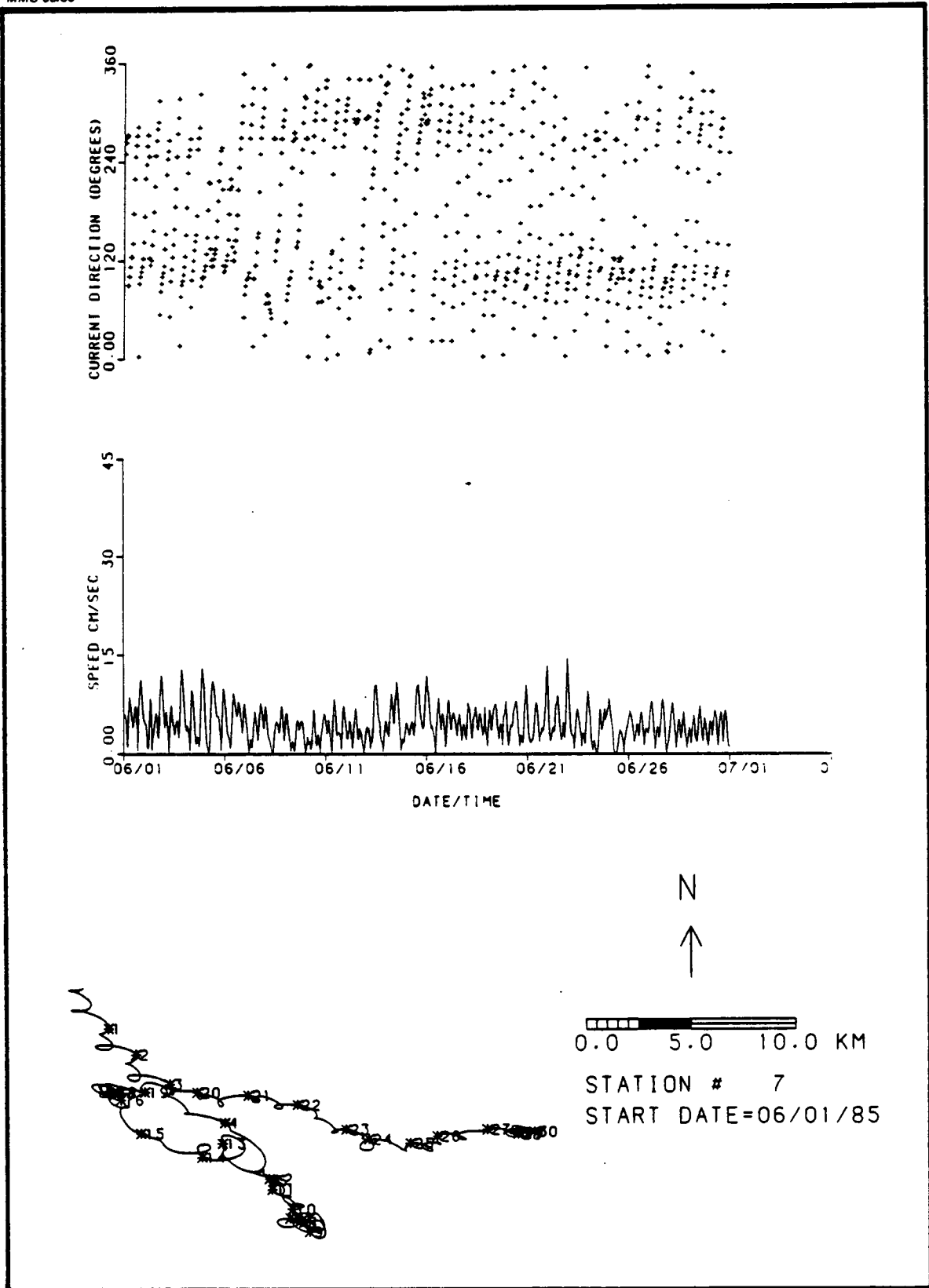


Figure B-40

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JUNE 1985

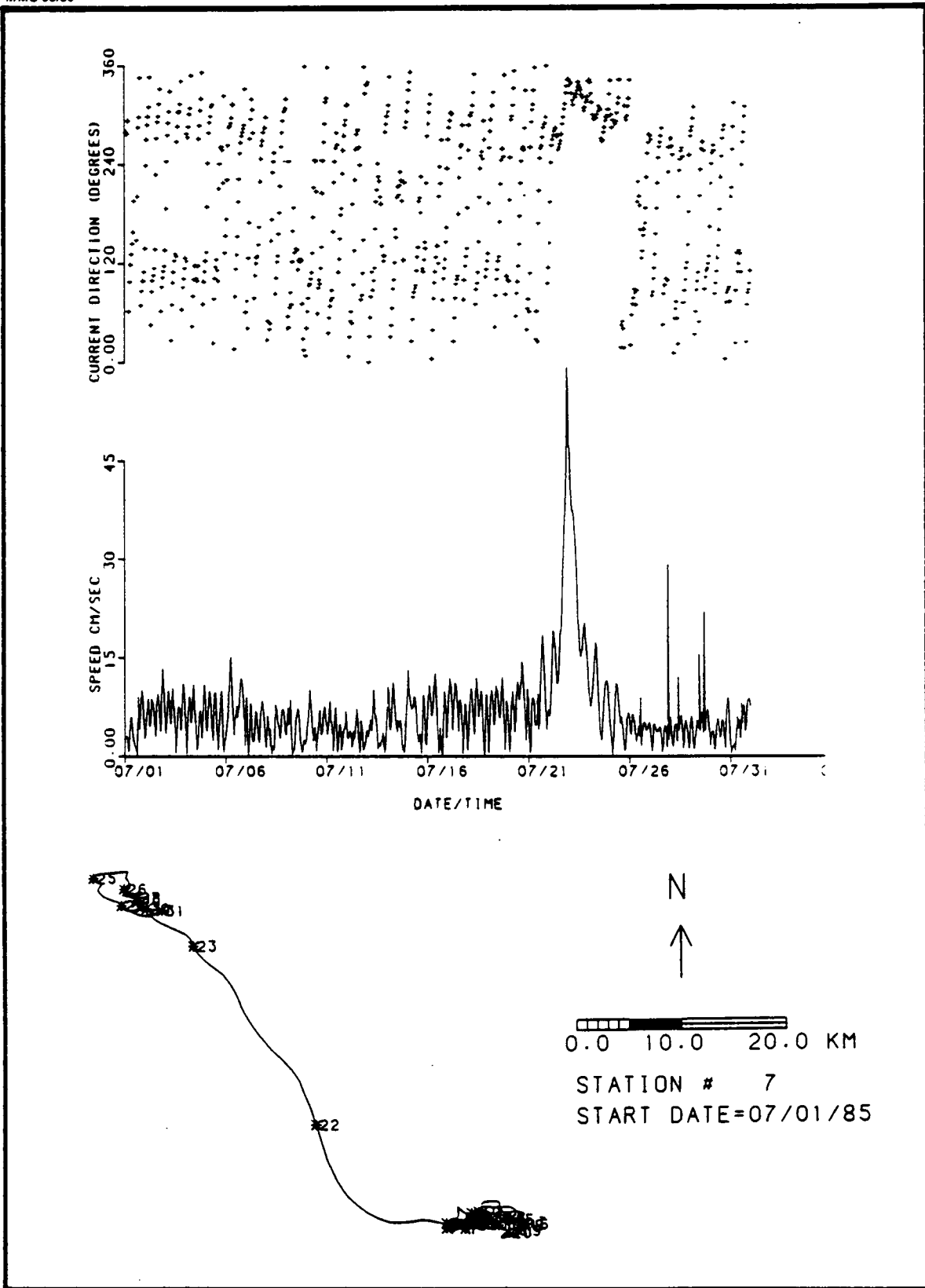


Figure B-41 **STATION 7 CURRENT SPEED, DIRECTION AND**
PROGRESSIVE VECTOR PLOTS - JULY 1985

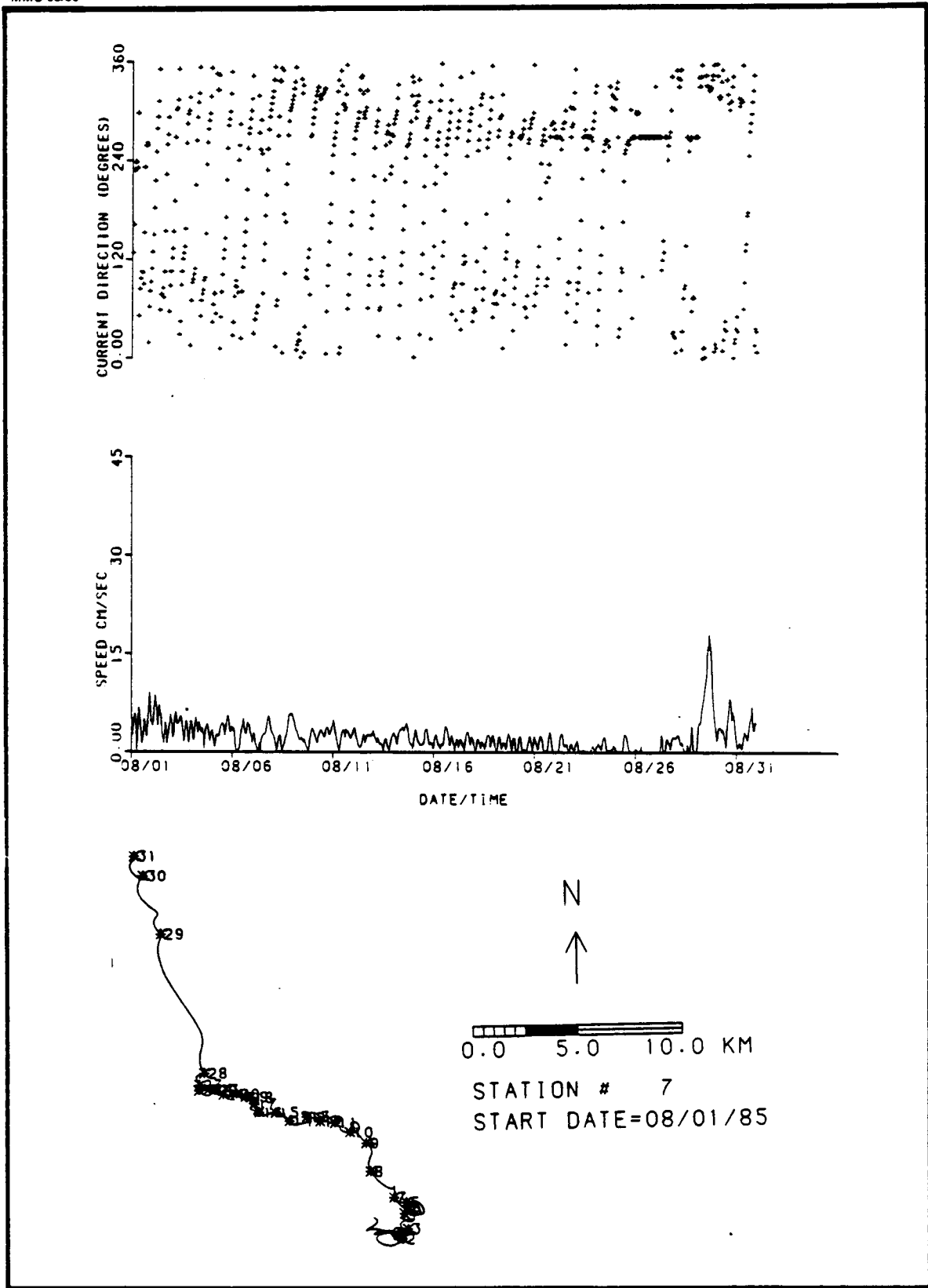


Figure B-42

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - AUGUST 1985

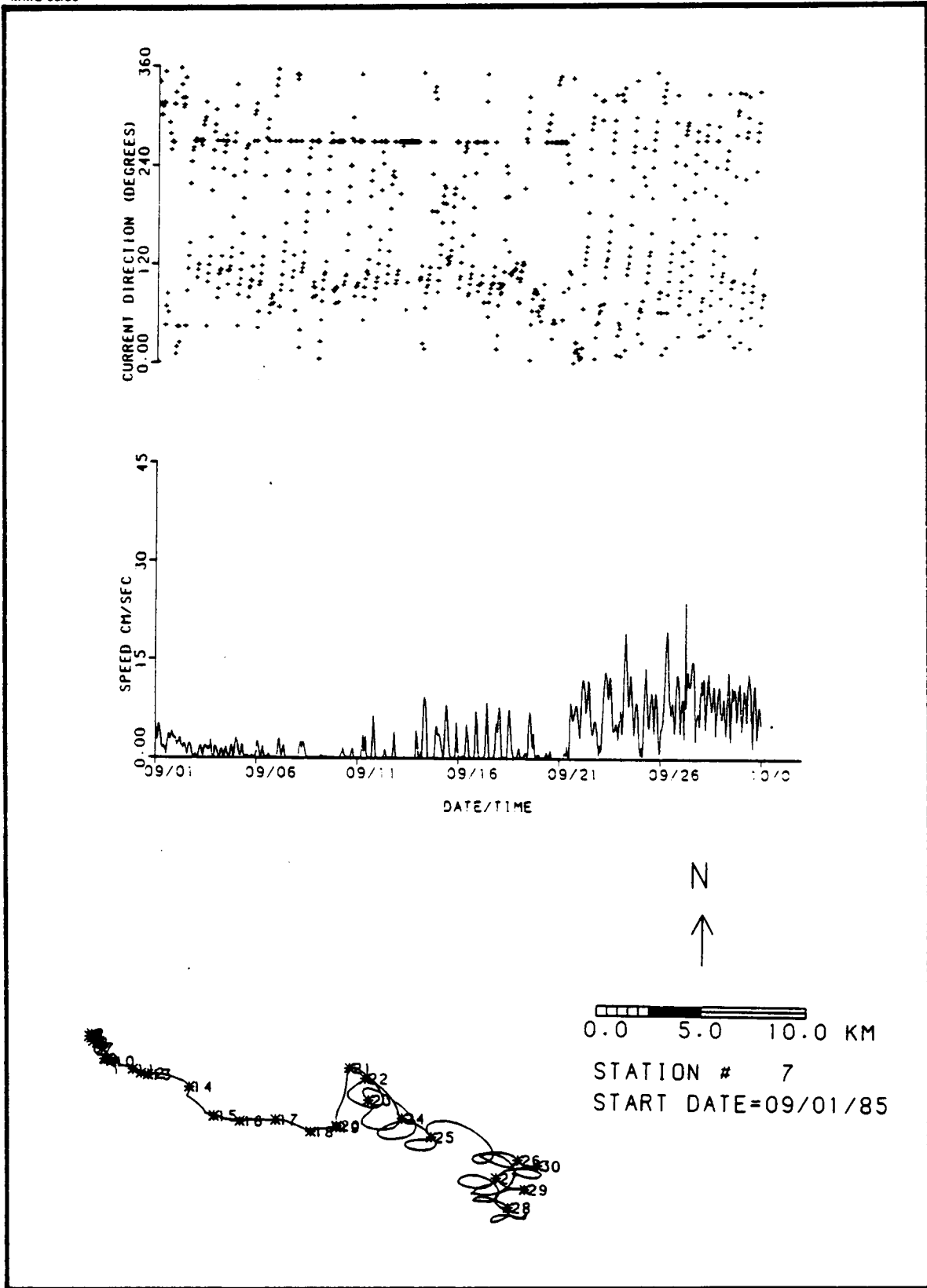


Figure B-43

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - SEPTEMBER 1985

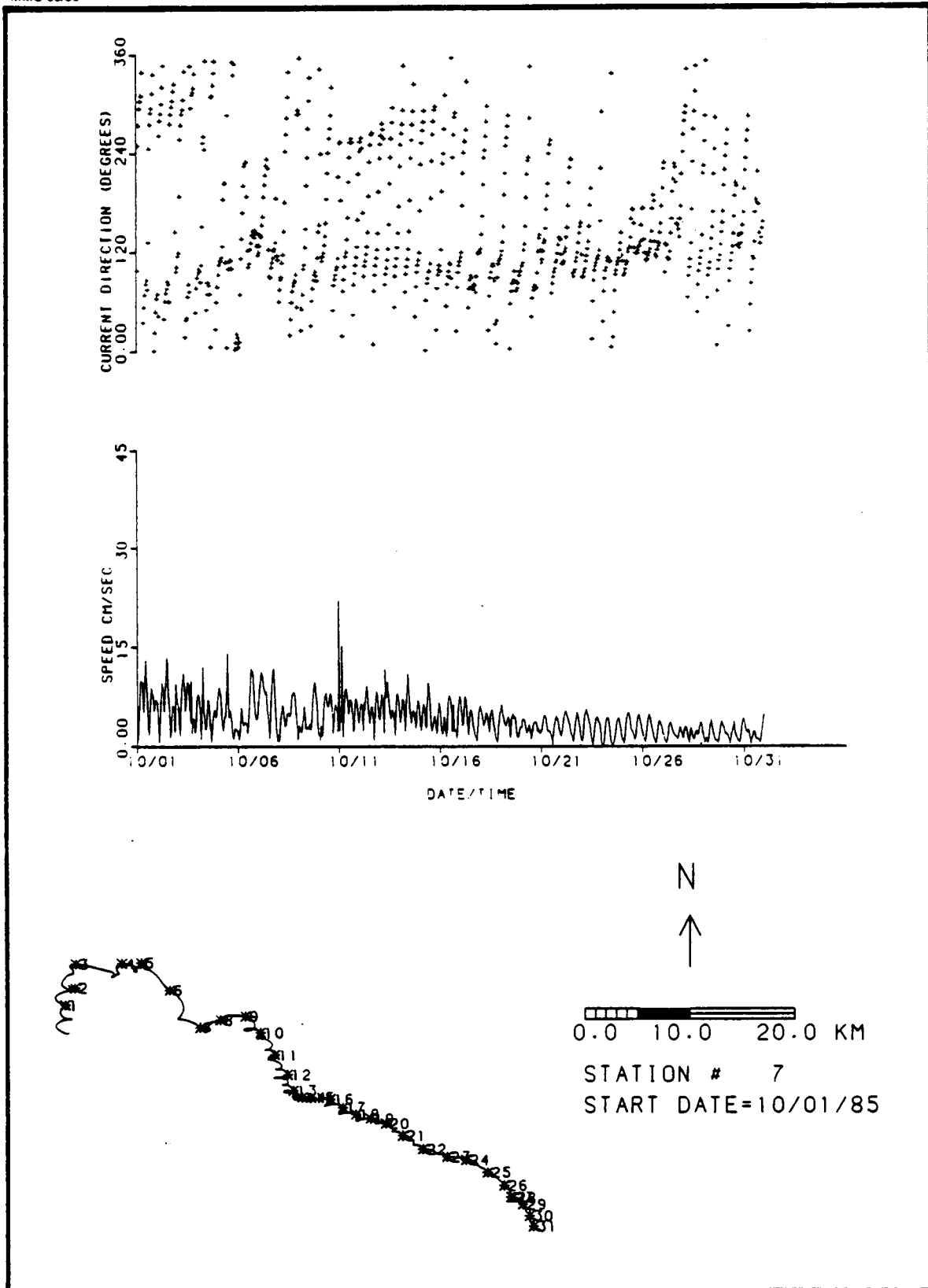


Figure B-44

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - OCTOBER 1985

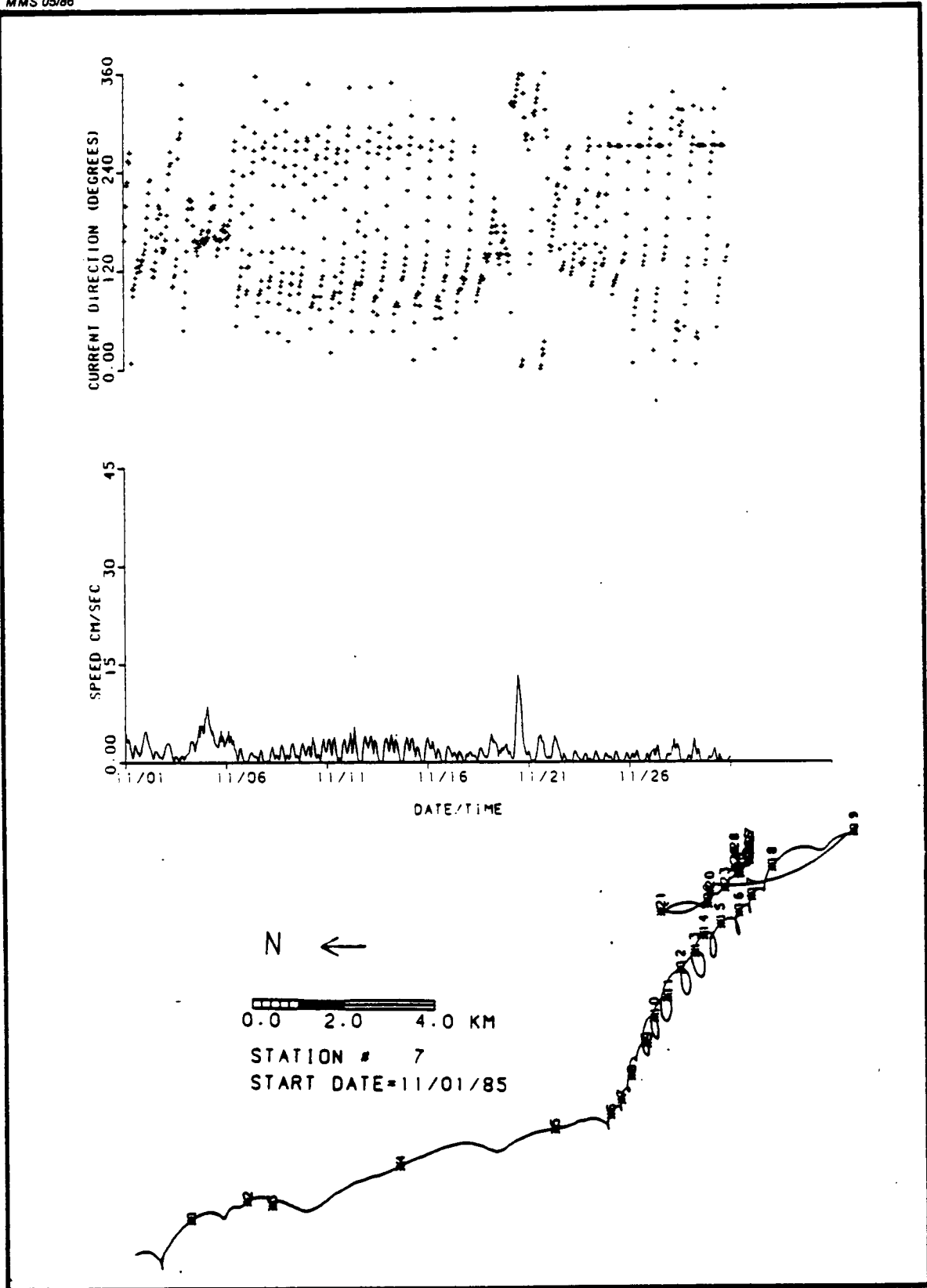


Figure B-45 STATION 7 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - NOVEMBER 1985

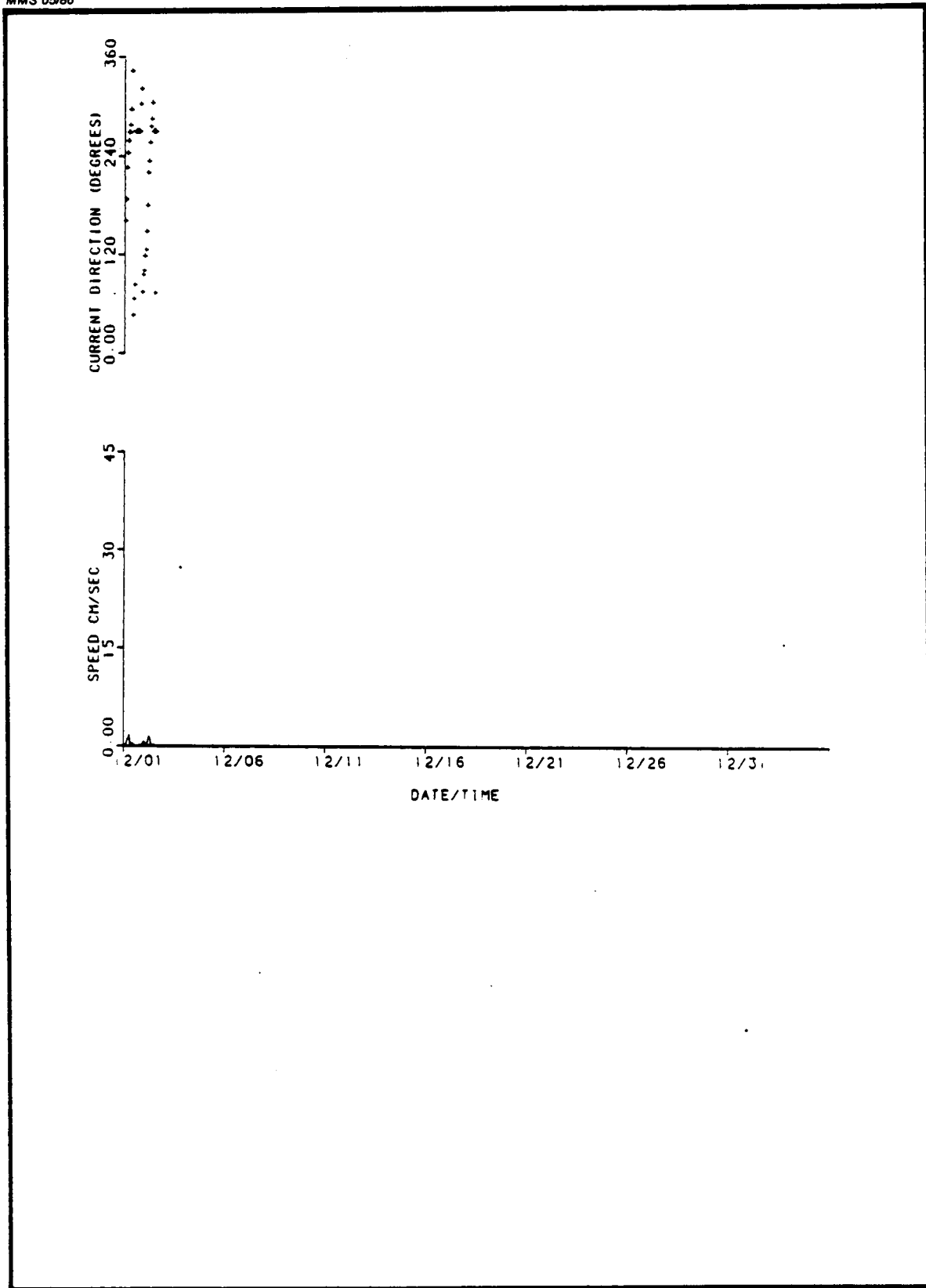


Figure B-46

STATION 7 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1985

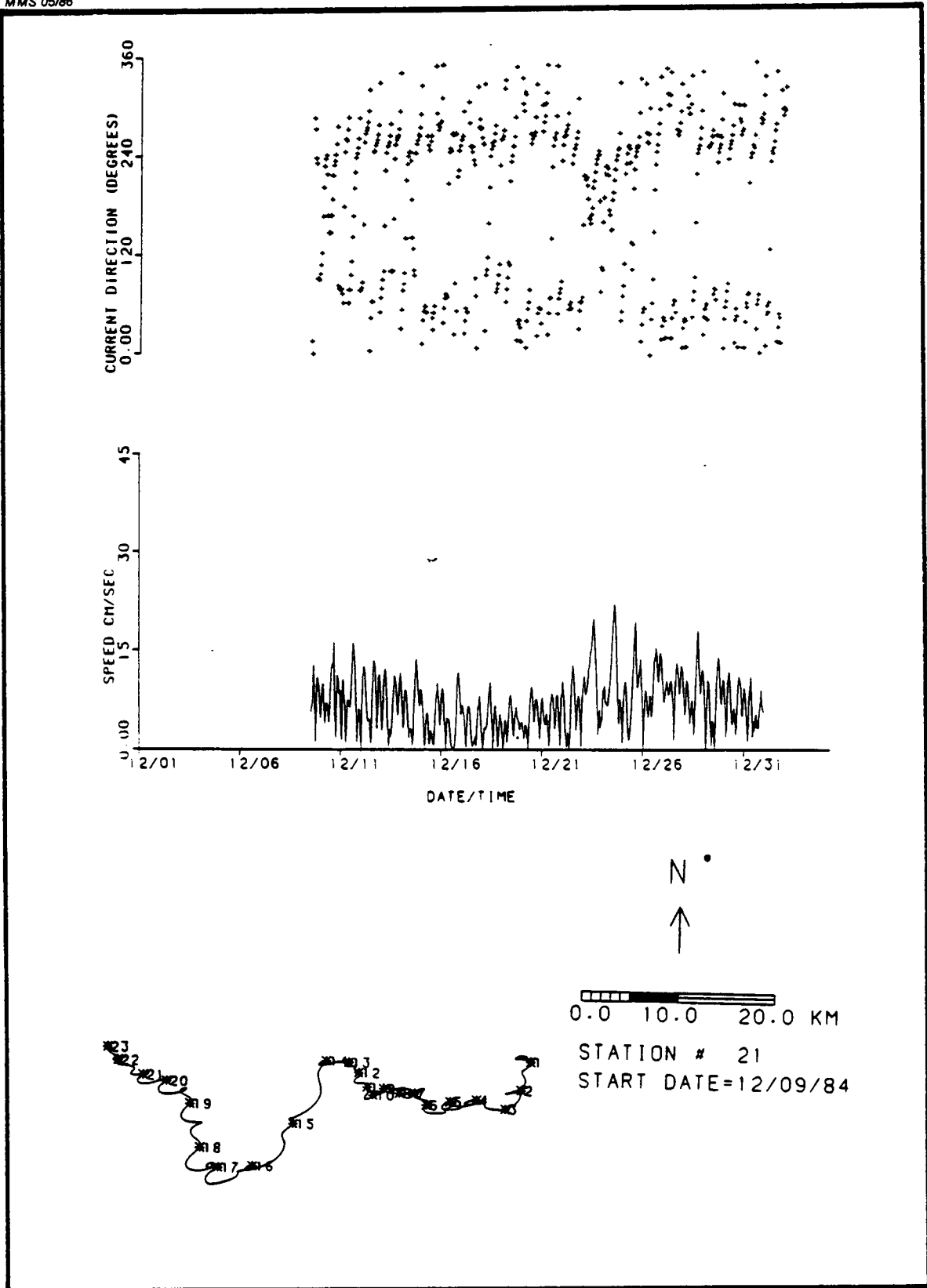


Figure B-47

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

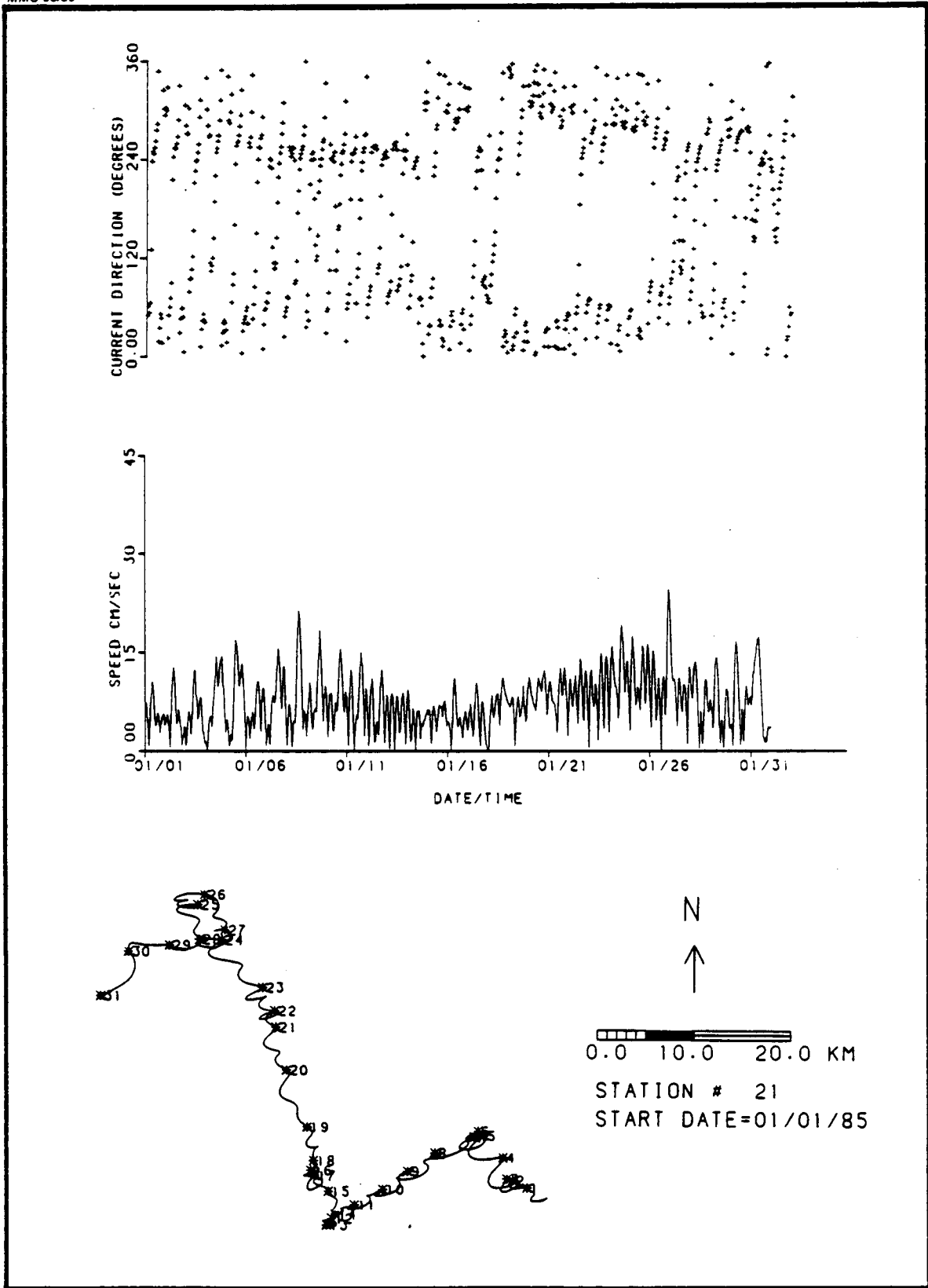


Figure B-48

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JANUARY 1985

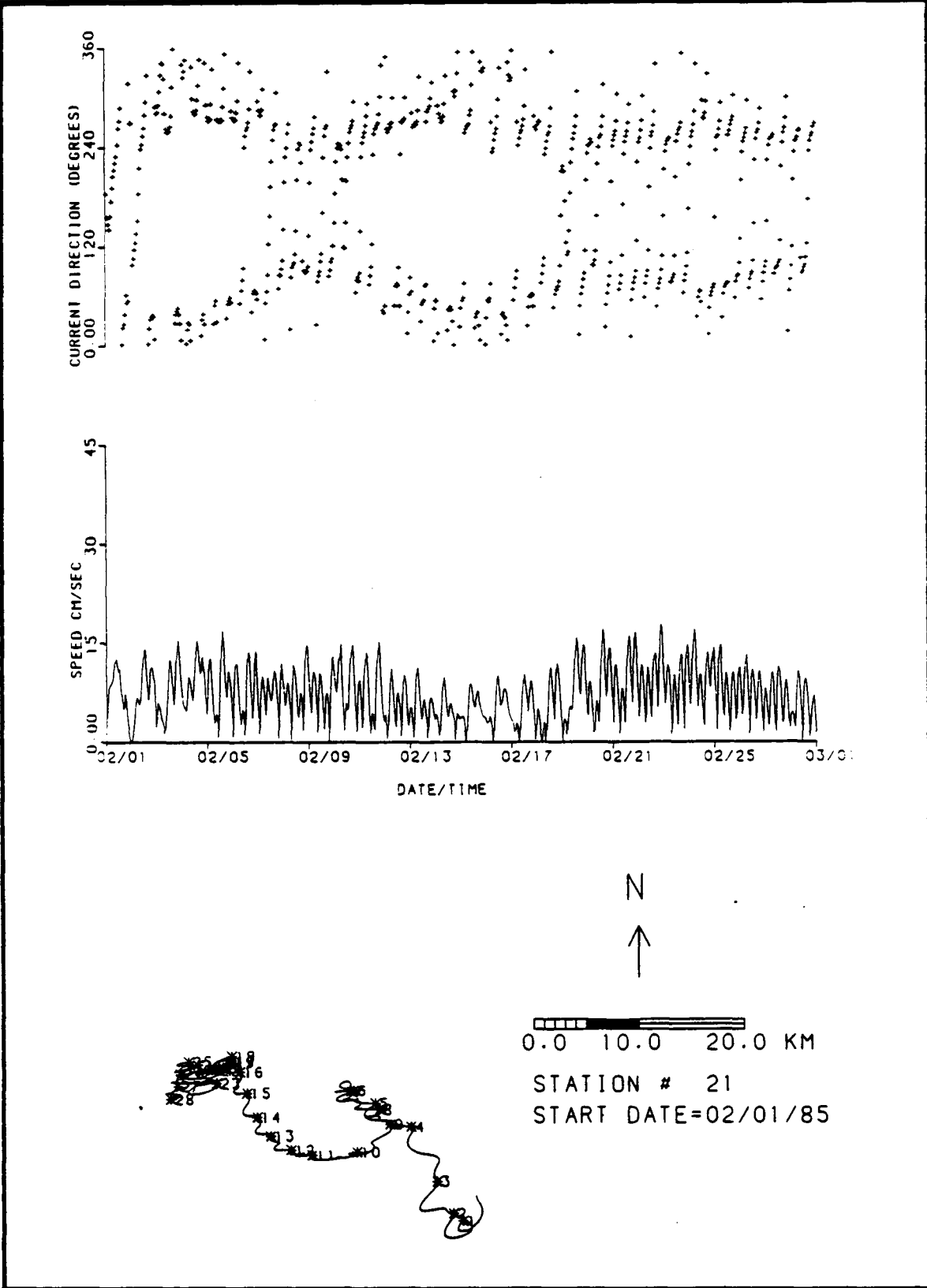


Figure B-49

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

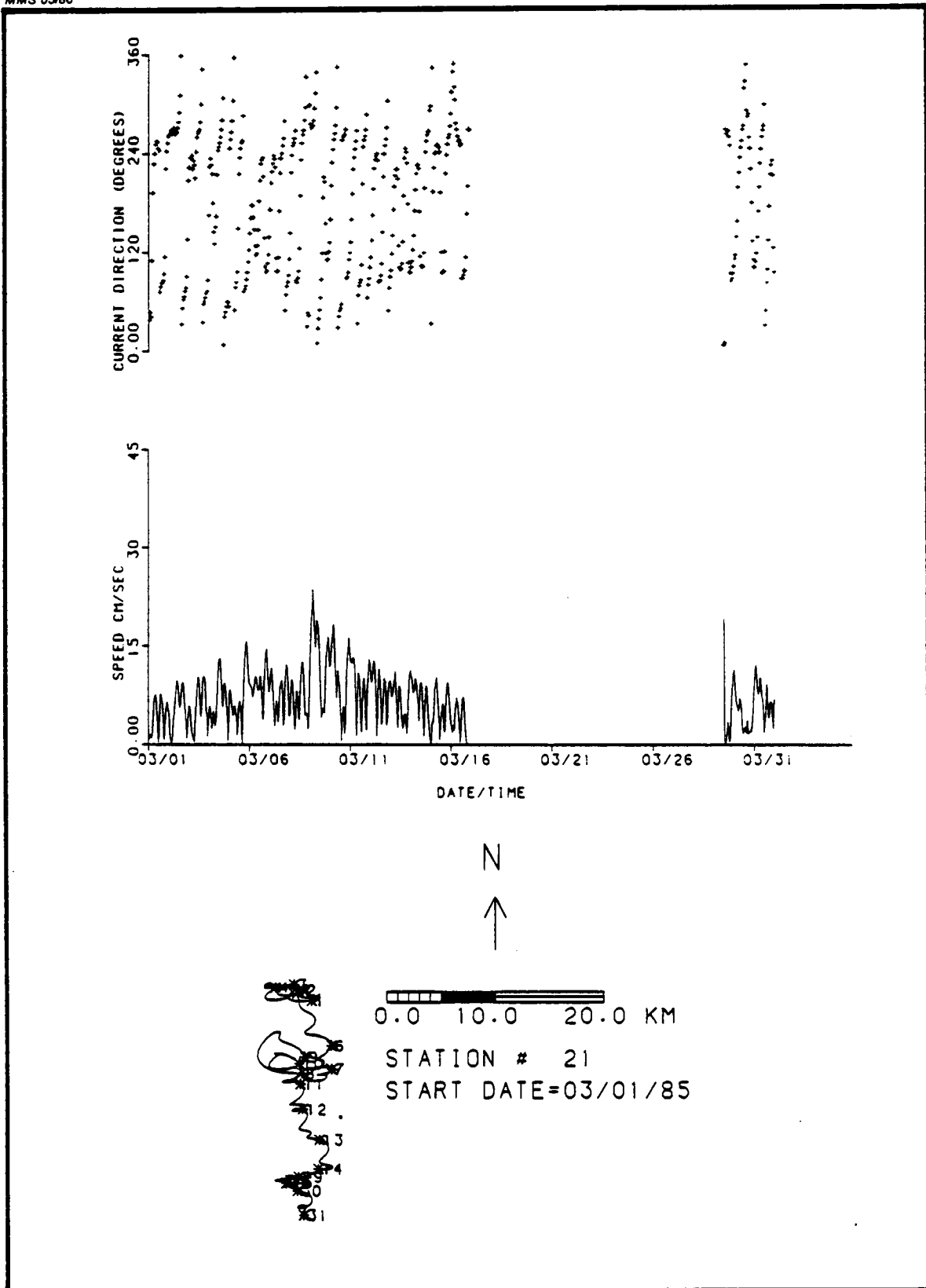


Figure B-50

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MARCH 1985

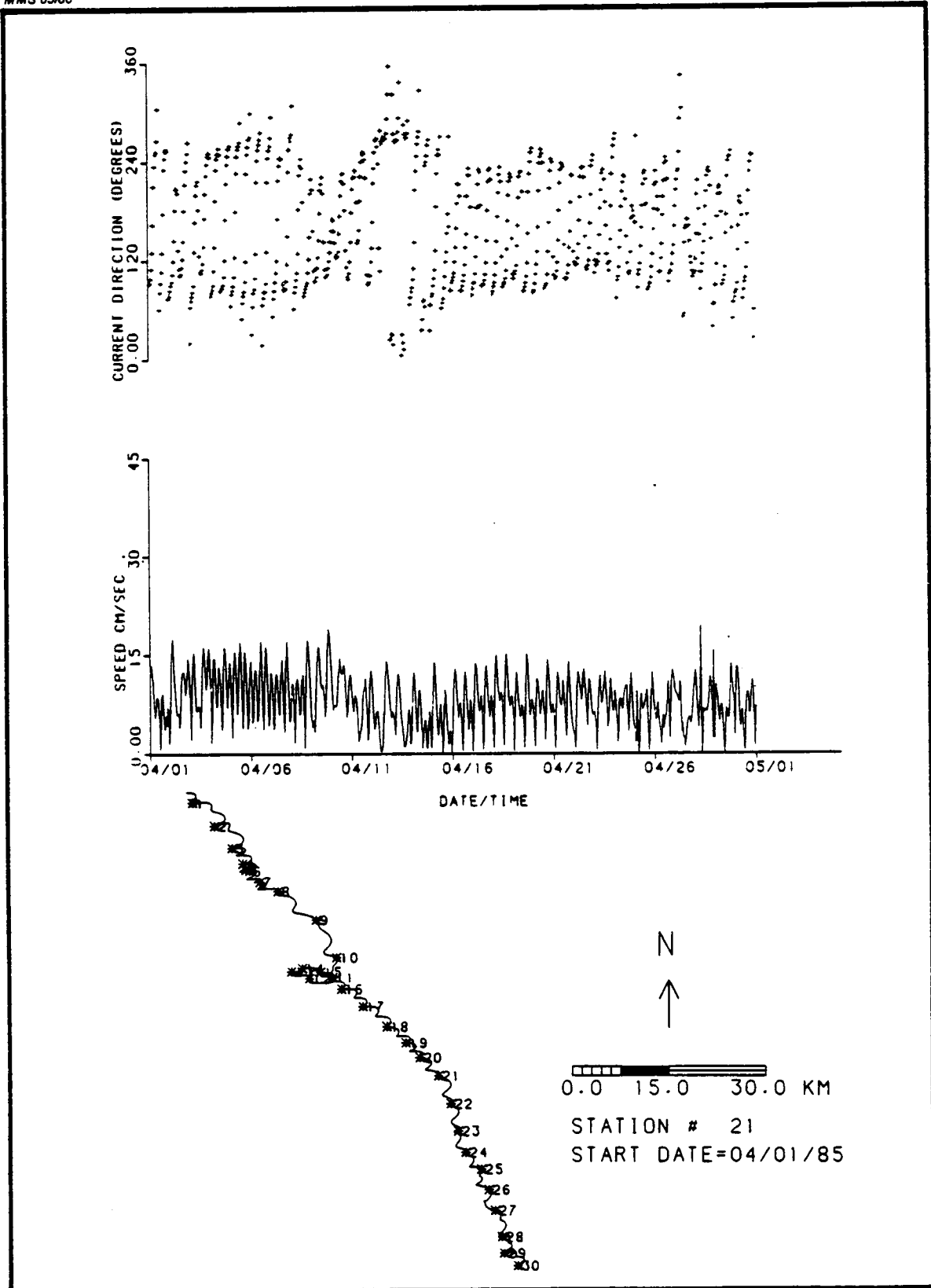


Figure B-51

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - APRIL 1985

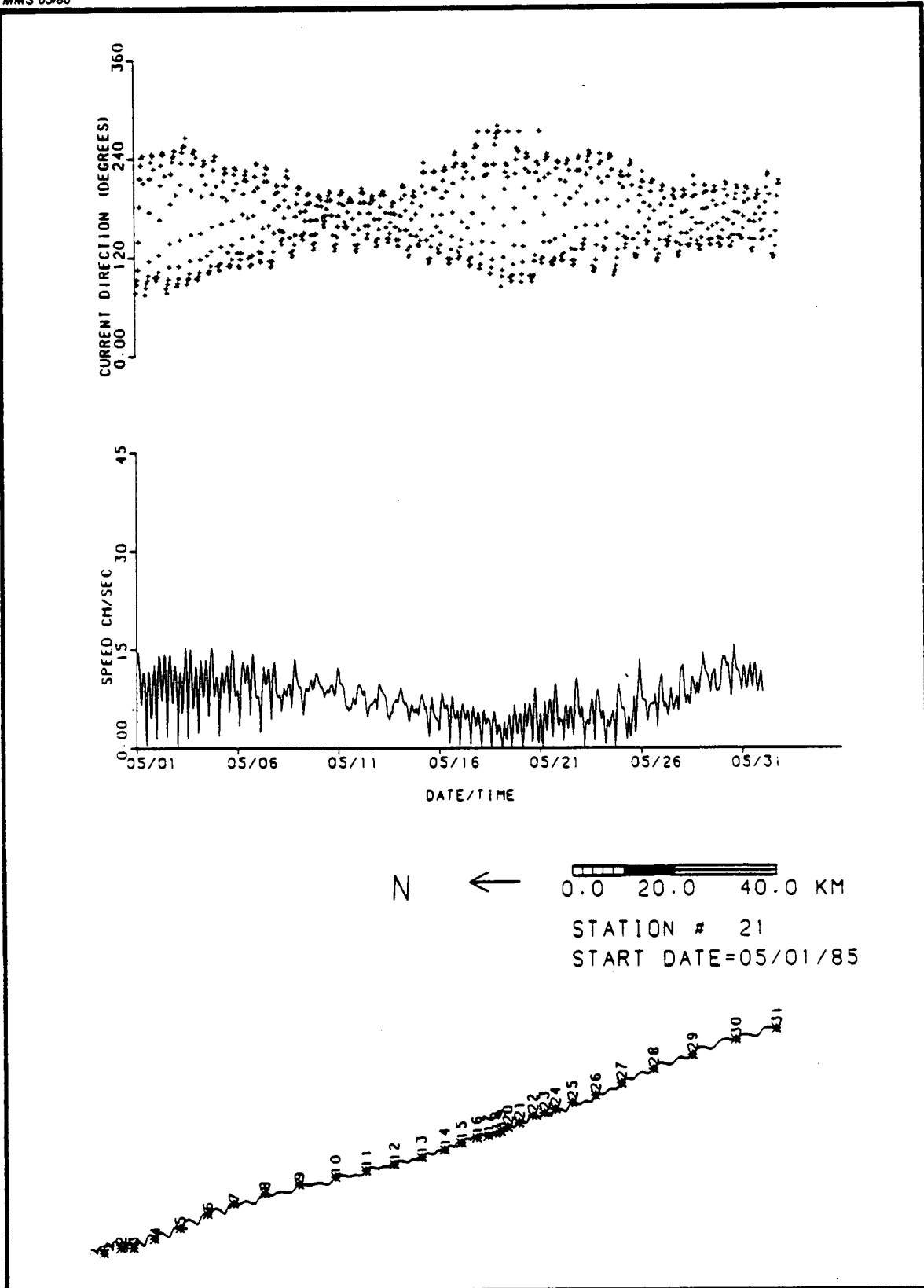


Figure B-52

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MAY 1985

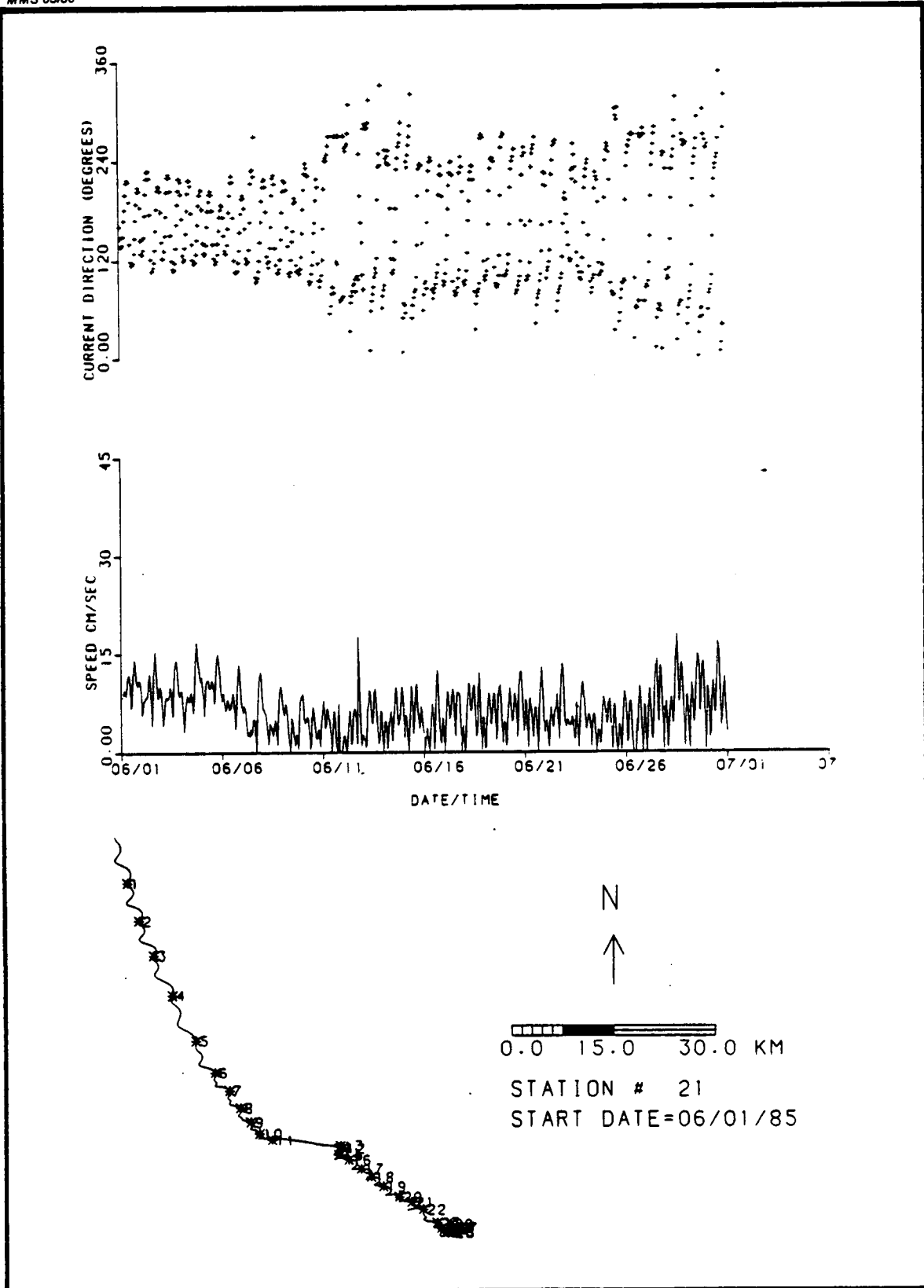


Figure B-53

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JUNE 1985

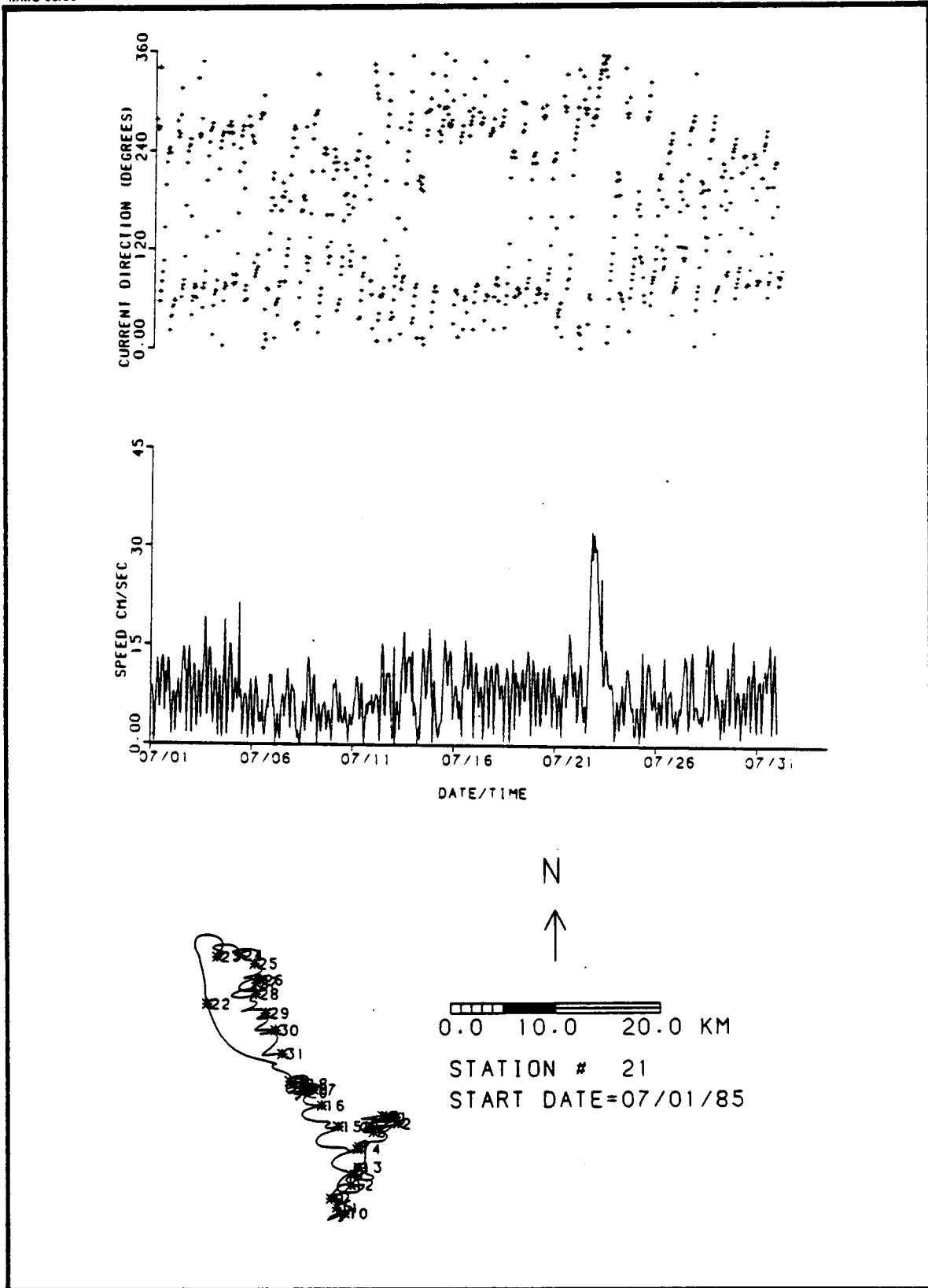


Figure B-54

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JULY 1985

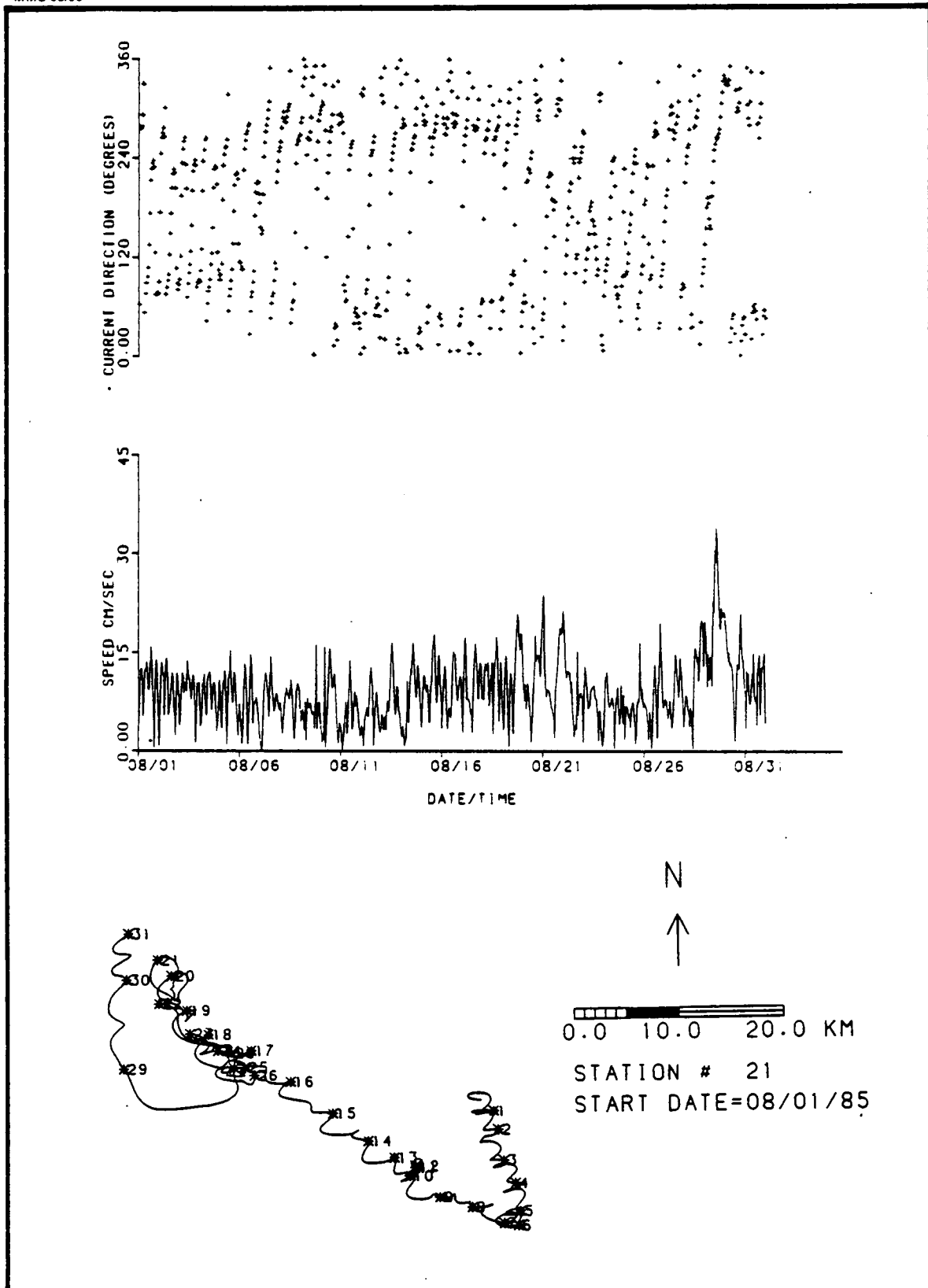


Figure B-55

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - AUGUST 1985

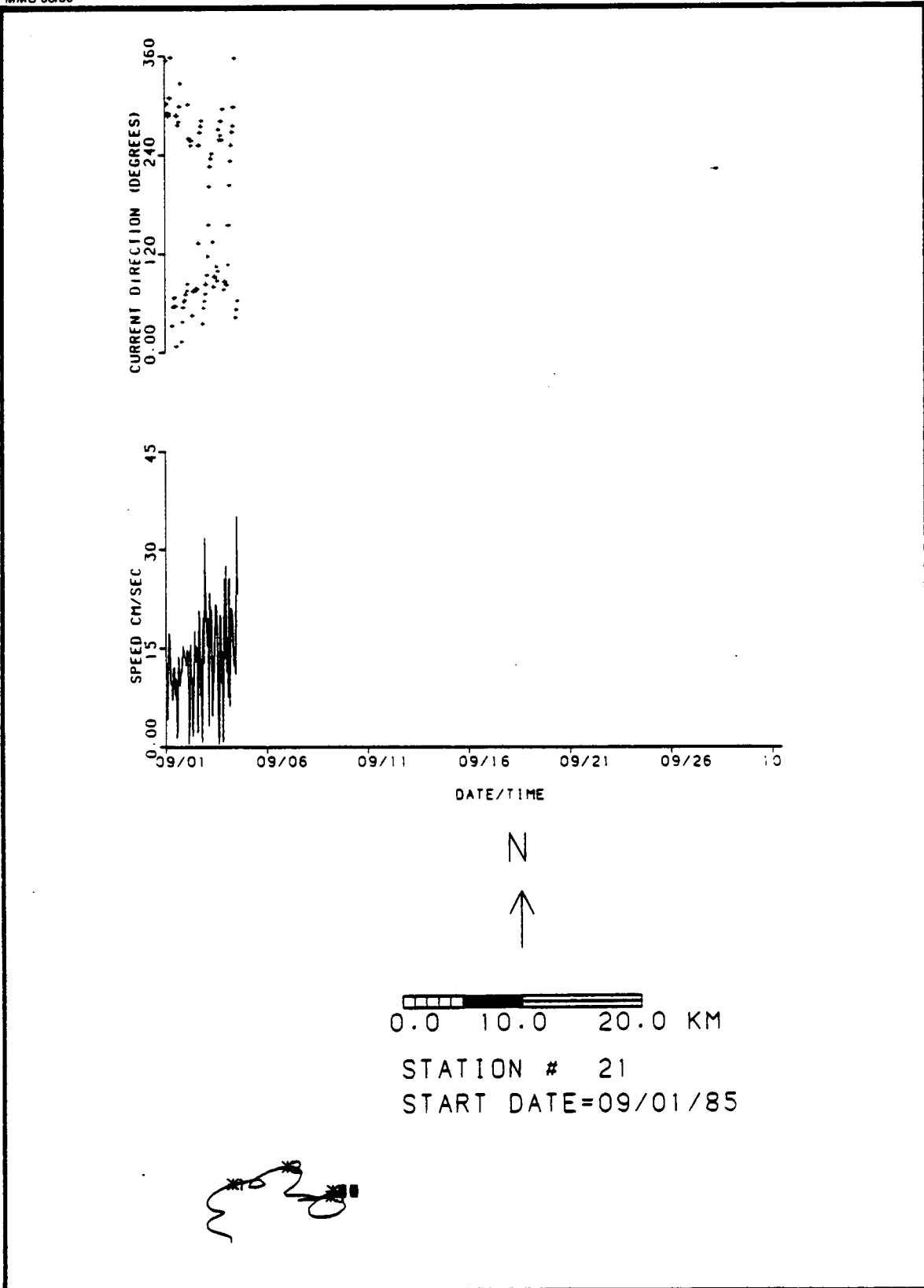


Figure B-56

STATION 21 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - SEPTEMBER 1985

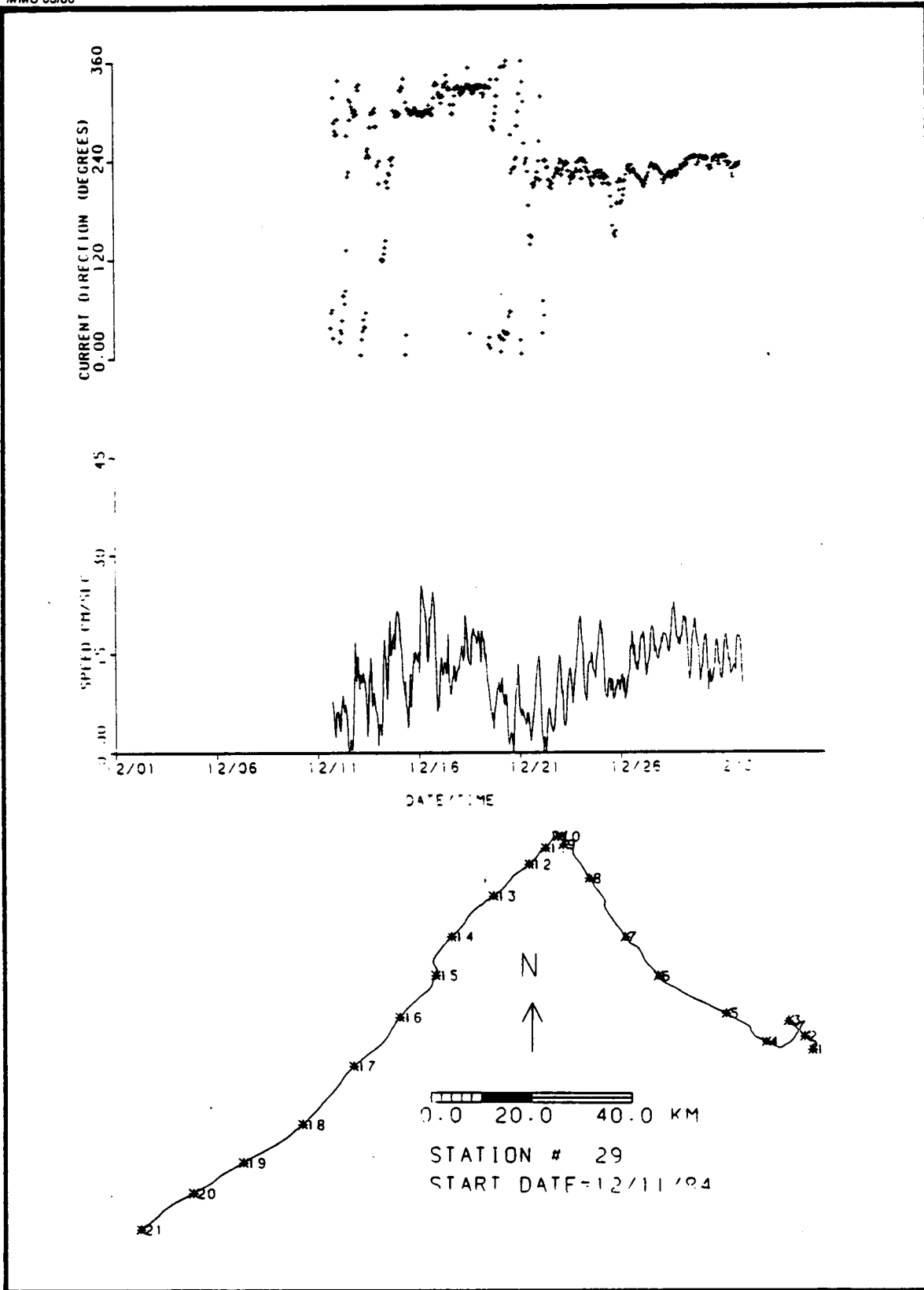


Figure B-57 STATION 29 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

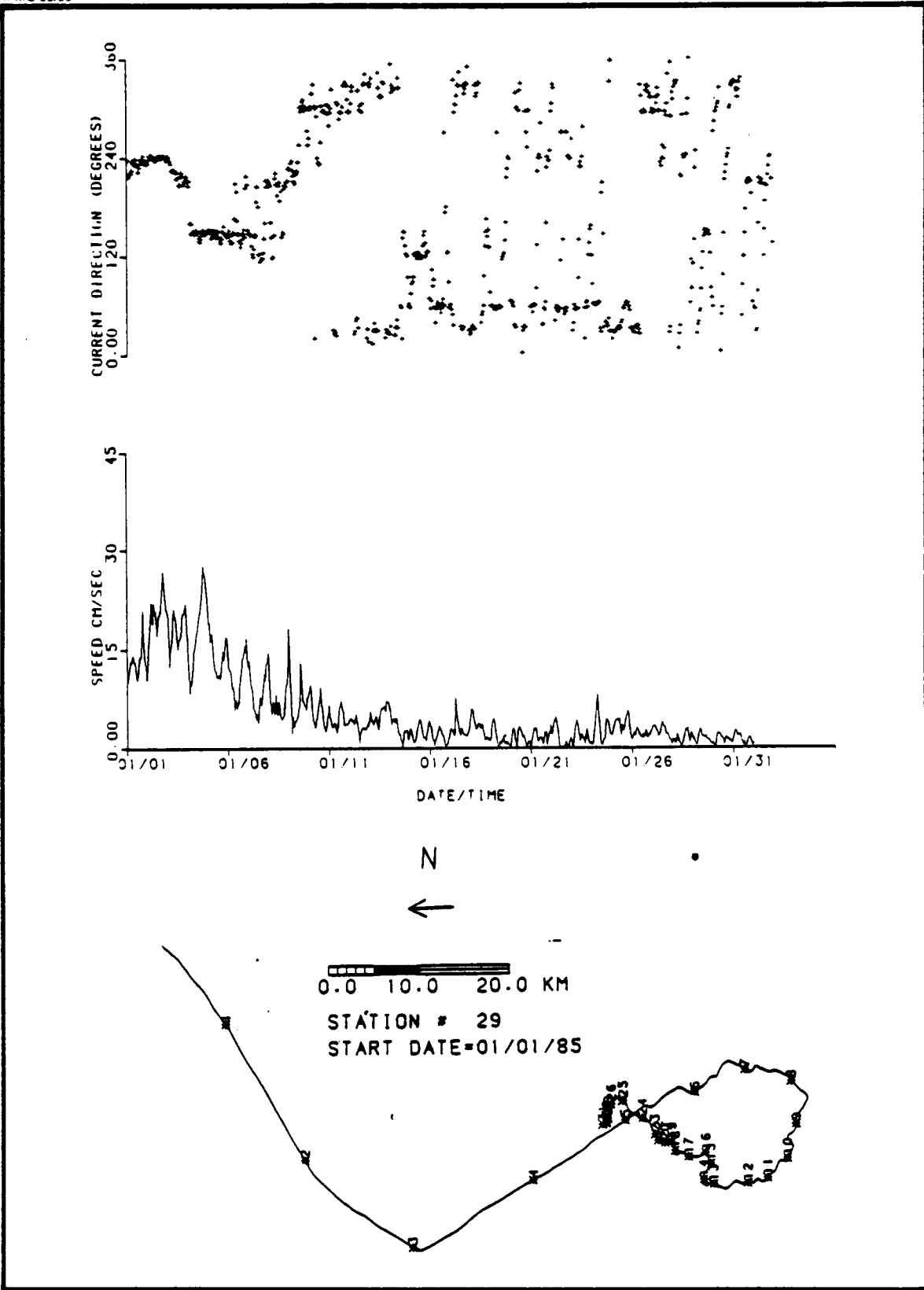


Figure B-58

STATION 29 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - JANUARY 1985

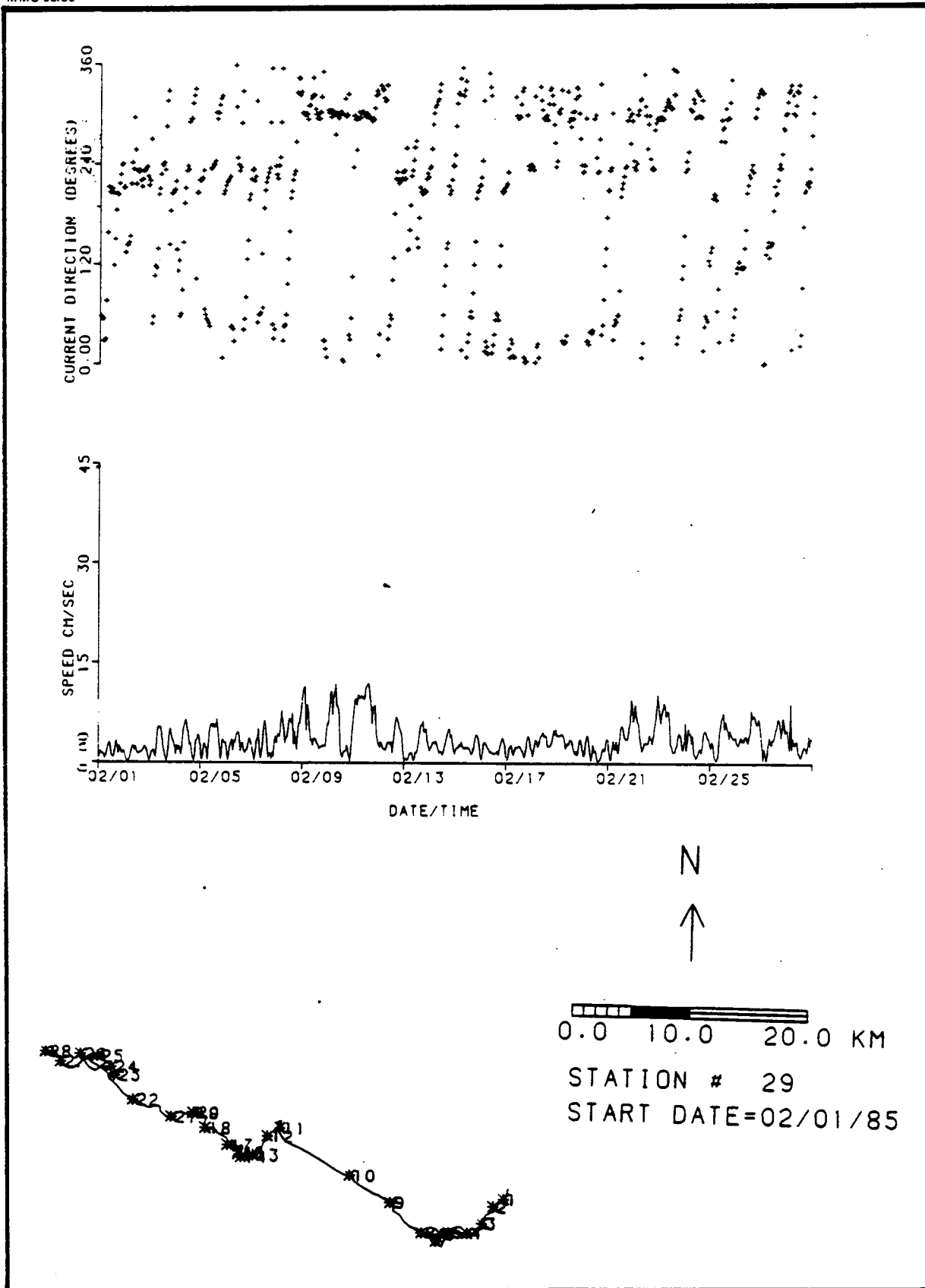


Figure B-59 STATION 29 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

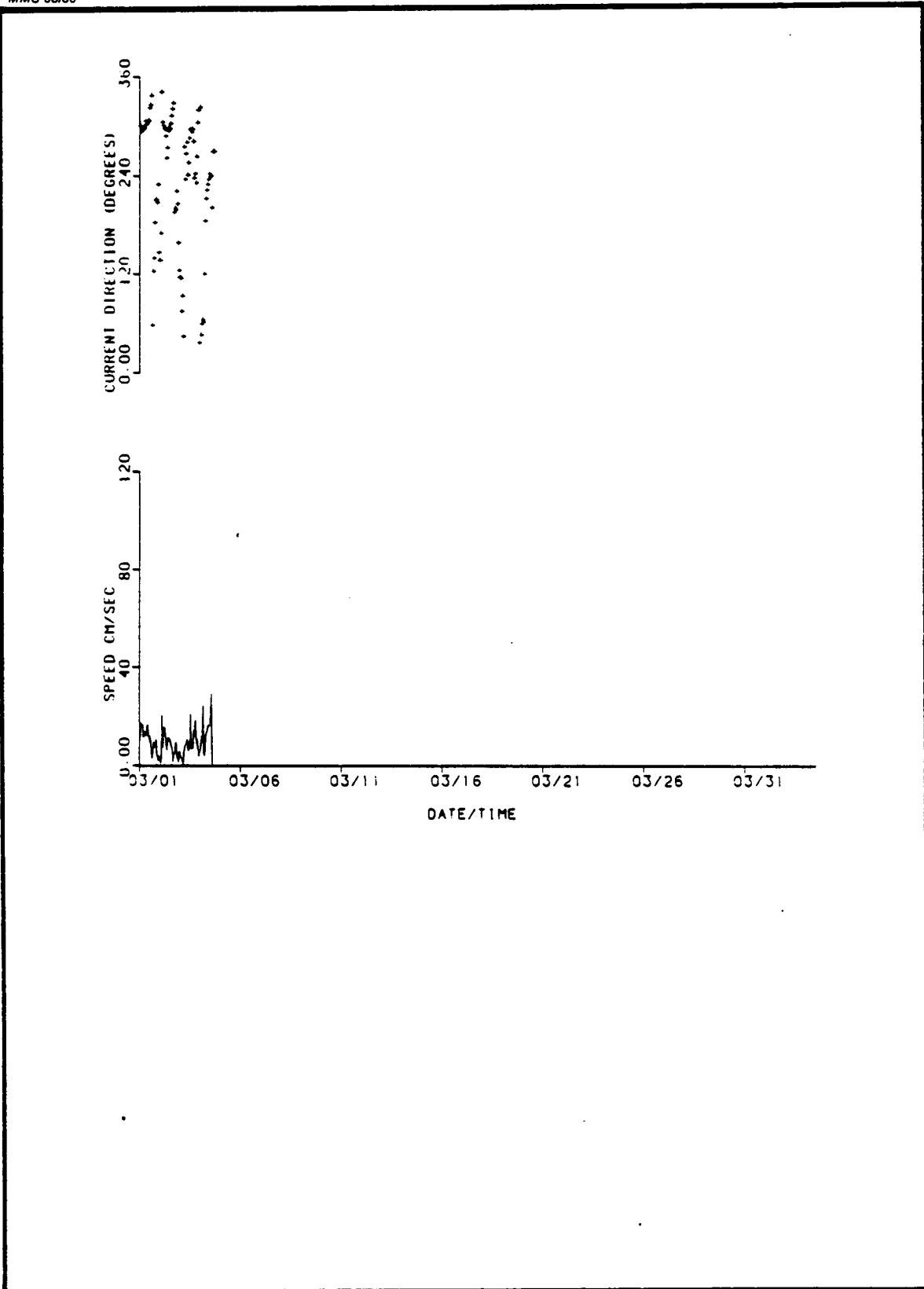


Figure B-60

STATION 29 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - MARCH 1985

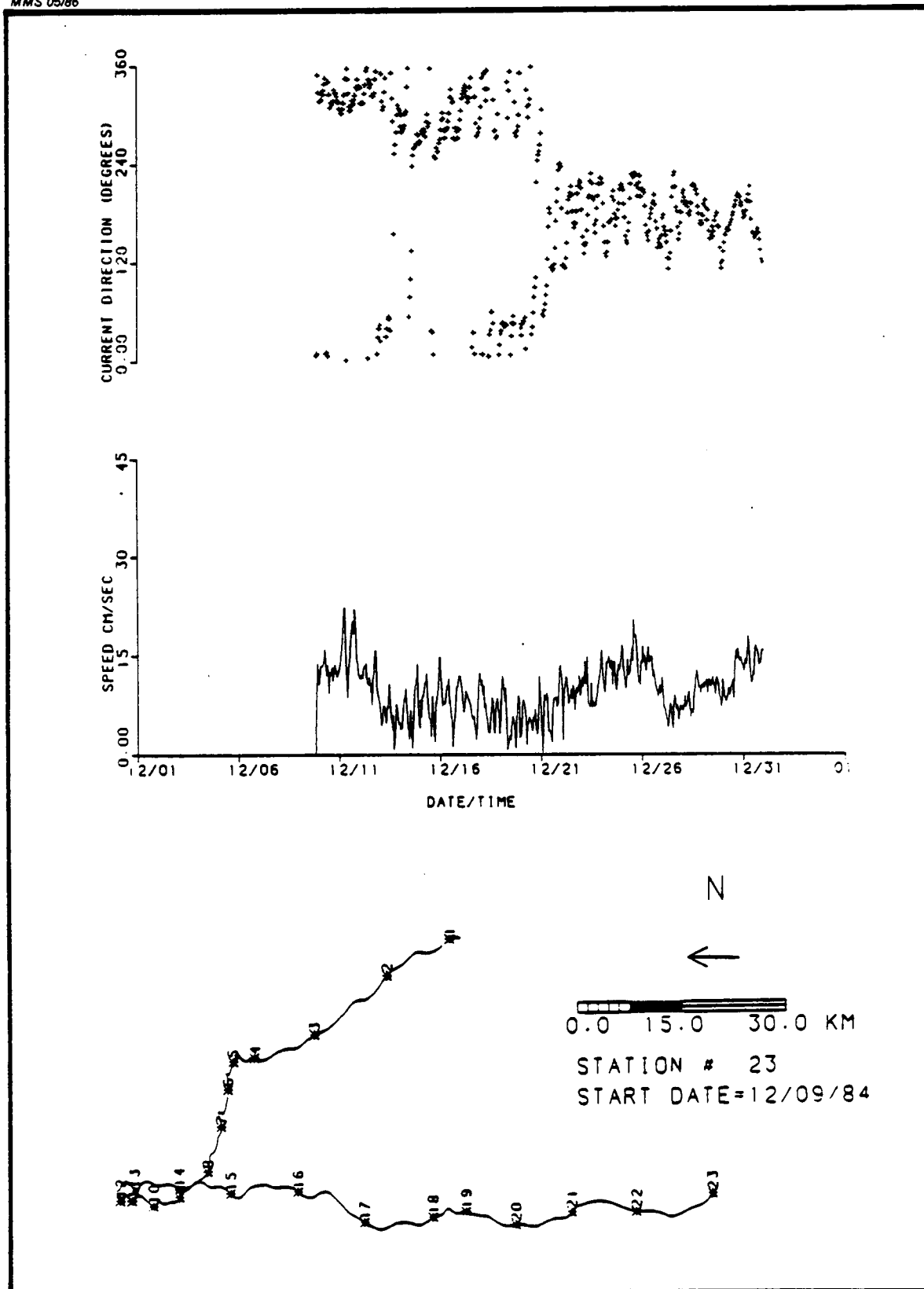


Figure B-61

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - DECEMBER 1984

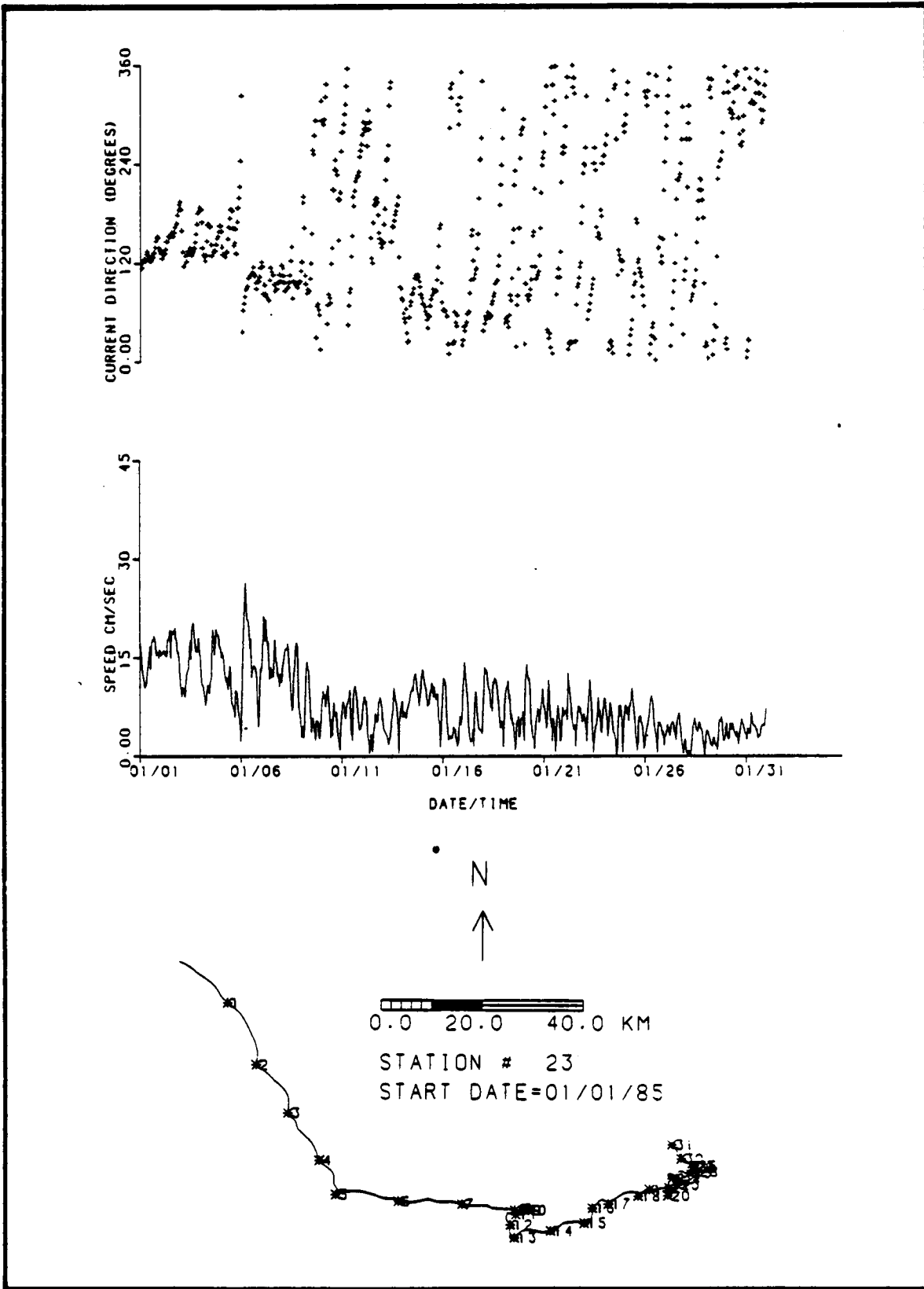


Figure B-62

STATION 23 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - JANUARY 1985

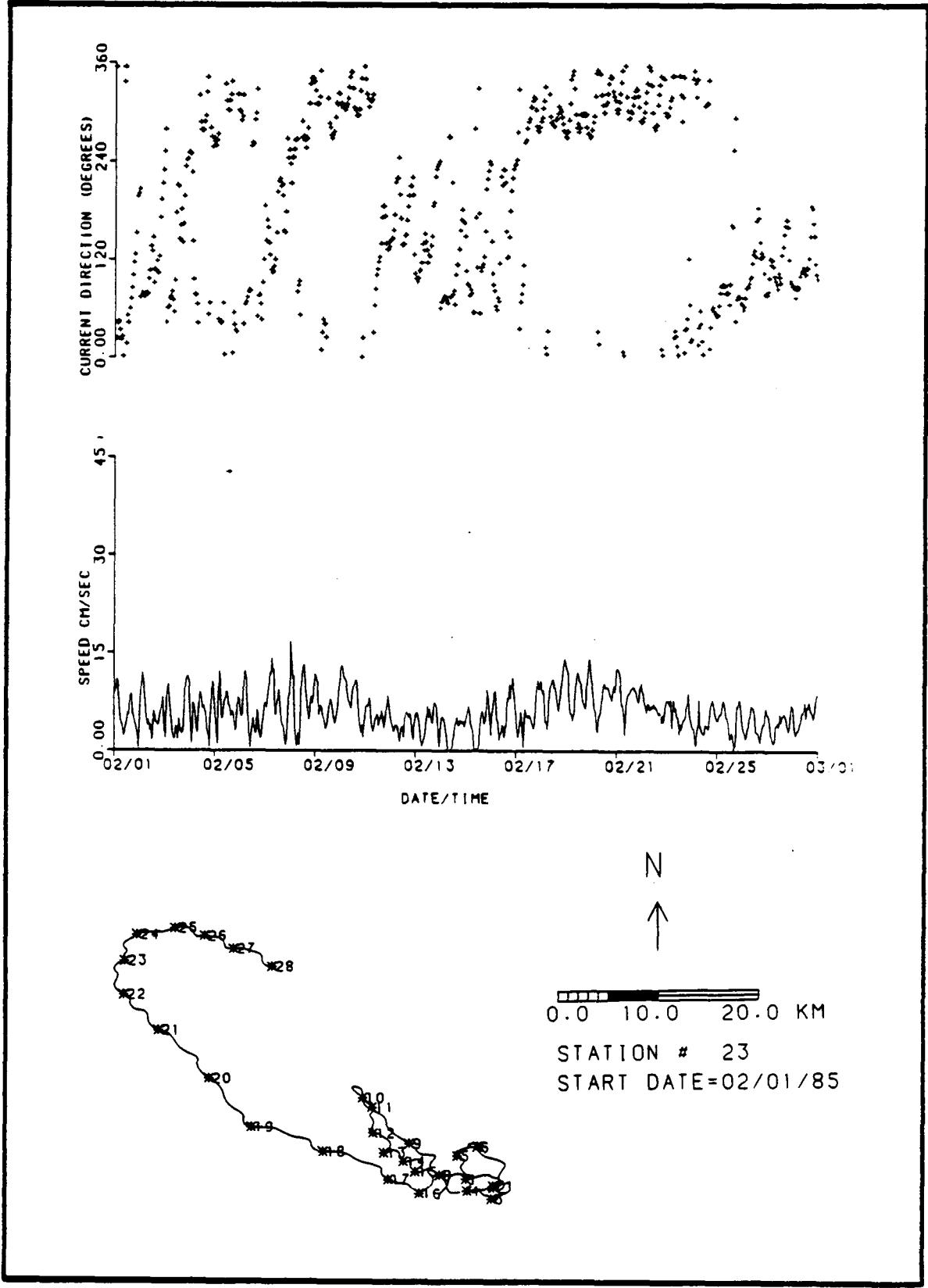


Figure B-63

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - FEBRUARY 1985

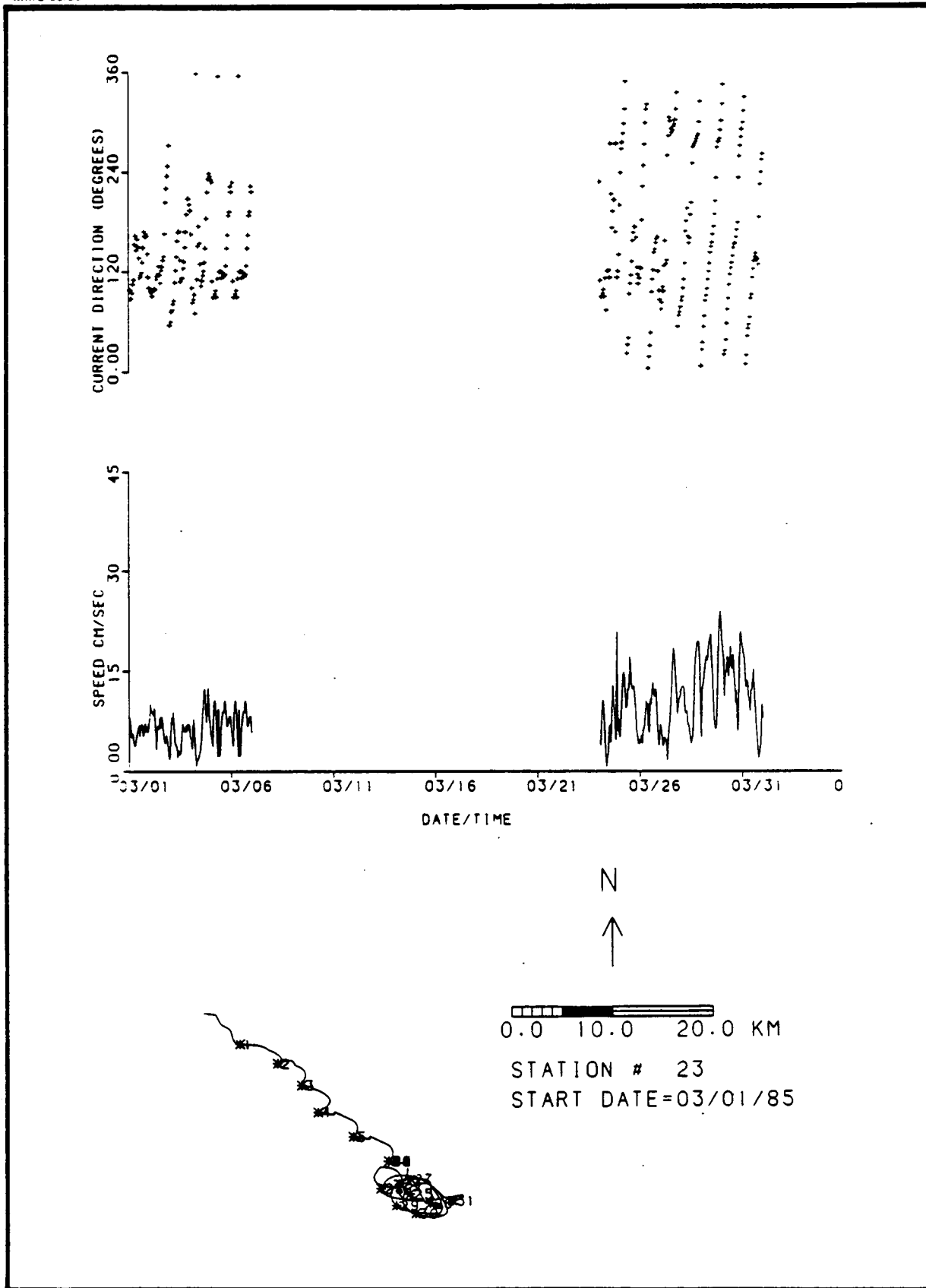


Figure B-64 STATION 23 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - MARCH 1985

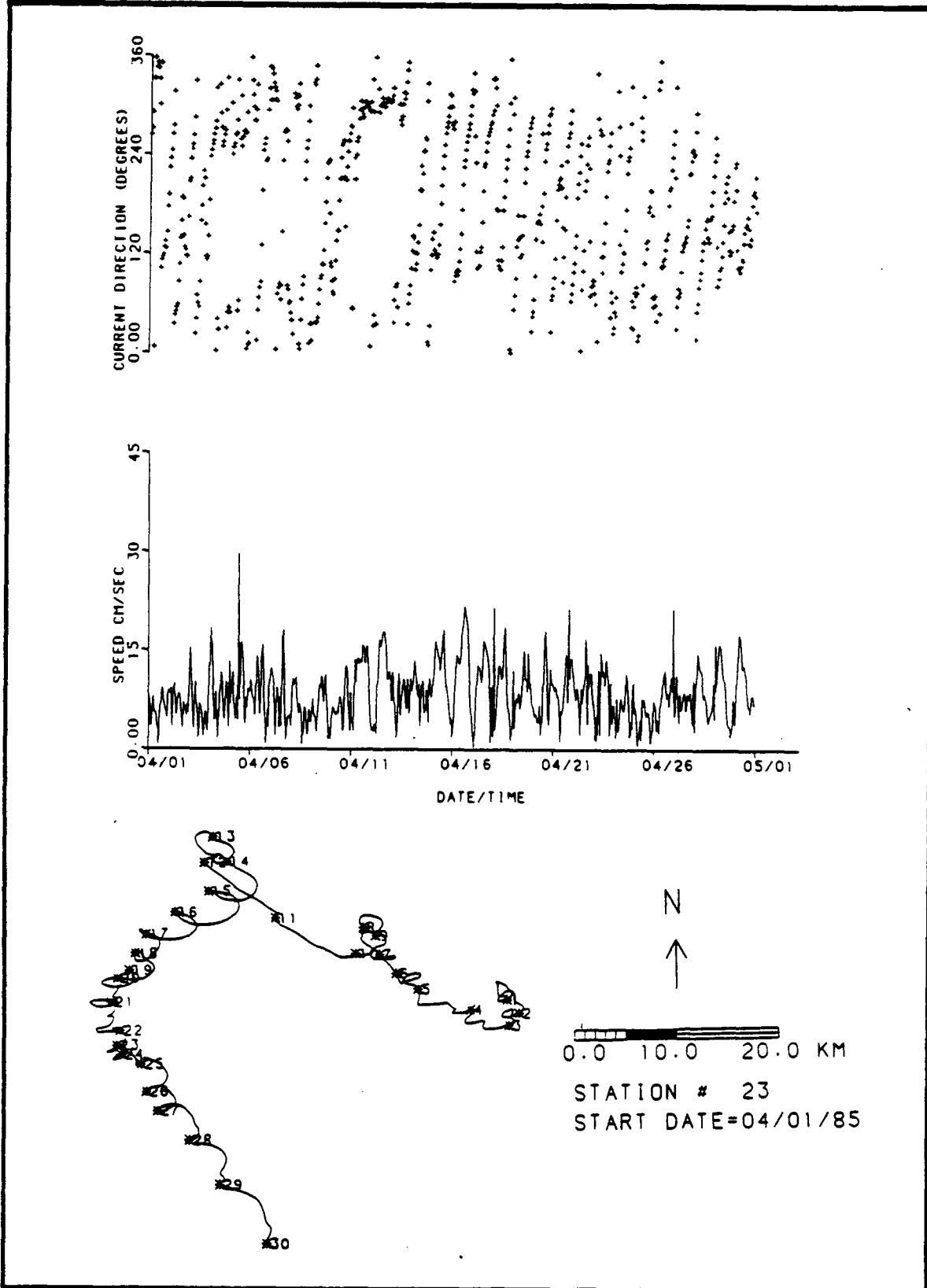


Figure B-65

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - APRIL 1985

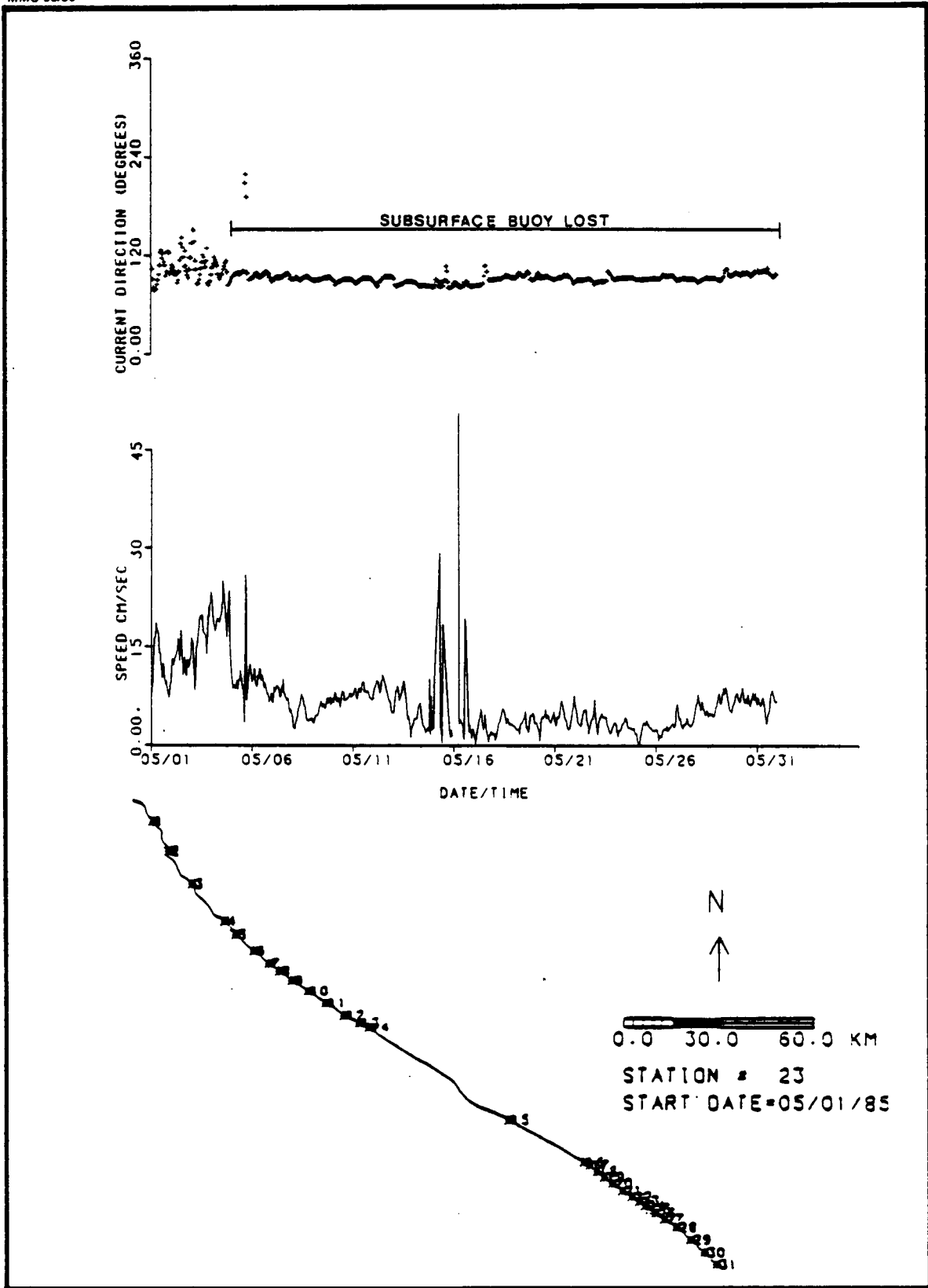


Figure B-66

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MAY 1985

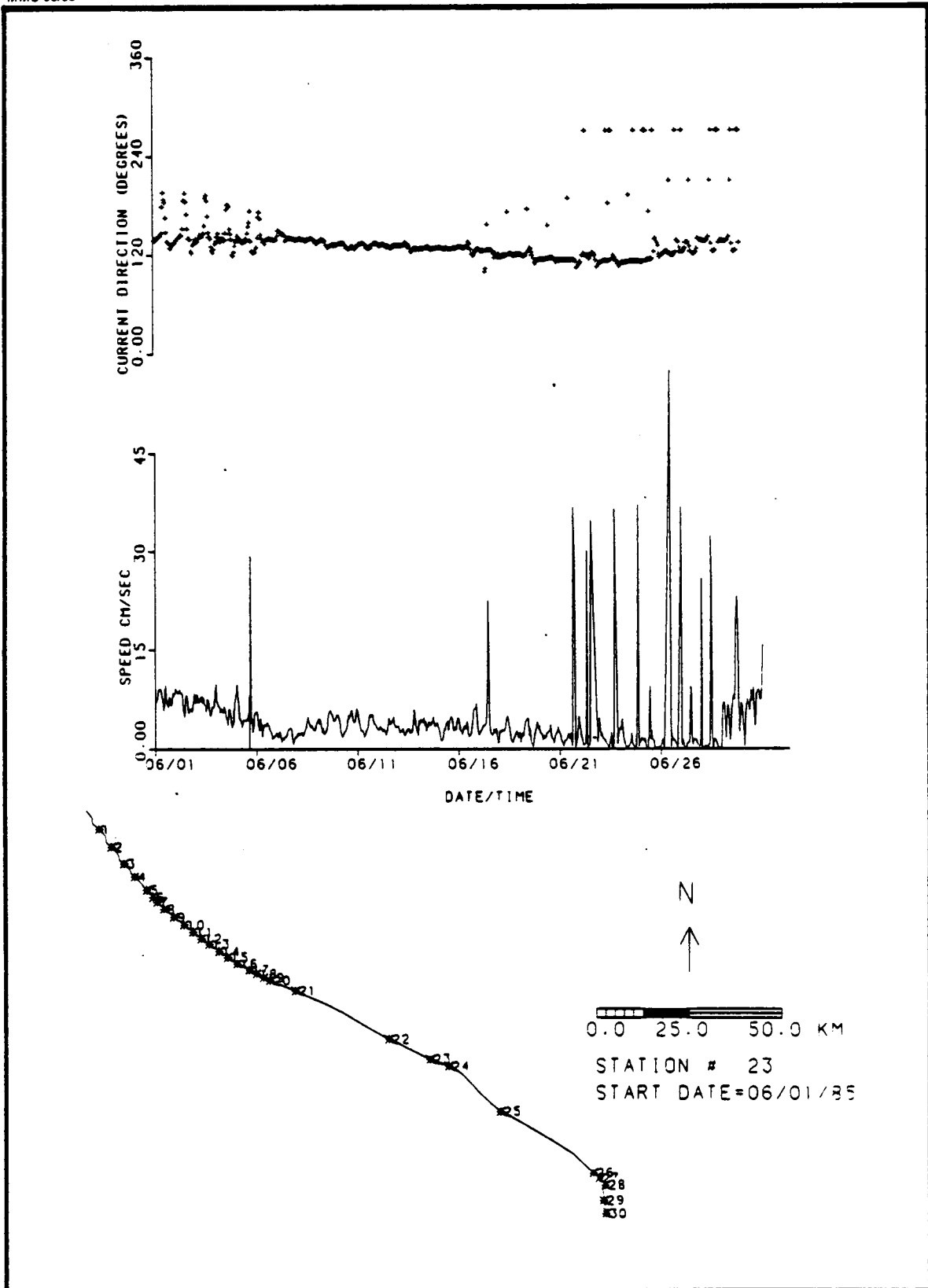


Figure B-67

STATION 23 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - JUNE 1985

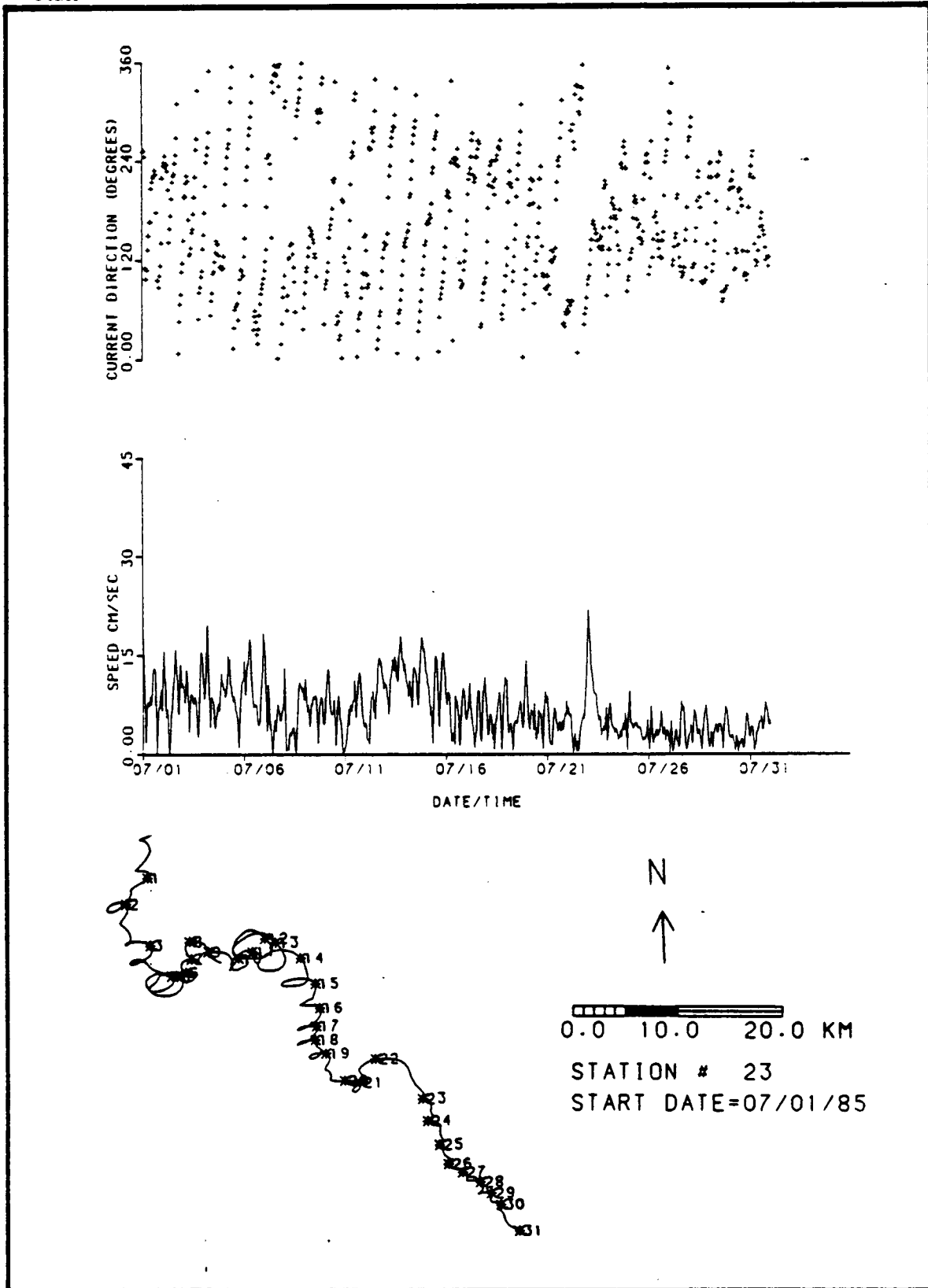


Figure B-68

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JULY 1985

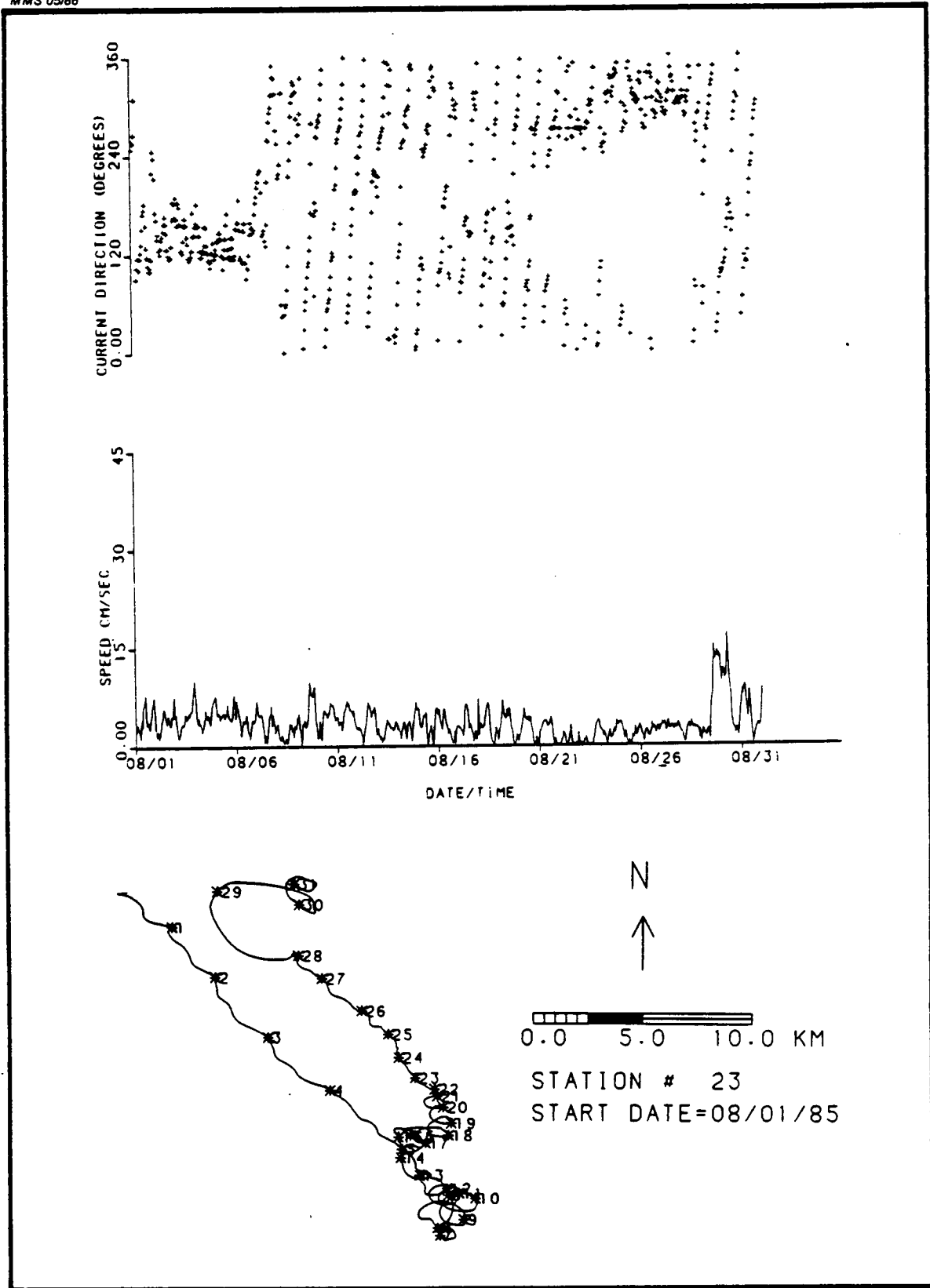


Figure B-69

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - AUGUST 1985

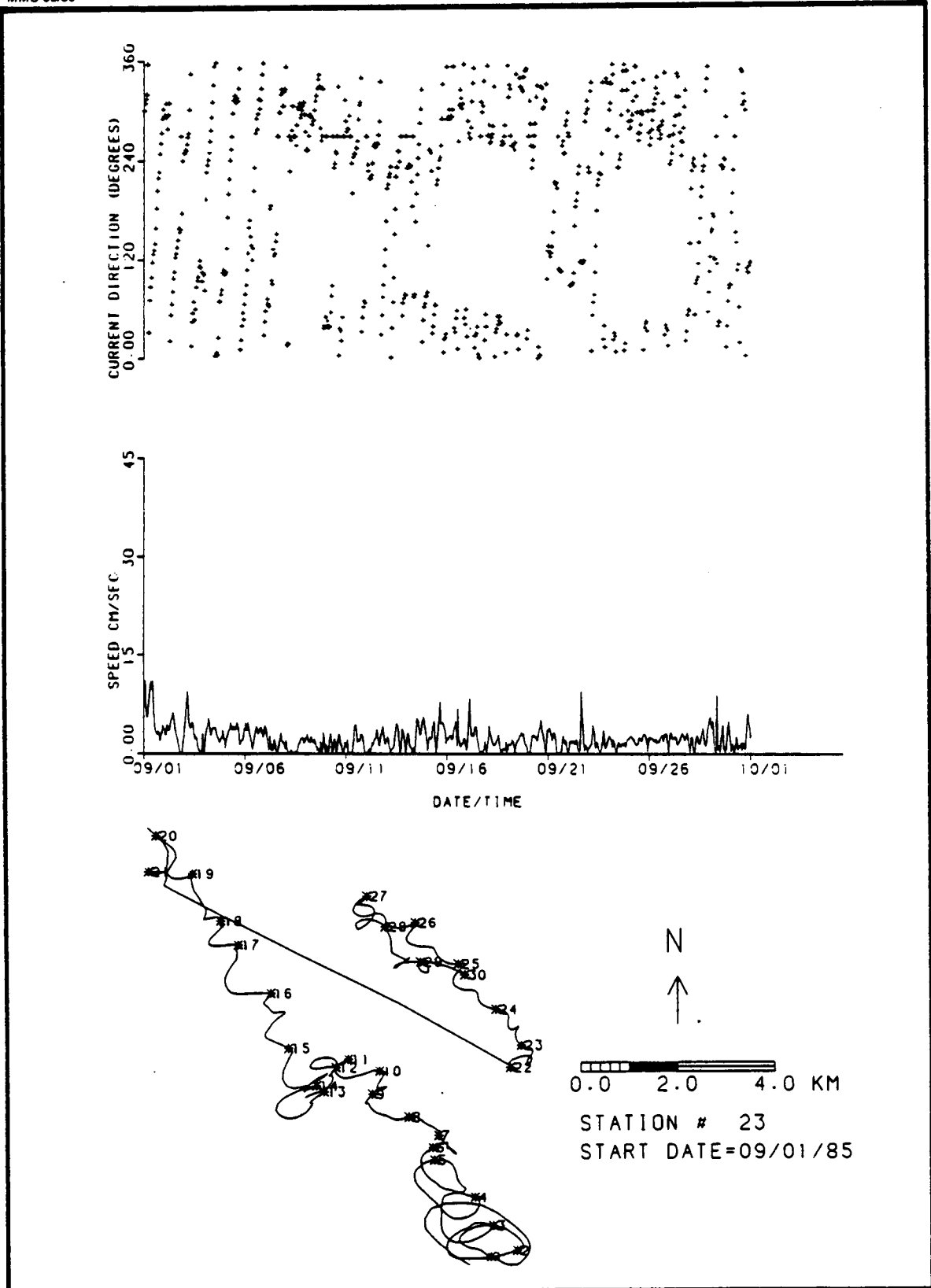


Figure B-70

STATION 23 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - SEPTEMBER 1985

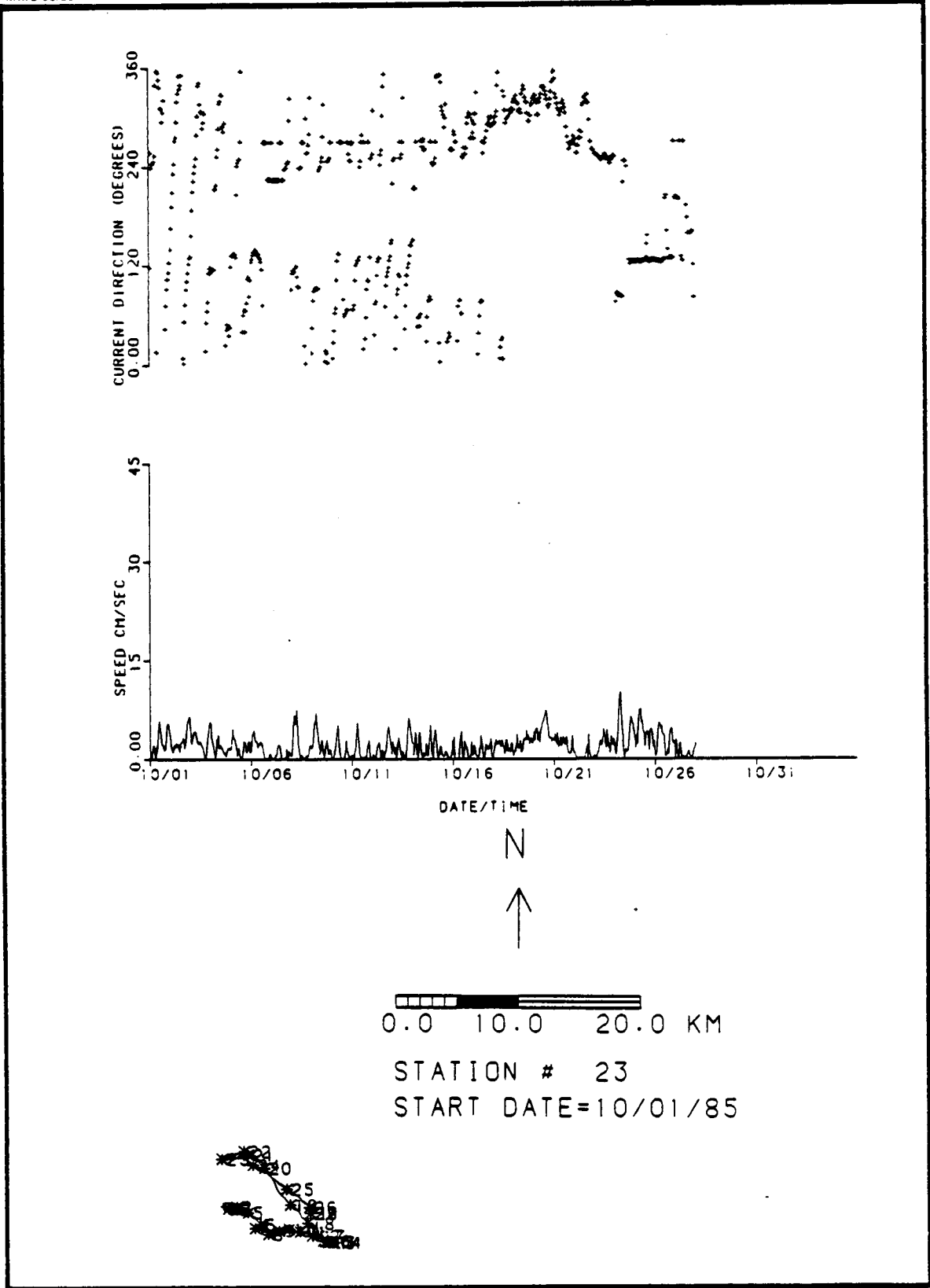


Figure B-71

STATION 23 CURRENT SPEED, DIRECTION AND PROGRESSIVE VECTOR PLOTS - OCTOBER 1985

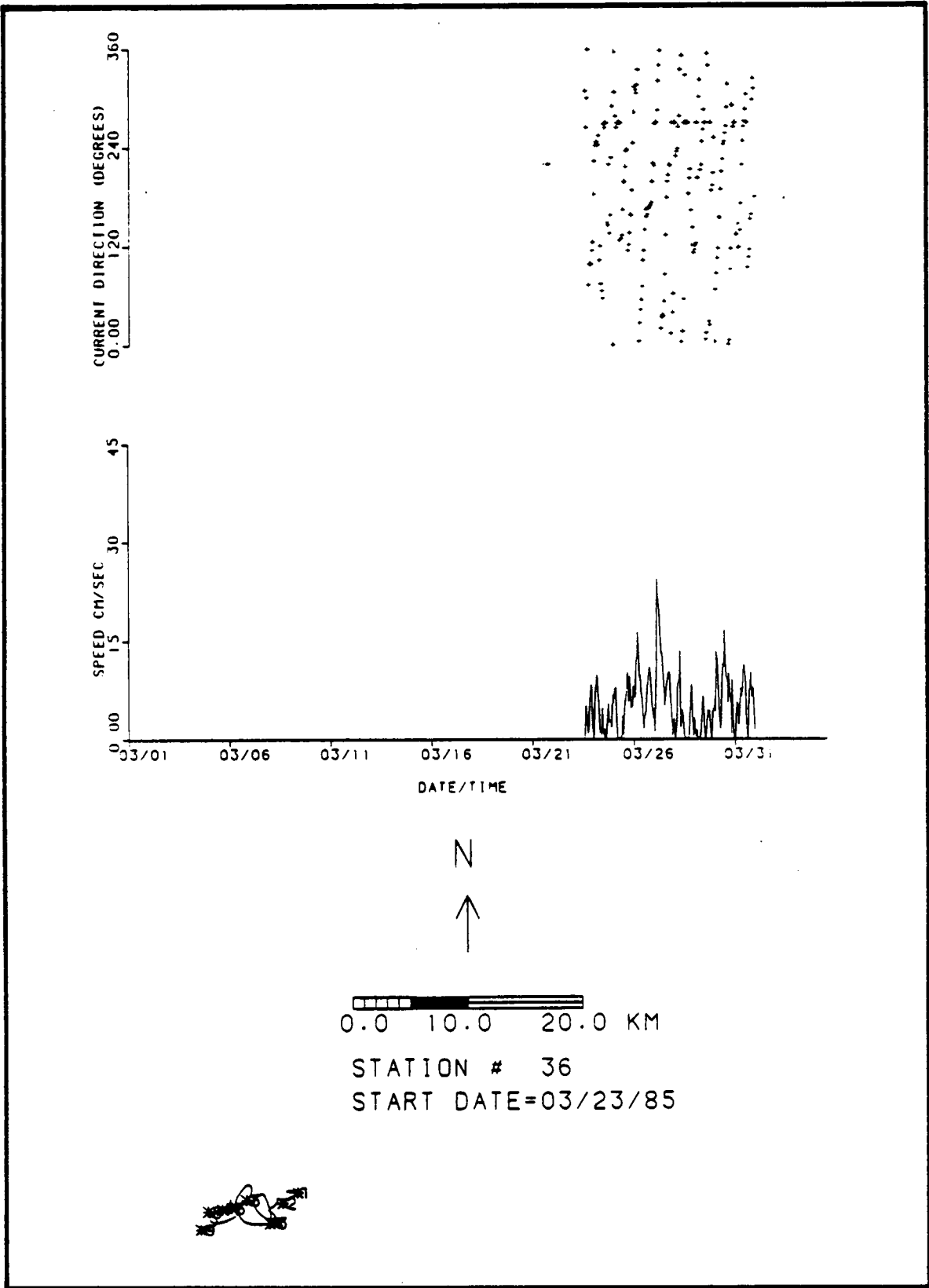


Figure B-72

STATION 36 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MARCH 1985

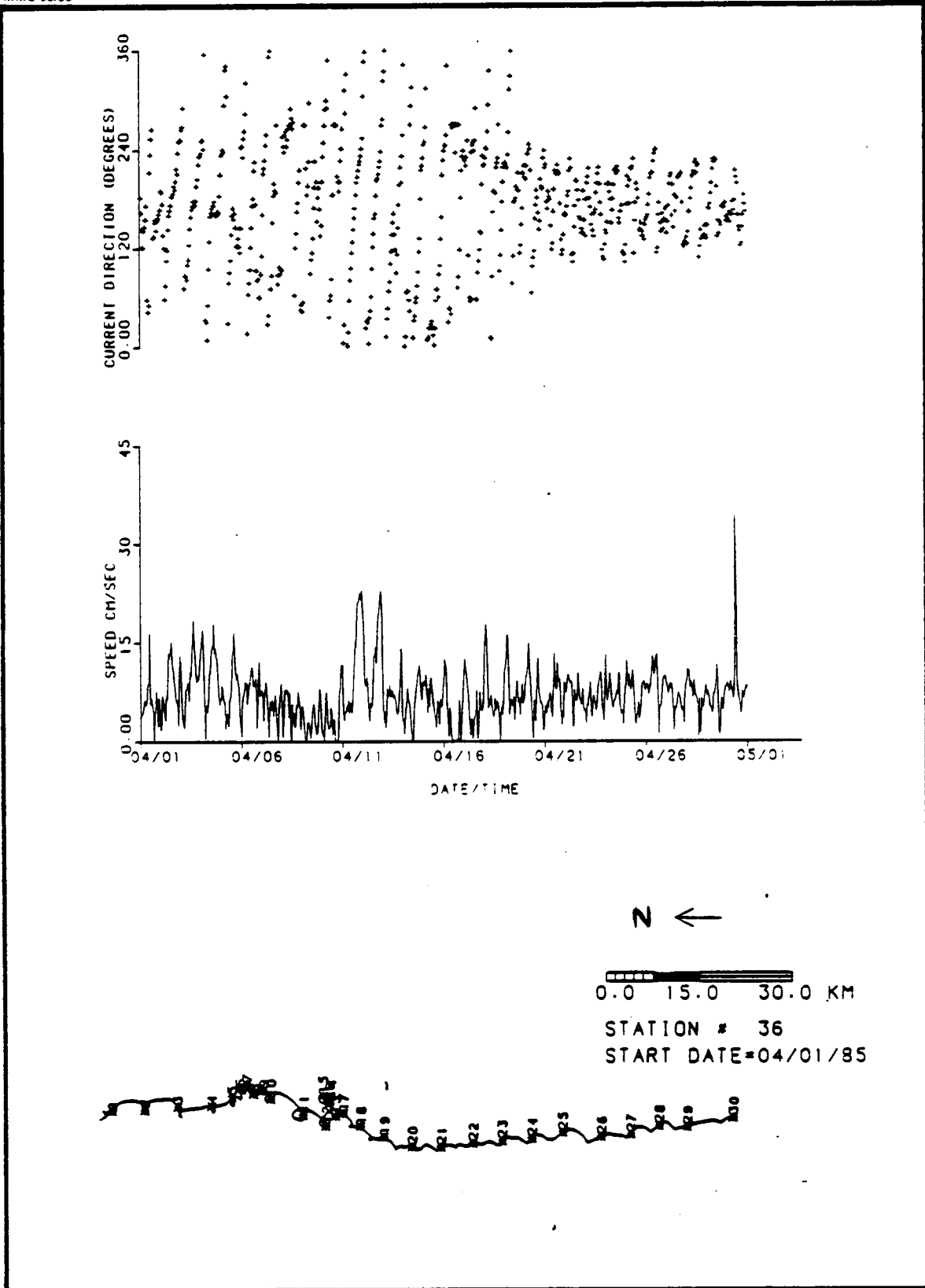


Figure B-73

STATION 36 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - APRIL 1985

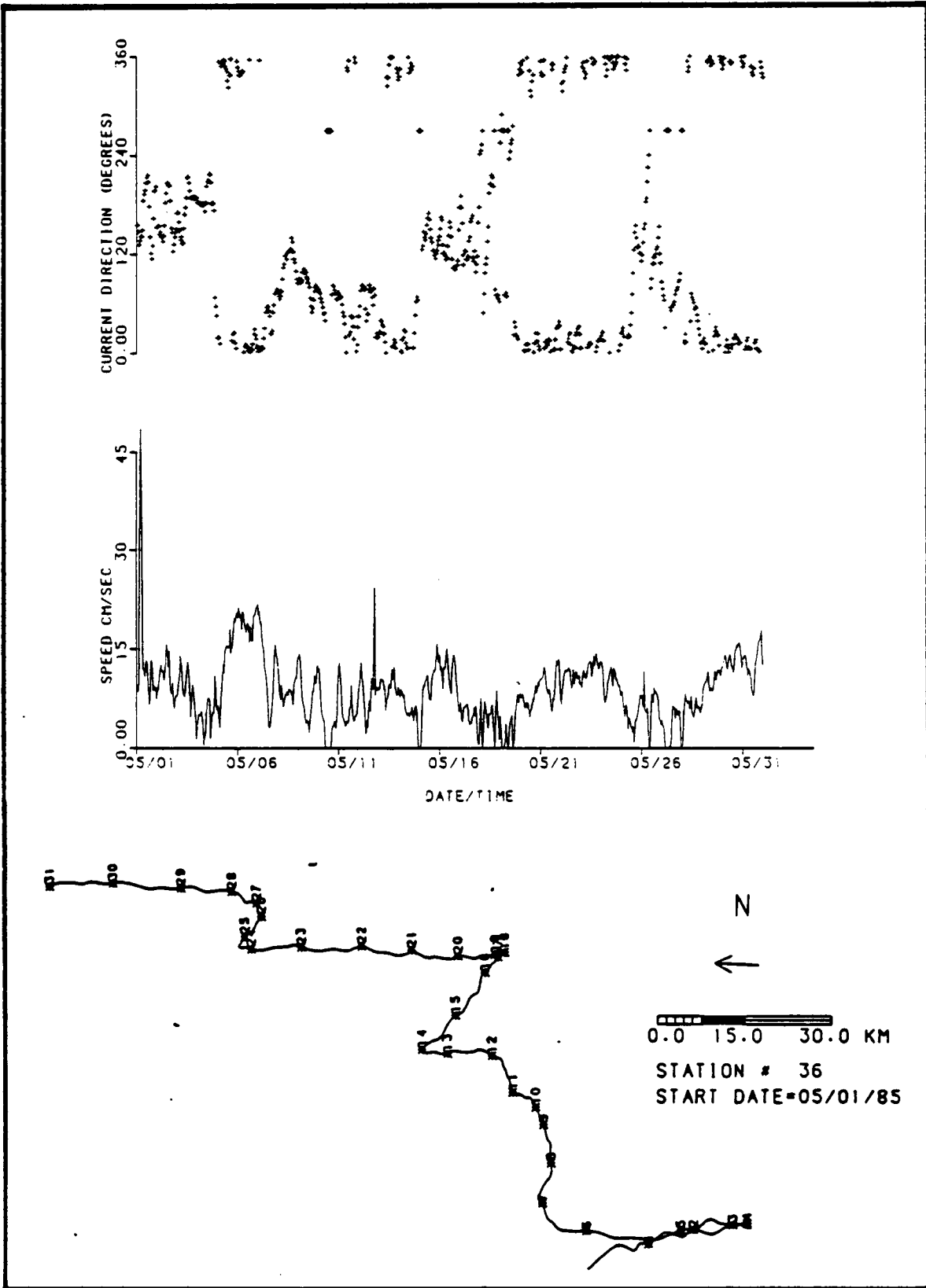


Figure B-74

STATION 36 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - MAY 1985

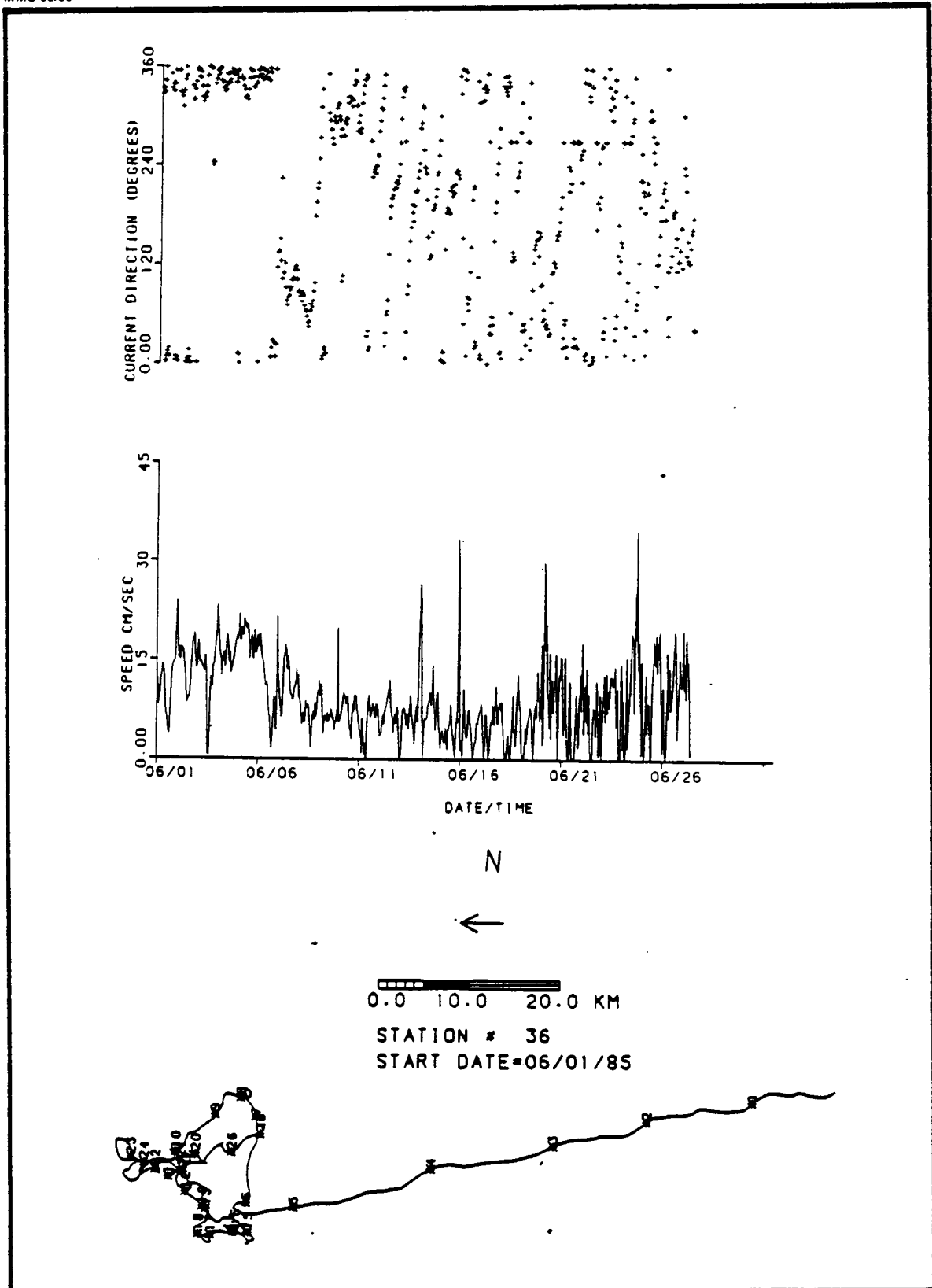


Figure B-75

STATION 36 CURRENT SPEED, DIRECTION AND
PROGRESSIVE VECTOR PLOTS - JUNE 1985

Table B-6

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		1132	15.4
5	6	7	18	65	110	167	112	77	87	107	130	134	65	22	18	7		1820	24.7
10		1	1	158	453	113	14	8	11	21	149	726	165					1830	24.8
15				214	684	20	5	1		4	14	708	179	1				1370	18.6
20				256	645	10					18	350	91					750	10.2
25				199	287	1				1	11	193	58					368	5.0
30				105	85	1					3	139	35					90	1.2
35				25	13							1	36	15				3	0.0
40												2	1					2	0.0
45				1	1													1	0.0
50												1						1	0.0
55					1													1	0.0
60					1													0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																	1	2	0.0
TOTAL	6	8	20	1023	2280	312	131	86	98	133	326	2289	609	24	18	7		7370	
PERCENT	0.08	0.11	0.27	13.88	30.94	4.23	1.78	1.17	1.33	1.80	4.42	31.06	8.26	0.33	0.24	0.09		100.00	

STATION AVERAGE = 12.70 CM/S

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 01/01/85 TO 01/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		1786	20.1
5	34	35	68	180	254	139	78	55	54	69	162	307	217	75	37	22		2277	25.6
10	1	1	22	320	522	102	34	29	22	43	98	701	377	5				2143	24.1
15	3			429	648	54	14	8	12	11	88	585	291					1523	17.1
20	3			352	486	46	7	2		4	26	385	212					762	8.6
25	2			204	263	10	1				8	188	86					298	3.3
30				85	100						5	72	36					101	1.1
35				51	25						1	12	12					5	0.1
40				2	1								2					3	0.0
45					1								2					3	0.0
50					2								1					0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
							2	1		1	1							5	0.1
TOTAL	43	36	90	1625	2300	353	135	94	89	128	388	2255	1231	80	37	22		8906	
PERCENT	0.48	0.40	1.01	18.25	25.83	3.96	1.52	1.06	1.00	1.44	4.36	25.32	13.82	0.90	0.42	0.25		100.00	
STATION AVERAGE = 11.66 CM/S																			

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	10	13	23	179	352	158	75	53	58	78	165	414	108	20	3	6	1715	28.2
5	5	2	8	152	351	84	13	17	20	26	80	383	127	5	5		1278	21.0
10	1		1	189	355	41	5	2	5	7	23	334	177	2	2		1144	18.8
15	3	1		97	151	13	2	6	2	4	10	120	69	1			479	7.9
20	3	1		141	226	31	2	3	5	11	17	166	86	2			694	11.4
25	5			25	72	14	3	2	1	1	3	66	31				223	3.7
30				54	120	9	2	1		5	10	90	37	1			329	5.4
35				10	12	1	1		2		3	8	7				44	0.7
40		1		17	42	12	2		5	2	8	41	12				142	2.3
45					2						1						3	0.0
50												1					1	0.0
55					2		1		1		1						5	0.1
60												1					1	0.0
65				1	1				1		1						4	0.1
70				1	1	3	1	3		1	3	4	2	1			20	0.3
75					1												1	0.0
80+					4						1	2					7	0.1
TOTAL	27	18	32	866	1692	366	107	87	100	135	326	1630	656	32	10	6	6090	
PERCENT	0.44	0.30	0.53	14.22	27.78	6.01	1.76	1.43	1.64	2.22	5.35	26.77	10.77	0.53	0.16	0.10		100.00
STATION AVERAGE = 12.80 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
 FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0				2	5	1	7	6	5	2	4	4	10	4	1	1		52	12.9
5					6	11	9	1			1	6	30	9				73	18.1
10					5	23	1						35	14				78	19.3
15					16	48							23	2				89	22.0
20					26	29							13	6				74	18.3
25					4	14							11	4				33	8.2
30													2	1				3	0.7
35																		0	0.0
40						1												1	0.2
45																		0	0.0
50																		0	0.0
55																		0	0.0
60						1												1	0.2
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	0	0	2	62	128	17	7	5	2	5	10	124	40	1	1	0		404	
PERCENT	0.00	0.00	0.50	15.35	31.68	4.21	1.73	1.24	0.50	1.24	2.48	30.69	9.90	0.25	0.25	0.00		100.00	
STATION AVERAGE = 14.90 CM/S																			

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 04/01/85 TO 04/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	26	31	50	112	152	133	102	57	70	85	130	137	131	59	39	24	1338	15.5
5		1	21	272	469	105	15	13	12	27	102	656	358	5			2056	23.9
10				394	667	21	11	7	11	9	43	633	263				2059	23.9
15				355	579	24	7	2		3	16	466	186				1636	19.0
20				206	303	7	1					230	104				651	9.9
25				143	124							158	62				487	5.7
30				69	34							35	24				162	1.9
35				2	1							4					7	0.1
40				1	1							2					4	0.0
45				2								2					4	0.0
50					1												1	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80*							2	1									3	0.3
TOTAL	26	32	71	1556	2331	292	137	79	93	124	291	2323	1128	64	39	24	8610	
PERCENT	0.30	0.37	0.82	18.07	27.07	3.39	1.59	0.92	1.08	1.44	3.38	26.98	13.10	0.74	0.45	0.28		100.00
STATION AVERAGE = 12.94 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 05/01/85 TO 05/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		2482	27.8
5	18	19	49	240	447	228	107	83	85	104	248	584	216	39	6	9		2216	24.9
10	5	2	9	269	566	145	36	31	29	50	127	717	221	4	5			1772	19.9
15	2		1	330	539	74	8	3	6	9	68	485	244	2	1			897	10.1
20	4	1		201	294	33	2	6	2	5	20	201	127	1				833	9.3
25	4	1		193	288	33	2	3	5	11	25	196	71	1				256	2.9
30	5			32	89	12	3	2	1	1	8	78	25					271	3.0
35				47	94	8	2	1		5	11	80	22	1				31	0.3
40				5	10	1	1		2		2	6	4					122	1.4
45		1		15	35	11	2		5	2	7	35	9					3	0.0
50					2							1						1	0.0
55													1					5	0.1
60					2		1		1		1							1	0.0
65												1						4	0.0
70					1	1			1		1							17	0.2
75					1	1	3	1	2		1	3	3	1	1			0	0.0
80+																		5	0.1
TOTAL	38	24	59	1335	2369	548	165	131	139	189	522	2387	940	49	12	9		8916	
PERCENT	0.43	0.27	0.66	14.97	26.57	6.15	1.85	1.47	1.56	2.12	5.85	26.77	10.54	0.55	0.13	0.10		100.00	
STATION AVERAGE = 11.49 CM/S																			

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 06/01/85 TO 06/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		3922	45.4
5	22	25	55	498	965	198	87	62	65	83	133	628	948	108	29	16		2065	23.9
10	1		3	335	711	28	1	3	4	10	52	353	548	13	2	1		1110	12.9
15			2	197	365	7					12	320	197		2	8		546	6.3
20	1			116	173	3					1	156	72	2	1	21		554	6.4
25				105	186	1					1	149	102	1		9		139	1.6
30				30	44	2					1	34	27			1		148	1.7
35				21	60	1						23	42					28	0.3
40				8	8						1	3	8					86	1.0
45				11	29	3					1	18	23					2	0.0
50														1		1		0	0.0
55																		2	0.0
60													1					0	0.0
65																		9	0.1
70				1	3					1						4		16	0.2
75				1	4	2		1			1	2	4	1				7	0.1
80+				2	2							2	1					0	0.0
TOTAL	24	25	60	1325	2550	245	88	66	69	94	203	1688	1973	126	34	64		8634	
PERCENT	0.28	0.29	0.69	15.35	29.53	2.84	1.02	0.76	0.80	1.09	2.35	19.55	22.85	1.46	0.39	0.74		100.00	
STATION AVERAGE =	0.46 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 07/01/85 TO 07/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	10	10	43	89	131	125	77	69	82	102	121	99	61	45	17	8	1105	12.4
5	8	20	33	206	364	66	7	4	7	12	142	300	168	20	9	12	1458	16.4
10	6	11	34	530	668	9		2	1		26	924	282	43	10	13	2559	28.8
15		6	11	505	387						7	719	204	12	1	8	1860	20.9
20			6	412	246						8	525	84			19	1300	14.6
25			4	208	63						2	150	23			23	473	5.3
30				58	28							28	5				119	1.3
35				4													4	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+							1		1					3			5	0.1
TOTAL	32	55	131	2012	1887	200	85	75	91	114	306	2825	827	123	37	83	8883	
PERCENT	0.36	0.62	1.47	22.65	21.24	2.25	0.96	0.84	1.02	1.28	3.44	31.80	9.31	1.38	0.42	0.93		100.00
STATION AVERAGE = 13.98 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
 FROM 08/01/85 TO 08/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		550	17.4
5	5	15	24	82	60	32	35	20	41	40	50	73	39	18	9	7		808	25.6
10			6	192	213	13			3	1	28	239	106	7				958	30.4
15				299	200				3			310	146					428	13.6
20				108	85				4		1	143	87					249	7.9
25				95	28				6		2	106	12					106	3.2
30				45	3							52						53	1.7
35				40	1							12						9	0.3
40				9														0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		1	0.0
TOTAL	5	15	30	870	590	45	35	20	57	41	81	935	391	25	9	7		3156	
PERCENT	0.16	0.48	0.95	27.57	18.69	1.43	1.11	0.63	1.81	1.30	2.57	29.63	12.39	0.79	0.29	0.22		100.00	
STATION AVERAGE	= 11.77 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
 FROM 09/01/85 TO 09/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		565	11.3
5	4	12	14	33	86	62	40	49	44	59	47	66	29	13	6	1		741	14.8
10			2	93	191	45	6	9	7	21	75	219	73					1244	24.8
15				187	387	6					40	497	127					1179	23.5
20				213	358						7	491	110					914	18.3
25				256	260						3	336	59					307	6.1
30				76	150						1	67	13					54	1.1
35				16	28							10						3	0.1
40				2	1													0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	4	12	16	876	1461	113	46	58	51	80	173	1686	411	13	6	1		5007	
PERCENT	0.08	0.24	0.32	17.50	29.18	2.26	0.92	1.16	1.02	1.60	3.46	33.67	8.21	0.26	0.12	0.02		100.00	
STATION AVERAGE = 14.68 CM/S																			

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 52
FROM 10/01/85 TO 10/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		2057	32.6
5	8	14	21	166	456	250	116	82	96	124	199	386	82	33	14	10		1845	29.2
10		2	18	396	490	37	4				1	46	671	166	8	6		1752	27.7
15			18	547	331	65	8					1	584	195	3			587	9.3
20				263	97	16							154	57				72	1.1
25				20	2								13	37				1	0.0
30														1				0	0.0
35																		0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	8	16	57	1392	1376	368	128	82	96	125	246	1808	538	44	20	10		6314	
PERCENT	0.13	0.25	0.90	22.05	21.79	5.83	2.03	1.30	1.52	1.98	3.90	28.63	8.52	0.70	0.32	0.16		100.00	
STATION AVERAGE =		0.17 CM/S																	

B-17

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
 FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																			
5	5					102	14								1	166		288	12.5
10	2					170	13									432		617	26.9
15	1					257	29							1		351		639	27.8
20	2					194	12									241		449	19.6
25	2					97									1	67		167	7.3
30	2					59												61	2.7
35	1					22										1		24	1.0
40						8												8	0.3
45	3					13												16	0.7
50						8												8	0.3
55	1					8												9	0.4
60																		0	0.0
65	1																	1	0.0
70	3																	3	0.1
75	2																	2	0.1
80+	1																	1	0.0
	3																	3	0.1
TOTAL	29	0	0	0	0	938	68	0	0	0	0	0	0	1	2	1258		2296	
PERCENT	1.26	0.00	0.00	0.00	0.00	40.85	2.96	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	54.79		100.00	
STATION AVERAGE = 12.99 CM/S																			

R-107

B-18

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
 FROM 01/01/85 TO 01/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE															TOTAL	PERCENT		
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315			337	360
0					1557	245										572		2377	26.7
5		3			1710	545										4	935	3195	35.9
10		1			917	466	1	13								33	557	1988	22.3
15					417	186	32	31								32	164	862	9.7
20		4			65	116	42	11					1	1		4	35	279	3.1
25		3			14	61	15	3				1	1	1	1	19		119	1.3
30						33	7	5				2	1	2		3		53	0.6
35						6	2	2				1						11	0.1
40																		2	0.0
45		2																1	0.0
50		1																0	0.0
55																		0	0.0
55		4					1											5	0.1
60		1																1	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
75		3																3	0.0
80+																	1	1	0.0
TOTAL	23	0	0	0	4680	1659	99	65	0	0	0	4	3	4	74	2286		8897	
PERCENT	0.26	0.00	0.00	0.00	52.60	18.65	1.11	0.73	0.00	0.00	0.00	0.04	0.03	0.04	0.83	25.69			100.00
STATION AVERAGE =	9.19 CM/S																		

J
1
0

B-19

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
 FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0						2972												2972	37.0
5						3219												3219	40.1
10						1523												1523	19.0
15						243	6											249	3.1
20						29	22											51	0.6
25						5	13											18	0.2
30						1	1											2	0.0
35						1												1	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	0	0	0	0	0	7993	42	0	0	0	0	0	0	0	0	0	0	8035	
PERCENT	0.00	0.00	0.00	0.00	0.00	99.48	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	
STATION AVERAGE =		6.97 CM/S																	

R-102

B-20

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
 FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT		
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360	
0	4				183	1160											2	1349	46.3	
5					92	907													999	34.3
10					62	343													405	13.9
15						101													101	3.5
20					1	44													45	1.5
25						10													10	0.3
30						3													3	0.1
35																			0	0.0
40																			0	0.0
45						1													1	0.0
50																			0	0.0
55																			0	0.0
60																			0	0.0
65																			0	0.0
70																			0	0.0
75																			0	0.0
80+																			0	0.0
TOTAL	4	0	0	0	338	2569	0	0	0	0	0	0	0	0	0	0	2		2913	
PERCENT	0.14	0.00	0.00	0.00	11.60	88.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07			100.00
STATION AVERAGE =		6.54 CM/S																		

R-105

B-21

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
 FROM 07/01/85 TO 07/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	90	94	104	151	216	311	162	148	128	108	126	159	175	202	149	108	2431	28.8
5	10	8	26	196	410	695	336	76	20	18	44	173	439	519	162	31	3163	37.5
10	10	1	3	27	220	561	136	7			2	28	575	325	44	27	1966	23.3
15	1				29	54	9	1				3	216	208	28	3	552	6.5
20						1							19	40	13	5	78	0.9
25													2	12	11	1	26	0.3
30													1	5	4		10	0.1
35														9	2		11	0.1
40																		
45														14	7	1	22	0.3
50														16	28		44	0.5
55													1	31	17		49	0.6
60														11	55	15	81	1.0
65														2	6	4	12	0.1
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	111	103	133	374	875	1622	643	232	148	126	172	363	1441	1442	484	176	8445	
PERCENT	1.31	1.22	1.57	4.43	10.36	19.21	7.61	2.75	1.75	1.49	2.04	4.30	17.06	17.08	5.73	2.08		100.00
STATION AVERAGE = 9.18 CM/S																		

B-22

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
FROM 08/01/85 TO 08/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	133	154	109	276	307	429	274	181	117	131	125	128	227	297	286	168	3422	38.5
5	45	48	66	164	410	660	216	36	7	6	45	179	563	581	201	61	3288	37.0
10	19	17	2	1	109	270	55					28	437	462	82	23	1505	16.9
15	4	2					1					2	162	227	42	12	452	5.1
20													38	98	29		165	1.9
25														13	15		28	0.3
30														1	18	7	26	0.3
35															1		1	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																1	1	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+				1								1		1			3	0.0
TOTAL	201	221	258	441	826	1359	546	217	124	137	170	338	1428	1698	663	264	8891	
PERCENT	2.26	2.49	2.90	4.96	9.29	15.29	6.14	2.44	1.39	1.54	1.91	3.80	16.06	19.10	7.46	2.97	100.00	
STATION AVERAGE = 7.22 CM/S																		

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B-23

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
 FROM 09/01/85 TO 09/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	190	241	324	369	332	340	172	92	92	111	134	155	354	338	247	208	3699	42.6
5	45	107	224	284	353	558	130	35	9	8	34	136	418	403	163	81	2988	34.6
10	2	62	137	141	105	172	25				2	42	254	195	29	14	1180	13.7
15		20	54	63	10	61	11					6	54	56	9	2	346	4.0
20		4	20	7		4							7	46	6		94	1.1
25		4	17	8									8	39	2	1	79	0.9
30		2	13	9									7	13	1	1	46	0.5
35			14	6								1	6	2			29	0.3
40		4	30	31									17	12		1	95	1.1
45		1	12	14									6	5		1	39	0.5
50		1	5	10									7	6			29	0.3
55			2	1									1				4	0.0
60																	0	0.0
65																	0	0.0
70													9				9	0.1
75													1				1	0.0
80+																	0	0.0
TOTAL	237	446	852	943	800	1135	338	127	101	119	170	340	1149	1115	457	309	3638	
PERCENT	2.74	5.16	9.86	10.92	9.26	13.14	3.91	1.47	1.17	1.38	1.97	3.94	13.30	12.91	5.29	3.58		100.00
STATION AVERAGE	= 7.36 CM/S																	

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B-24

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 44
FROM 10/01/85 TO 10/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0													49	341	181	110	90	1443	31.3
5	111	196	178	187									55	368	145	36	30	1350	29.3
10	59	153	314	190									40	224	65	3	6	900	19.5
15	14	154	260	134									9	101	27		3	305	6.6
20	4	29	95	37									1	36	5		2	72	1.6
25		7	17	4									3	21	3	1	2	65	1.4
30		8	21	6									3	21	3	1	2	65	1.4
35		17	32	15									1	34	8	1	1	109	2.4
40	1	4	12	10									3	18	4		1	53	1.2
45	1	13	38	19									4	59	9	1	1	145	3.1
50	2	9	18	13									6	20	12		1	81	1.8
55		9	19	13									3	16	6	1		67	1.5
60	1	1	5											2	5		1	15	0.3
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	193	600	1009	628	0	0	0	0	0	0	0	0	174	1240	470	153	138	4605	
PERCENT	4.19	13.03	21.91	13.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.78	26.93	10.21	3.32	3.00	100.00	
STATION AVERAGE = 11.20 CM/S																			

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B-25

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		911	16.3
5	76	81	77	64	39	50	42	44	59	60	57	59	66	47	47	43		1373	24.6
10	185	202	122	29	7	8	10	20	140	155	151	76	53	62	66	87		1199	21.5
15	272	284	67	16				7	98	222	118	51	16	1	3	44		744	13.3
20	173	223	32	1					55	176	68	11				5		482	8.6
25	96	173	12						19	144	31	1				6		359	6.4
30	45	173	6						9	113	13							280	5.0
35	28	171	9						9	57	6							163	2.9
40	7	131	3						1	21								55	1.0
45	3	43	1							7	1							8	0.1
50	1	6									1							0	0.0
55																		2	0.0
60		2																2	0.0
65			2															0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	886	1491	329	110	46	58	52	71	390	955	446	198	135	110	116	185		5578	
PERCENT	15.88	26.73	5.90	1.97	0.82	1.04	0.93	1.27	6.99	17.12	8.00	3.55	2.42	1.97	2.08	3.32		100.00	
STATION AVERAGE = 14.14 CM/S																			

B-26

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 01/01/85 TO 01/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	130	176	145	120	97	92	92	104	167	130	84	64	55	53	53	53	1615	18.2
5	200	426	174	81	44	31	57	109	313	394	150	77	35	43	55	72	2261	25.4
10	231	475	106	25		4	3	16	183	452	174	33	3	2	4	37	1748	19.6
15	127	321	54	1			2	5	153	460	98	3				10	1234	13.9
20	109	263	25					1	86	373	35	1				1	894	10.0
25	61	206	5						49	212	7						540	6.1
30	23	148	8						22	121	2						324	3.6
35	5	85	7						9	68	2						176	2.0
40	2	46	1						1	31							81	0.9
45	1	11							1	9							22	0.2
50										1							1	0.0
55									1								1	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	889	2157	525	227	141	127	154	235	985	2251	552	178	93	98	112	173	8697	
PERCENT	9.99	24.24	5.90	2.55	1.58	1.43	1.73	2.64	11.07	25.30	6.20	2.00	1.05	1.10	1.26	1.94		100.00
STATION AVERAGE = 13.53 CM/S																		

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B-27

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
 FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		1513	18.8
5	116	128	140	106	61	93	84	98	135	168	105	61	49	56	53	60	2195	27.3	
10	138	325	251	115	44	34	62	163	355	399	151	37	21	29	35	36	1486	18.5	
15	169	374	111	18	8	3	10	81	296	324	63	8	2	3		16	1079	13.4	
20	128	399	55	1				18	178	258	38	1				3	809	10.1	
25	54	344	14					3	106	267	21						516	6.4	
30	20	187	9					2	74	219	5						254	3.2	
35	3	80	4						40	124	3						120	1.5	
40	2	44	2						19	52	1						43	0.5	
45		16	1						4	22							19	0.2	
50	1	14	1						1	2							1	0.0	
55		1															0	0.0	
60																	0	0.0	
65																	0	0.0	
70																	0	0.0	
75																	0	0.0	
80+																	0	0.0	
TOTAL	631	1912	588	240	113	130	156	365	1208	1835	387	107	72	88	88	115	8035		
PERCENT	7.85	23.80	7.32	2.99	1.41	1.62	1.94	4.54	15.03	22.84	4.82	1.33	0.90	1.10	1.10	1.43	100.00		
STATION AVERAGE = 13.12 CM/S																			

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	117	257	192	176	133	130	156	191	209	245	113	81	60	72	56	80	2268	25.5
5	121	302	244	90	23	16	15	93	373	450	125	60	37	19	42	82	2172	24.4
10	124	507	169	24	3	2	1	51	408	571	88	9	2		2	21	1982	22.3
15	108	357	20	1		2	1	18	290	375	33			1		4	1216	13.6
20	49	184	8	1	1	1		2	116	162	10		2	1	1	1	539	6.1
25	17	123	6						65	96	3	1		1			312	3.5
30	12	108	1	1	1	1		1	25	38		2					190	2.1
35	6	36	1		1	1	1		2	9						1	58	0.7
40	4	20		1	1				2	1			2	1	1		33	0.4
45	2	8		1			2				3	1		1		1	19	0.2
50	1	6	1	1				1						1	2		13	0.1
55	2	1		2					1	3			1	2	2		14	0.2
60	1	1	1			2			1	2				2			10	0.1
65	1	1				3	1	1	4		2		1		1	1	16	0.2
70		1		1	1			1		1							5	0.1
75		1			1				1	2	1	2	3	1		1	13	0.1
80+	2			1	1	4	5		1	5	4	4		1	6	1	35	0.4
TOTAL	567	1993	643	300	166	162	182	359	1498	1960	382	160	108	103	113	193	8889	
PERCENT	6.38	22.42	7.23	3.37	1.87	1.82	2.05	4.04	16.85	22.05	4.30	1.80	1.21	1.16	1.27	2.17		100.00
STATION AVERAGE = 11.90 CM/S																		

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B-29

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 04/01/85 TO 04/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		1857	21.6
5	77	174	125	157	136	130	116	133	248	323	91	50	21	19	21	36		2476	28.8
10	18	201	317	269	182	226	206	232	325	449	26	7	3	3	6	6		1694	19.7
15	14	201	344	143	12	7	27	186	479	245	18	6	4		2	6		1146	13.3
20	27	175	130	17				24	524	230	17	1				1		789	9.2
25	20	160	58	1				4	320	211	15							316	3.7
30	8	66	5						101	134	2							183	2.1
35	1	16	1						53	111	1							100	1.2
40									30	69	1							29	0.3
45									8	21								13	0.2
50									5	8								3	0.0
55									2	1								1	0.0
60										1								2	0.0
65									1	1								1	0.0
70											1							0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	165	993	980	587	330	363	349	579	2096	1805	171	64	28	22	29	49		8610	
PERCENT	1.92	11.53	11.38	6.82	3.83	4.22	4.05	6.72	24.34	20.96	1.99	0.74	0.33	0.26	0.34	0.57		100.00	
STATION AVERAGE = 11.84 CM/S																			

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B-30

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 05/01/85 TO 05/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																	TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337	360		
0	175	344	307	129	68	72	89	151	422	450	141	62	51	40	65	88	2654	51.6	
5	52	456	115	2				3	256	649	65	4					1602	31.1	
10	8	210	26						33	256	16						549	10.7	
15	8	101	6						24	117	1						257	5.0	
20	2	48								7							57	1.1	
25	2	13	1							1							17	0.3	
30	1	4								1							6	0.1	
35										1							1	0.0	
40																	0	0.0	
45																	0	0.0	
50																	0	0.0	
55																	0	0.0	
60																	0	0.0	
65																	0	0.0	
70																	0	0.0	
75																	0	0.0	
80+																	0	0.0	
TOTAL	248	1176	455	131	68	72	89	154	735	1482	223	66	51	40	65	88	5143		
PERCENT	4.82	22.07	8.85	2.55	1.32	1.40	1.73	2.99	14.29	28.82	4.34	1.28	0.99	0.78	1.26	1.71		100.00	
STATION AVERAGE =		6.03 CM/S																	

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B-31

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
 FROM 06/01/85 TO 06/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		221	22.7
5	8	17	15	6	18	7	10	11	29	14	11	6	66	1			2	214	22.0
10	6	46	27	21	6	10	3	14	38	28	13	2						231	23.7
15	5	34	36	19				2	40	77	18							175	18.0
20		42	32		1			1	28	58	13							90	9.2
25		19	4						31	36								32	3.3
30									12	20								9	0.9
35									5	4								0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+	1																	1	0.1
																		0	0.0
TOTAL	20	158	114	46	25	17	13	28	183	237	55	8	66	1	0	2	973		
PERCENT	2.06	16.24	11.72	4.73	2.57	1.75	1.34	2.88	18.81	24.36	5.65	0.82	6.78	0.10	0.00	0.21	100.00		
STATION AVERAGE	= 11.43 CM/S																		

B-116

B-32

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
 FROM 07/01/85 TO 07/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	67	262	622	151	121	281	198	184	193	204	362	53	64	119	68	57	3006	33.8
5	71	274	374	199	92	21	35	129	521	526	402	51	22	8	13	26	2764	31.1
10	40	303	293	9	1		3	24	359	503	205	6				1	1747	19.6
15	9	202	157	2				1	179	293	73	3					919	10.3
20		102	41	1					71	122	4						341	3.8
25	1	37	6						10	25							79	0.9
30		23	6						1	1							31	0.3
35																	4	0.0
40									3	1							4	0.0
45										2							2	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	188	1207	1499	362	214	302	236	338	1337	1677	1046	113	86	127	81	84	8897	
PERCENT	2.11	13.57	16.85	4.07	2.41	3.39	2.65	3.80	15.03	18.85	11.76	1.27	0.97	1.43	0.91	0.94		100.00
STATION AVERAGE =	8.55 CM/S																	

B-117

B-33

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
 FROM 08/01/85 TO 08/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		4627	52.0
5		502	1308			570	188		107	606	1088			191	67			2416	27.2
10		393	927			26	12		106	395	552			2	3			1110	12.5
15		233	366			3	2		53	199	254							376	4.2
20		104	143			1			14	50	61			3				376	4.2
25		59	84			1				1	4			7	6			162	1.8
30		43	40						1	1				2	1			88	1.0
35		22	19								1			4				46	0.5
40		5	3															8	0.1
45		9	8															17	0.2
50		7	10															17	0.2
55		5	8															13	0.1
60		2	6															8	0.1
65		4	2															6	0.1
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	0	1388	2924	0	0	601	202	0	281	1252	1960	0	0	209	77	0		8894	
PERCENT	0.00	15.61	32.88	0.00	0.00	6.76	2.27	0.00	3.16	14.08	22.04	0.00	0.00	2.35	0.87	0.00		100.00	
STATION AVERAGE =		6.62 CM/S																	

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B-34

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
 FROM 09/01/85 TO 09/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		4270	49.6
5	49	252	1203	63	32	460	191	46	142	640	920	28	30	107	62	45	1834	21.3	
10	101	233	294	39	14	6	3	30	148	457	413	33	13	8	13	29	867	10.1	
15	80	298	176	8	5	2	2	2	57	157	62	6	2		2	8	675	7.8	
20	43	324	122	3		1		1	49	111	16	1	1		2	1	391	4.5	
25	39	252	52	2	1	1	2	1	5	25	3	3	1	1	1	2	255	3.0	
30	28	186	30			1	1	1	2	1		2	1	1	1		218	2.5	
35	15	156	29	4		2	2	3		1		1	1	4			71	0.8	
40	2	49	15					1			2			1		1	12	0.1	
45		7	5														1	0.0	
50		1															1	0.0	
55		1															1	0.0	
60			1														1	0.0	
65				1													1	0.0	
70						1											1	0.0	
75																	0	0.0	
80+								1				1					2	0.0	
				1		4											5	0.1	
TOTAL	357	1760	1927	120	52	478	201	86	403	1392	1416	75	49	122	81	86	8605		
PERCENT	4.15	20.45	22.39	1.39	0.60	5.55	2.34	1.00	4.68	16.18	16.46	0.87	0.57	1.42	0.94	1.00	100.00		
STATION AVERAGE =	8.30 CM/S																		

B-35

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 10/01/85 TO 10/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		1701	19.1
5	61	53	130	133	125	114	100	153	182	181	144	75	61	62	63	64		2036	22.9
10	128	278	198	96	58	17	68	216	477	308	109	35	11	5	5	27		1786	20.1
15	60	263	155	2			3	82	646	492	81	1				1		1513	17.0
20	35	290	46			1		9	610	498	24							896	10.1
25	14	202	20	1				3	297	350	9							584	6.6
30	1	112	8					3	182	273	5							309	3.5
35		27	6						87	189								60	0.7
40		9	5						7	39								4	0.0
45		3								1								1	0.0
50			1															1	0.0
55										1								3	0.0
60		2							1									1	0.0
65										1								0	0.0
70																		0	0.0
75		1																1	0.0
80+																		0	0.0
TOTAL	299	1240	569	232	183	132	171	466	2489	2333	372	111	72	67	68	92		8896	
PERCENT	3.36	13.94	6.40	2.61	2.06	1.48	1.92	5.24	27.98	26.23	4.18	1.25	0.81	0.75	0.76	1.03		100.00	
STATION AVERAGE =		13.08 CM/S																	

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B-36

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 55
FROM 11/01/85 TO 11/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		3819	44.4
5		600	450	19	15	288	528	34	135	1263	260	5	8	100	114			1943	22.6
10		327	48			6	13	11	213	1187	96		2	19	21			1359	15.8
15		312	17					1	198	791	17			7	16			834	9.7
20		113	5						154	525	8			12	17			348	4.0
25		11							72	255	1			1	8			156	1.8
30		4							26	119	2			1	4			87	1.0
35		10							9	66					2			28	0.3
40		8	1						1	18								11	0.1
45		10								1								19	0.2
50		19																1	0.0
55		1																0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	0	1415	521	19	15	294	541	46	808	4225	384	5	10	140	182	0		8605	
PERCENT	0.00	16.44	6.05	0.22	0.17	3.42	6.29	0.53	9.39	49.10	4.46	0.06	0.12	1.63	2.12	0.00		100.00	
STATION AVERAGE =	0.07 CM/S																		

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B-38

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	113	141	126	177	200	249	316	257	181	188	280	102	183	149	105	92	2859	36.6
5	25	57	136	361	643	602	284	153	116	104	178	215	147	127	50	42	3320	42.5
10	2	10	36	90	278	335	178	75	51	55	79	124	104	39	8	1	1465	18.4
15						35	55	24	14	18	4	2	1				153	2.0
20							1	6	1								8	0.1
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	140	208	298	628	1121	1301	834	515	363	365	541	443	435	315	163	135	7805	
PERCENT	1.79	2.66	3.82	8.05	14.36	16.67	10.69	6.60	4.65	4.68	6.93	5.68	5.57	4.04	2.09	1.73		100.00
STATION AVERAGE =		6.63 CM/S																

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B-39

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
FROM 01/01/85 TO 01/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	199	212	198	256	243	282	211	183	164	163	153	178	213	231	224	186	3296	37.0
5	48	102	133	334	440	511	289	192	159	157	271	241	281	267	152	94	3671	41.3
10	2	12	33	16	39	147	151	151	75	97	151	134	148	92	11		1259	14.2
15					2	34	128	110	82	83	14	14	40	6			513	5.8
20						8	63	45	12	2							130	1.5
25							19	8									27	0.3
30								1									1	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	249	326	364	606	724	982	862	689	492	502	589	567	682	596	387	280	8897	
PERCENT	2.80	3.66	4.09	6.81	8.14	11.04	9.69	7.74	5.53	5.64	6.62	6.37	7.67	6.70	4.35	3.15		100.00
STATION AVERAGE =	7.13 CM/S																	

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B-40

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	95	107	107	162	292	208	203	183	136	173	197	233	271	207	149	133	2936	36.5
5	47	60	153	305	374	468	297	157	105	147	187	343	439	227	103	51	3463	43.1
10			9	155	213	125	131	128	66	68	48	119	208	40	1		1311	16.3
15				1	4	53	40	92	45	1	1	4	7	2			250	3.1
20							14	32	8								54	0.7
25							10	11									21	0.3
30							1										1	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	142	167	269	623	883	934	696	603	360	389	433	699	925	476	253	184	8036	
PERCENT	1.77	2.08	3.35	7.75	10.99	11.62	8.66	7.50	4.48	4.84	5.39	8.70	11.51	5.92	3.15	2.29		100.00
STATION AVERAGE =	6.90 CM/S																	

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B-41

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	115	164	170	325	285	304	247	233	195	176	151	247	338	238	173	114	3475	39.4
5	47	84	166	444	398	477	279	135	71	114	210	436	451	313	164	76	3865	43.9
10			21	175	196	195	65	11	4	11	18	125	250	109	24	1	1205	13.7
15				24	111	72	4				1	1	18	10			241	2.7
20				2	19	2											23	0.3
25															1		1	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	162	248	357	970	1009	1050	595	379	270	301	380	809	1057	671	361	191	8810	
PERCENT	1.84	2.81	4.05	11.01	11.45	11.92	6.75	4.30	3.06	3.42	4.31	9.18	12.00	7.62	4.10	2.17		100.00
STATION AVERAGE =	6.38 CM/S																	

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B-42

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 04/01/85 TO 04/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL PERCENT		
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337	360		
0	173	197	172	255	176	198	239	178	213	178	190	187	257	249	169	109		3140	36.5
5	23	47	150	370	694	665	383	166	102	111	147	228	264	93	43	32		3518	40.9
10		2	11	157	651	399	98	17	10	11	42	127	114	35				1674	19.4
15			1	29	170	49					1	11	15					276	3.2
20						2												2	0.0
25																		0	0.0
30																		0	0.0
35																		0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	196	246	334	811	1693	1311	720	361	325	300	380	553	650	377	212	141		8610	
PERCENT	2.28	2.86	3.88	9.42	19.66	15.23	8.36	4.19	3.77	3.48	4.41	6.42	7.55	4.38	2.46	1.64			100.00
STATION AVERAGE =		6.97 CM/S																	

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B-43

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 05/01/85 TO 05/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0	117	132	143	183	210	298	333	464	413	409	361	198	200	178	159	122		3920	44.1
5	10	14	73	326	534	831	460	194	161	179	202	212	408	230	61	6		3901	43.9
10				67	357	270	131	28	8	8	22	70	95	17				1073	12.1
15							1	1										2	0.0
20																		0	0.0
25																		0	0.0
30																		0	0.0
35																		0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
TOTAL	127	146	216	576	1101	1400	925	686	582	596	585	480	703	425	220	128		8896	
PERCENT	1.43	1.64	2.43	6.47	12.38	15.74	10.40	7.71	6.54	6.70	6.58	5.40	7.90	4.78	2.47	1.44			100.00
STATION AVERAGE =		5.90 CM/S																	

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B-44

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
FROM 06/01/85 TO 06/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	262	212	251	308	397	498	407	254	216	254	274	444	406	371	384	248	5186	60.2
5	9	12	41	403	731	531	140	50	20	27	90	162	425	293	70	32	3036	35.3
10				22	175	69	6					33	46	25	6		382	4.4
15					5												5	0.1
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	271	224	292	733	1308	1098	553	304	236	281	364	639	877	689	460	280	8609	
PERCENT	3.15	2.60	3.39	8.51	15.19	12.75	6.42	3.53	2.74	3.26	4.23	7.42	10.19	8.00	5.34	3.25		100.00
STATION AVERAGE = 4.59 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
FROM 07/01/85 TO 07/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0	100	212	154	248	287	368	337	204	244	247	225	319	309	196	184	165	3879	43.7	
5	33	78	180	371	415	429	152	59	51	78	151	301	392	486	204	85	3465	39.0	
10	1	1	10	106	197	68		1	3	5	25	135	173	206	45	8	984	11.1	
15						1		1			1	2	54	72	68	54	14	267	3.0
20													2	15	11	12	8	48	0.5
25													1	5	4	16		26	0.3
30													1	3	15	21	3	43	0.5
35														1	24	37	3	65	0.7
40															14	19		33	0.4
45															3	9		12	0.1
50															2	10		12	0.1
55															3	8		11	0.1
60															4	4		8	0.1
65															1			1	0.0
70																		0	0.0
75																		0	0.0
80+	1	2	2	8	5	2						2	2	1			1	26	0.3
TOTAL	215	293	346	733	904	868	489	265	298	331	405	815	971	1010	600	337	8880		
PERCENT	2.42	3.30	3.90	8.25	10.18	9.77	5.51	2.98	3.36	3.73	4.56	9.18	10.93	11.37	6.76	3.80	100.00		
STATION AVERAGE =	7.16 CM/S																		

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B-46

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
FROM 08/01/85 TO 08/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																	TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337	360		
0	429	443	492	632	551	416	264	232	187	204	371	802	971	861	773	480	8108	91.1	
5	69	21	12	69	52	40	13	3	2	6	38	16	50	151	98	42	682	7.7	
10	7							1							28	23	59	0.7	
15															33	11	44	0.5	
20															3		3	0.0	
25															1		1	0.0	
30																	0	0.0	
35																	0	0.0	
40																	0	0.0	
45																	0	0.0	
50																	0	0.0	
55																	0	0.0	
60																	0	0.0	
65																	0	0.0	
70																	0	0.0	
75																	0	0.0	
80+																	0	0.0	
TOTAL	505	464	504	701	603	456	277	236	189	210	409	818	1021	1012	936	556	8897		
PERCENT	5.68	5.22	5.66	7.88	6.78	5.13	3.11	2.65	2.12	2.36	4.60	9.19	11.48	11.37	10.52	6.25		100.00	
STATION AVERAGE =	2.37 CM/S																		

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B-47

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 09/01/85 TO 09/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	294	208	369	667	1020	673	262	233	200	303	301	387	267	295	262	298	6119	71.1
5	122	79	163	206	239	130	58	49	50	49	95	67	100	104	81	35	1627	18.9
10			13	96	130	119	97	23	8	11	18	66	123	42	1		747	8.7
15				1	17	54	1				8	12	1			1	95	1.1
20					1	2	1	1									5	0.1
25				1	1												2	0.0
30																	1	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+	1	1						1		2			2	1	1		9	0.1
TOTAL	417	368	545	971	1408	979	419	307	258	365	422	532	493	442	345	334	8605	
PERCENT	4.85	4.28	6.33	11.28	16.36	11.38	4.87	3.57	3.00	4.24	4.90	6.18	5.73	5.14	4.01	3.88		100.00
STATION AVERAGE =	3.46 CM/S																	

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B-48

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
FROM 10/01/85 TO 10/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	172	184	249	574	904	1026	616	373	318	327	333	291	264	233	183	143	6196	69.7
5	27	62	98	415	632	342	84	18	32	59	108	230	140	93	52	21	2413	27.2
10	1	5	17	50	36	44	44	6	1	1	1	17	27	1	2	253	2.8	
15			1	1	3	1				1							7	0.1
20			1														1	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+	1	1		4	4	5	1	1				2	1		1	1	22	0.2
TOTAL	201	252	366	1044	1579	1418	745	398	351	388	442	523	422	353	237	167	8886	
PERCENT	2.26	2.84	4.12	11.75	17.77	15.96	8.38	4.48	3.95	4.37	4.97	5.89	4.75	3.97	2.67	1.88		100.00
STATION AVERAGE = 4.30 CM/S																		

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B-49

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 11/01/85 TO 11/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	178	191	242	676	981	1186	943	679	571	492	442	530	510	331	221	156	8329	96.7
5	13		1	4	3	7	80	67	7	3		4	3	5	12	19	228	2.6
10							1	1						4	22	21	49	0.6
15															2	1	3	0.0
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	191	191	243	680	984	1193	1024	747	578	495	442	534	513	340	257	197	8609	
PERCENT	2.22	2.22	2.82	7.90	11.43	13.86	11.89	8.68	6.71	5.75	5.13	6.20	5.96	3.95	2.99	2.29		100.00
STATION AVERAGE = 1.72 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 7
 FROM 12/01/85 TO 12/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	11	15	20	55	45	41	19	19	13	16	26	40	50	36	18	17	441	100.0
5																	0	0.0
10																	0	0.0
15																	0	0.0
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	11	15	20	55	45	41	19	19	13	16	26	40	50	36	18	17	441	
PERCENT	2.49	3.40	4.54	12.47	10.20	9.30	4.31	4.31	2.95	3.63	5.90	9.07	11.34	8.16	4.08	3.85		100.00
STATION AVERAGE =	0.42 CM/S																	

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B-51

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	139	177	239	246	162	110	83	81	66	107	151	183	177	151	120	102	2294	35.5
5	79	143	306	288	87	31	68	61	51	86	249	524	319	168	107	57	2624	40.6
10	20	85	119	71	22	1	18	21	31	50	114	429	198	63	13	12	1267	19.6
15	3	5	5		1			4	8	33	65	78	25	1		2	230	3.6
20				1						6	25	18				1	51	0.8
25											3						3	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	241	410	669	606	272	142	169	167	156	282	607	1232	719	383	240	174	6469	
PERCENT	3.73	6.34	10.34	9.37	4.20	2.20	2.61	2.58	2.41	4.36	9.38	19.04	11.11	5.92	3.71	2.69		100.00
STATION AVERAGE =	7.04 CM/S																	

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B-52

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
 FROM 01/01/85 TO 01/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	159	218	228	233	189	164	118	87	123	148	187	171	165	207	163	165	2725	30.6
5	242	389	371	332	201	123	80	59	63	108	322	458	315	317	162	188	3730	41.9
10	39	199	193	90	44	26	17	22	28	53	236	443	314	166	21	15	1906	21.4
15		6	11	28	7	6		5	8	19	71	127	181	1			470	5.3
20				18	18						9	14	1				60	0.7
25					5						1						6	0.1
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	440	812	803	701	464	319	215	173	222	328	826	1213	976	691	346	368	8897	
PERCENT	4.95	9.13	9.03	7.88	5.22	3.59	2.42	1.94	2.50	3.69	9.28	13.63	10.97	7.77	3.89	4.14		100.00
STATION AVERAGE =	7.60 CM/S																	

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B-53

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	171	211	310	197	168	134	83	94	91	149	90	124	181	174	257	169	2603	32.4
5	134	279	211	325	259	112	90	57	58	88	329	504	452	140	68	75	3181	39.6
10	19	97	157	301	154	6		1	7	33	217	604	324	28	5	13	1966	24.5
15		15	13	85	3						10	121	39				286	3.6
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	324	602	691	908	584	252	173	152	156	270	646	1353	996	342	330	257	8036	
PERCENT	4.03	7.49	8.60	11.30	7.27	3.14	2.15	1.89	1.94	3.36	8.04	16.84	12.39	4.26	4.11	3.20		100.00
STATION AVERAGE =	7.40 CM/S																	

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B-54

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	45	72	62	98	104	133	114	112	126	188	194	196	160	94	69	59	1826	34.7
5	23	47	120	227	325	114	100	84	66	146	298	454	140	56	18	10	2228	42.3
10		14	38	131	190	108	23	19	22	75	130	137	58	6	3	2	956	18.2
15	11	20	14	8	32	42	2				10	31	28	9	10	6	223	4.2
20		3										3	21	4			31	0.6
25													1				1	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75	1																1	0.0
80+																	0	0.0
TOTAL	80	156	234	464	651	397	239	215	214	409	632	821	408	169	100	77	5266	
PERCENT	1.52	2.96	4.44	8.81	12.36	7.54	4.54	4.08	4.06	7.77	12.00	15.59	7.75	3.21	1.90	1.46		100.00
STATION AVERAGE =	7.07 CM/S																	

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B-55

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
 FROM 04/01/85 TO 04/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		1952	22.7
5	70	106	104	140	90	131	247	247	186	178	113	80	102	55	41	62		3759	43.8
10	13	31	63	257	377	558	336	306	320	536	470	332	126	16	11	7		2441	28.4
15			17	451	836	244	34	28	37	144	345	268	37					429	5.0
20				173	140	24	2				7	28	52	3				1	0.0
25					1													0	0.0
30																		0	0.0
35																		0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
	1			1			1	6										9	0.1
TOTAL	84	137	184	1022	1444	957	620	587	543	865	956	732	268	71	52	69		8591	
PERCENT	0.98	1.59	2.14	11.90	16.81	11.14	7.22	6.83	6.32	10.07	11.13	8.52	3.12	0.83	0.61	0.80		100.00	
STATION AVERAGE =	8.22 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 05/01/85 TO 05/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		2185	24.6
5	6	3	11	44	138	301	317	310	271	360	302	80	26	7	2	7	4497	50.5	
10				64	305	698	750	683	1003	501	430	63					2093	23.5	
15			1	66	342	597	307	85	227	165	244	59					122	1.4	
20				7	50	41	5			1	4	14					0	0.0	
25																	0	0.0	
30																	0	0.0	
35																	0	0.0	
40																	0	0.0	
45																	0	0.0	
50																	0	0.0	
55																	0	0.0	
60																	0	0.0	
65																	0	0.0	
70																	0	0.0	
75																	0	0.0	
80+																	0	0.0	
TOTAL	6	3	12	181	835	1637	1379	1078	1501	1027	980	216	26	7	2	7	8897		
PERCENT	0.07	0.03	0.13	2.03	9.39	18.40	15.50	12.12	16.87	11.54	11.01	2.43	0.29	0.08	0.02	0.08	100.00		
STATION AVERAGE =	7.51 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 06/01/85 TO 06/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	102	77	143	336	328	373	326	229	301	340	301	184	132	59	48	34	3513	38.5
5	27	23	133	475	642	374	230	237	282	392	387	361	117	29	9	19	3728	43.3
10	11	31	103	245	246	233	63	25	73	131	121	67	28	2		3	1362	16.1
15		1	1	1	11	56	1			2	32	23	4				132	1.5
20											1						1	0.0
25													1				1	0.0
30														1			1	0.0
35											1		1				2	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60		1															1	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+	1			10	25	3						1					40	0.5
TOTAL	141	133	380	1067	1252	1039	620	491	656	865	843	636	283	81	57	56	8600	
PERCENT	1.64	1.55	4.42	12.41	14.56	12.08	7.21	5.71	7.63	10.06	9.80	7.40	3.29	0.94	0.66	0.65		100.00
STATION AVERAGE =		6.75 CM/S																

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
 FROM 07/01/85 TO 07/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	117	146	200	191	163	230	179	291	315	135	147	102	152	116	90	75	2657	29.9
5	87	204	372	583	310	177	62	56	149	267	265	389	290	169	63	55	3518	39.6
10	28	109	177	594	158	13	2	1	2	32	325	265	359	65	2	15	2147	24.2
15	2	2	21	105	9	1				3	25	62	106	7		21	364	4.1
20	6			1	1					1	3	9	16	1	2	19	59	0.7
25	5											1	11	14	16	12	59	0.7
30													10	8	21	20	59	0.7
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+	3	2	1	2	3	1		2	2	4	1	1		1	1	1	25	0.3
TOTAL	248	463	779	1476	644	422	243	350	468	442	766	829	944	381	215	218	8888	
PERCENT	2.79	5.21	8.76	16.61	7.25	4.75	2.73	3.94	5.27	4.97	8.62	9.33	10.62	4.29	2.42	2.45		100.00
STATION AVERAGE =	8.13 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 08/01/85 TO 08/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	108	139	96	104	156	133	117	109	83	83	89	60	105	101	105	113	1941	21.8
5	160	195	304	265	230	165	147	158	228	312	330	313	321	259	94	112	3593	40.4
10	60	163	161	348	208	106	25	29	32	106	175	352	405	146	54	36	2406	27.1
15	28	32	48	38	45	1	3	2	3	2	30	53	175	56	84	20	620	7.0
20	3	16	18	16	1	2	1	1	2	2		14	20	19	25	19	159	1.8
25		2	12	2	4	1	1	1				31	12	1	1		68	0.8
30			3			1	1	2	2	1	1	6	2	2	1	1	23	0.3
35	2	3	2			1	2	1				2	1	1		1	16	0.2
40			2		1		1		2			2	3		1	1	13	0.1
45		1										3					4	0.0
50										1							1	0.0
55																	0	0.0
60			1									3					4	0.0
65												1					1	0.0
70											1						1	0.0
75																	1	0.0
80+	2					1							1				4	0.0
		1	3	2	1	4	1	2	4	4	3	3	3	4		1	36	0.4
TOTAL	363	552	650	775	646	414	300	305	356	510	630	843	1128	669	445	304	8890	
PERCENT	4.08	6.21	7.31	8.72	7.27	4.66	3.37	3.43	4.00	5.74	7.09	9.48	12.69	7.53	5.01	3.42		100.00
STATION AVERAGE =	9.39 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 21
FROM 09/01/85 TO 09/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		289	28.5
5	12	19	21	47	24	6	12	5	17	6	12	24	27	28	14	15		371	36.6
10	2	1	39	35	10	1				1	1	2	2			1		95	9.4
15	2	2	3	8	1	1		1			1	5	6	2	3			35	3.4
20	3		7	9	2	2			1	1	3	2	3		2	1		36	3.5
25	2	2	2	7	3	1		1			2	3	4	1	2			30	3.0
30		2	3	4		2	1		1		2	5	3	2	2	3		30	3.0
35	1	1	2	8	3		1		1			2	4	1				24	2.4
40	1		6	7	4	2	1			2		7	4					34	3.3
45				5	2	1	1			1		4	2					16	1.6
50			1	4	2	1		1		1	1	3	1					15	1.5
55		3	3	4	2	1		1		2	4	1	1	1				23	2.3
60				3	2		2				1	1						9	0.9
65					1					1								2	0.2
70																			
75		1			1													2	0.2
80+			3	1														4	0.4
																		0	0.0
TOTAL	35	60	119	228	80	19	22	11	22	26	49	108	108	57	33	38		1015	
PERCENT	3.45	5.91	11.72	22.46	7.88	1.87	2.17	1.08	2.17	2.56	4.83	10.64	10.64	5.62	3.25	3.74			100.00
STATION AVERAGE =	13.85 CM/S																		

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B-61

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 29
 FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		663	11.4
5	6	76	59	7	4	31	34	4	11	138	115	11	20	71	66	10	1151	19.7	
10	15	166	34	34		5	76		9	172	254	16	42	162	162	4	2062	35.4	
15	10	72	7			35	53		11	561	654	18	25	271	340	5	1550	26.6	
20		10				25			2	370	727	4	16	158	238		377	6.5	
25		5							1	67	99			26	152	27	30	0.5	
30													1	27	2		0	0.0	
35																	0	0.0	
40																	0	0.0	
45																	0	0.0	
50																	0	0.0	
55																	0	0.0	
60																	0	0.0	
65																	0	0.0	
70																	0	0.0	
75																	0	0.0	
80+																	0	0.0	
TOTAL	31	329	100	41	4	96	163	4	34	1308	1849	49	130	841	835	19	5833		
PERCENT	0.53	5.64	1.71	0.70	0.07	1.65	2.79	0.07	0.58	22.42	31.70	0.84	2.23	14.42	14.32	0.33	100.00		
STATION AVERAGE = 12.33 CM/S																			

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B-62

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 29
FROM 01/01/85 TO 01/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL PERCENT			
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337	360			
0																				
5		1129	1195				598	413		12	326	448		68	795	900		5384	66.2	
10		145	77				151	161		8	187	111		14	280	84		1218	13.7	
15				2			43	309		12	177	222		2	42			809	9.1	
20							6	212		5	153	201			1			578	6.5	
25							4	79		1	65	170						319	3.6	
30								51			2	32						85	1.0	
35																		1	0.0	
40																		0	0.0	
45																		0	0.0	
50																		0	0.0	
55																		0	0.0	
60																		0	0.0	
65																		0	0.0	
70																		0	0.0	
75																		0	0.0	
80+																		0	0.0	
TOTAL	0	1274	1274	0	0	802	1226	0	38	910	1184	0	84	1118	984	0		8894		
PERCENT	0.00	14.32	14.32	0.00	0.00	9.02	13.78	0.00	0.43	10.23	13.31	0.00	0.94	12.57	11.06	0.00		100.00		
STATION AVERAGE = 5.74 CM/S																				

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 29
FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		6280	78.2
5		880	594			476	379		60	1018	965		57	975	876			1508	18.9
10		46	42			11	4		5	220	317		33	598	232				
15		1	1							6	15		14	204				241	3.0
20																		0	0.0
25																		0	0.0
30																		0	0.0
35																		0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																	1	1	0.0
TOTAL	0	927	637	0	0	487	383	0	65	1244	1297	0	104	1777	1109	0		8030	
PERCENT	0.00	11.54	7.93	0.00	0.00	6.06	4.77	0.00	0.81	15.49	16.15	0.00	1.30	22.13	13.81	0.00			100.00
STATION AVERAGE =		3.64 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 29
FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																			
5	9	24	45				86	65	11	7	102	78	9	9	156	66		667	64.1
10			14				5	2			27	110		9	177	19		363	34.9
15											2				2			4	0.4
20																		0	0.0
25																		0	0.0
30																		0	0.0
35																		0	0.0
40							1											1	0.1
45																		0	0.0
50																		0	0.0
55																		0	0.0
60															1			1	0.1
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+											1							1	0.1
			1							1					1			3	0.3
TOTAL	9	24	60	0	0	92	67	11	7	130	191	9	18	337	85	0		1040	
PERCENT	0.87	2.31	5.77	0.00	0.00	8.85	6.44	1.06	0.67	12.50	18.37	0.87	1.73	32.40	8.17	0.00			100.00
STATION AVERAGE =	3.99 CM/S																		

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B-65

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 12/01/84 TO 12/31/84

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	316	82	42	18	34	23	39	39	35	11	17	24	50	98	97	62	987	14.9
5	54	183	177	54	44	115	165	314	274	158	58	105	263	199	238	77	2478	37.4
10	97	30	35	6	11	98	241	377	355	328	68	132	174	127	319	115	2513	37.9
15	15	1	1	1	1	28	93	37	78	108	44	13	2	55	53	25	555	8.4
20							1					6		40	43		90	1.4
25															1		1	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	482	296	255	79	90	264	539	767	742	605	193	274	489	519	751	279	6624	
PERCENT	7.28	4.47	3.85	1.19	1.36	3.99	8.14	11.58	11.20	9.13	2.91	4.14	7.38	7.84	11.34	4.21		100.00
STATION AVERAGE =	9.52 CM/S																	

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B-66

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 01/01/65 TO 01/31/65

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	188	159	139	139	184	194	171	153	158	141	146	178	139	232	320	255	2896	32.4
5	140	209	280	320	327	289	203	143	149	120	179	199	219	169	161	67	3174	35.6
10	27	100	232	300	393	320	113	109	69	21	15	9	10	3	4	2	1727	19.3
15		1	7	132	126	231	276	115	67								955	10.7
20				44	54	9	29	19	1								156	1.7
25				10	10												20	0.2
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	355	469	658	945	1094	1043	792	539	444	282	340	386	368	404	485	324	8928	
PERCENT	3.98	5.25	7.37	10.58	12.25	11.68	8.87	6.04	4.97	3.16	3.81	4.32	4.12	4.53	5.43	3.63		100.00
STATION AVERAGE =	8.15 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 02/01/85 TO 02/28/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	126	157	210	376	316	298	282	252	169	128	83	81	81	155	153	133	3000	37.2
5	155	143	205	458	350	283	152	96	95	109	158	130	338	620	418	313	4023	49.9
10	3	29	28	69	36	29	2		11	21	43	113	268	257	82	14	1005	12.5
15					3	1						13	16	3			36	0.4
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	284	329	443	903	705	611	436	348	275	258	297	340	690	1032	653	460	8064	
PERCENT	3.52	4.08	5.49	11.20	8.74	7.58	5.41	4.32	3.41	3.20	3.68	4.22	8.56	12.80	8.10	5.70		100.00
STATION AVERAGE =	6.15 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		817	20.3
5	11	6	23	63	99	204	109	103	41	61	47	22	11	6	4	7	1722	42.7	
10	24	13	32	152	267	345	196	215	122	136	92	49	25	24	22	8	928	23.0	
15	43	96	33	91	153	150	91	70	12	12	16	26	36	62	29	8	442	11.0	
20	1	11	16	32	57	53	32	2				1	6	122	71	29	9	106	2.6
25				1	4	13	9					4	9	62	4			8	0.2
30						1	1					2		4				3	0.1
35							1	1						1				0	0.0
40																		0	0.0
45																		0	0.0
50														1				1	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70									1					1				2	0.0
75														1				1	0.0
80+																	2	2	0.0
TOTAL	79	126	104	339	580	767	439	391	175	209	162	112	264	167	84	34	4032		
PERCENT	1.96	3.12	2.58	8.41	14.38	19.02	10.89	9.70	4.34	5.18	4.02	2.78	6.55	4.14	2.08	0.84		100.00	
STATION AVERAGE = 9.21 CM/S																			

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B-69

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
 FROM 04/01/85 TO 04/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	01	109	122	133	121	138	162	167	96	74	65	67	138	133	132	98	1836	21.2
5	155	165	269	317	261	361	344	214	218	253	219	297	224	177	172	125	3771	43.6
10	6	29	108	187	251	248	130	85	65	115	229	268	205	210	80	20	2236	25.9
15		1	2	12	48	71	9	1	4	12	63	192	123	164	8		710	8.2
20					1		1			2	6	31	13	1			55	0.6
25									1	1	2	1					5	0.1
30										1				1			2	0.0
35														1			2	0.0
40											1						1	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60	1										2					2	5	0.1
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+						2	2		1	2		2	2	3		3	17	0.2
TOTAL	243	304	501	649	684	820	646	468	385	457	589	860	707	687	395	245	8640	
PERCENT	2.81	3.52	5.80	7.51	7.92	9.49	7.48	5.42	4.46	5.29	6.82	9.95	8.18	7.95	4.57	2.84		100.00
STATION AVERAGE	= 8.77 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 05/01/85 TO 05/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE															TOTAL	PERCENT		
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315			337	360
0																		4	0.3
5														4				311	21.6
10						75	190	36	8			1		1				487	33.8
15					4	157	188	107	22	9								424	29.4
20					29	142	128	67	33	19				6				195	13.5
25					1	81	92	9	7					1		4		9	0.6
30						5	2							2				1	0.1
35															1			1	0.1
40								1										0	0.0
45																		0	0.0
50																		0	0.0
55							1							2				3	0.2
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																1		1	0.1
80+														1				1	0.1
							1							1		1		3	0.2
TOTAL	0	0	0	0	34	460	602	220	70	28	1	0	18	1	6	0		1440	
PERCENT	0.00	0.00	0.00	0.00	2.36	31.94	41.81	15.28	4.86	1.94	0.07	0.00	1.25	0.07	0.42	0.00		100.00	
STATION AVERAGE = 14.72 CM/S																			

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 06/01/85 TO 06/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		150	26.1
5	6	10	6	3	12	13	19	12	19	5	20	11	2	2	3	7	350	61.0	
10	12	17			42	57	25	27	39	32	81	18					22	3.8	
15								3	3	4	12						9	1.6	
20								2	1	2	4						37	6.4	
25					1		1	16	18		1						6	1.0	
30				1				4	1								0	0.0	
35																	0	0.0	
40																	0	0.0	
45																	0	0.0	
50																	0	0.0	
55																	0	0.0	
60																	0	0.0	
65																	0	0.0	
70																	0	0.0	
75																	0	0.0	
80+																	0	0.0	
TOTAL	18	27	6	4	55	70	45	64	81	43	118	29	2	2	3	7	574		
PERCENT	3.14	4.70	1.05	0.70	9.58	12.20	7.84	11.15	14.11	7.49	20.56	5.05	0.35	0.35	0.52	1.22	100.00		
STATION AVERAGE =	7.66 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
FROM 07/01/85 TO 07/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT	
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337			360
0																		3618	40.7
5	76	89	99	143	253	509	477	358	386	297	336	186	135	92	94	88		3333	37.5
10	82	136	219	281	399	423	384	241	161	216	240	193	69	108	96	85		1497	16.8
15	21	48	96	192	212	149	109	42	22	141	126	131	95	63	34	16		408	4.6
20	3	14	49	75	108	14	1			7	41	59	36			1		37	0.4
25	1		1	9	7						14	5						0	0.0
30																		1	0.0
35											1							0	0.0
40																		0	0.0
45																		0	0.0
50																		0	0.0
55																		0	0.0
60																		0	0.0
65																		0	0.0
70																		0	0.0
75																		0	0.0
80+																		0	0.0
									1									1	0.0
TOTAL	183	287	464	700	979	1095	971	641	570	661	758	574	335	263	224	190		8895	
PERCENT	2.06	3.23	5.22	7.87	11.01	12.31	10.92	7.21	6.41	7.43	8.52	6.45	3.77	2.96	2.52	2.14		100.00	
STATION AVERAGE =	6.77 CM/S																		

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
 FROM 08/01/85 TO 08/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	293	203	190	283	289	581	660	549	319	279	265	593	776	835	589	333	7037	79.1
5	20	58	126	145	248	370	128	29	9	5	14	45	166	129	66	58	1616	18.2
10	9	18	6	22	47	7					1	7	28	18	31	13	207	2.3
15			1		16	1					1		1	2	6	4	32	0.4
20																	0	0.0
25													1				1	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	322	279	323	450	600	959	788	578	328	284	281	645	972	984	692	408	8893	
PERCENT	3.62	3.14	3.63	5.06	6.75	10.78	8.86	6.50	3.69	3.19	3.16	7.25	10.93	11.06	7.78	4.59		100.00
STATION AVERAGE =	3.50 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
 FROM 09/01/85 TO 09/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	464	643	430	391	416	399	285	190	165	376	613	748	775	933	718	510	8064	93.9
5	13	12	45	44	47	37	6	8	7	2	26	105	34	18	35	7	446	5.2
10				9	12	13						5	1	13	2		55	0.6
15																	0	0.0
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+							22										22	0.3
TOTAL	477	655	483	444	475	471	291	198	172	378	639	858	810	964	755	517	8587	
PERCENT	5.55	7.63	5.62	5.17	5.53	5.49	3.39	2.31	2.00	4.40	7.44	9.99	9.43	11.23	8.79	6.02		100.00
STATION AVERAGE =	2.52 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 23
 FROM 10/01/85 TO 10/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	254	268	253	372	206	965	261	81	106	332	496	947	616	763	625	306	6851	89.7
5	4	3	11	82	115	274	11		3	8	16	41	7	38	94	41	748	9.8
10				19	1	5					1	6		1	6	1	40	0.5
15				1													1	0.0
20																	0	0.0
25																	0	0.0
30																	0	0.0
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65																	0	0.0
70																	0	0.0
75																	0	0.0
80+																	0	0.0
TOTAL	258	271	264	474	322	1244	272	81	109	340	513	994	623	802	725	348	7640	
PERCENT	3.38	3.55	3.46	6.20	4.21	16.20	3.56	1.06	1.43	4.45	6.71	13.01	8.15	10.50	9.49	4.55		100.00
STATION AVERAGE =	2.11 CM/S																	

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B-76

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 36
FROM 03/01/85 TO 03/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	239	68	44	43	48	125	131	112	108	86	41	54	71	55	38	50	1313	50.7
5	27	35	33	24	59	62	83	74	43	63	99	79	76	48	32	27	864	33.3
10	16	30	8	17	11	8	11	24	5	29	44	45	18	28	6	13	313	12.1
15	4	3			1					1	7	5	12	7	15	13	68	2.6
20												2	6	6	7	2	23	0.9
25												1	3				5	0.2
30		1															4	0.2
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	0	0.0
65													1				1	0.0
70																	0	0.0
75																	0	0.0
80+																	1	0.0
TOTAL	207	137	85	84	119	195	225	210	156	179	191	190	187	144	98	105	2592	
PERCENT	11.07	5.29	3.28	3.24	4.59	7.52	8.68	8.10	6.02	6.91	7.37	7.33	7.21	5.56	3.78	4.05		100.00
STATION AVERAGE =	5.33 CM/S																	

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JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 36
 FROM 04/01/85 TO 04/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	139	150	118	114	113	102	206	333	258	214	136	125	119	109	86	108	2590	30.0
5	108	161	131	239	237	451	586	679	582	532	304	175	62	31	39	59	4376	50.6
10	4	17	11	45	60	146	127	217	104	243	222	51	9	1			1257	14.5
15				2	6	4	3	66	27	59	66	23					256	3.0
20								3	13	70	41	3					130	1.5
25								6									6	0.1
30								6									6	0.1
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60		1						2									3	0.0
65																	0	0.0
70								2									2	0.0
75								1	1								2	0.0
80+								1									1	0.0
		6						2	2		1						11	0.1
TOTAL	251	335	260	400	416	783	1002	1318	984	1121	769	378	190	141	125	167	8640	
PERCENT	2.91	3.88	3.01	4.63	4.81	9.06	11.60	15.25	11.39	12.97	8.90	4.37	2.20	1.63	1.45	1.93		100.00
STATION AVERAGE =	7.26 CM/S																	

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B-78

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 36
 FROM 05/01/85 TO 05/31/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	156	242	319	220	80	96	124	116	168	31	49	59	28	18	31	106	1843	20.7
5	757	315	288	285	192	423	234	158	202	112	18	24		16	136	499	3661	41.0
10	696	279	56	276	85	229	184	55	81	112	1			1	43	504	2602	29.2
15	299	52	2	29	17	29	8		10	18					36	121	621	7.0
20	70	14		2	2		1		2						8	61	160	1.8
25		1		2			2										5	0.1
30	2						1								2		5	0.1
35																	0	0.0
40																	0	0.0
45																	0	0.0
50																	0	0.0
55																	0	0.0
60																	3	0.0
65																	5	0.1
70		1		2													8	0.1
75				1													3	0.0
80+																	4	0.1
																	1	0.1
				1													6	0.1
TOTAL	1980	904	665	818	376	777	574	330	463	273	68	83	28	35	258	1291	8923	
PERCENT	22.19	10.13	7.45	9.17	4.21	8.71	6.43	3.70	5.19	3.06	0.76	0.93	0.31	0.39	2.89	14.47		100.00
STATION AVERAGE =	8.91 CM/S																	

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B-79

JOINT FREQUENCY DISTRIBUTION TABLE OF CURRENT SPEED AND DIRECTION AT STATION 36
FROM 06/01/85 TO 06/30/85

SPEED CM/S	DIRECTIONS ARE DEGREES TRUE																TOTAL	PERCENT
	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337		
0	198	231	90	65	90	174	147	121	105	93	121	131	127	213	193	264	2363	31.0
5	178	155	167	158	88	145	124	91	144	215	180	117	180	203	333	211	2689	35.3
10	293	35	37	78	64	41	12	5	19	46	28	14	17	15	92	259	1055	13.9
15	152	8	8	38	31	19	13	17	6	8	18	7	4	12	165	412	918	12.1
20	15	25	12	11	6	14	19	12	12	11	16	10	5	9	73	47	297	3.9
25	5	2	2	2	5	7	11	1	4	6	4	4		3	6	3	65	0.9
30	1	1	4		1	2	3	3	4	1	8	2	2	1	2		35	0.5
35	6	7	3	4	5	13	11	5	9	7	5	6		1	2	1	85	1.1
40	3		3	1	2	3	2		3	1	1	2	1		3	1	26	0.3
45					1					2	2	2					7	0.1
50				1	1	1	3			1	3						10	0.1
55					2					1	3	3					9	0.1
60				1					1		3	3					8	0.1
65		12		5	2	1			1		4					1	26	0.3
70	1	1			2	1	2	2	1	2	1					1	14	0.2
75	1	1				2				1	1						6	0.1
80+																	0	0.0
TOTAL	853	478	326	364	300	423	347	257	309	395	398	301	336	457	869	1200	7613	
PERCENT	11.20	6.28	4.28	4.78	3.94	5.56	4.56	3.38	4.06	5.19	5.23	3.95	4.41	6.00	11.41	15.76		100.00
STATION AVERAGE =	9.51 CM/S																	

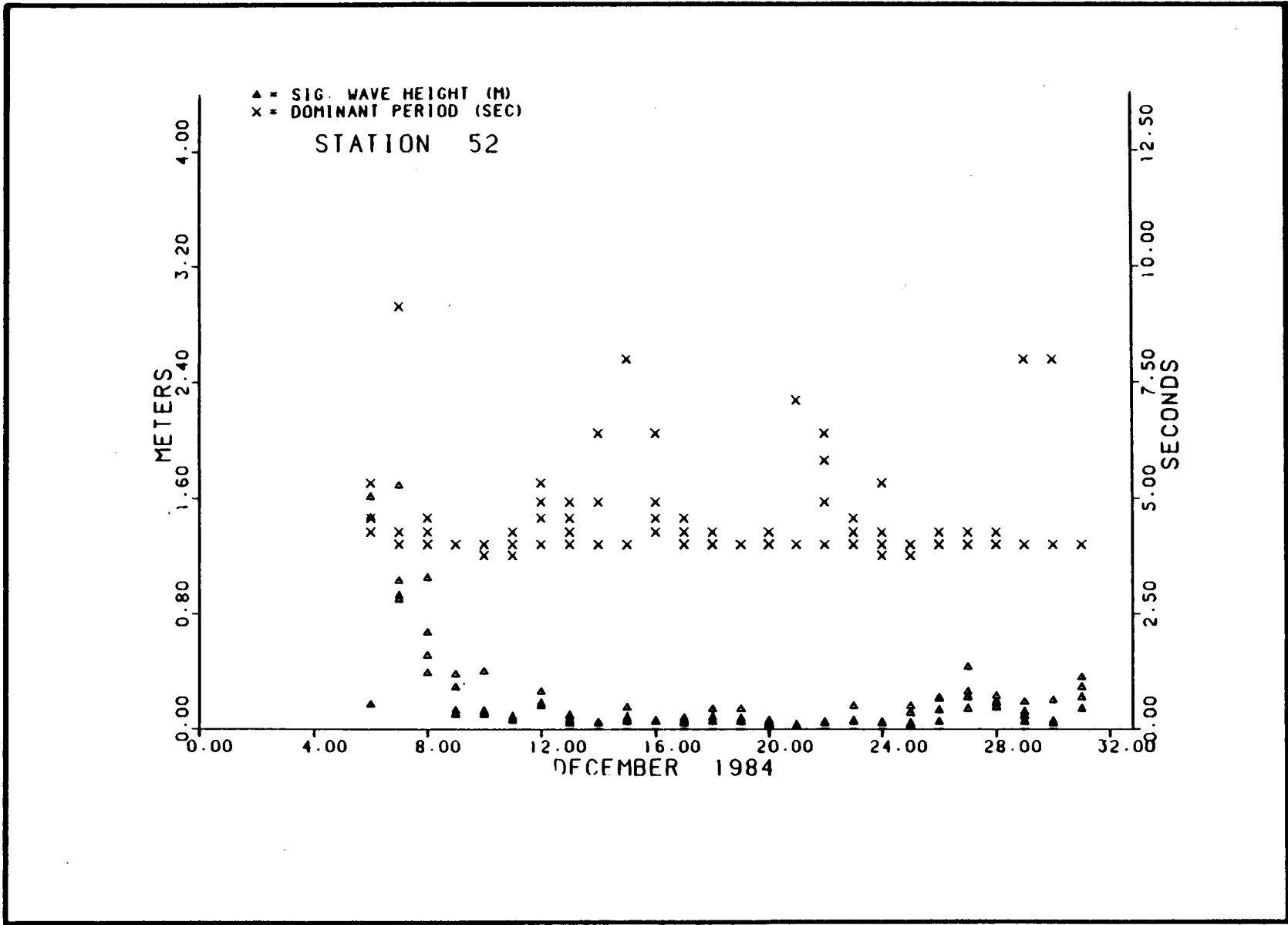


Figure B-76 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – DECEMBER 1984

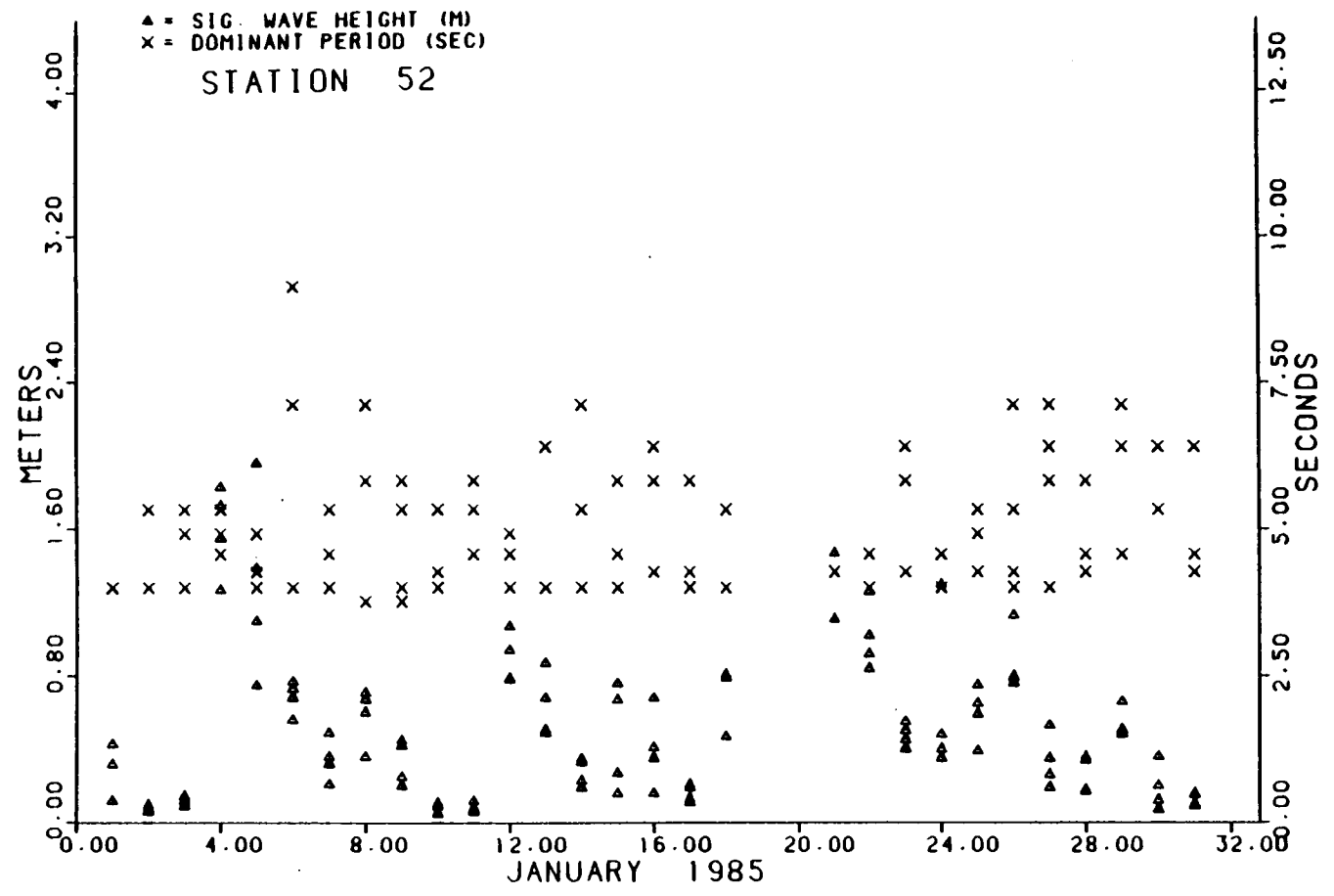


Figure B-77 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - JANUARY 1985

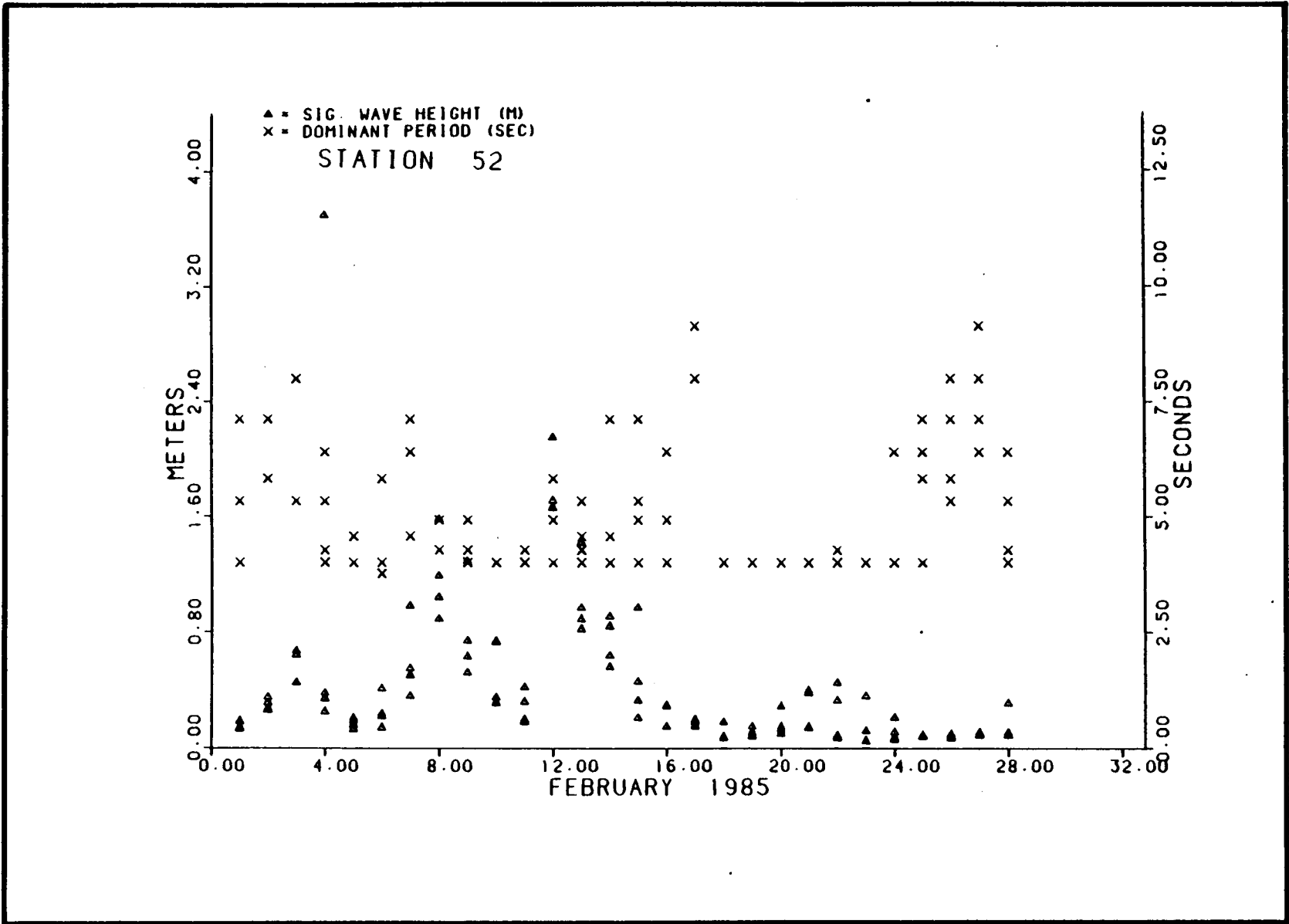


Figure B-78 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - FEBRUARY 1985

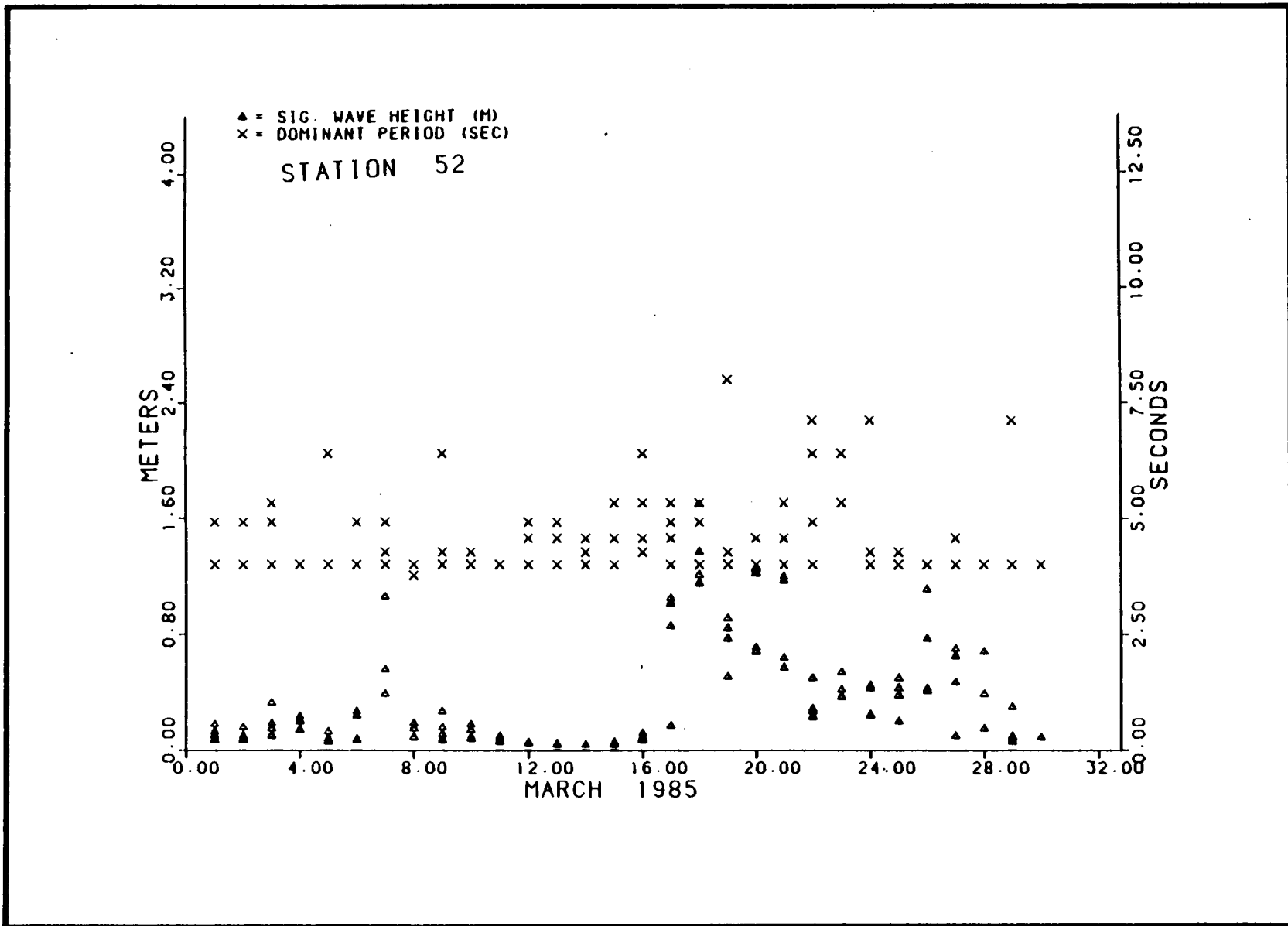


Figure B-79 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – MARCH 1985

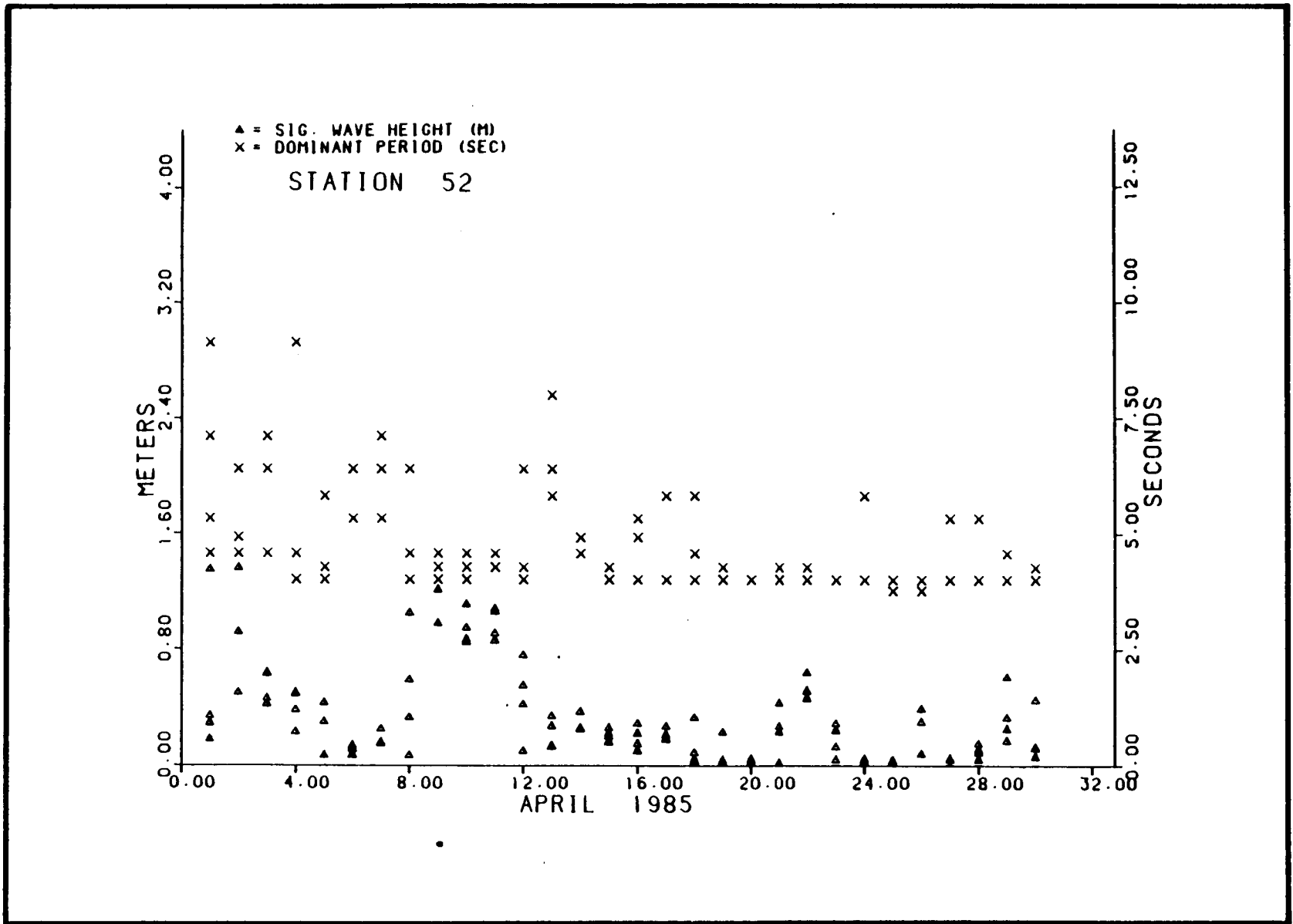


Figure B-80 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - APRIL 1985

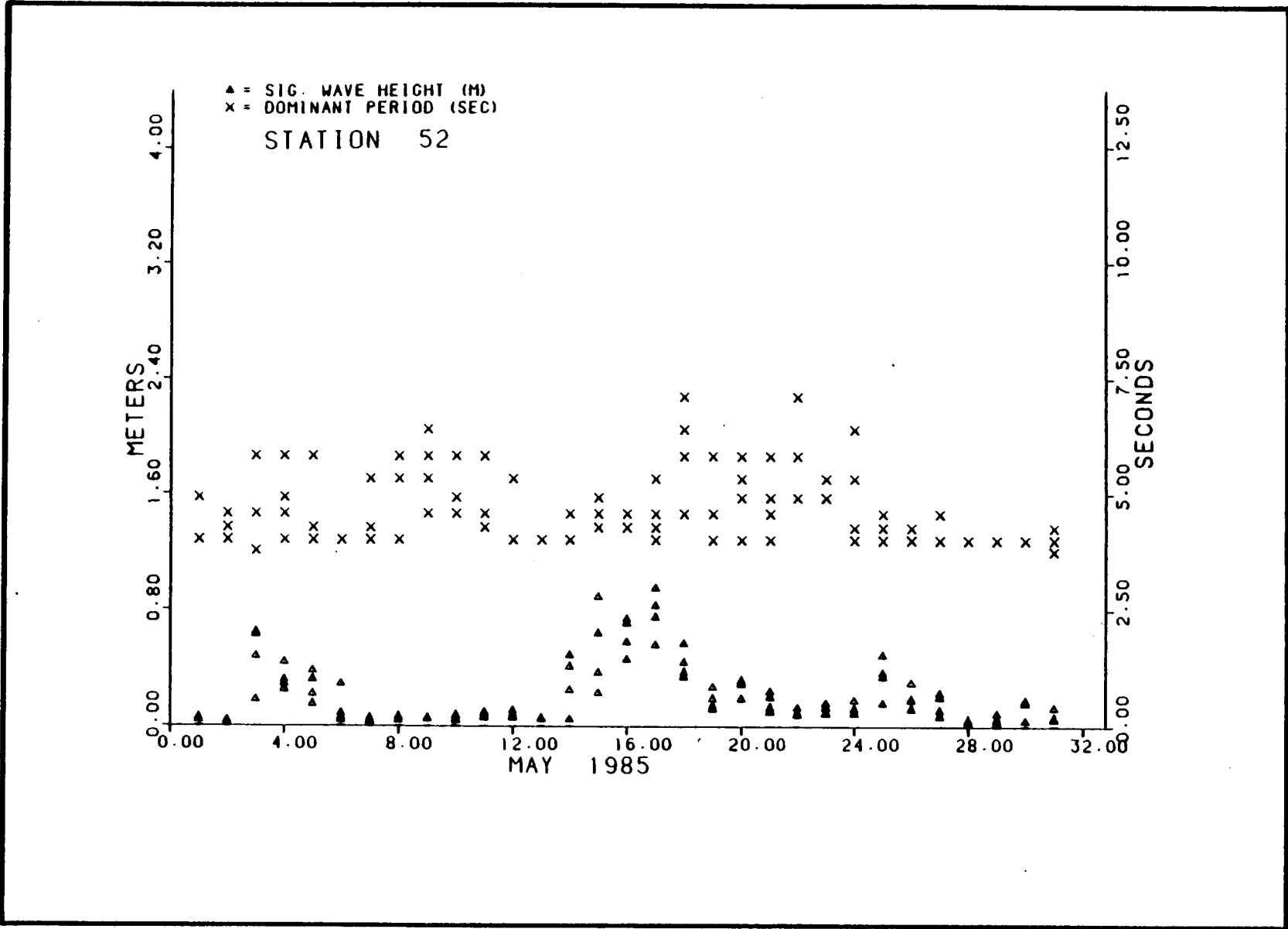
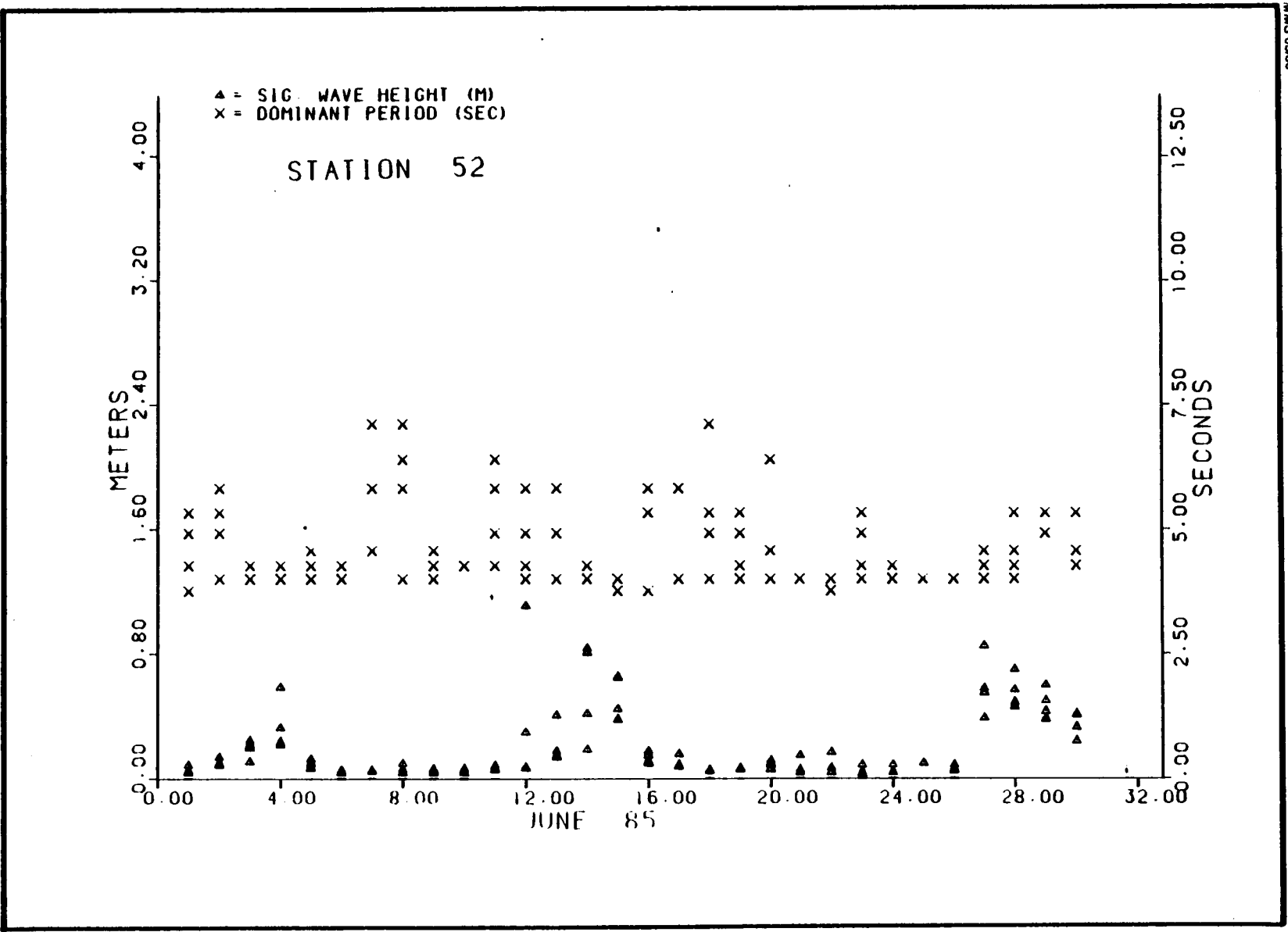


Figure B-81 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - MAY 1985



98750 SWN

Figure B-82 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - JUNE 1985

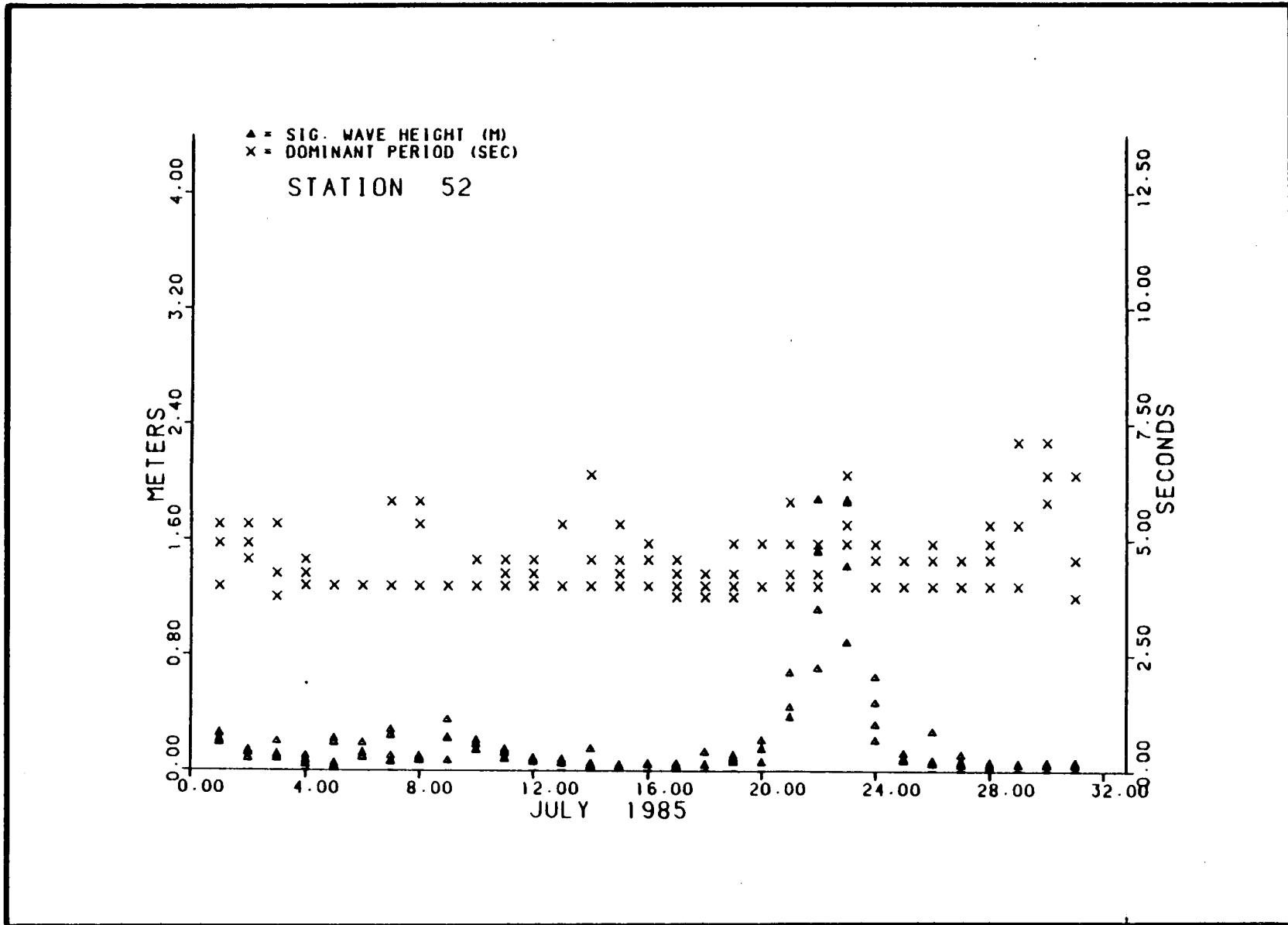


Figure B-83 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – JULY 1985

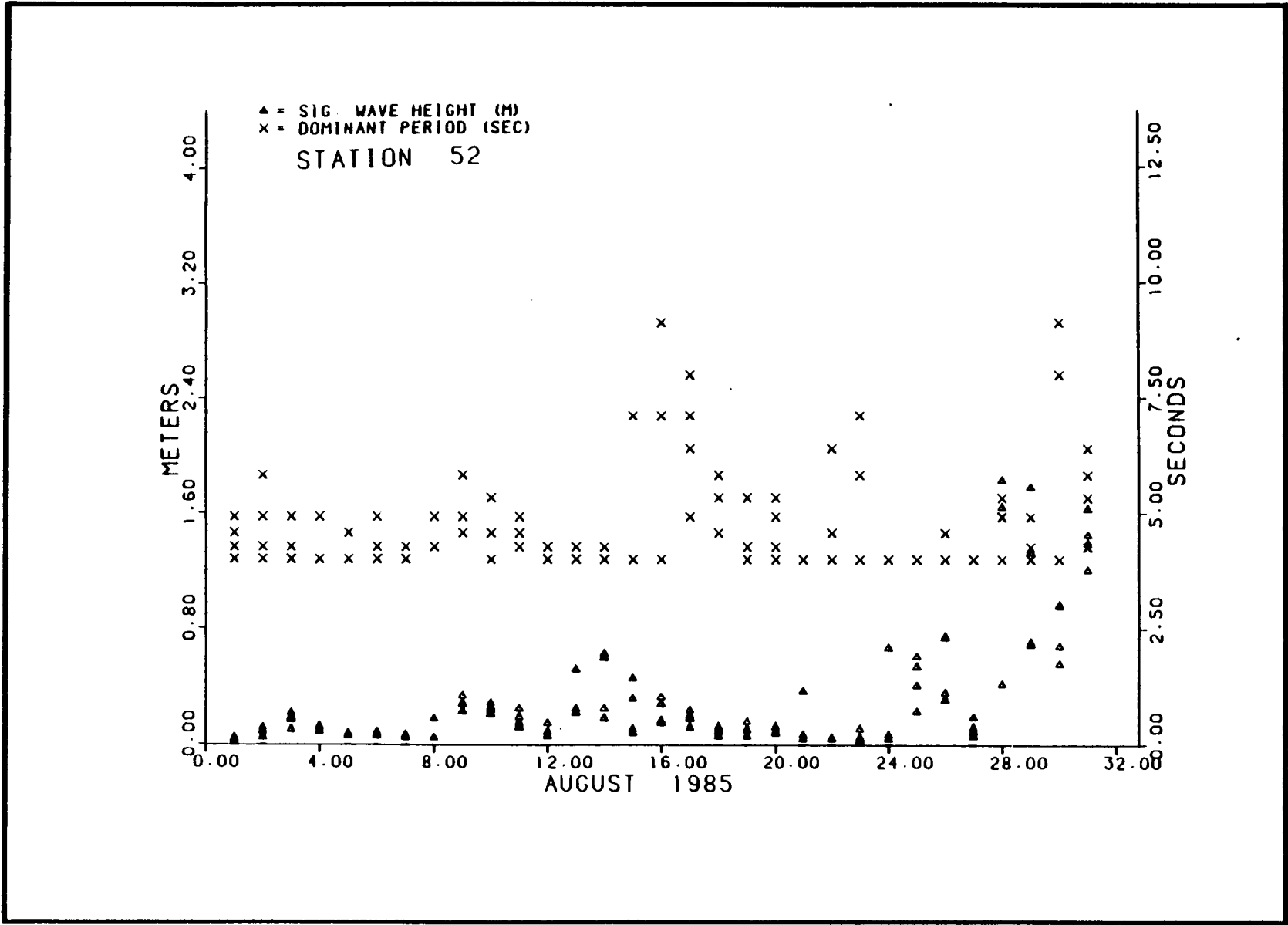


Figure B-84 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - AUGUST 1985

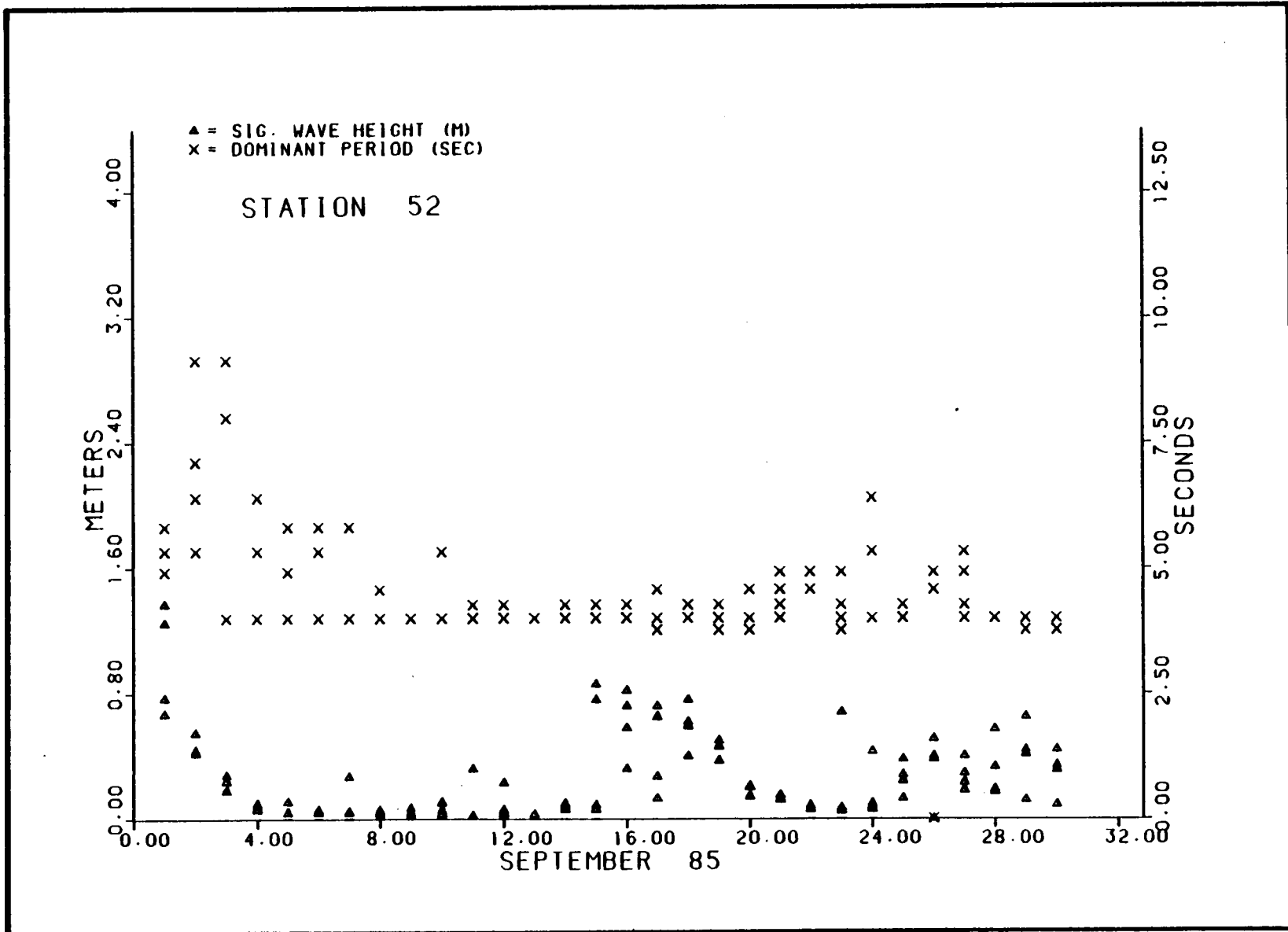
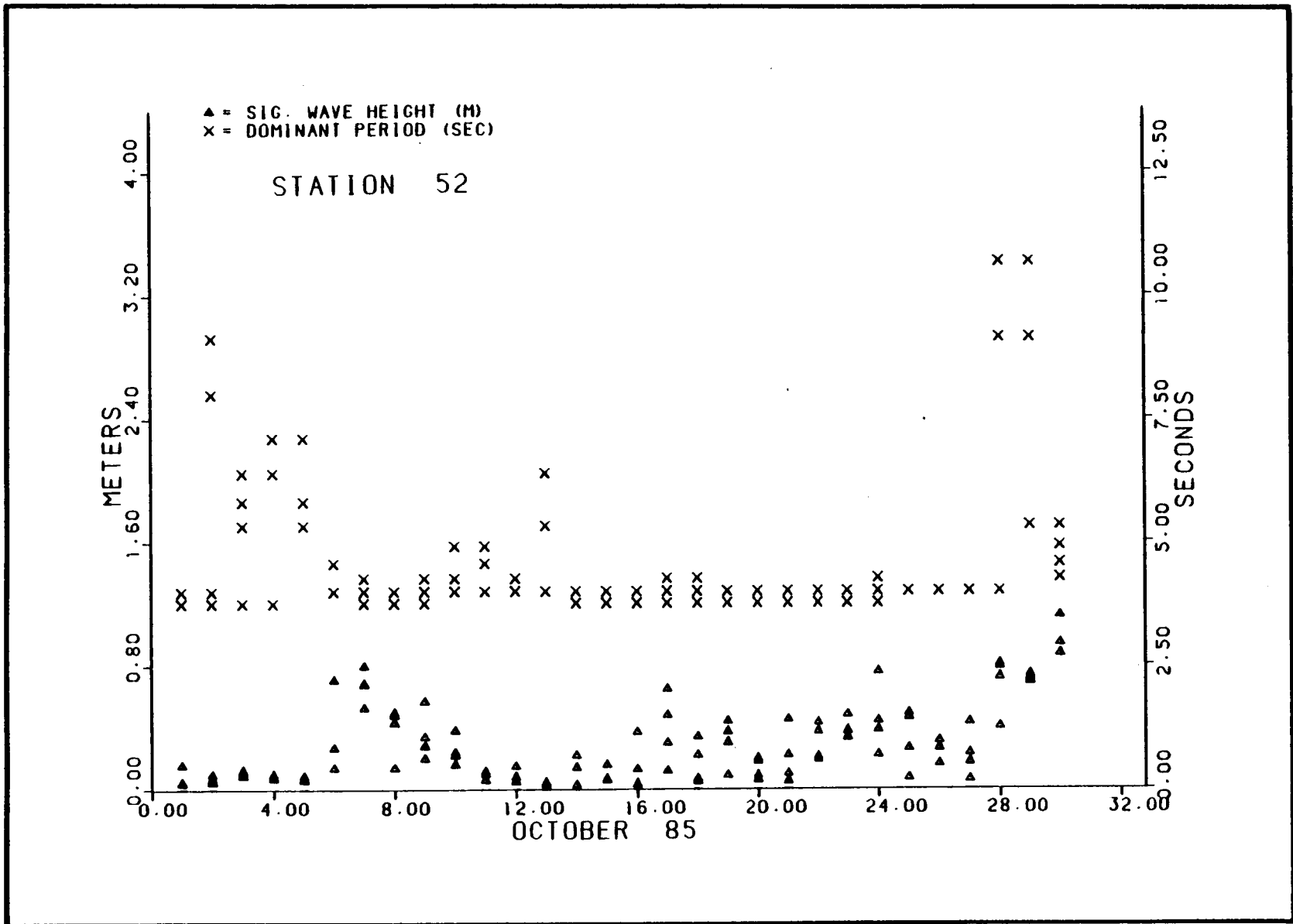


Figure B-85 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - SEPTEMBER 1985



BB/50 SMM

Figure B-86 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – OCTOBER 1985

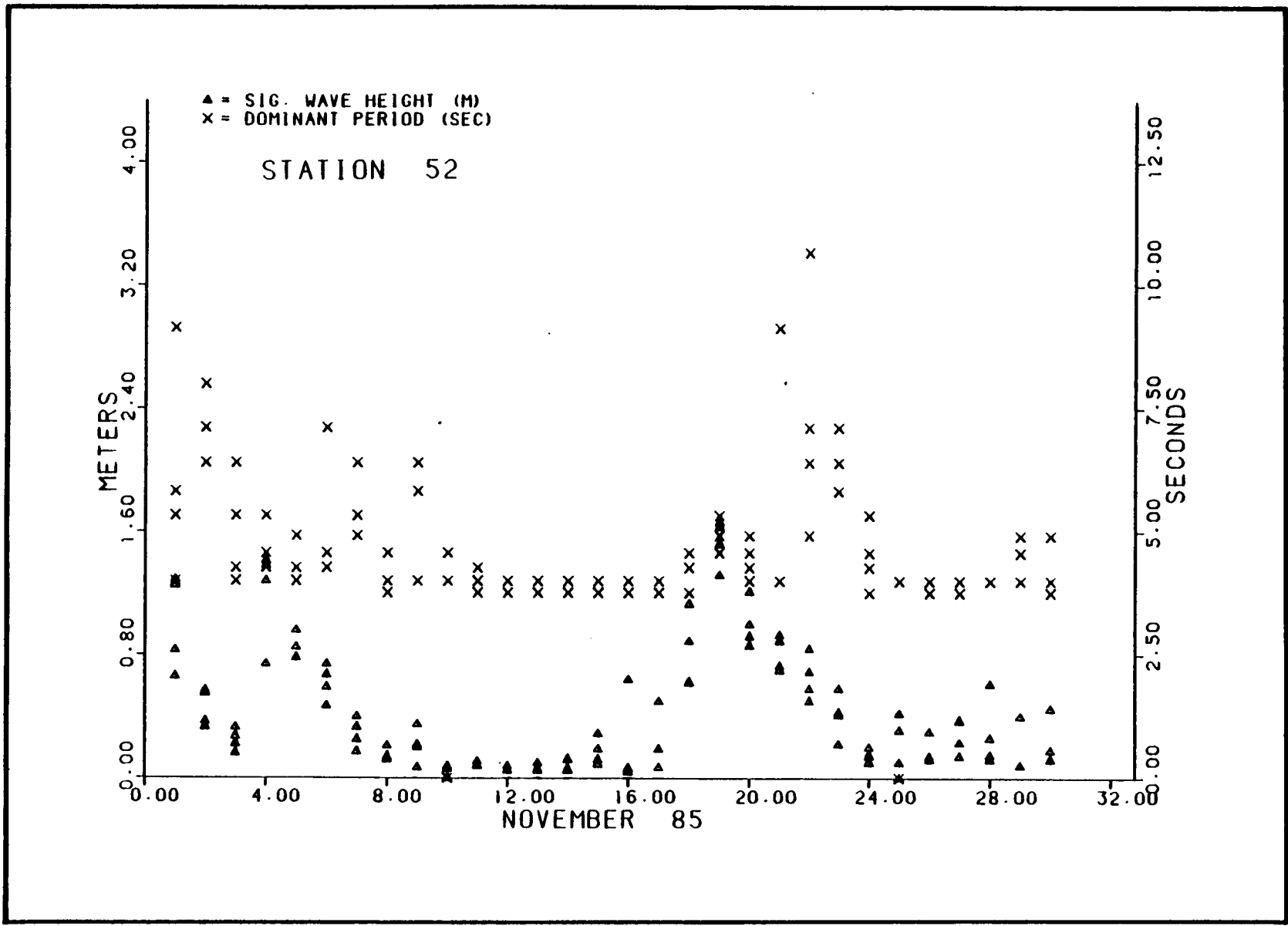


Figure B-87 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOT - NOVEMBER 1985

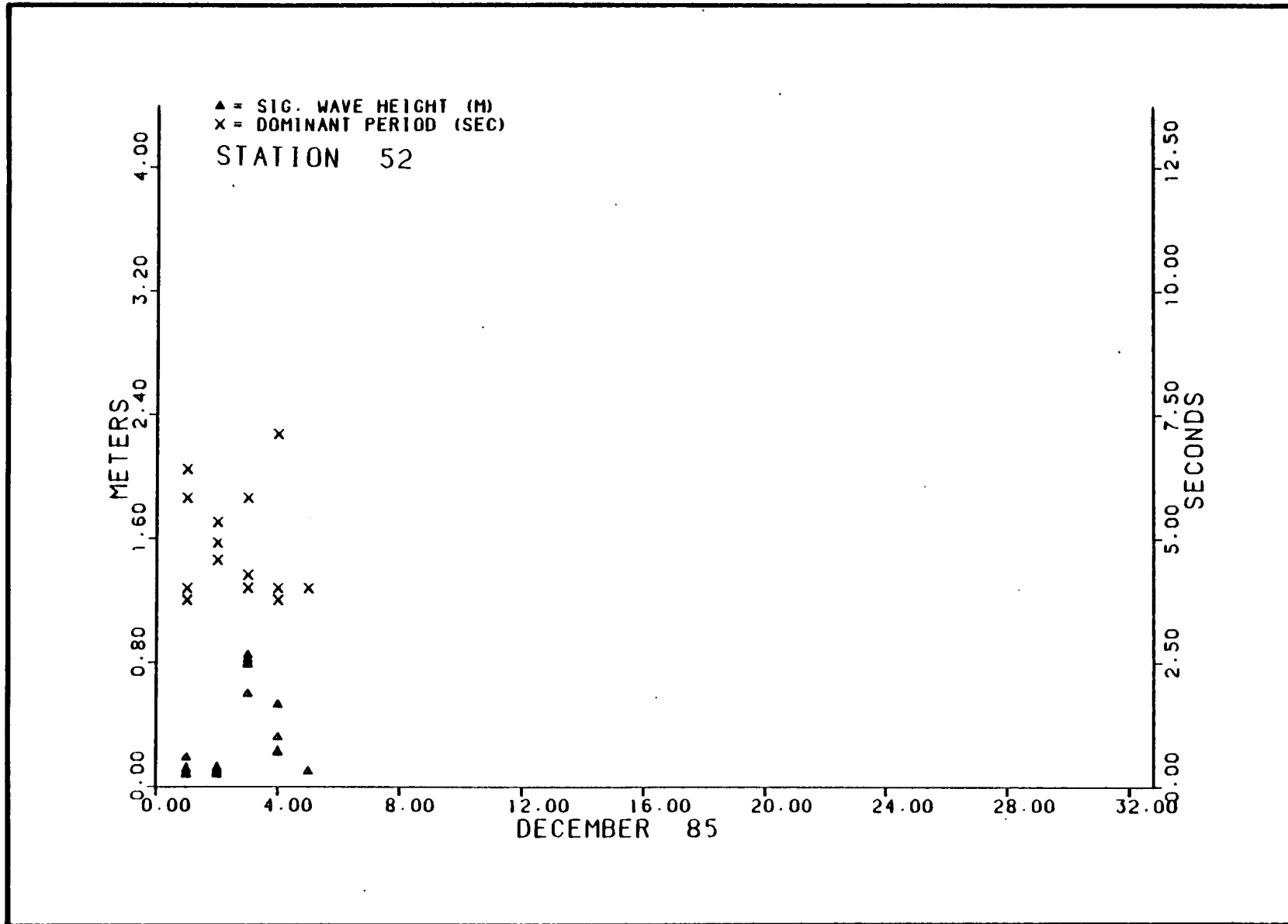


Figure B-88 STATION 52 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – DECEMBER 1985

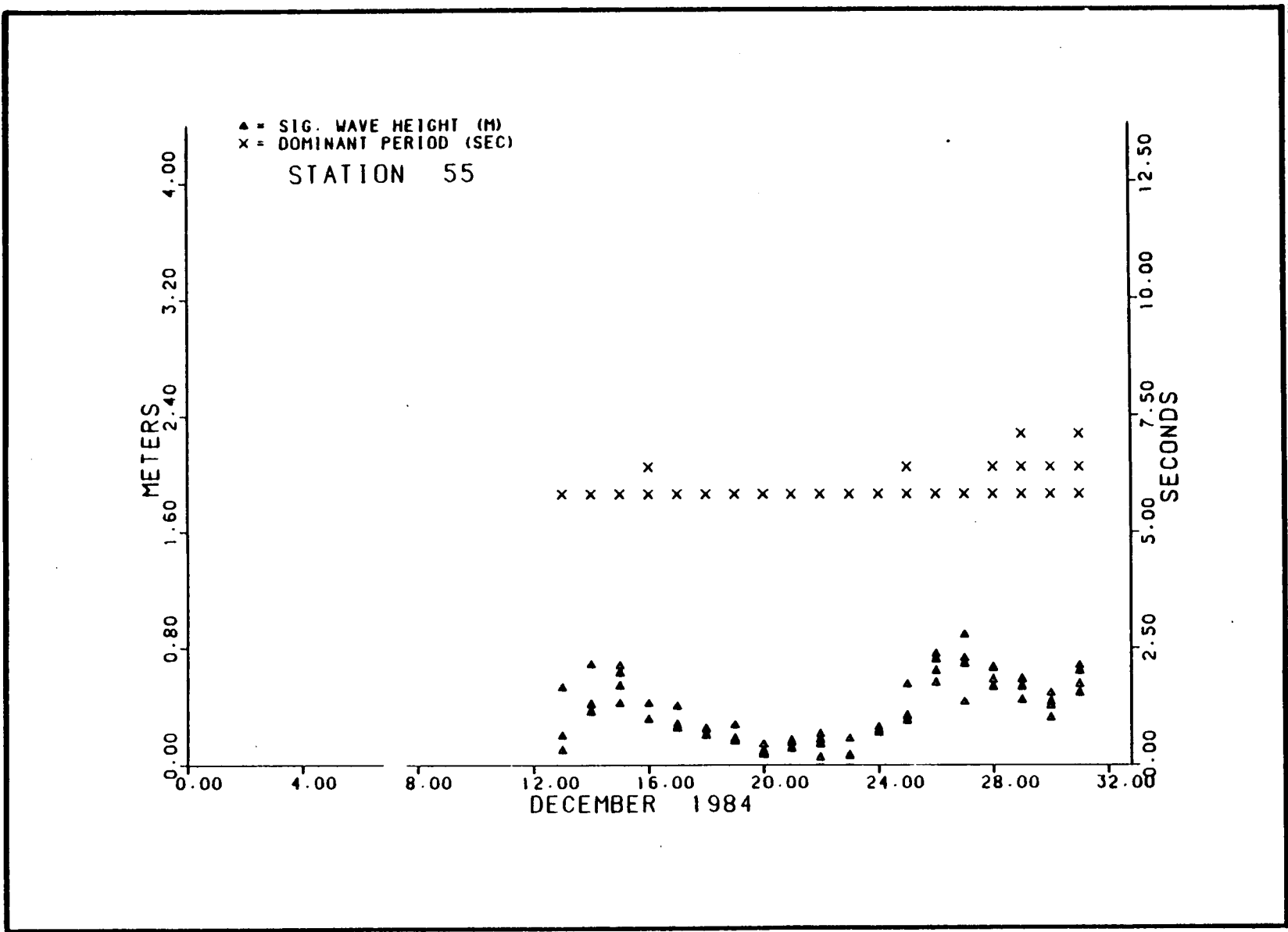


Figure B-89 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS –
 DECEMBER 1984

MMS 03/84

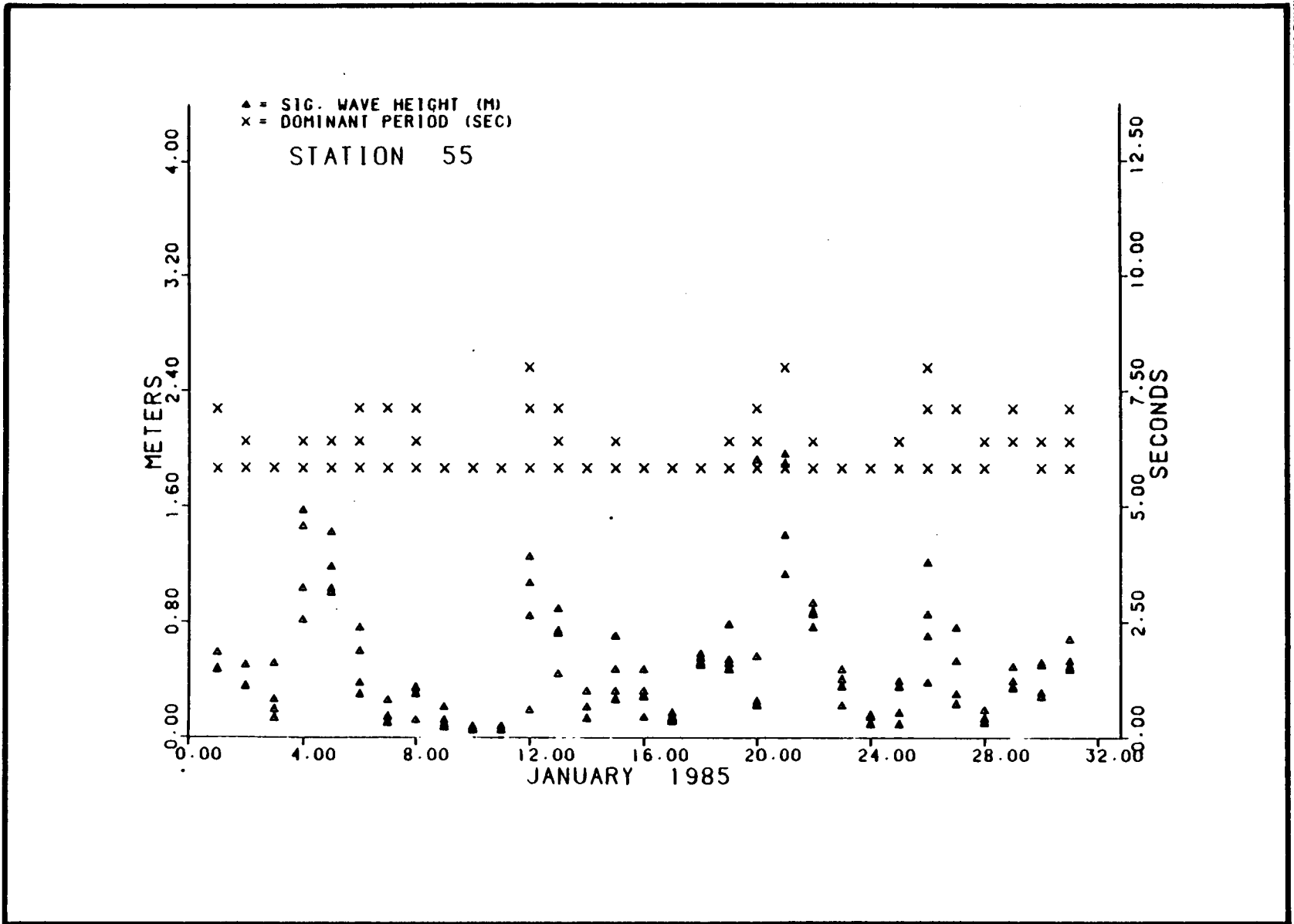


Figure B-90 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – JANUARY 1985

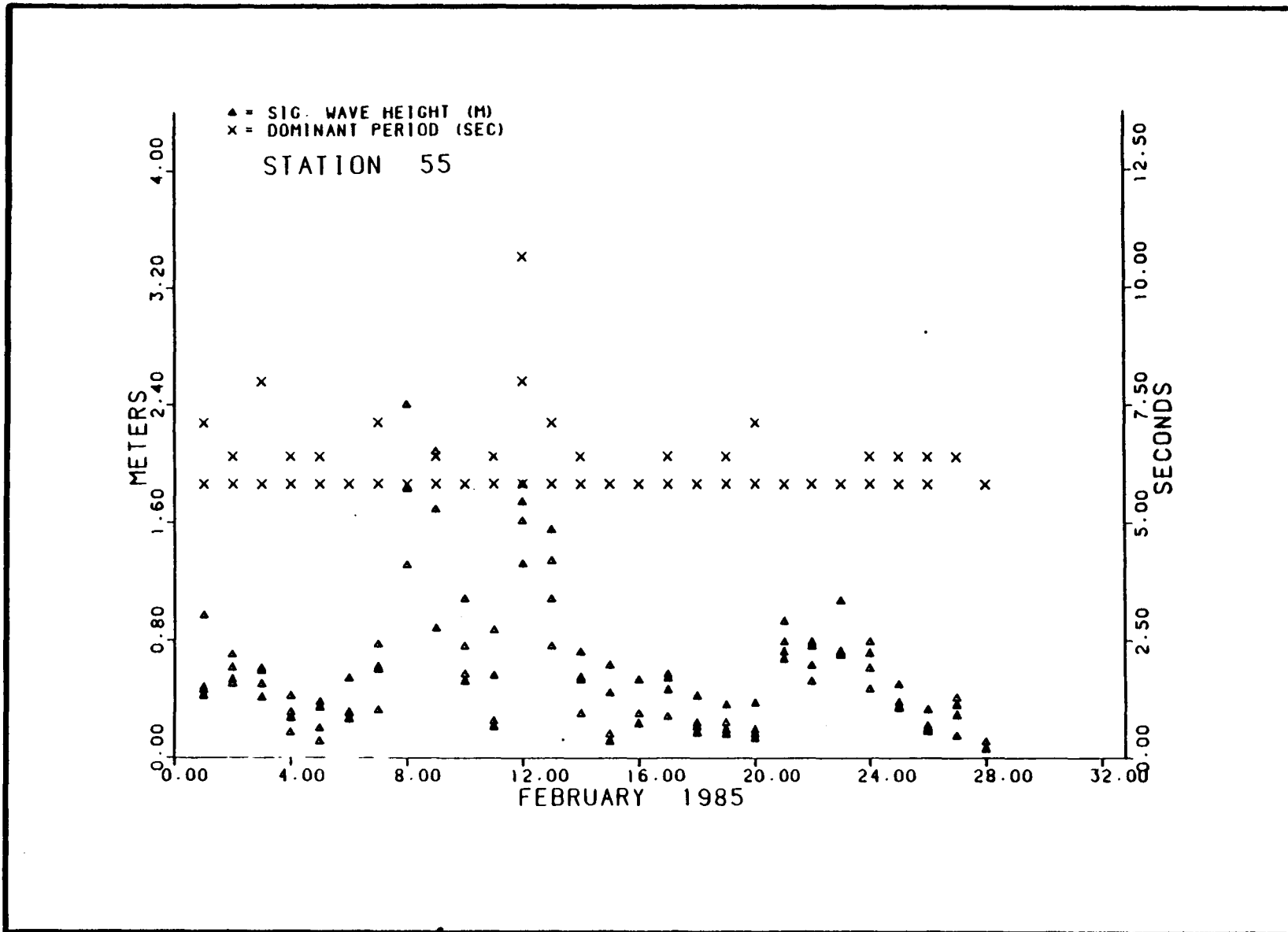


Figure B-91 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - FEBRUARY 1985

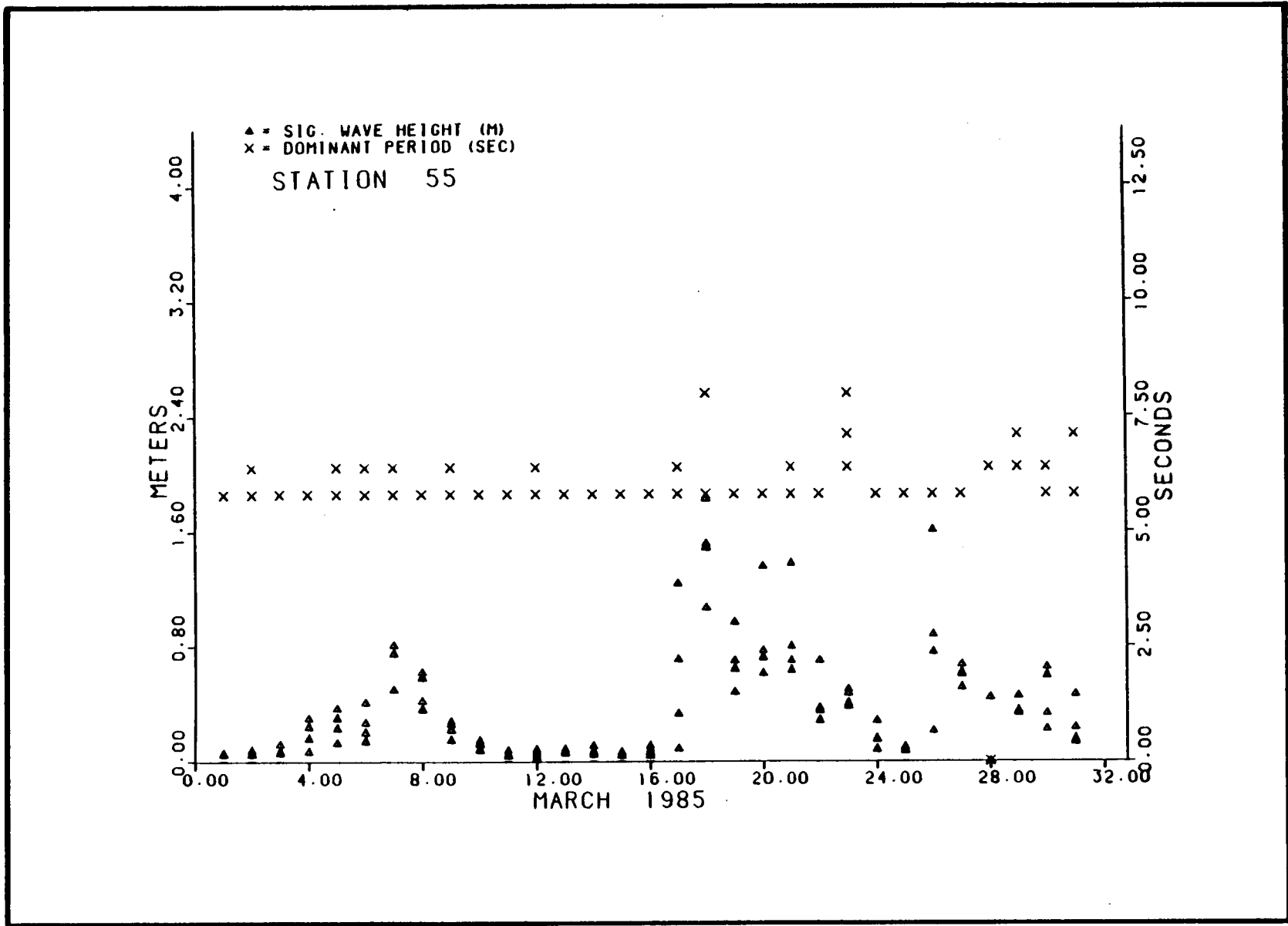


Figure B-92 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - MARCH 1985

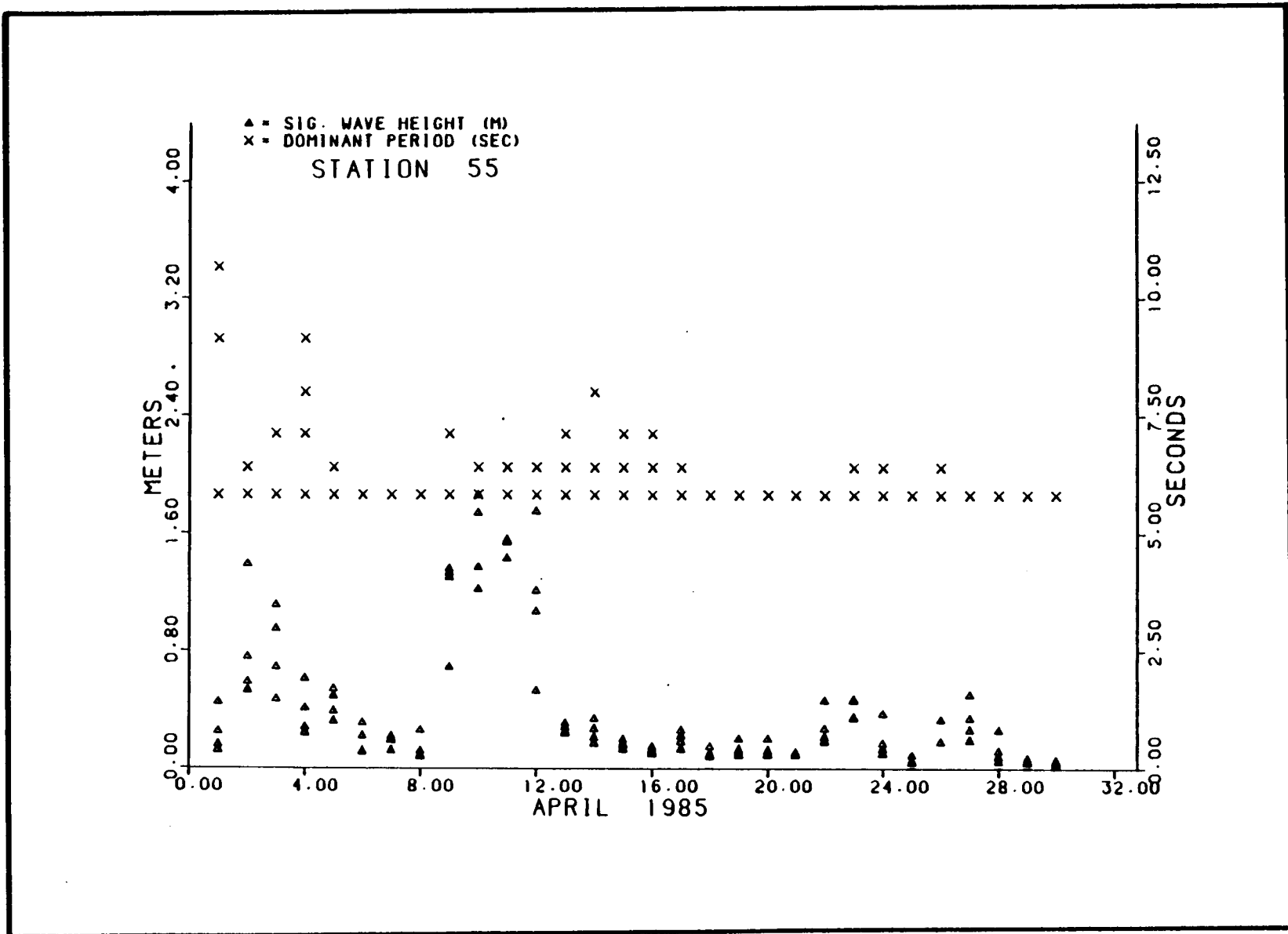


Figure B-93 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - APRIL 1985

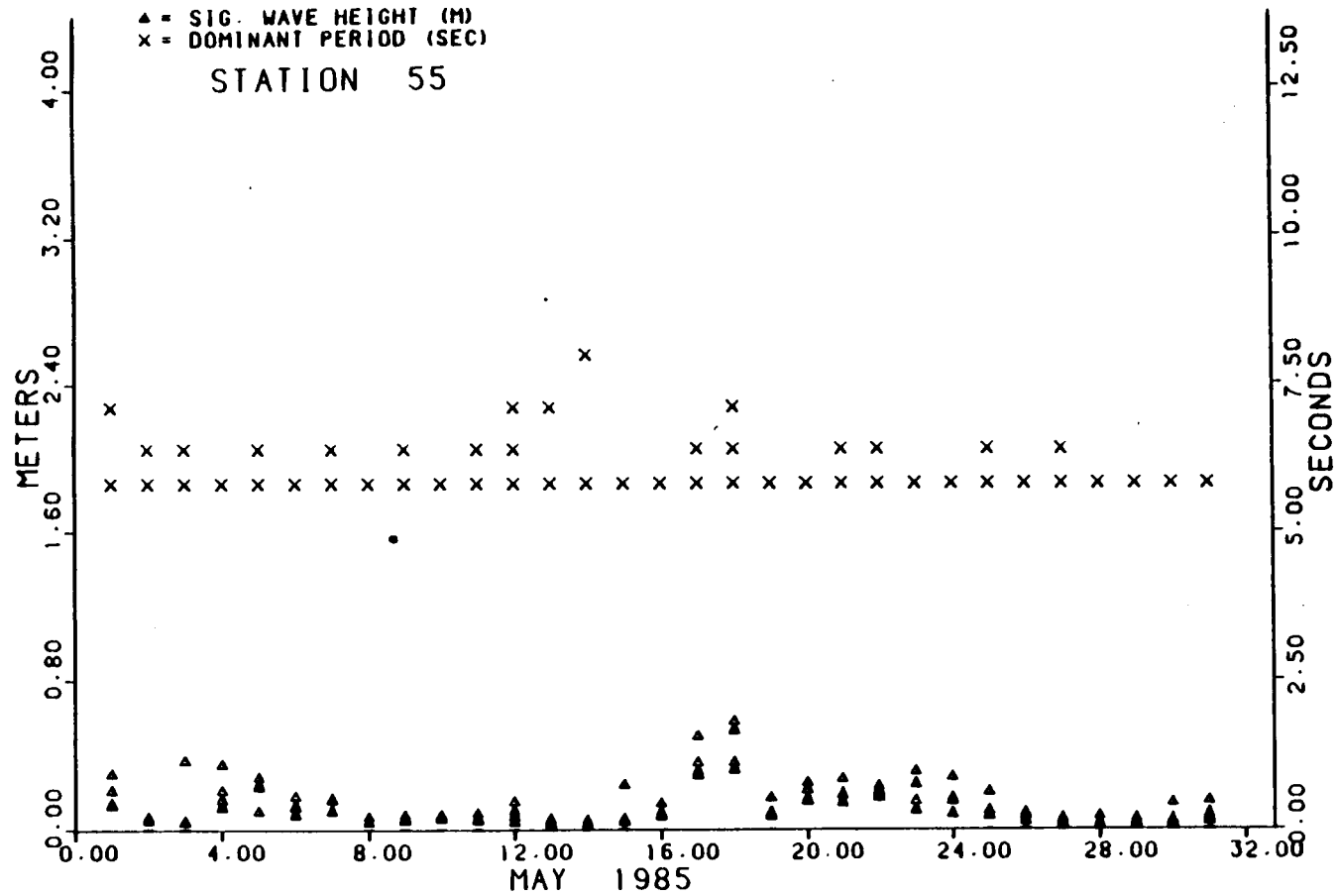


Figure B-94 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - MAY 1985

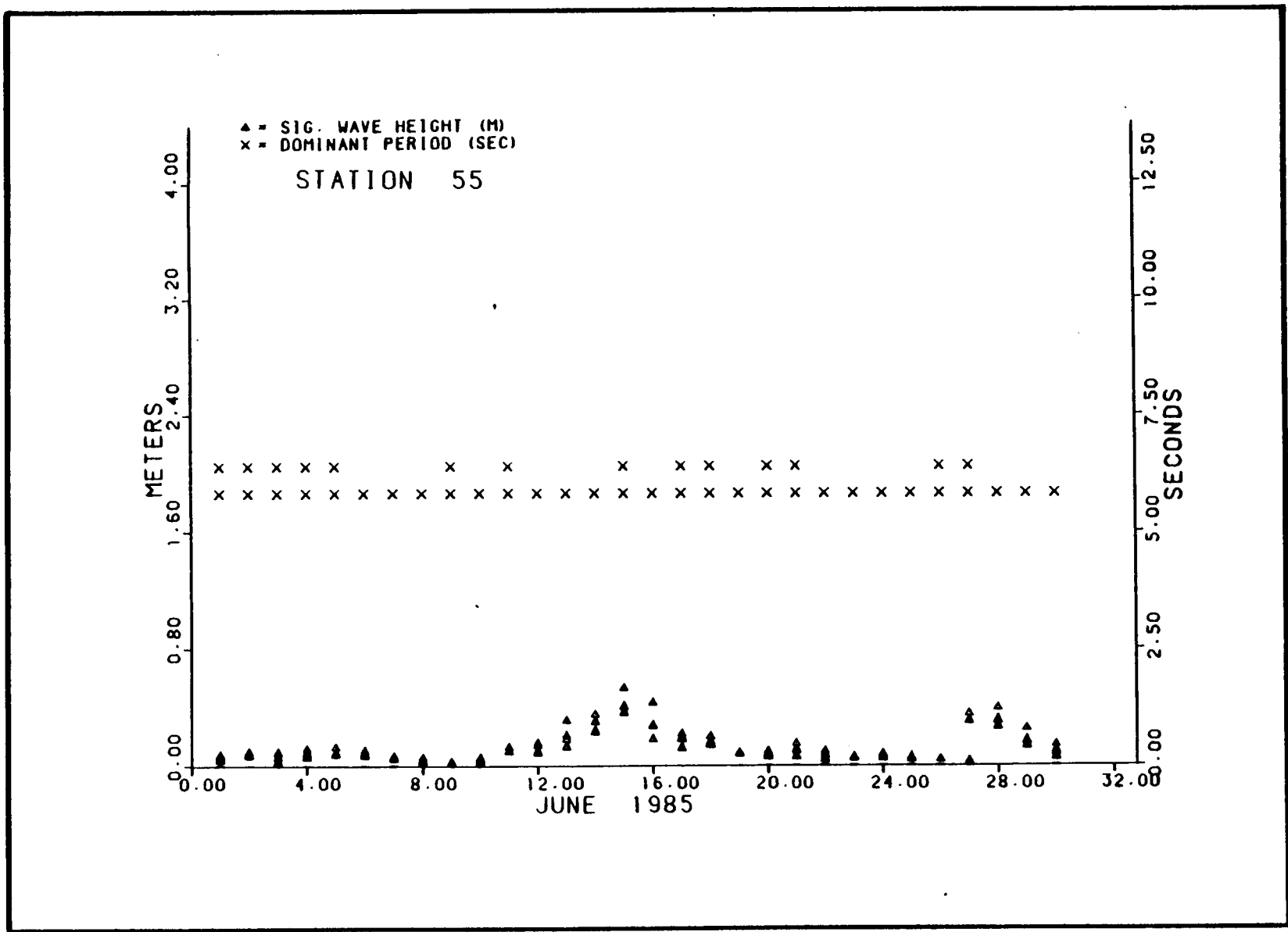


Figure B-95 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - JUNE 1985

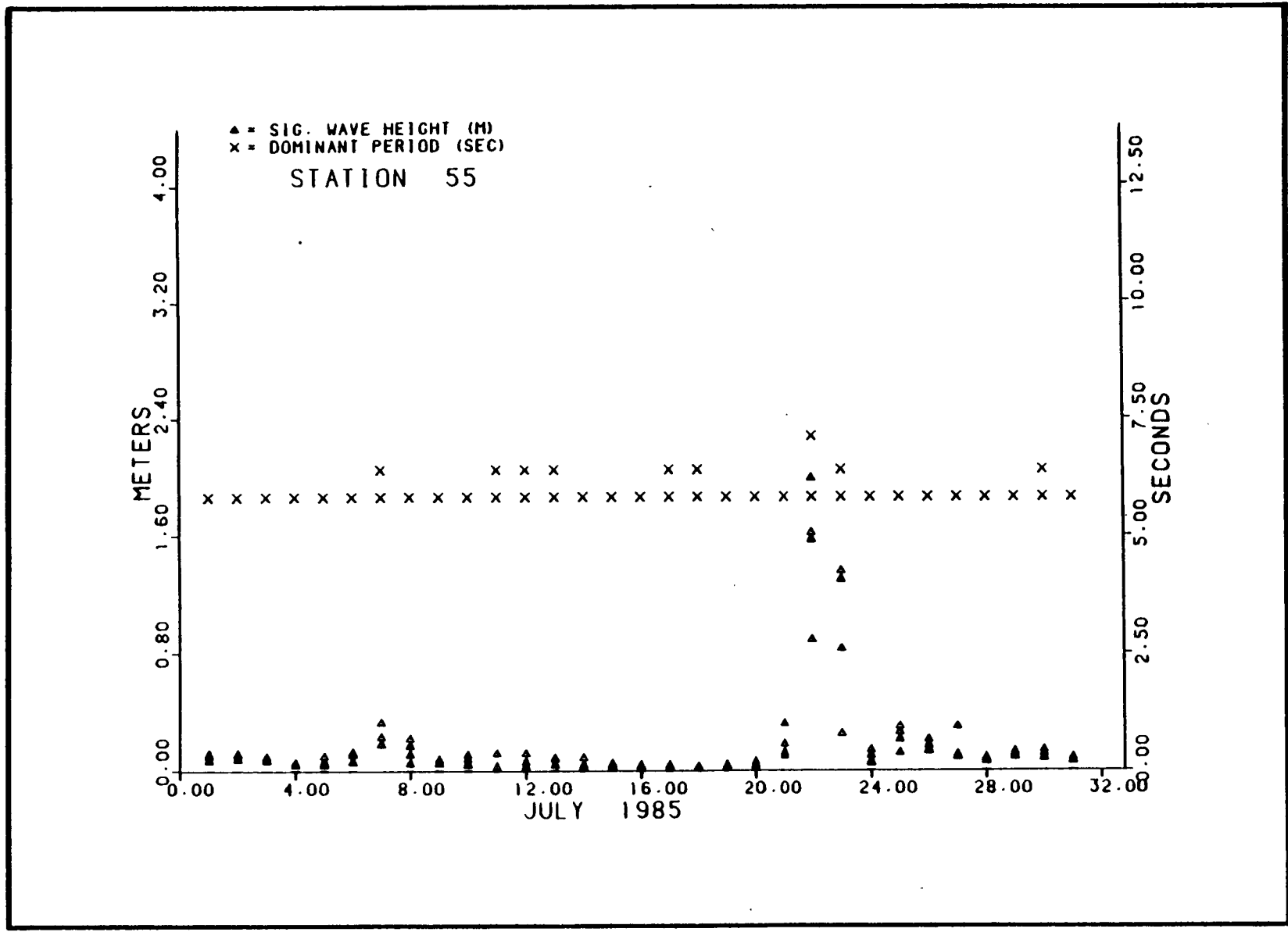


Figure B-96 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - JULY 1985

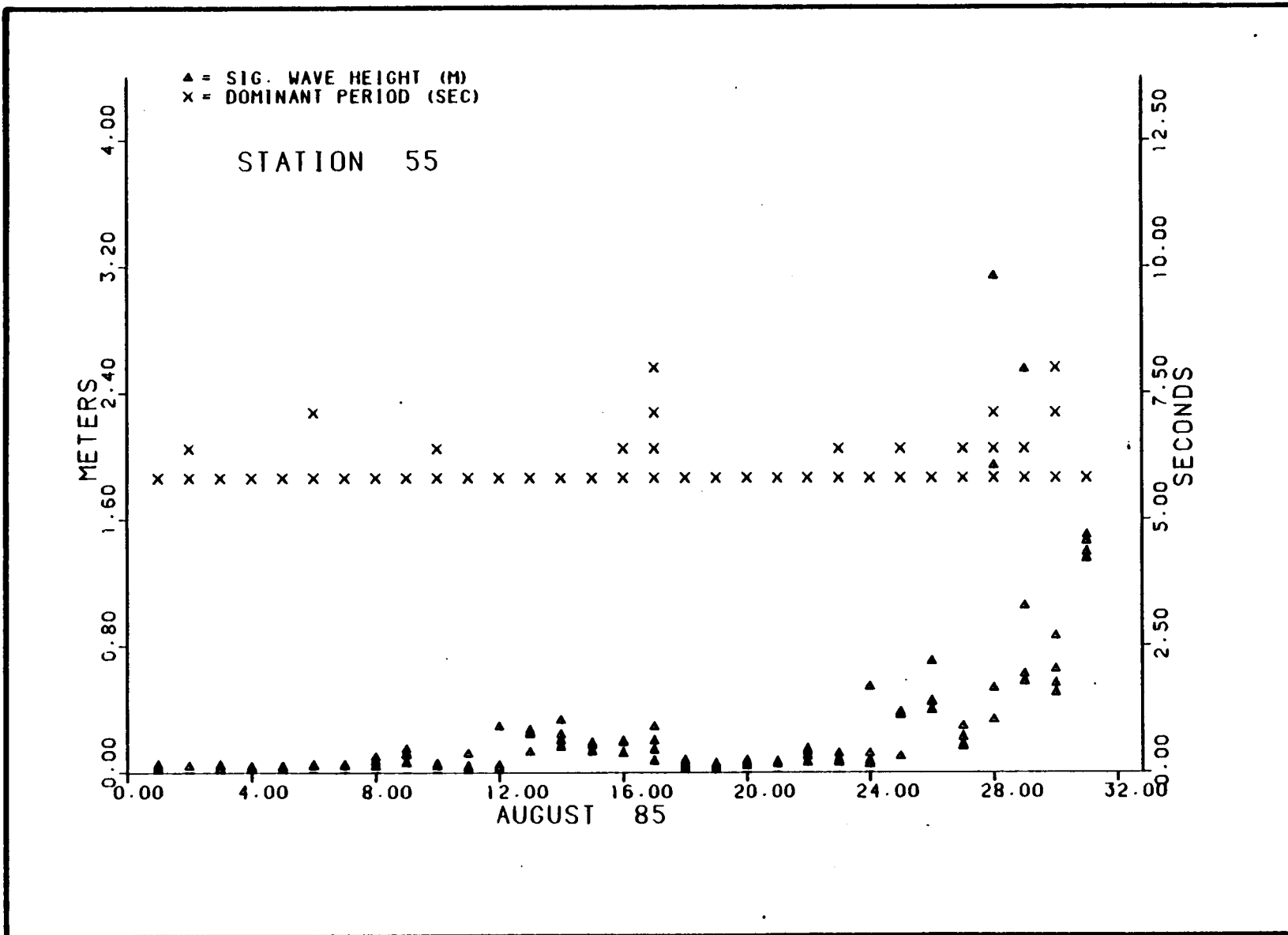


Figure B-97 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - AUGUST 1985

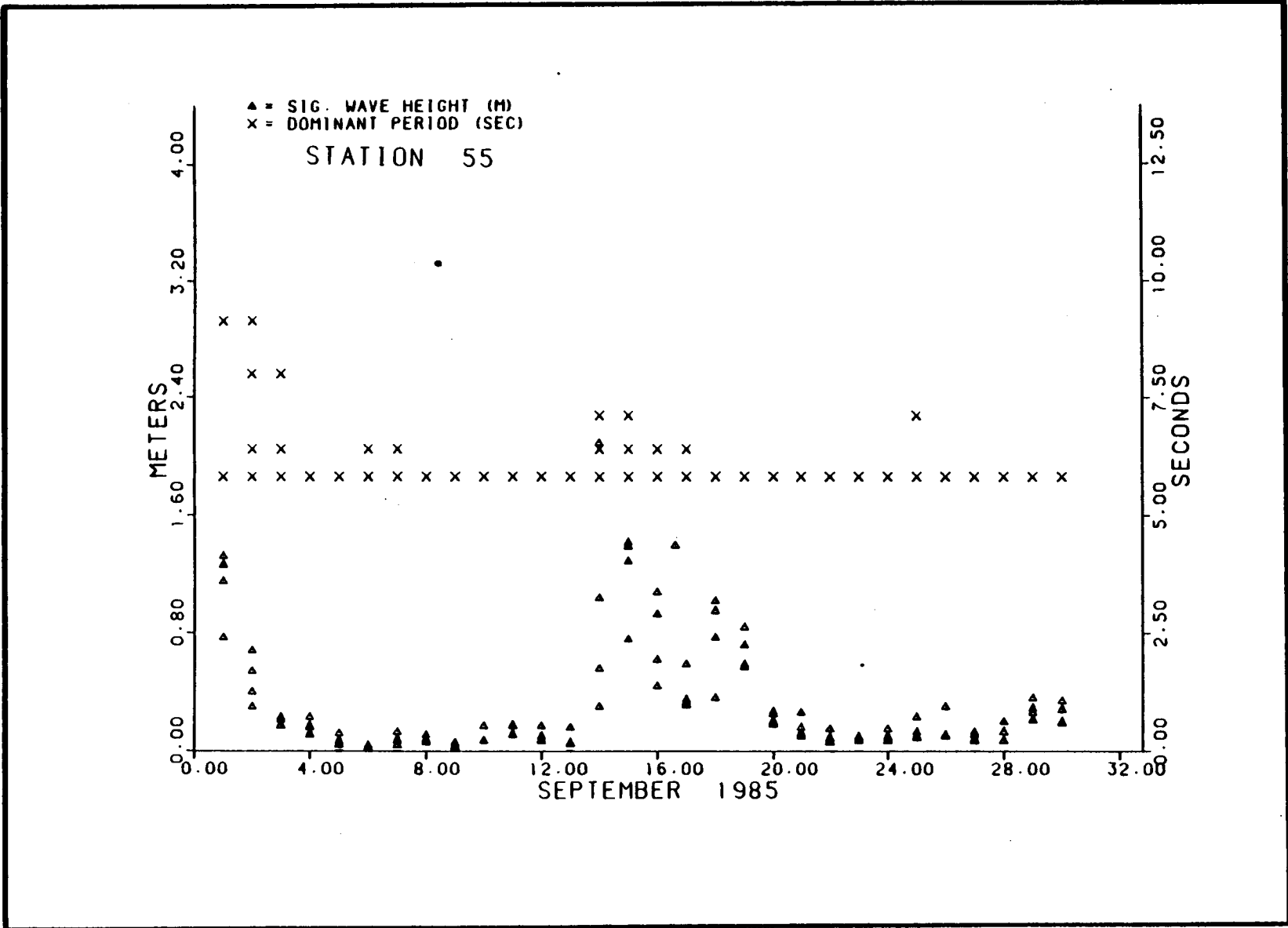


Figure B-98 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOT - SEPTEMBER 1985

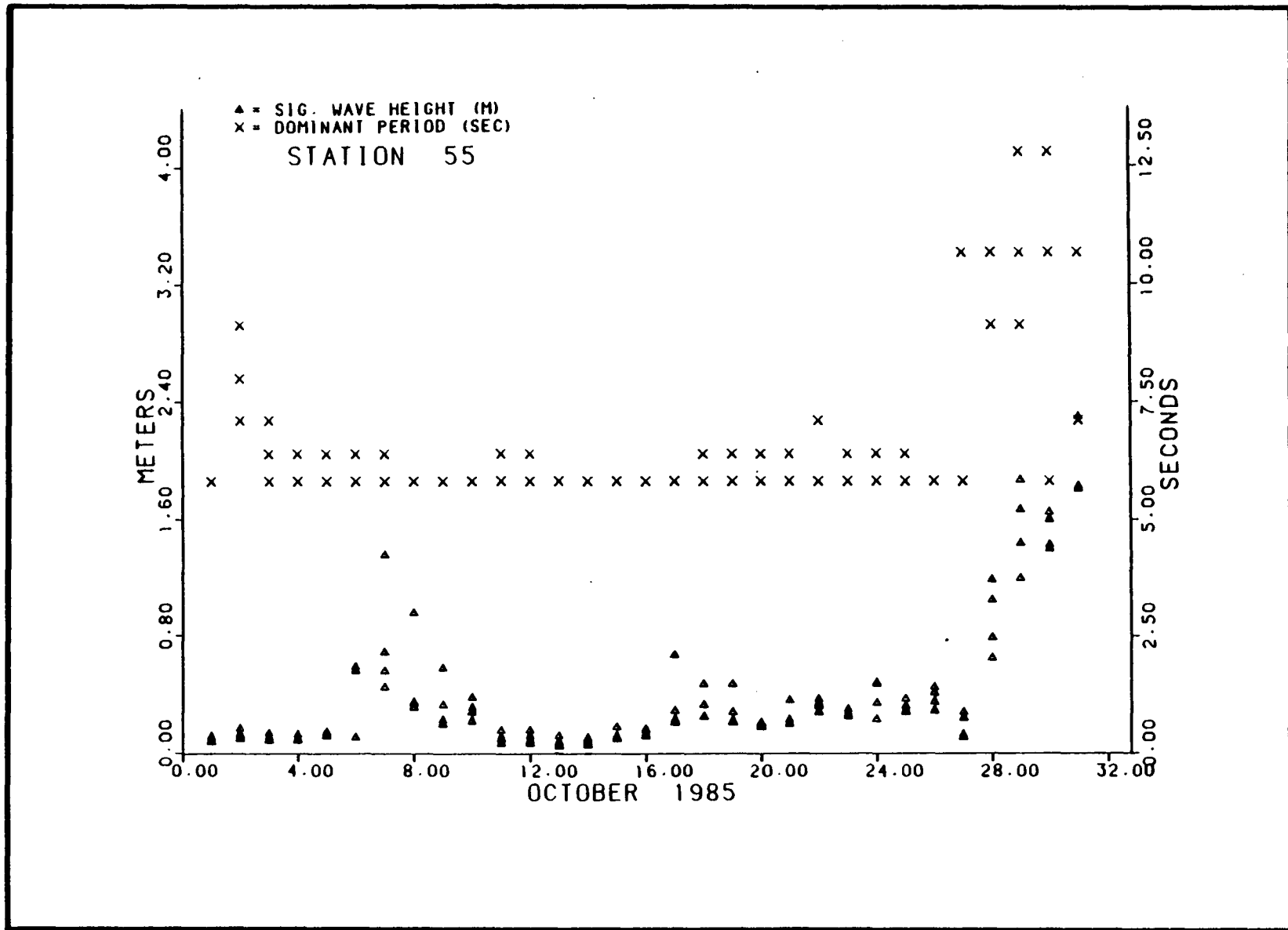


Figure B-99 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS – OCTOBER 1985

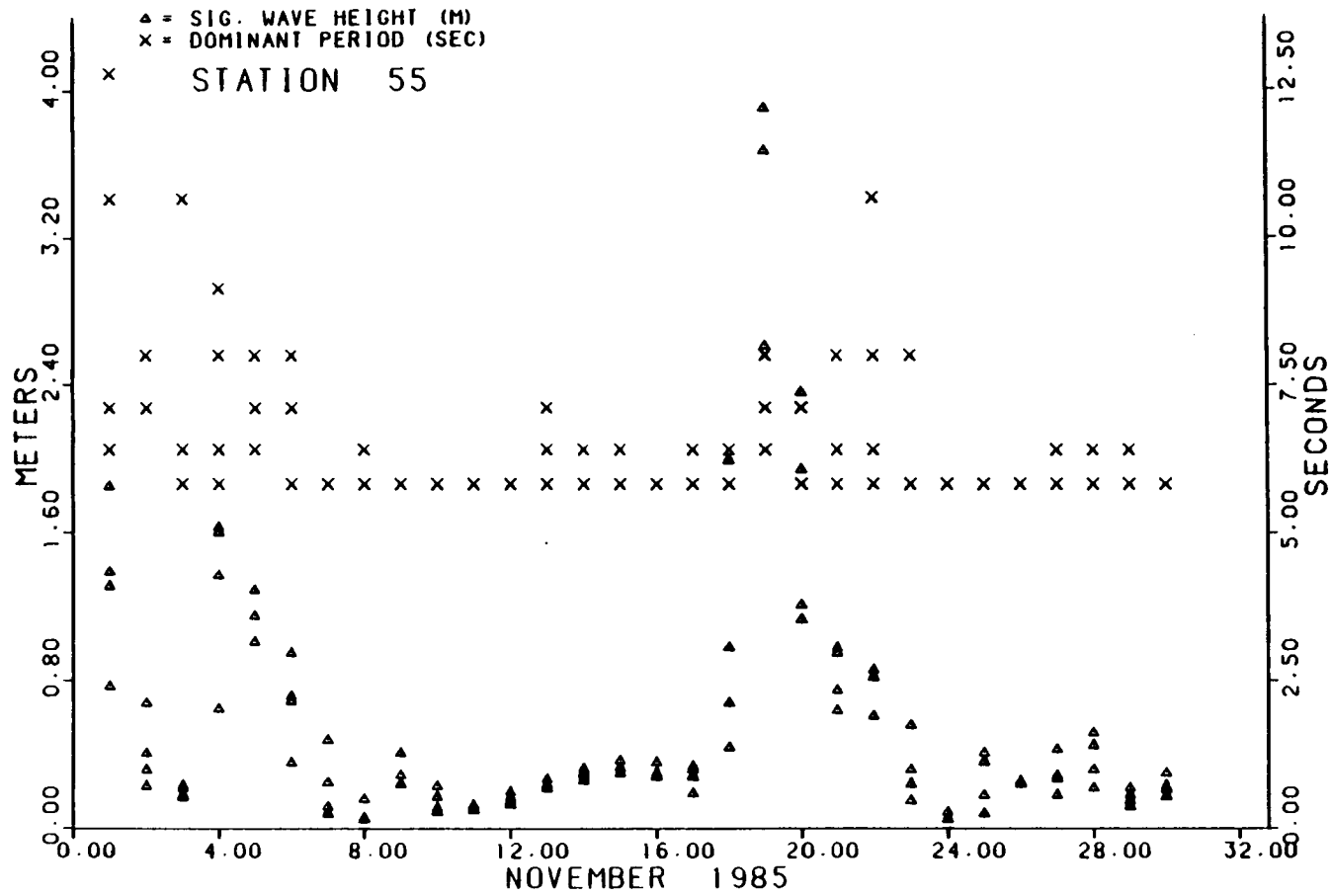


Figure B-100 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - NOVEMBER 1985

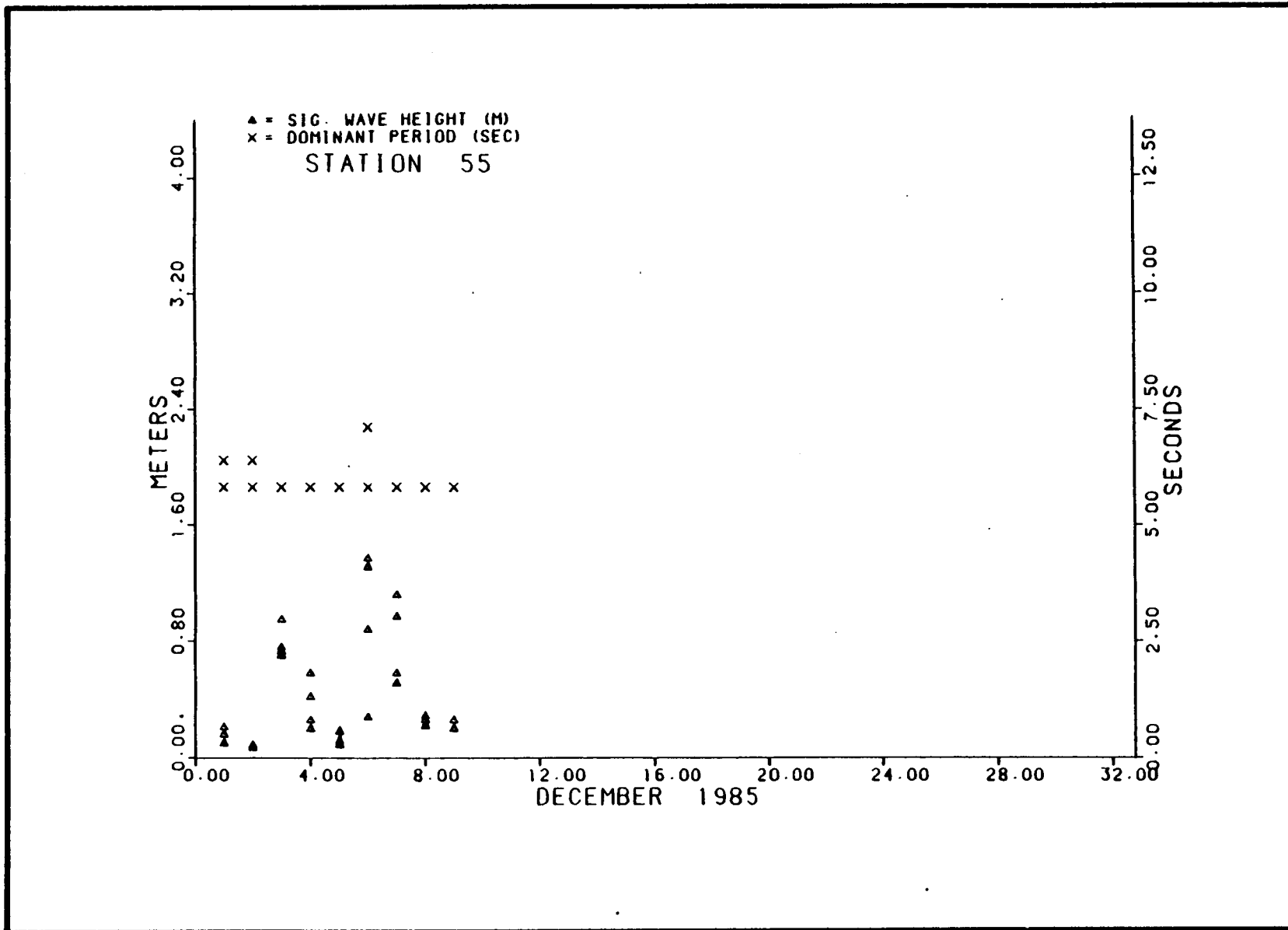


Figure B-101 STATION 55 SIGNIFICANT WAVE HEIGHT AND DOMINANT WAVE PERIOD PLOTS - DECEMBER 1985

TABLE : B-80
MONTH : DECEMBER

STATION : 52
YEAR : 1984

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1		-999.0	-999.0	11	200	0.1	3.8	21	200	0.0	4.0
		-999.0	-999.0		800	0.1	4.0		800	0.0	7.1
		-999.0	-999.0		1400	0.1	4.3		1400	0.0	4.0
		-999.0	-999.0		2000	0.1	4.0		2000	0.0	4.0
2		-999.0	-999.0	12	200	0.2	4.6	22	200	0.0	4.0
		-999.0	-999.0		800	0.3	4.0		800	0.0	6.4
		-999.0	-999.0		1400	0.2	5.3		1400	0.0	4.9
		-999.0	-999.0		2000	0.2	4.9		2000	0.0	5.8
3		-999.0	-999.0	13	200	0.1	4.9	23	200	0.0	4.6
		-999.0	-999.0		800	0.1	4.3		800	0.1	4.0
		-999.0	-999.0		1400	0.0	4.6		1400	0.2	4.3
		-999.0	-999.0		2000	0.1	4.0		2000	0.1	4.0
4		-999.0	-999.0	14	200	0.0	4.0	24	200	0.0	3.8
		-999.0	-999.0		800	0.0	4.9		800	0.0	4.3
		-999.0	-999.0		1400	0.0	6.4		1400	0.0	4.0
		-999.0	-999.0		2000	0.0	4.0		2000	0.0	5.3
5		-999.0	-999.0	15	200	0.1	4.0	25	200	0.0	3.8
		-999.0	-999.0		800	0.0	4.0		800	0.0	4.0
		-999.0	-999.0		1400	0.2	4.0		1400	0.1	4.0
		-999.0	-999.0		2000	0.1	8.0		2000	0.2	4.0
6	200	-999.0	-999.0	16	200	0.1	4.6	26	200	0.0	4.0
	800	0.2	4.3		800	0.1	4.9		800	0.1	4.3
	1400	1.6	4.6		1400	0.1	4.3		1400	0.2	4.0
	2000	1.5	5.3		2000	0.0	6.4		2000	0.2	4.0
7	200	1.7	4.3	17	200	0.1	4.3	27	200	0.1	4.0
	800	1.0	4.0		800	0.1	4.0		800	0.4	4.3
	1400	0.9	9.1		1400	0.0	4.6		1400	0.3	4.0
	2000	0.9	4.3		2000	0.0	4.0		2000	0.2	4.0
8	200	1.0	4.6	18	200	0.1	4.0	28	200	0.2	4.0
	800	0.7	4.0		800	0.1	4.0		800	0.2	4.3
	1400	0.5	4.3		1400	0.0	4.3		1400	0.2	4.0
	2000	0.4	4.0		2000	0.0	4.0		2000	0.2	4.0
9	200	0.4	4.0	19	200	0.1	4.0	29	200	0.1	4.0
	800	0.3	4.0		800	0.1	4.0		800	0.0	8.0
	1400	0.1	4.0		1400	0.1	4.0		1400	0.2	4.0
	2000	0.1	4.0		2000	0.0	4.0		2000	0.1	4.0
10	200	0.1	3.8	20	200	0.1	4.0	30	200	0.1	4.0
	800	0.1	4.0		800	0.0	4.0		800	0.0	8.0
	1400	0.4	4.0		1400	0.0	4.0		1400	0.2	4.0
	2000	0.1	4.0		2000	0.0	4.3		2000	0.1	4.0
								31	200	0.1	4.0
									800	0.3	4.0
									1400	0.4	4.0
									2000	0.2	4.0

TABLE :B-81
MONTH : JANUARY

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	200	-999.0	-999.0	11	200	0.1	5.3	21	200	-999.0	-999.0
	800	0.4	4.0		800	0.1	4.6		800	-999.0	-999.0
	1400	0.3	4.0		1400	0.1	5.8		1400	1.5	4.3
	2000	0.1	4.0		2000	0.1	4.6		2000	1.1	4.3
2	200	0.1	4.0	12	200	0.8	4.9	22	200	0.9	4.0
	800	0.1	5.3		800	1.1	4.6		800	1.3	4.6
	1400	0.1	4.0		1400	0.8	4.0		1400	1.0	4.0
	2000	0.1	5.3		2000	0.9	4.6		2000	0.8	4.0
3	200	0.1	4.0	13	200	0.9	4.0	23	200	0.5	6.4
	800	0.1	4.9		800	0.7	4.0		800	0.5	5.8
	1400	0.1	4.0		1400	0.5	6.4		1400	0.4	5.8
	2000	0.2	5.3		2000	0.5	6.4		2000	0.4	4.3
4	200	1.5	4.9	14	200	0.4	7.1	24	200	1.3	4.0
	800	1.7	5.3		800	0.3	5.3		800	0.5	4.6
	1400	1.8	5.3		1400	0.2	5.3		1400	0.4	4.6
	2000	1.3	4.6		2000	0.2	4.0		2000	0.4	4.6
5	200	2.0	4.9	15	200	0.2	4.0	25	200	0.4	4.9
	800	1.1	4.9		800	0.3	5.8		800	0.7	4.3
	1400	1.4	4.3		1400	0.8	4.0		1400	0.6	5.3
	2000	0.7	4.0		2000	0.7	4.6		2000	0.6	5.3
6	200	0.8	9.1	16	200	0.7	4.3	26	200	0.8	4.3
	800	0.7	7.1		800	0.4	6.4		800	1.1	5.3
	1400	0.7	4.0		1400	0.4	6.4		1400	0.8	7.1
	2000	0.6	4.0		2000	0.2	5.8		2000	0.8	4.0
7	200	0.5	4.0	17	200	0.1	5.8	27	200	0.5	4.0
	800	0.4	4.0		800	0.1	4.0		800	0.4	6.4
	1400	0.3	5.3		1400	0.2	4.3		1400	0.3	7.1
	2000	0.2	4.6		2000	0.2	4.0		2000	0.2	5.8
8	200	0.4	3.8	18	200	0.5	4.0	28	200	0.2	5.8
	800	0.7	5.8		800	0.8	5.3		800	0.2	4.3
	1400	0.6	7.1		1400	0.8	5.3		1400	0.3	4.3
	2000	0.7	7.1		2000	-999.0	-999.0		2000	0.4	4.6
9	200	0.4	3.8	19	200	-999.0	-999.0	29	200	0.5	7.1
	800	0.4	4.0		800	-999.0	-999.0		800	0.7	4.6
	1400	0.2	5.8		1400	-999.0	-999.0		1400	0.5	6.4
	2000	0.2	5.3		2000	-999.0	-999.0		2000	0.5	7.1
10	200	0.1	5.3	20	200	-999.0	-999.0	30	200	0.4	6.4
	800	0.1	4.3		800	-999.0	-999.0		800	0.2	6.4
	1400	0.0	4.0		1400	-999.0	-999.0		1400	0.1	6.4
	2000	0.0	5.3		2000	-999.0	-999.0		2000	0.1	5.3
								31	200	0.1	4.6
									800	0.1	4.3
									1400	0.2	6.4
									2000	0.2	6.4

TABLE : B-82
MONTH : FEBRUARY

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	200	0.1	5.3	11	200	0.2	4.0	21	200	0.1	4.0
	800	0.2	4.0		800	0.3	4.0		800	0.4	4.0
	1400	0.2	4.0		1400	0.2	4.3		1400	0.4	4.0
	2000	0.1	7.1		2000	0.4	4.0		2000	0.2	4.0
2	200	0.3	5.8	12	200	8.6	4.0	22	200	0.3	4.0
	800	0.3	7.1		800	2.2	4.9		800	0.4	4.3
	1400	0.4	5.8		1400	1.7	5.8		1400	0.1	4.0
	2000	0.3	5.8		2000	1.7	5.8		2000	0.1	4.0
3	200	0.4	5.3	13	200	1.4	4.0	23	200	0.0	4.0
	800	0.7	8.0		800	1.0	5.3		800	0.4	4.0
	1400	0.6	8.0		1400	0.9	4.3		1400	0.1	4.0
	2000	0.4	8.0		2000	0.8	4.6		2000	0.1	4.0
4	200	3.7	4.3	14	200	0.9	4.0	24	200	0.2	4.0
	800	0.4	6.4		800	0.6	7.1		800	0.1	4.0
	1400	0.3	4.0		1400	0.8	4.0		1400	0.1	4.0
	2000	0.2	5.3		2000	0.6	4.6		2000	0.1	6.4
5	200	0.2	4.6	15	200	0.5	4.0	25	200	0.1	4.0
	800	0.2	4.6		800	0.2	5.3		800	0.1	6.4
	1400	0.2	4.6		1400	1.0	4.9		1400	0.1	7.1
	2000	0.1	4.0		2000	0.3	7.1		2000	0.1	5.8
6	200	0.1	3.8	16	200	0.3	6.4	26	200	0.1	7.1
	800	0.2	4.0		800	0.3	6.4		800	0.1	5.8
	1400	0.2	5.8		1400	0.3	4.0		1400	0.1	5.3
	2000	0.4	5.8		2000	0.2	4.9		2000	0.1	8.0
7	200	0.5	6.4	17	200	0.2	9.1	27	200	0.1	9.1
	800	0.5	7.1		800	0.2	8.0		800	0.1	8.0
	1400	0.4	6.4		1400	0.2	8.0		1400	0.1	6.4
	2000	1.0	4.6		2000	0.2	8.0		2000	0.1	7.1
8	200	1.6	4.9	18	200	0.2	4.0	28	200	0.1	6.4
	800	1.0	4.9		800	0.1	4.0		800	0.1	5.3
	1400	0.9	4.3		1400	0.1	4.0		1400	0.3	4.3
	2000	1.2	4.9		2000	0.1	4.0		2000	0.1	4.0
9	200	1.3	4.9	19	200	0.1	4.0				
	800	0.7	4.3		800	0.1	4.0				
	1400	0.5	4.0		1400	0.1	4.0				
	2000	0.6	4.3		2000	0.2	4.0				
10	200	0.7	4.0	20	200	0.1	4.0				
	800	0.4	4.0		800	0.2	4.0				
	1400	0.7	4.0		1400	0.1	4.0				
	2000	0.3	4.0		2000	0.3	4.0				

TABLE : B-84
MONTH : APRIL

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	500	0.2	5.3	11	500	0.9	4.3	21	500	0.0	4.0
	1100	0.3	7.1		1100	1.1	4.3		1100	0.4	4.3
	1700	0.3	9.1		1700	0.9	4.6		1700	0.3	4.0
	2300	1.3	4.6		2300	1.1	4.3		2300	0.2	4.0
2	500	0.9	4.9	12	500	0.5	4.0	22	500	0.6	4.0
	1100	0.5	6.4		1100	0.8	4.0		1100	0.5	4.3
	1700	0.9	4.9		1700	0.4	4.3		1700	0.5	4.0
	2300	1.4	4.6		2300	0.1	6.4		2300	0.5	4.0
3	500	0.6	7.1	13	500	0.1	6.4	23	500	0.3	4.0
	1100	0.6	4.6		1100	0.1	8.0		1100	0.2	4.0
	1700	0.5	6.4		1700	0.3	6.4		1700	0.1	4.0
	2300	0.4	7.1		2300	0.3	5.8		2300	0.0	4.0
4	500	0.2	9.1	14	500	0.4	4.9	24	500	0.0	4.0
	1100	0.5	4.6		1100	0.3	4.9		1100	0.0	4.0
	1700	0.5	4.0		1700	0.2	4.9		1700	0.0	5.8
	2300	0.4	4.0		2300	0.2	4.6		2300	0.0	4.0
5	500	0.3	4.0	15	500	0.2	4.3	25	500	0.0	4.0
	1100	0.4	4.3		1100	0.3	4.3		1100	0.0	3.8
	1700	0.1	4.0		1700	0.2	4.0		1700	0.0	4.0
	2300	0.1	5.8		2300	0.2	4.0		2300	0.0	4.0
6	500	0.1	6.4	16	500	0.1	4.0	26	500	0.1	4.0
	1100	0.1	6.4		1100	0.2	4.0		1100	0.3	3.8
	1700	0.1	6.4		1700	0.2	5.3		1700	0.4	4.0
	2300	0.1	5.3		2300	0.3	4.9		2300	0.1	4.0
7	500	0.2	7.1	17	500	-999.0	-999.0	27	500	0.0	4.0
	1100	0.2	6.4		1100	0.3	4.0		1100	0.0	4.0
	1700	0.2	6.4		1700	0.2	5.8		1700	0.0	4.0
	2300	0.2	5.3		2300	0.2	4.0		2300	0.0	5.3
8	500	0.1	6.4	18	500	0.1	4.6	28	500	0.0	5.3
	1100	0.3	4.0		1100	0.3	4.0		1100	0.1	4.0
	1700	0.6	4.0		1700	0.0	5.8		1700	0.2	4.0
	2300	1.0	4.6		2300	0.0	4.0		2300	0.1	4.0
9	500	1.0	4.0	19	500	0.0	4.0	29	500	0.2	4.0
	1100	1.2	4.6		1100	0.2	4.0		1100	0.3	4.0
	1700	1.0	4.3		1700	0.0	4.3		1700	0.6	4.0
	2300	1.0	4.0		2300	0.0	4.0		2300	0.2	4.6
10	500	1.0	4.6	20	500	0.0	4.0	30	500	0.1	4.0
	1100	1.1	4.0		1100	0.0	4.0		1100	0.4	4.3
	1700	0.9	4.3		1700	0.0	4.0		1700	0.1	4.0
	2300	0.9	4.3		2300	0.0	4.0		2300	0.1	4.0

TABLE : B-85
MONTH : MAY

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	500	0.1	4.0	11	500	0.1	4.3	21	500	0.2	5.8
	1100	0.1	4.0		1100	0.1	4.6		1100	0.2	4.6
	1700	0.1	4.0		1700	0.1	5.8		1700	0.1	4.9
	2300	0.0	4.9		2300	0.1	5.8		2300	0.1	4.0
2	500	0.0	4.0	12	500	0.1	5.3	22	500	0.1	7.1
	1100	0.0	4.3		1100	0.1	4.0		1100	0.1	5.8
	1700	0.0	4.3		1700	0.1	4.0		1700	0.1	5.8
	2300	0.0	4.6		2300	0.1	4.0		2300	0.1	4.9
3	500	0.2	3.8	13	500	0.0	4.0	23	500	0.1	5.3
	1100	0.6	4.6		1100	0.0	4.0		1100	0.1	4.9
	1700	0.5	5.8		1700	0.1	4.0		1700	0.1	4.9
	2300	0.6	5.8		2300	0.0	4.0		2300	0.2	4.9
4	500	0.3	5.8	14	500	0.0	4.0	24	500	0.1	6.4
	1100	0.4	4.6		1100	0.5	4.0		1100	0.1	4.3
	1700	0.2	4.9		1700	0.4	4.6		1700	0.1	5.3
	2300	0.3	4.0		2300	0.2	4.0		2300	0.2	4.0
5	500	0.2	5.8	15	500	0.6	4.3	25	500	0.5	4.0
	1100	0.4	4.3		1100	0.9	4.9		1100	0.4	4.6
	1700	0.3	4.0		1700	0.4	4.6		1700	0.3	4.0
	2300	0.2	4.0		2300	0.2	4.9		2300	0.2	4.3
6	500	0.0	4.0	16	500	0.6	4.3	26	500	0.2	4.0
	1100	0.3	4.0		1100	0.5	4.6		1100	0.3	4.3
	1700	0.1	4.0		1700	0.7	4.3		1700	0.2	4.0
	2300	0.1	4.0		2300	0.7	4.3		2300	0.1	4.0
7	500	0.0	4.3	17	500	0.6	4.6	27	500	0.1	4.0
	1100	0.0	4.0		1100	0.8	4.0		1100	0.2	4.0
	1700	0.0	4.0		1700	0.7	4.3		1700	0.2	4.0
	2300	0.1	5.3		2300	1.0	5.3		2300	0.1	4.6
8	500	0.0	4.0	18	500	0.6	7.1	28	500	0.0	4.0
	1100	0.0	5.8		1100	0.4	6.4		1100	0.0	4.0
	1700	0.1	5.8		1700	0.3	5.8		1700	0.0	4.0
	2300	0.1	5.3		2300	0.4	4.6		2300	0.0	4.0
9	500	0.1	5.8	19	500	0.1	5.8	29	500	0.0	4.0
	1100	0.1	6.4		1100	0.1	4.6		1100	0.0	4.0
	1700	0.1	5.3		1700	0.3	4.0		1700	0.0	4.0
	2300	0.0	4.6		2300	0.2	4.0		2300	0.1	4.0
10	500	0.0	4.6	20	500	0.3	4.0	30	500	0.2	4.0
	1100	0.0	5.8		1100	0.3	4.9		1100	0.2	4.0
	1700	0.1	4.9		1700	0.2	5.8		1700	0.0	4.0
	2300	0.1	4.9		2300	0.3	5.3		2300	0.0	4.0
								31	500	0.1	3.8
									1100	0.1	4.0
									1700	0.0	4.0
									2300	0.1	4.3

TABLE B-86
MONTH : JUNE

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	500	0.0	3.8	11	500	0.1	4.9	21	500	0.1	4.0
	1100	0.0	4.9		1100	0.1	5.8		1100	0.1	4.0
	1700	0.0	5.3		1700	0.1	4.3		1700	0.2	4.0
	2300	0.1	4.3		2300	0.1	6.4		2300	0.0	4.0
2	500	0.1	4.9	12	500	0.1	4.0	22	500	0.1	4.0
	1100	0.1	5.3		1100	0.1	5.8		1100	0.1	3.8
	1700	0.1	5.8		1700	1.1	4.3		1700	0.2	4.0
	2300	0.1	4.0		2300	0.3	4.9		2300	0.0	4.0
3	500	0.1	4.3	13	500	0.4	4.0	23	500	0.1	4.0
	1100	0.2	4.0		1100	0.2	5.8		1100	0.0	5.3
	1700	0.2	4.0		1700	0.1	4.9		1700	0.0	4.9
	2300	0.2	4.0		2300	0.2	4.9		2300	0.0	4.3
4	500	0.3	4.3	14	500	0.2	4.0	24	500	0.0	4.0
	1100	0.6	4.0		1100	0.4	4.0		1100	0.0	4.0
	1700	0.2	4.0		1700	0.8	4.3		1700	0.0	4.3
	2300	0.2	4.0		2300	0.8	4.3		2300	0.1	4.0
5	500	0.1	4.6	15	500	0.4	3.8	25	100	-999.0	-999.0
	1100	0.1	4.3		1100	0.6	4.0		700	-999.0	-999.0
	1700	0.1	4.0		1700	0.7	4.0		1300	0.1	4.3
	2300	0.1	4.0		2300	0.4	4.0		1900	0.1	4.0
6	500	0.0	4.3	16	500	0.2	3.8	26	100	0.1	4.0
	1100	0.1	4.0		1100	0.2	5.3		700	0.1	4.0
	1700	0.1	4.0		1700	0.1	5.8		1300	0.1	4.0
	2300	0.0	4.3		2300	0.1	5.8		1900	0.0	4.0
7	500	0.0	7.1	17	500	0.1	5.8	27	100	0.4	4.0
	1100	0.0	5.8		1100	0.2	4.0		700	0.6	4.3
	1700	0.1	5.8		1700	0.1	5.8		1300	0.9	4.6
	2300	0.0	4.6		2300	0.1	4.0		1900	0.5	4.0
8	500	0.0	5.8	18	500	0.0	7.1	28	100	0.7	4.3
	1100	0.0	6.4		1100	0.1	4.0		700	0.5	4.6
	1700	0.1	7.1		1700	0.0	5.3		1300	0.6	4.0
	2300	0.1	4.0		2300	0.1	4.9		1900	0.5	5.3
9	500	0.1	4.0	19	500	0.1	5.3	29	100	0.5	4.9
	1100	0.0	4.3		1100	0.1	4.0		700	0.4	4.9
	1700	0.1	4.6		1700	0.1	4.9		1300	0.6	4.9
	2300	0.1	4.3		2300	0.1	4.3		1900	0.4	5.3
10	500	0.0	4.3	20	500	0.1	6.4	30	100	0.4	4.3
	1100	0.0	4.3		1100	0.1	4.6		700	0.2	5.3
	1700	0.1	4.3		1700	0.1	4.0		1300	0.3	4.6
	2300	0.0	4.3		2300	0.1	4.0		1900	0.4	4.6

TABLE : B-87
MONTH : JULY

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	100	0.2	4.0	11	100	0.1	4.3	21	100	0.4	4.9
	700	0.2	5.3		700	0.1	4.6		700	0.4	4.0
	1300	0.2	4.9		1300	0.2	4.0		1300	0.4	5.8
	1900	0.3	4.0		1900	0.1	4.6		1900	0.7	4.3
2	100	0.1	4.9	12	100	0.1	4.0	22	100	0.7	4.9
	700	0.1	4.9		700	0.1	4.6		700	1.1	4.0
	1300	0.1	4.6		1300	0.1	4.0		1300	1.5	4.9
	1900	0.1	5.3		1900	0.1	4.3		1900	1.9	4.3
3	100	0.1	5.3	13	100	0.1	4.0	23	100	1.9	6.4
	700	0.1	4.3		700	0.0	4.0		700	1.9	4.9
	1300	0.2	3.8		1300	0.1	5.3		1300	1.4	5.3
	1900	0.1	4.3		1900	0.1	4.0		1900	0.9	4.9
4	100	0.1	4.6	14	100	0.2	4.0	24	100	0.6	4.9
	700	0.1	4.3		700	0.0	6.4		700	0.5	4.0
	1300	0.0	4.3		1300	0.0	4.6		1300	0.3	4.0
	1900	0.1	4.0		1900	0.0	4.0		1900	0.2	4.6
5	100	0.0	4.0	15	100	0.0	4.6	25	100	0.1	4.0
	700	0.0	4.0		700	0.0	5.3		700	0.1	4.6
	1300	0.2	4.0		1300	0.0	4.0		1300	0.1	4.0
	1900	0.2	4.0		1900	0.0	4.3		1900	0.1	4.0
6	100	0.1	4.0	16	100	0.0	4.9	26	100	0.3	4.0
	700	0.1	4.0		700	0.0	4.6		700	0.1	4.0
	1300	0.1	4.0		1300	0.0	4.0		1300	0.1	4.6
	1900	0.2	4.0		1900	0.0	4.6		1900	0.0	4.9
7	100	0.2	4.0	17	100	0.0	4.0	27	100	0.1	4.0
	700	0.1	5.8		700	0.0	4.6		700	0.1	4.0
	1300	0.3	4.0		1300	0.0	3.8		1300	0.0	4.6
	1900	0.1	4.0		1900	0.0	4.3		1900	0.0	4.0
8	100	0.1	5.8	18	100	0.0	4.3	28	100	0.1	4.9
	700	0.1	5.3		700	0.0	4.3		700	0.0	4.6
	1300	0.1	4.0		1300	0.0	3.8		1300	0.0	5.3
	1900	0.1	4.0		1900	0.1	4.0		1900	0.0	4.0
9	100	0.1	4.0	19	100	0.1	4.9	29	100	0.0	4.0
	700	0.2	4.0		700	0.1	4.3		700	0.0	7.1
	1300	0.2	4.0		1300	0.1	3.8		1300	0.0	5.3
	1900	0.4	4.0		1900	0.1	4.0		1900	0.0	5.3
10	100	0.2	4.0	20	100	0.1	4.0	30	100	0.0	6.4
	700	0.2	4.0		700	0.1	4.9		700	0.0	7.1
	1300	0.2	4.6		1300	0.2	4.0		1300	0.0	6.4
	1900	0.1	4.6		1900	0.2	4.0		1900	0.1	5.8
								31	100	0.0	6.4
									700	0.1	4.6
									1300	0.0	3.8
									1900	0.0	4.6

TABLE : B-88
MONTH : AUGUST

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	100	0.0	4.3	11	100	0.2	4.9	21	100	0.1	4.0
	700	0.0	4.0		700	0.2	4.6		700	0.0	4.0
	1300	0.0	4.6		1300	0.2	4.3		1300	0.4	4.0
	1900	0.0	4.9		1900	0.1	4.6		1900	0.0	4.0
2	100	0.0	5.8	12	100	0.2	4.0	22	100	0.0	4.0
	700	0.1	4.9		700	0.1	4.3		700	0.0	4.6
	1300	0.0	4.0		1300	0.1	4.0		1300	0.0	4.0
	1900	0.1	4.3		1900	0.2	4.0		1900	0.0	6.4
3	100	0.1	4.0	13	100	0.5	4.3	23	100	0.0	4.0
	700	0.2	4.0		700	0.5	4.0		700	0.0	5.8
	1300	0.2	4.9		1300	0.2	4.0		1300	0.0	7.1
	1900	0.2	4.3		1900	0.2	4.0		1900	0.1	4.0
4	100	0.1	4.9	14	100	0.6	4.3	24	100	0.7	4.0
	700	0.1	4.0		700	0.6	4.0		700	0.0	4.0
	1300	0.1	4.0		1300	0.2	4.0		1300	0.1	4.0
	1900	0.1	4.0		1900	0.2	4.0		1900	0.1	4.0
5	100	0.1	4.0	15	100	0.3	4.0	25	100	0.6	4.0
	700	0.1	4.0		700	0.1	4.0		700	0.2	4.0
	1300	0.1	4.6		1300	0.1	7.1		1300	0.4	4.0
	1900	0.1	4.0		1900	0.5	4.0		1900	0.5	4.0
6	100	0.1	4.9	16	100	0.3	4.0	26	100	0.3	4.0
	700	0.1	4.0		700	0.2	7.1		700	0.7	4.0
	1300	0.1	4.3		1300	0.2	7.1		1300	0.7	4.6
	1900	0.1	4.0		1900	0.3	9.1		1900	0.4	4.0
7	100	0.0	4.3	17	100	0.2	8.0	27	100	0.1	4.0
	700	0.1	4.0		700	0.2	7.1		700	0.1	4.0
	1300	0.0	4.0		1300	0.1	6.4		1300	0.1	4.0
	1900	0.0	4.0		1900	0.2	4.9		1900	0.2	4.0
8	100	0.0	4.3	18	100	0.1	5.8	28	100	0.4	4.0
	700	0.2	4.9		700	0.1	5.8		700	-999.0	-999.0
	1300	0.2	4.3		1300	0.1	5.3		1300	1.6	4.9
	1900	0.2	4.9		1900	0.1	4.6		1900	1.8	5.3
9	100	0.2	4.9	19	100	0.1	5.3	29	100	1.8	4.9
	700	0.3	5.8		700	0.1	4.3		700	1.3	4.3
	1300	0.3	4.6		1300	0.1	5.3		1300	0.7	4.0
	1900	0.3	5.8		1900	0.2	4.0		1900	0.7	4.3
10	100	0.3	5.3	20	100	0.1	5.3	30	100	0.6	9.1
	700	0.2	4.6		700	0.1	4.3		700	1.0	4.0
	1300	0.3	4.0		1300	0.1	4.9		1300	0.7	8.0
	1900	0.2	4.6		1900	0.1	4.0		1900	1.0	4.0
								31	100	1.2	4.3
									700	1.6	5.3
									1300	1.5	5.8
									1900	1.4	6.4

TABLE : B-89
MONTH : SEPTEMBER

STATION : 52
YEAR : 1985

DAY	TIME	SIGN- WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	100	1.2	5.3	11	100	0.0	4.0	21	200	0.2	4.9
	700	1.4	4.9		700	0.0	4.0		800	0.2	4.0
	1300	0.7	5.3		1300	0.3	4.3		1400	0.1	4.3
	1900	0.0	5.8		1900	0.0	4.0		2000	0.1	4.6
2	100	0.4	7.1	12	100	0.1	4.0	22	200	0.1	4.9
	700	0.5	6.4		700	0.2	4.0		800	0.1	4.6
	1300	0.4	9.1		1300	0.0	4.0		1400	0.1	4.6
	1900	0.4	5.3		1900	0.0	4.3		2000	0.1	4.9
3	100	0.2	9.1	13	100	0.0	4.0	23	200	0.0	4.9
	700	0.3	8.0		700	-999.0	-999.0		800	0.7	3.8
	1300	0.3	4.0		1300	-999.0	-999.0		1400	0.1	4.3
	1900	0.2	4.0		1900	-999.0	-999.0		2000	0.1	4.0
4	100	0.1	4.0	14	200	-999.0	-999.0	24	200	0.1	5.3
	700	0.1	5.3		800	0.1	4.3		800	0.1	6.4
	1300	0.1	6.4		1400	0.1	4.0		1400	0.1	4.0
	1900	0.1	4.0		2000	0.1	4.0		2000	0.4	4.0
5	100	0.0	5.8	15	200	0.1	4.0	25	200	0.2	4.3
	700	0.0	4.9		800	0.1	4.0		800	0.1	4.0
	1300	0.0	5.8		1400	0.8	4.0		1400	0.3	4.0
	1900	0.1	4.0		2000	0.9	4.3		2000	0.4	4.3
6	100	0.0	5.8	16	200	0.8	4.3	26	200	0.4	4.6
	700	0.0	5.3		800	0.6	4.0		800		
	1300	0.0	4.0		1400	0.7	4.0		1400	0.5	4.6
	1900	0.1	4.0		2000	0.3	4.0		2000	0.4	4.9
7	100	0.0	4.0	17	200	0.1	4.6	27	200	0.4	4.9
	700	0.0	5.8		800	0.3	4.0		800	0.3	5.3
	1300	0.0	4.0		1400	0.7	3.8		1400	0.2	4.3
	1900	0.3	4.0		2000	0.6	4.0		2000	0.2	4.0
8	100	0.1	4.0	18	200	0.6	4.3	28	200	0.2	4.0
	700	0.0	4.6		800	0.4	4.0		800	0.2	4.0
	1300	0.0	4.0		1400	0.8	4.3		1400	0.4	4.0
	1900	0.0	4.0		2000	0.6	4.3		2000	0.3	4.0
9	100	0.0	4.0	19	200	0.5	3.8	29	200	0.6	3.8
	700	0.0	4.0		800	0.4	4.0		800	0.1	4.0
	1300	0.0	4.0		1400	6.5	4.0		1400	0.4	4.0
	1900	0.1	4.0		2000	0.5	4.3		2000	0.4	4.0
10	100	0.0	4.0	20	200	0.2	3.8	30	200	0.4	3.8
	700	0.0	5.3		800	0.2	4.6		800	0.3	4.0
	1300	0.1	4.0		1400	0.1	4.0		1400	0.3	3.8
	1900	0.1	4.0		2000	0.1	4.6		2000	0.1	4.0

TABLE : B-90
MONTH : OCTOBER

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	200	0.0	3.8	11	200	0.1	4.0	21	200	0.1	4.0
	800	0.0	4.0		800	0.1	4.9		800	0.0	3.8
	1400	0.2	3.8		1400	0.1	4.0		1400	0.4	4.0
	2000	0.0	4.0		2000	0.1	4.6		2000	0.2	4.0
2	200	0.0	3.8	12	200	0.2	4.0	22	200	0.2	4.0
	800	0.1	9.1		800	0.1	4.3		800	0.4	3.8
	1400	0.1	8.0		1400	0.1	4.0		1400	0.4	4.0
	2000	0.1	4.0		2000	0.0	4.3		2000	0.2	4.0
3	200	0.1	3.8	13	200	0.0	5.3	23	200	0.4	4.0
	800	0.1	6.4		800	0.0	4.0		800	0.5	3.8
	1400	0.1	5.8		1400	0.0	4.0		1400	0.4	4.0
	2000	0.1	5.3		2000	0.0	6.4		2000	0.3	3.8
4	200	0.1	3.8	14	200	0.0	3.8	24	200	0.4	4.0
	800	0.1	7.1		800	0.0	4.0		800	0.2	3.8
	1400	0.1	6.4		1400	0.1	3.8		1400	0.4	4.3
	2000	0.1	7.1		2000	0.2	4.0		2000	0.4	3.8
5	200	0.1	7.1	15	200	0.1	3.8	25	200	0.5	4.0
	800	0.1	5.8		800	0.1	4.0		800	0.1	4.0
	1400	0.1	5.3		1400	0.2	3.8		1400	0.5	4.0
	2000	0.1	5.8		2000	0.1	4.0		2000	0.3	4.0
6	200	0.1	4.0	16	200	0.0	3.8	26	200	0.2	4.0
	800	0.3	4.0		800	0.0	4.0		800	-999.0	-999.0
	1400	0.7	4.0		1400	0.1	3.8		1400	0.3	4.0
	2000	0.7	4.6		2000	0.4	4.0		2000	0.3	4.0
7	200	0.7	4.0	17	200	0.1	3.8	27	200	0.4	4.0
	800	0.5	3.8		800	0.3	4.0		800	0.2	4.0
	1400	0.8	4.0		1400	0.6	4.3		1400	0.1	4.0
	2000	0.7	4.3		2000	0.5	4.0		2000	0.2	4.0
8	200	0.5	4.0	18	200	0.3	3.8	28	200	0.4	4.0
	800	0.1	3.8		800	0.0	4.3		800	0.8	10.7
	1400	0.4	4.0		1400	0.1	4.0		1400	0.8	9.1
	2000	0.5	3.8		2000	0.2	4.0		2000	0.7	10.7
9	200	0.6	4.0	19	200	0.3	3.8	29	200	0.7	9.1
	800	0.3	3.8		800	0.1	4.0		800	0.7	9.1
	1400	0.3	4.3		1400	0.4	4.0		1400	0.7	10.7
	2000	0.2	4.0		2000	0.4	4.0		2000	0.7	5.3
10	200	0.4	4.0	20	200	0.1	4.0	30	200	0.9	4.6
	800	0.2	4.3		800	0.1	3.8		800	0.9	5.3
	1400	0.2	4.0		1400	0.2	4.0		1400	1.1	4.9
	2000	0.2	4.9		2000	0.2	4.0		2000	1.1	4.3
								31	200	-999.0	-999.0
									800	-999.0	-999.0
									1400	-999.0	-999.0
									2000	-999.0	-999.0

TABLE : B-91
MONTH : NOVEMBER

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	200	1.2	5.8	11	200	0.1	3.8	21	200	0.5	4.0
	800	1.3	4.0		800	0.1	4.0		800	0.9	4.0
	1400	0.8	5.3		1400	0.1	4.3		1400	0.7	4.0
	2000	0.7	9.1		2000	0.1	4.0		2000	0.7	9.1
2	200	0.6	8.0	12	200	0.1	3.8	22	200	0.8	10.7
	800	0.5	6.4		800	0.0	4.0		800	0.6	7.1
	1400	0.4	7.1		1400	0.0	4.0		1400	0.7	4.9
	2000	0.3	6.4		2000	0.1	4.0		2000	0.5	6.4
3	200	0.2	6.4	13	200	0.1	4.0	23	200	0.6	7.1
	800	0.2	4.3		800	0.0	4.0		800	0.4	7.1
	1400	0.3	5.3		1400	0.1	3.8		1400	0.4	5.8
	2000	0.3	4.0		2000	0.1	4.0		2000	0.2	6.4
4	200	0.7	4.6	14	200	0.1	3.8	24	200	0.2	4.3
	800	1.4	4.6		800	0.0	4.0		800	0.2	5.3
	1400	1.4	5.3		1400	0.1	3.8		1400	0.1	4.6
	2000	1.3	4.3		2000	0.1	4.0		2000	0.1	3.8
5	200	0.8	4.9	15	200	0.1	3.8	25	200		
	800	0.9	4.0		800	0.1	4.0		800	0.3	4.0
	1400	0.8	4.0		1400	0.3	3.8		1400	0.4	4.0
	2000	1.0	4.3		2000	0.2	4.0		2000	0.1	4.0
6	200	0.7	4.3	16	200	0.1	3.8	26	200	0.1	3.8
	800	0.7	4.3		800	0.0	4.0		800	0.3	4.0
	1400	0.6	7.1		1400	0.6	3.8		1400	0.1	4.0
	2000	0.5	4.6		2000	0.1	4.0		2000	0.1	4.0
7	200	0.4	5.3	17	200	0.2	3.8	27	200	0.1	3.8
	800	0.3	6.4		800	0.1	3.8		800	0.4	4.0
	1400	0.2	4.9			-999.0	-999.0		1400	0.4	4.0
	2000	0.2	5.3		2000	0.5	4.0		2000	0.2	4.0
8	200	0.2	4.6	18	200	0.6	3.8	28	200	0.6	4.0
	800	0.1	4.6		800	0.6	4.3		800	0.2	4.0
	1400	0.1	4.0		1400	1.1	4.6		1400	0.3	4.0
	2000	0.1	3.8		2000	0.9	4.3		2000	0.1	4.0
9	200	0.4	5.8	19	200	1.3	4.6	29	200	0.1	4.9
	800	0.2	6.4		800	1.6	4.9		800	0.1	4.6
	1400	0.2	4.0		1400	1.7	5.3		1400	0.1	4.6
	2000	0.1	6.4		2000	1.5	4.9		2000	0.4	4.0
10	200			20	200	1.2	4.9	30	200	0.1	3.8
	800	0.1	4.6		800	0.9	4.6		800	0.1	4.9
	1400	0.1	4.6		1400	1.0	4.3		1400	0.2	3.8
	2000	0.1	4.0		2000	0.9	4.0		2000	0.4	4.0

TABLE : B-92
MONTH : DECEMBER

STATION : 52
YEAR : 1985

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	200	0.2	3.8	11		-999.0	-999.0	21		-999.0	-999.0
	800	0.1	4.0			-999.0	-999.0			-999.0	-999.0
	1400	0.1	6.4			-999.0	-999.0			-999.0	-999.0
	2000	0.1	5.8			-999.0	-999.0			-999.0	-999.0
2	200	0.1	5.3	12		-999.0	-999.0	22		-999.0	-999.0
	800	0.1	4.6			-999.0	-999.0			-999.0	-999.0
	1400	0.1	4.6			-999.0	-999.0			-999.0	-999.0
	2000	0.1	4.9			-999.0	-999.0			-999.0	-999.0
3	200	0.8	4.3	13		-999.0	-999.0	23		-999.0	-999.0
	800	0.8	5.8			-999.0	-999.0			-999.0	-999.0
	1400	0.6	4.0			-999.0	-999.0			-999.0	-999.0
	2000	0.9	4.3			-999.0	-999.0			-999.0	-999.0
4	200	0.5	3.8	14		-999.0	-999.0	24		-999.0	-999.0
	800	0.3	7.1			-999.0	-999.0			-999.0	-999.0
	1400	0.2	4.0			-999.0	-999.0			-999.0	-999.0
	2000	0.2	4.0			-999.0	-999.0			-999.0	-999.0
5	200	0.1	4.0	15		-999.0	-999.0	25		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
6		-999.0	-999.0	16		-999.0	-999.0	26		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
7		-999.0	-999.0	17		-999.0	-999.0	27		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
8		-999.0	-999.0	18		-999.0	-999.0	28		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
9		-999.0	-999.0	19		-999.0	-999.0	29		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
10		-999.0	-999.0	20		-999.0	-999.0	30		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0	31		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0

TABLE : B-93
MONTH : DECEMBER

STATION : 55
YEAR : 84

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	
1		-999.0	-999.0	11		-999.0	-999.0	21	300	0.2	5.8	
		-999.0	-999.0				-999.0		-999.0	900	0.1	5.8
		-999.0	-999.0				-999.0		-999.0	1500	0.2	5.8
2		-999.0	-999.0	12		-999.0	-999.0	22	2100	0.2	5.8	
		-999.0	-999.0				-999.0		-999.0	300	0.2	5.8
		-999.0	-999.0				-999.0		-999.0	900	0.2	5.8
3		-999.0	-999.0	13		-999.0	-999.0	23	1500	0.1	5.8	
		-999.0	-999.0			300	0.1		5.8	300	0.1	5.8
		-999.0	-999.0			900	0.2		5.8	900	0.1	5.8
4		-999.0	-999.0	14		-999.0	-999.0	24	1500	0.1	5.8	
		-999.0	-999.0			1500	16.6		5.8	1500	0.1	5.8
		-999.0	-999.0			2100	0.5		5.8	2100	0.2	5.8
5		-999.0	-999.0	15		-999.0	-999.0	25	300	0.3	5.8	
		-999.0	-999.0			300	0.4		5.8	300	0.3	5.8
		-999.0	-999.0			900	0.4		5.8	900	0.2	5.8
6		-999.0	-999.0	16		-999.0	-999.0	26	1500	0.2	5.8	
		-999.0	-999.0			2100	0.7		5.8	2100	0.2	5.8
		-999.0	-999.0			300	0.5		5.8	300	0.3	6.4
7		-999.0	-999.0	17		-999.0	-999.0	27	900	0.3	5.8	
		-999.0	-999.0			900	0.6		5.8	900	0.3	6.4
		-999.0	-999.0			1500	0.7		5.8	1500	0.3	5.8
8		-999.0	-999.0	18		-999.0	-999.0	28	2100	0.4	5.8	
		-999.0	-999.0			300	0.4		5.8	300	0.6	5.8
		-999.0	-999.0			900	0.3		6.4	900	0.7	5.8
9		-999.0	-999.0	19		-999.0	-999.0	29	1500	0.6	5.8	
		-999.0	-999.0			2100	0.3		5.8	2100	0.6	5.8
		-999.0	-999.0			300	0.2		5.8	300	0.8	5.8
10		-999.0	-999.0	20		-999.0	-999.0	30	900	0.9	5.8	
		-999.0	-999.0			900	0.4		5.8	900	0.7	5.8
		-999.0	-999.0			1500	0.2		5.8	1500	0.6	6.4
		-999.0	-999.0			-999.0	-999.0	31	2100	0.5	7.1	
		-999.0	-999.0			2100	0.2		5.8	2100	0.6	5.8
		-999.0	-999.0			300	0.1		5.8	300	0.5	5.8
		-999.0	-999.0		900	0.1	5.8	900	0.4	6.4		
		-999.0	-999.0		1500	0.1	5.8	1500	0.3	5.8		
		-999.0	-999.0		2100	0.1	5.8	2100	0.4	5.8		
									300	0.5	5.8	
									900	0.5	6.4	
									1500	0.7	5.8	
									2100	0.6	7.1	

TABLE : B-94
MONTH : JANUARY

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.6	7.1	11	300	0.0	5.8	21	300	2.0	8.0
	900	0.5	7.1		900	0.1	5.8		900	1.9	5.8
	1500	0.5	7.1		1500	0.0	5.8		1500	1.4	5.8
	2100	0.5	5.8		2100	0.0	5.8		2100	1.1	5.8
2	300	0.5	6.4	12	300	0.2	5.8	22	300	0.9	6.4
	900	0.5	5.8		900	0.8	5.8		900	0.8	5.8
	1500	0.4	5.8		1500	1.2	7.1		1500	0.9	5.8
	2100	0.4	5.8		2100	1.1	8.0		2100	0.9	5.8
3	300	0.5	5.8	13	300	0.9	7.1	23	300	0.5	5.8
	900	0.3	5.8		900	0.7	7.1		900	0.4	5.8
	1500	0.1	5.8		1500	0.7	6.4		1500	0.4	5.8
	2100	0.2	5.8		2100	0.4	5.8		2100	0.2	5.8
4	300	0.8	5.8	14	300	0.3	5.8	24	300	0.2	5.8
	900	1.5	6.4		900	0.2	5.8		900	0.2	5.8
	1500	1.6	5.8		1500	0.1	5.8		1500	0.1	5.8
	2100	1.0	5.8		2100	0.1	5.8		2100	0.1	5.8
5	300	1.4	5.8	15	300	0.3	5.8	25	300	0.1	5.8
	900	1.2	5.8		900	0.3	5.8		900	0.2	6.4
	1500	1.0	6.4		1500	0.7	5.8		1500	0.4	6.4
	2100	1.0	5.8		2100	0.5	6.4		2100	0.4	6.4
6	300	0.8	6.4	16	300	0.5	5.8	26	300	0.4	5.8
	900	0.6	5.8		900	0.3	5.8		900	0.7	5.8
	1500	0.4	7.1		1500	0.3	5.8		1500	1.2	7.1
	2100	0.3	5.8		2100	0.1	5.8		2100	0.9	6.4
7	300	0.3	5.8	17	300	0.1	5.8	27	300	0.8	5.8
	900	0.2	7.1		900	0.2	5.8		900	0.5	7.1
	1500	0.1	5.8		1500	0.1	5.8		1500	0.3	5.8
	2100	0.1	5.8		2100	0.1	5.8		2100	0.2	5.8
8	300	0.1	6.4	18	300	0.5	5.8	28	300	0.2	5.8
	900	0.3	5.8		900	0.5	5.8		900	0.1	6.4
	1500	0.4	7.1		1500	0.5	5.8		1500	0.1	5.8
	2100	0.3	6.4		2100	0.6	5.8		2100	0.1	5.8
9	300	0.2	5.8	19	300	0.5	5.8	29	300	0.4	6.4
	900	0.1	5.8		900	0.8	5.8		900	0.4	6.4
	1500	0.1	5.8		1500	0.5	6.4		1500	0.5	7.1
	2100	0.1	5.8		2100	0.5	5.8		2100	0.3	7.1
10	300	0.1	5.8	20	300	0.6	7.1	30	300	0.3	6.4
	900	0.1	5.8		900	0.2	6.4		900	0.3	5.8
	1500	0.1	5.8		1500	0.2	5.8		1500	0.5	5.8
	2100	0.0	5.8		2100	1.9	6.4		2100	0.5	6.4
								31	300	0.5	6.4
									900	0.7	5.8
									1500	0.5	7.1
									2100	0.5	6.4

B-205

TABLE : B-95
MONTH : FEBRUARY

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.5	5.8	11	300	0.6	5.8	21	300	0.7	5.8
	900	0.5	7.1		900	0.9	5.8		900	0.7	5.8
	1500	0.4	5.8		1500	0.2	5.8		1500	0.8	5.8
	2100	1.0	5.8		2100	0.2	6.4		2100	0.9	5.8
2	300	0.7	5.8	12	300	1.3	8.0	22	300	0.8	5.8
	900	0.6	5.8		900	1.9	10.7		900	0.8	5.8
	1500	0.5	6.4		1500	1.7	5.8		1500	0.6	5.8
	2100	0.5	6.4		2100	1.6	10.7		2100	0.5	5.8
3	300	0.5	5.8	13	300	1.5	5.8	23	300	0.7	5.8
	900	0.6	5.8		900	1.3	7.1		900	0.7	5.8
	1500	0.6	8.0		1500	1.1	5.8		1500	0.7	5.8
	2100	0.4	8.0		2100	0.8	5.8		2100	1.1	5.8
4	300	0.4	6.4	14	300	0.7	5.8	24	300	0.7	5.8
	900	0.3	5.8		900	0.5	5.8		900	0.5	6.4
	1500	0.3	5.8		1500	0.5	5.8		1500	0.6	5.8
	2100	0.2	5.8		2100	0.3	6.4		2100	0.8	6.4
5	300	0.4	6.4	15	300	0.2	5.8	25	300	0.5	5.8
	900	0.3	5.8		900	0.1	5.8		900	0.3	6.4
	1500	0.2	6.4		1500	0.6	5.8		1500	0.4	5.8
	2100	0.1	5.8		2100	0.4	5.8		2100	0.4	5.8
6	300	0.3	5.8	16	300	0.5	5.8	26	300	0.3	5.8
	900	0.3	5.8		900	0.3	5.8		900	0.2	6.4
	1500	0.5	5.8		1500	0.2	5.8		1500	0.2	5.8
	2100	0.3	5.8		2100	0.2	5.8		2100	0.2	5.8
7	300	0.8	7.1	17	300	0.5	5.8	27	300	0.4	6.4
	900	0.6	5.8		900	0.6	5.8		900	0.4	6.4
	1500	0.3	7.1		1500	0.5	6.4		1500	0.3	6.4
	2100	0.6	5.8		2100	0.3	6.4		2100	0.2	6.4
8	300	2.4	5.8	18	300	0.2	5.8	28	300	0.1	5.8
	900	1.8	5.8		900	0.2	5.8		900	0.1	5.8
	1500	1.3	5.8		1500	0.2	5.8		1500	0.1	5.8
	2100	1.8	5.8		2100	0.4	5.8		2100	0.1	5.8
9	300	2.1	6.4	19	300	0.4	6.4				
	900	1.7	5.8		900	0.2	5.8				
	1500	0.9	6.4		1500	0.2	5.8				
	2100	0.9	5.8		2100	0.2	6.4				
10	300	1.1	5.8	20	300	0.2	5.8				
	900	0.8	5.8		900	0.1	5.8				
	1500	0.6	5.8		1500	0.2	5.8				
	2100	0.5	5.8		2100	0.4	7.1				

TABLE : B-96
MONTH : MARCH

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.1	5.8	11	300	0.1	5.8	21	300	1.4	5.8
	900	0.1	5.8		900	0.0	5.8		900	0.6	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	0.8	5.8
	2100	0.1	5.8		2100	0.0	5.8		2100	0.7	6.4
2	300	0.0	6.4	12	300	0.1	5.8	22	300	0.3	5.8
	900	0.1	5.8		900	0.1	5.8		900	0.4	5.9
	1500	0.1	5.8		1500	0.0	6.4		1500	0.7	5.9
	2100	0.0	5.8		2100	0.0	5.8		2100	0.4	5.8
3	300	0.1	5.8	13	300	0.1	5.8	23	300	0.4	6.4
	900	0.1	5.8		900	0.1	5.8		900	0.5	7.1
	1500	0.1	5.8		1500	0.1	5.8		1500	0.5	8.0
	2100	0.1	5.8		2100	0.1	5.8		2100	0.4	7.1
4	300	0.1	5.8	14	300	0.1	5.8	24	300	0.3	5.8
	900	0.2	5.8		900	0.1	5.8		900	0.2	5.8
	1500	0.2	5.8		1500	0.1	5.8		1500	0.2	5.8
	2100	0.3	5.8		2100	0.0	5.8		2100	0.1	5.8
5	300	0.3	6.4	15	300	0.0	5.8	25	300	0.1	5.8
	900	0.4	5.8		900	0.0	5.8		900	0.1	5.8
	1500	0.2	6.4		1500	0.1	5.8		1500	0.1	5.8
	2100	0.1	5.8		2100	0.1	5.8		2100	0.1	5.8
6	300	0.1	6.4	16	300	0.1	5.8	26	300	0.2	5.8
	900	0.2	5.8		900	0.0	5.8		900	1.6	5.8
	1500	0.3	5.8		1500	0.1	5.8		1500	0.8	5.8
	2100	0.4	5.8		2100	0.1	5.8		2100	0.9	5.8
7	300	0.5	6.4	17	300	0.1	5.8	27	300	0.6	5.8
	900	0.7	5.8		900	0.3	5.8		900	0.7	5.8
	1500	0.5	5.8		1500	1.2	5.8		1500	0.5	5.8
	2100	0.8	5.8		2100	0.7	6.4		2100	0.6	5.8
8	300	0.6	5.8	18	300	1.8	5.8	28	300	0.4	6.4
	900	0.6	5.8		900	1.5	5.8		900		
	1500	0.4	5.8		1500	1.5	8.0		1500		
	2100	0.4	5.8		2100	1.1	8.0		2100		
9	300	0.3	5.8	19	300	1.0	5.8	29	100	0.4	7.1
	900	0.3	6.4		900	0.6	5.8		700	0.3	7.1
	1500	0.2	6.4		1500	0.5	5.8		1300	0.4	6.4
	2100	0.2	5.8		2100	0.7	5.8		1900	0.3	6.4
10	300	0.2	5.8	20	300	0.6	5.8	30	100	0.6	6.4
	900	0.1	5.8		900	0.8	5.8		700	0.6	5.8
	1500	0.1	5.8		1500	0.7	5.8		1300	0.3	5.8
	2100	0.1	5.8		2100	1.4	5.8		1900	0.2	6.4
								31	100	0.5	7.1
									700	0.2	5.8
									1300	0.2	5.8
									1900	0.1	5.8

TABLE : B-97
MONTH : APRIL

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	100	0.2	5.8	11	100	1.5	6.4	21	100	0.1	5.8
	700	0.1	5.8		700	1.5	6.4		700	0.1	5.8
	1300	0.2	10.7		1300	1.6	5.8		1300	0.1	5.8
	1900	0.4	9.1		1900	1.4	6.4		1900	0.1	5.8
2	100	0.6	5.8	12	100	1.7	6.4	22	100	0.2	5.8
	700	1.4	6.4		700	1.2	6.4		700	0.2	5.8
	1300	0.8	6.4		1300	1.1	5.8		1300	0.3	5.8
	1900	0.5	6.4		1900	0.5	6.4		1900	0.5	5.8
3	100	0.5	5.8	13	100	0.3	6.4	23	100	0.5	6.4
	700	1.0	5.8		700	0.2	5.8		700	0.5	5.8
	1300	1.1	7.1		1300	0.2	7.1		1300	0.3	5.8
	1900	0.7	5.8		1900	0.3	6.4		1900	0.4	5.8
4	100	0.6	5.8	14	100	0.3	8.0	24	100	0.4	6.4
	700	0.4	9.1		700	0.3	6.4		700	0.2	6.4
	1300	0.3	8.0		1300	0.2	5.8		1300	0.1	5.8
	1900	0.2	7.1		1900	0.2	6.4		1900	0.1	5.8
5	100	0.5	5.8	15	100	0.2	6.4	25	100	0.1	5.8
	700	0.5	5.8		700	0.2	6.4		700	0.0	5.8
	1300	0.4	5.8		1300	0.2	5.8		1300	0.0	5.8
	1900	0.3	6.4		1900	0.1	7.1		1900	0.0	5.8
6	100	0.3	5.8	16	100	0.1	6.4	26	100	0.2	5.8
	700	0.2	5.8		700	0.1	7.1		700	0.3	6.4
	1300	0.1	5.8		1300	0.2	6.4		1300	0.2	5.8
	1900	0.1	5.8		1900	0.1	5.8		1900	0.3	5.8
7	100	0.2	5.8	17	100	0.1	5.8	27	100	0.5	5.8
	700	0.2	5.8		700	0.3	5.8		700	0.3	5.8
	1300	0.2	5.8		1300	0.2	6.4		1300	0.2	5.8
	1900	0.1	5.8		1900	0.2	5.8		1900	0.3	5.8
8	100	0.1	5.8	18	100	0.1	5.8	28	100	0.3	5.8
	700	0.1	5.8		700	0.1	5.8		700	0.1	5.8
	1300	0.1	5.8		1300	0.1	5.8		1300	0.0	5.8
	1900	0.3	5.8		1900	0.2	5.8		1900	0.1	5.8
9	100	0.7	5.8	19	100	0.2	5.8	29	100	0.1	5.8
	700	1.3	5.8		700	0.1	5.8		700	0.0	5.8
	1300	1.3	7.1		1300	0.1	5.8		1300	0.1	5.8
	1900	1.4	5.8		1900	0.1	5.8		1900	0.0	5.8
10	100	1.9	5.8	20	100	0.2	5.8	30	100	0.0	5.8
	700	1.7	6.4		700	0.1	5.8		700	0.1	5.8
	1300	1.4	5.8		1300	0.1	5.8		1300	0.0	5.8
	1900	1.2	6.4		1900	0.1	5.8		1900	0.0	5.8

TABLE : B-98
MONTH : MAY

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	100	0.3	5.8	11	100	0.1	6.4	21	100	0.3	6.4
	700	0.1	5.8		700	0.1	5.8		700	0.2	6.4
	1300	0.2	7.1		1300	0.1	5.8		1300	0.2	5.8
	1900	0.1	5.8		1900	0.0	6.4		1900	0.1	5.8
2	100	0.1	5.8	12	100	0.2	5.8	22	100	0.2	6.4
	700	0.1	5.8		700	0.1	6.4		700	0.2	5.8
	1300	0.1	5.8		1300	0.1	7.1		1300	0.2	5.8
	1900	0.0	6.4		1900	0.0	5.8		1900	0.2	5.8
3	100	0.0	6.4	13	100	0.1	7.1	23	100	0.3	5.8
	700	0.0	5.8		700	0.0	5.8		700	0.2	5.8
	1300	0.0	5.8		1300	0.0	5.8		1300	0.1	5.8
	1900	0.4	5.8		1900	0.0	5.8		1900	0.2	5.8
4	100	0.4	5.8	14	100	0.0	5.8	24	100	0.3	5.8
	700	0.2	5.8		700	0.0	5.8		700	0.2	5.8
	1300	0.1	5.8		1300	0.0	8.0		1300	0.1	5.8
	1900	0.2	5.8		1900	0.0	5.8		1900	0.2	5.8
5	100	0.2	5.8	15	100	0.0	5.8	25	100	0.2	6.4
	700	0.3	6.4		700	0.1	5.8		700	0.1	5.8
	1300	0.2	5.8		1300	0.0	5.8		1300	0.1	5.8
	1900	0.1	5.8		1900	0.2	5.8		1900	0.1	5.8
6	100	0.1	5.8	16	100	0.1	5.8	26	100	0.1	5.8
	700	0.2	5.8		700	0.1	5.8		700	0.1	5.8
	1300	0.1	5.8		1300	0.1	5.8		1300	0.0	5.8
	1900	0.1	5.8		1900	0.1	5.8		1900	0.0	5.8
7	100	0.2	5.8	17	100	0.3	5.8	27	100	0.0	5.8
	700	0.2	5.8		700	0.5	5.8		700	0.0	5.8
	1300	0.1	6.4		1300	0.4	6.4		1300	0.0	5.8
	1900	0.2	5.8		1900	0.3	5.8		1900	0.1	6.4
8	100	0.1	5.8	18	100	0.5	6.4	28	100	0.0	5.8
	700	0.1	5.8		700	0.6	5.8		700	0.1	5.8
	1300	0.0	5.8		1300	0.4	7.1		1300	0.0	5.8
	1900	0.1	5.8		1900	0.3	6.4		1900	0.0	5.8
9	100	0.1	5.8	19	100	0.2	5.8	29	100	0.1	5.8
	700	0.0	5.8		700	0.1	5.8		700	0.0	5.8
	1300	0.0	6.4		1300	0.1	5.8		1300	0.0	5.8
	1900	0.1	5.8		1900	0.1	5.8		1900	0.0	5.8
10	100	0.1	5.8	20	100	0.2	5.8	30	100	0.0	5.8
	700	0.1	5.8		700	0.2	5.8		700	0.0	5.8
	1300	0.1	5.8		1300	0.2	5.8		1300	0.0	5.8
	1900	0.1	5.8		1900	0.2	5.8		1900	0.1	5.8
								31	100	0.1	5.8
									700	0.0	5.8
									1300	0.1	5.8
									1900	0.2	5.8

TABLE : B-99
MONTH : JUNE

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	100	0.1	5.8	11	100	0.1	6.4	21	100	0.1	6.4
	700	0.1	5.8		700	0.1	5.8		700	0.2	5.8
	1300	0.0	5.8		1300	0.1	5.8		1300	0.1	5.8
	1900	0.1	6.4		1900	0.1	5.8		1900	0.1	5.8
2	100	0.1	5.8	12	100	0.1	5.8	22	100	0.1	5.8
	700	0.1	6.4		700	0.1	5.8		700	0.1	5.8
	1300	0.1	5.8		1300	0.2	5.8		1300	0.1	5.8
	1900	0.1	5.8		1900	0.1	5.8		1900	0.0	5.8
3	100	0.1	5.8	13	100	0.2	5.8	23	100	0.0	5.8
	700	0.0	5.8		700	0.1	5.8		700	0.1	5.8
	1300	0.1	5.8		1300	0.3	5.8		1300	0.0	5.8
	1900	0.1	6.4		1900	0.2	5.8		1900	0.1	5.8
4	100	0.1	6.4	14	100	0.4	5.8	24	100	0.0	5.8
	700	0.1	6.4		700	0.2	5.8		700	0.1	5.8
	1300	0.1	5.8		1300	0.3	5.8		1300	0.1	5.8
	1900	0.1	5.8		1900	0.2	5.8		1900	0.1	5.8
5	100	0.1	6.4	15	100	0.5	5.8	25	100	0.0	5.8
	700	0.1	6.4		700	0.4	6.4		700	0.1	5.8
	1300	0.1	5.8		1300	0.4	5.8		1300	0.0	5.8
	1900	0.1	5.8		1900	0.4	5.8		1900	0.0	5.8
6	100	0.1	5.8	16	100	0.4	5.8	26	100	0.0	5.8
	700	0.1	5.8		700	0.3	5.8		700	0.0	5.8
	1300	0.1	5.8		1300	0.3	5.8		1300	0.0	5.8
	1900	0.1	5.8		1900	0.2	5.8		1900	0.0	6.4
7	100	0.1	5.8	17	100	0.2	5.8	27	100	0.0	6.4
	700	0.1	5.8		700	0.1	5.8		700	0.0	5.8
	1300	0.0	5.8		1300	0.2	6.4		1300	0.3	5.8
	1900	0.1	5.8		1900	0.2	5.8		1900	0.4	5.8
8	100	0.1	5.8	18	100	0.2	5.8	28	100	0.3	5.8
	700	0.0	5.8		700	0.2	5.8		700	0.3	5.8
	1300	0.0	5.8		1300	0.2	5.8		1300	0.4	5.8
	1900	0.0	5.8		1900	0.1	6.4		1900	0.3	5.8
9	100	0.0	5.8	19	100	0.1	5.8	29	100	0.2	5.8
	700	0.0	6.4		700	0.1	5.8		700	0.2	5.8
	1300	0.0	5.8		1300	0.1	5.8		1300	0.2	5.8
	1900	0.0	5.8		1900	0.1	5.8		1900	0.1	5.8
10	100	0.0	5.8	20	100	0.1	6.4	30	100	0.1	5.8
	700	0.0	5.8		700	0.1	6.4		700	0.1	5.8
	1300	0.0	5.8		1300	0.1	5.8		1300	0.1	5.8
	1900	0.1	5.8		1900	0.1	5.8		1900	0.0	5.8

TABLE : B-100
MONTH : JULY

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.1	5.8	11	300	0.1	5.8	21	300	0.1	5.8
	900	0.1	5.8		900	0.0	5.8		900	0.2	5.8
	1500	0.1	5.8		1500	0.0	5.8		1500	0.1	5.8
	2100	0.1	5.8		2100	0.0	6.4		2100	0.3	5.8
2	300	0.1	5.8	12	300	0.0	5.8	22	300	0.9	5.8
	900	0.1	5.8		900	0.0	5.8		900	2.0	5.8
	1500	0.1	5.8		1500	0.1	5.8		1500	1.6	7.1
	2100	0.1	5.8		2100	0.1	6.4		2100	1.6	5.8
3	300	0.1	5.8	13	300	0.0	5.8	23	300	1.4	6.4
	900	0.1	5.8		900	0.1	5.8		900	1.3	6.4
	1500	0.1	5.8		1500	0.1	5.8		1500	0.8	5.8
	2100	0.1	5.8		2100	0.1	6.4		2100	0.2	5.8
4	300	0.1	5.8	14	300	0.1	5.8	24	300	0.1	5.8
	900	0.0	5.8		900	0.0	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	0.1	5.8
	2100	0.0	5.8		2100	0.0	5.8		2100	0.0	5.8
5	300	0.1	5.8	15	300	0.0	5.8	25	300	0.1	5.8
	900	0.0	5.8		900	0.0	5.8		900	0.3	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	0.2	5.8
	2100	0.1	5.8		2100	0.0	5.8		2100	0.3	5.8
6	300	0.1	5.8	16	300	0.0	5.8	26	300	0.2	5.8
	900	0.1	5.8		900	0.0	5.8		900	0.2	5.8
	1500	0.1	5.8		1500	0.0	5.8		1500	0.1	5.8
	2100	0.1	5.8		2100	0.0	5.8		2100	0.1	5.8
7	300	0.3	5.8	17	300	0.0	5.8	27	300	0.1	5.8
	900	0.2	5.8		900	0.0	6.4		900	0.1	5.8
	1500	0.2	6.4		1500	0.0	5.8		1500	0.3	5.8
	2100	0.2	5.8		2100	0.0	5.8		2100	0.1	5.8
8	300	0.2	5.8	18	300	0.0	5.8	28	300	0.1	5.8
	900	0.2	5.8		900	0.0	6.4		900	0.1	5.8
	1500	0.1	5.8		1500	0.0	6.4		1500	0.1	5.8
	2100	0.0	5.8		2100	0.0	5.8		2100	0.1	5.8
9	300	0.0	5.8	19	300	0.0	5.8	29	300	0.1	5.8
	900	0.1	5.8		900	0.0	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	0.1	5.8
	2100	0.1	5.8		2100	0.0	5.8		2100	0.1	5.8
10	300	0.1	5.8	20	300	0.0	5.8	30	300	0.1	5.8
	900	0.1	5.8		900	0.0	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	0.1	6.4
	2100	0.0	5.8		2100	0.1	5.8		2100	0.1	5.8
								31	300	0.1	5.8
									900	0.1	5.8
									1500	0.1	5.8
									2100	0.1	5.8

TABLE : B-101
MONTH : AUGUST

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.0	5.8	11	300	0.0	5.8	21	300	0.1	5.8
	900	0.0	5.8		900	0.0	5.8		900	0.0	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	0.1	5.8
	2100	0.0	5.8		2100	0.1	5.8		2100	0.1	5.8
2	300	0.0	5.8	12	300	0.0	5.8	22	300	0.2	5.8
	900	0.0	6.4		900	0.0	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.3	5.8		1500	0.1	5.8
	2100	0.0	5.8		2100	0.3	5.8		2100	0.1	5.8
3	300	0.0	5.8	13	300	0.3	5.8	23	300	0.1	5.8
	900	0.0	5.8		900	0.2	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.1	5.8		1500	0.1	6.4
	2100	0.0	5.8		2100	0.2	5.8		2100	0.1	5.8
4	300	0.0	5.8	14	300	0.3	5.8	24	300	0.1	5.8
	900	0.0	5.8		900	0.2	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.2	5.8		1500	0.5	5.8
	2100	0.0	5.8		2100	0.2	5.8		2100	0.0	5.8
5	300	0.0	5.8	15	300	0.2	5.8	25	300	0.1	5.8
	900	0.0	5.8		900	0.2	5.8		900	0.4	6.4
	1500	0.0	5.8		1500	0.1	5.8		1500	0.4	5.8
	2100	0.0	5.8		2100	0.1	5.8		2100	0.4	5.8
6	300	0.0	5.8	16	300	0.1	6.4	26	300	0.4	5.8
	900	0.0	5.8		900	0.1	6.4		900	0.4	5.8
	1500	0.0	7.1		1500	0.2	5.8		1500	0.7	5.8
	2100	0.0	5.8		2100	0.2	5.8		2100	0.4	5.8
7	300	0.0	5.8	17	300	0.3	8.0	27	300	0.3	5.8
	900	0.0	5.8		900	0.2	7.1		900	0.2	6.4
	1500	0.0	5.8		1500	0.1	5.8		1500	0.2	6.4
	2100	0.0	5.8		2100	0.1	6.4		2100	0.2	5.8
8	300	0.1	5.8	18	300	0.1	5.8	28	300	0.3	5.8
	900	0.0	5.8		900	0.1	5.8		900	0.5	5.8
	1500	0.0	5.8		1500	0.0	5.8		1500	1.9	6.4
	2100	0.1	5.8		2100	0.0	5.8		2100	3.1	7.1
9	300	0.2	5.8	19	300	0.0	5.8	29	300	2.6	6.4
	900	0.1	5.8		900	0.0	5.8		900	1.0	6.4
	1500	0.1	5.8		1500	0.1	5.8		1500	0.6	5.8
	2100	0.1	5.8		2100	0.0	5.8		2100	0.6	5.8
10	300	0.1	5.8	20	300	0.1	5.8	30	300	0.9	5.8
	900	0.0	5.8		900	0.1	5.8		900	0.6	6.4
	1500	0.0	5.8		1500	0.0	5.8		1500	0.6	7.1
	2100	0.0	6.4		2100	0.0	5.8		2100	0.5	5.8
								31	300	1.3	5.8
									900	1.4	5.8
									1500	1.5	5.8
									2100	1.5	5.8

TABLE : B-102
MONTH : SEPTEMBER

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	1.2	5.8	11	300	0.1	5.8	21	300	0.3	5.8
	900	1.3	5.8		900	0.1	5.8		900	0.2	5.8
	1500	1.3	9.1		1500	0.2	5.8		1500	0.1	5.8
	2100	0.8	9.1		2100	0.2	5.8		2100	0.1	5.8
2	300	0.5	5.8	12	300	0.1	5.8	22	300	0.2	5.8
	900	0.7	9.1		900	0.1	5.8		900	0.1	5.8
	1500	0.4	8.0		1500	0.2	5.8		1500	0.1	5.8
	2100	0.3	6.4		2100	0.1	5.8		2100	0.1	5.8
3	300	0.2	8.0	13	300	0.0	5.8	23	300	0.1	5.8
	900	0.2	8.0		900	0.0	5.8		900	0.1	5.8
	1500	0.2	5.8		1500	0.1	5.8		1500	0.1	5.8
	2100	0.2	6.4		2100	0.2	5.8		2100	0.1	5.8
4	300	0.2	5.8	14	300	0.3	5.8	24	300	0.1	5.8
	900	0.2	5.8		900	0.6	5.8		900	0.1	5.8
	1500	0.2	5.8		1500	1.0	6.4		1500	0.1	5.8
	2100	0.1	5.8		2100	2.1	7.1		2100	0.2	5.8
5	300	0.1	5.8	15	300	1.4	7.1	25	300	0.2	7.1
	900	0.1	5.8		900	1.4	5.8		900	0.1	5.8
	1500	0.0	5.8		1500	0.8	5.8		1500	0.1	5.8
	2100	0.0	5.8		2100	1.3	6.4		2100	0.1	5.8
6	300	0.0	5.8	16	300	1.1	6.4	26	300	0.3	5.8
	900	0.0	5.8		900	0.9	5.8		900	0.1	5.8
	1500	0.0	6.4		1500	0.4	6.4		1500	0.1	5.8
	2100	0.0	5.8		2100	0.6	5.8		2100	0.1	5.8
7	300	0.0	6.4	17	300	0.3	5.8	27	300	0.1	5.8
	900	0.1	5.8		900	0.6	6.4		900	0.1	5.8
	1500	0.1	5.8		1500	0.4	5.8		1500	0.1	5.8
	2100	0.1	5.8		2100	0.3	5.8		2100	0.1	5.8
8	300	0.1	5.8	18	300	1.0	5.8	28	300	0.1	5.8
	900	0.1	5.8		900	0.8	5.8		900	0.2	5.8
	1500	0.1	5.8		1500	0.4	5.8		1500	0.1	5.8
	2100	0.1	5.8		2100	1.0	5.8		2100	0.2	5.8
9	300	0.1	5.8	19	300	0.8	5.8	29	300	0.3	5.8
	900	0.0	5.8		900	0.6	5.8		900	0.3	5.8
	1500	0.0	5.8		1500	0.6	5.8		1500	0.2	5.8
	2100	0.0	5.8		2100	0.7	5.8		2100	0.4	5.8
10	300	0.1	5.8	20	300	0.3	5.8	30	300	0.3	5.8
	900	0.1	5.8		900	0.2	5.8		900	0.3	5.8
	1500	0.1	5.8		1500	0.2	5.8		1500	0.2	5.8
	2100	0.2	5.8		2100	0.2	5.8		2100	0.2	5.8

TABLE : B-103
MONTH : OCTOBER

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.1	5.8	11	300	0.2	5.8	21	300	0.2	5.8
	900	0.1	5.8		900	0.1	5.8		900	0.2	6.4
	1500	0.1	5.8		1500	0.1	6.4		1500	0.2	5.8
	2100	0.1	5.8		2100	0.1	5.8		2100	0.4	5.8
2	300	0.2	9.1	12	300	0.2	5.8	22	300	0.3	5.8
	900	0.1	8.0		900	0.1	5.8		900	0.4	7.1
	1500	0.1	7.1		1500	0.1	5.8		1500	0.3	5.8
	2100	0.1	7.1		2100	0.1	6.4		2100	0.3	5.8
3	300	0.1	7.1	13	300	0.1	5.8	23	300	0.3	5.8
	900	0.1	5.8		900	0.1	5.8		900	0.3	5.8
	1500	0.1	7.1		1500	0.1	5.8		1500	0.3	6.4
	2100	0.1	6.4		2100	0.0	5.8		2100	0.2	5.8
4	300	0.1	5.8	14	300	0.1	5.8	24	300	0.2	6.4
	900	0.1	5.8		900	0.1	5.8		900	0.3	5.8
	1500	0.1	5.8		1500	0.1	5.8		1500	0.5	5.8
	2100	0.1	6.4		2100	0.1	5.8		2100	0.5	5.8
5	300	0.1	5.8	15	300	0.2	5.8	25	300	0.4	5.8
	900	0.1	5.8		900	0.1	5.8		900	0.3	5.8
	1500	0.1	5.8		1500	0.1	5.8		1500	0.3	6.4
	2100	0.2	6.4		2100	0.1	5.8		2100	0.3	5.8
6	300	0.1	5.8	16	300	0.2	5.8	26	300	0.3	5.8
	900	0.1	5.8		900	0.1	5.8		900	0.4	5.8
	1500	0.6	5.8		1500	0.1	5.8		1500	0.4	5.8
	2100	0.6	6.4		2100	0.2	5.8		2100	0.4	5.8
7	300	0.7	5.8	17	300	0.3	5.8	27	300	0.2	5.8
	900	0.6	5.8		900	0.2	5.8		900	0.1	5.8
	1500	0.4	5.8		1500	0.2	5.8		1500	0.1	5.8
	2100	1.4	6.4		2100	0.7	5.8		2100	0.3	10.7
8	300	1.0	5.8	18	300	0.5	5.8	28	300	0.6	9.1
	900	0.4	5.8		900	0.3	6.4		900	1.0	10.7
	1500	0.3	5.8		1500	0.2	6.4		1500	1.2	10.7
	2100	0.3	5.8		2100	9.1	5.8		2100	0.8	9.1
9	300	0.6	5.8	19	300	0.3	5.8	29	300	1.4	10.7
	900	0.3	5.8		900	0.2	6.4		900	1.2	9.1
	1500	0.2	5.8		1500	0.2	5.8		1500	1.9	12.8
	2100	0.2	5.8		2100	0.5	5.8		2100	1.7	12.8
10	300	0.4	5.8	20	300	0.2	5.8	30	300	1.7	12.8
	900	0.3	5.8		900	0.2	6.4		900	1.4	12.8
	1500	0.2	5.8		1500	0.2	6.4		1500	1.6	5.8
	2100	0.3	5.8		2100	0.2	5.8		2100	1.4	10.7
								31	300	1.8	10.7
									900	1.8	7.1
									1500	2.3	7.1
									2100	1.8	7.1

TABLE : B-104
MONTH : NOVEMBER

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	1.8	12.8	11	300	0.1	5.8	21	300	1.0	6.4
	900	1.4	6.4		900	0.1	5.8		900	1.0	5.8
	1500	1.3	10.7		1500	0.1	5.8		1500	0.6	6.4
	2100	0.8	7.1		2100	0.1	5.8		2100	0.7	8.0
2	300	0.7	8.0	12	300	0.2	5.8	22	300	0.9	10.7
	900	0.4	8.0		900	0.1	5.8		900	0.8	6.4
	1500	0.3	7.1		1500	0.2	5.8		1500	0.6	5.8
	2100	0.2	7.1		2100	0.2	5.8		2100	0.6	3.0
3	300	0.2	6.4	13	300	0.3	6.4	23	300	0.6	8.0
	900	0.2	5.8		900	0.2	5.8		900	0.3	5.8
	1500	0.2	5.8		1500	0.2	7.1		1500	0.2	5.8
	2100	0.2	10.7		2100	0.2	5.8		2100	0.2	5.8
4	300	0.6	5.8	14	300	0.3	5.8	24	300	0.1	5.8
	900	1.4	6.4		900	0.3	5.8		900	0.0	5.8
	1500	1.6	8.0		1500	0.3	6.4		1500	0.0	5.8
	2100	1.6	9.1		2100	0.3	5.8		2100	0.0	5.8
5	300	1.3	8.0	15	300	0.3	6.4	25	300	0.1	5.8
	900	1.2	7.1		900	0.3	5.8		900	0.2	5.8
	1500	1.2	6.4		1500	0.3	5.8		1500	0.4	5.8
	2100	1.0	8.0		2100	0.4	5.8		2100	0.4	5.8
6	300	1.0	8.0	16	300	0.4	5.8	26	300	0.2	5.8
	900	0.7	7.1		900	0.3	5.8		900	0.2	5.8
	1500	0.7	7.1		1500	0.3	5.8		1500	0.2	5.8
	2100	0.4	5.8		2100	0.3	5.8		2100	0.3	5.8
7	300	0.5	5.8	17	300	0.2	5.8	27	300	0.2	6.4
	900	0.2	5.8		900	0.3	5.8		900	0.3	5.8
	1500	0.1	5.8		1500	0.3	6.4		1500	0.3	6.4
	2100	0.1	5.8		2100	0.3	5.8		2100	0.4	5.8
8	300	0.1	5.8	18	300	0.7	5.8	28	300	0.5	5.8
	900	0.1	5.8		900	0.4	5.8		900	0.4	5.8
	1500	0.0	6.4		1500	1.0	5.8		1500	0.3	6.4
	2100	0.2	5.8		2100	2.0	6.4		2100	0.2	5.8
9	300	0.4	5.8	19	300	2.6	6.4	29	300	0.2	6.4
	900	0.3	5.8		900	3.7	7.1		900	0.2	5.8
	1500	0.2	5.8		1500	4.7	6.4		1500	0.2	5.8
	2100	0.2	5.8		2100	3.9	8.0		2100	0.1	5.8
10	300	0.2	5.8	20	300	2.4	7.1	30	300	0.2	5.8
	900	0.2	5.8		900	1.9	7.1		900	0.2	5.8
	1500	0.1	5.8		1500	1.1	7.1		1500	0.3	5.8
	2100	0.1	5.8		2100	1.2	5.8		2100	0.2	5.8

TABLE : B-105
MONTH : DECEMBER

STATION : 55
YEAR : 85

DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)	DAY	TIME	SIGN. WAVE HEIGHT (M)	DOMINANT PERIOD (SEC)
1	300	0.2	6.4	11		-999.0	-999.0	21		-999.0	-999.0
	900	0.2	6.4			-999.0	-999.0			-999.0	-999.0
	1500	0.2	5.8			-999.0	-999.0			-999.0	-999.0
	2100	0.1	5.8			-999.0	-999.0			-999.0	-999.0
2	300	0.1	5.8	12		-999.0	-999.0	22		-999.0	-999.0
	900	0.1	6.4			-999.0	-999.0			-999.0	-999.0
	1500	0.1	6.4			-999.0	-999.0			-999.0	-999.0
	2100	0.1	5.8			-999.0	-999.0			-999.0	-999.0
3	300	0.7	5.8	13		-999.0	-999.0	23		-999.0	-999.0
	900	1.0	5.8			-999.0	-999.0			-999.0	-999.0
	1500	0.8	5.8			-999.0	-999.0			-999.0	-999.0
	2100	0.7	5.8			-999.0	-999.0			-999.0	-999.0
4	300	0.6	5.8	14		-999.0	-999.0	24		-999.0	-999.0
	900	0.4	5.8			-999.0	-999.0			-999.0	-999.0
	1500	0.3	5.8			-999.0	-999.0			-999.0	-999.0
	2100	0.2	5.8			-999.0	-999.0			-999.0	-999.0
5	300	0.2	5.8	15		-999.0	-999.0	25		-999.0	-999.0
	900	0.2	5.8			-999.0	-999.0			-999.0	-999.0
	1500	0.1	5.8			-999.0	-999.0			-999.0	-999.0
	2100	0.1	5.8			-999.0	-999.0			-999.0	-999.0
6	300	0.3	5.8	16		-999.0	-999.0	26		-999.0	-999.0
	900	1.4	7.1			-999.0	-999.0			-999.0	-999.0
	1500	1.3	7.1			-999.0	-999.0			-999.0	-999.0
	2100	0.9	7.1			-999.0	-999.0			-999.0	-999.0
7	300	1.1	5.8	17		-999.0	-999.0	27		-999.0	-999.0
	900	1.0	5.8			-999.0	-999.0			-999.0	-999.0
	1500	0.6	5.8			-999.0	-999.0			-999.0	-999.0
	2100	0.5	5.8			-999.0	-999.0			-999.0	-999.0
8	300	0.3	5.8	18		-999.0	-999.0	28		-999.0	-999.0
	900	0.2	5.8			-999.0	-999.0			-999.0	-999.0
	1500	0.3	5.8			-999.0	-999.0			-999.0	-999.0
	2100	0.3	5.8			-999.0	-999.0			-999.0	-999.0
9	300	0.2	5.8	19		-999.0	-999.0	29		-999.0	-999.0
	900	0.3	5.8			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
10		-999.0	-999.0	20		-999.0	-999.0	30		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0	31		-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0
		-999.0	-999.0			-999.0	-999.0			-999.0	-999.0

MMS 05/85

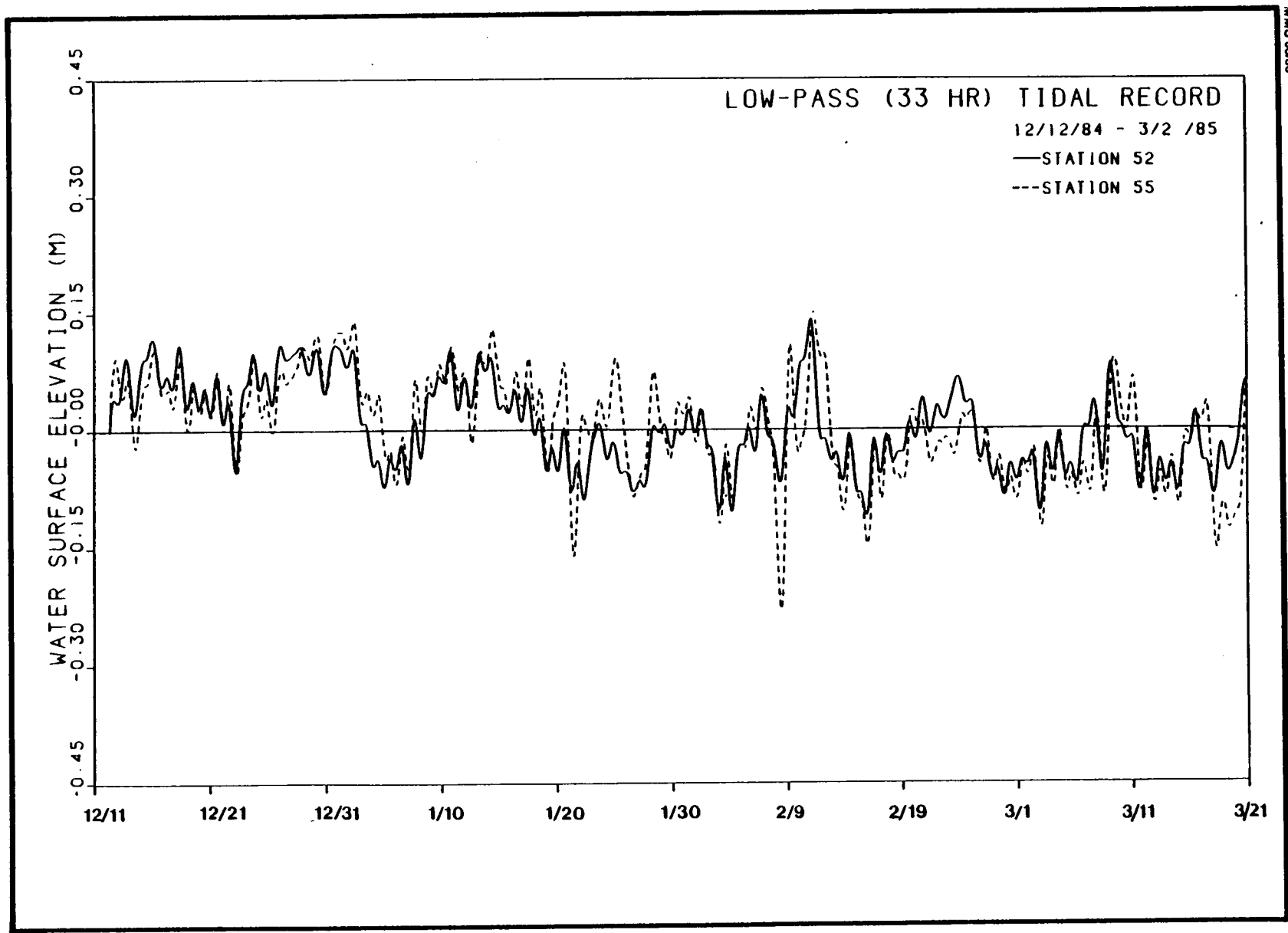


Figure B-102 LOW-PASS (33 HR) FILTERED WATER LEVEL RECORD FOR WINTER 1985

NAMS 05/85

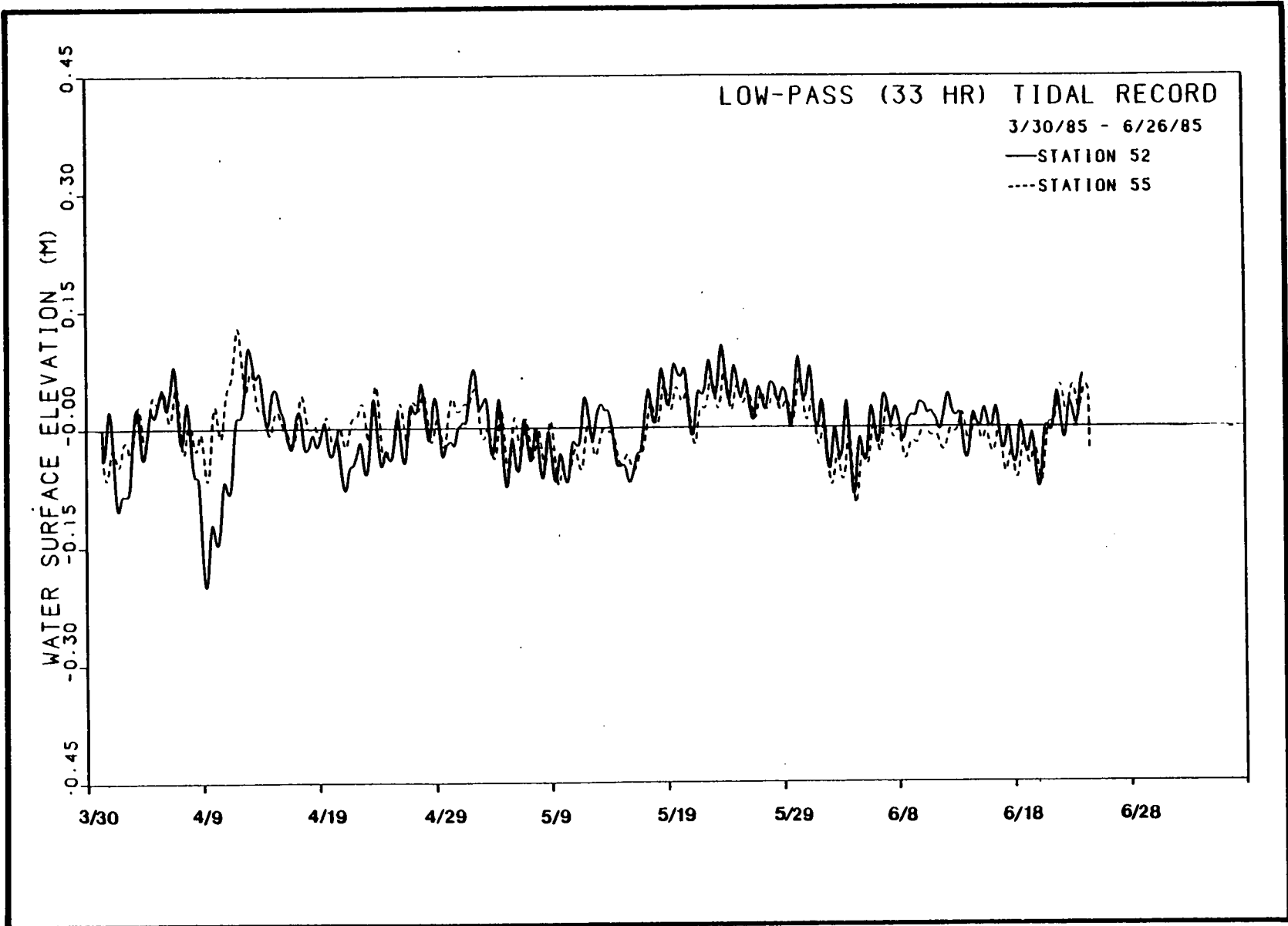


Figure B-103 LOW-PASS (33 HR) FILTERED WATER LEVEL RECORD FOR SPRING 1985

NAAS 05/85

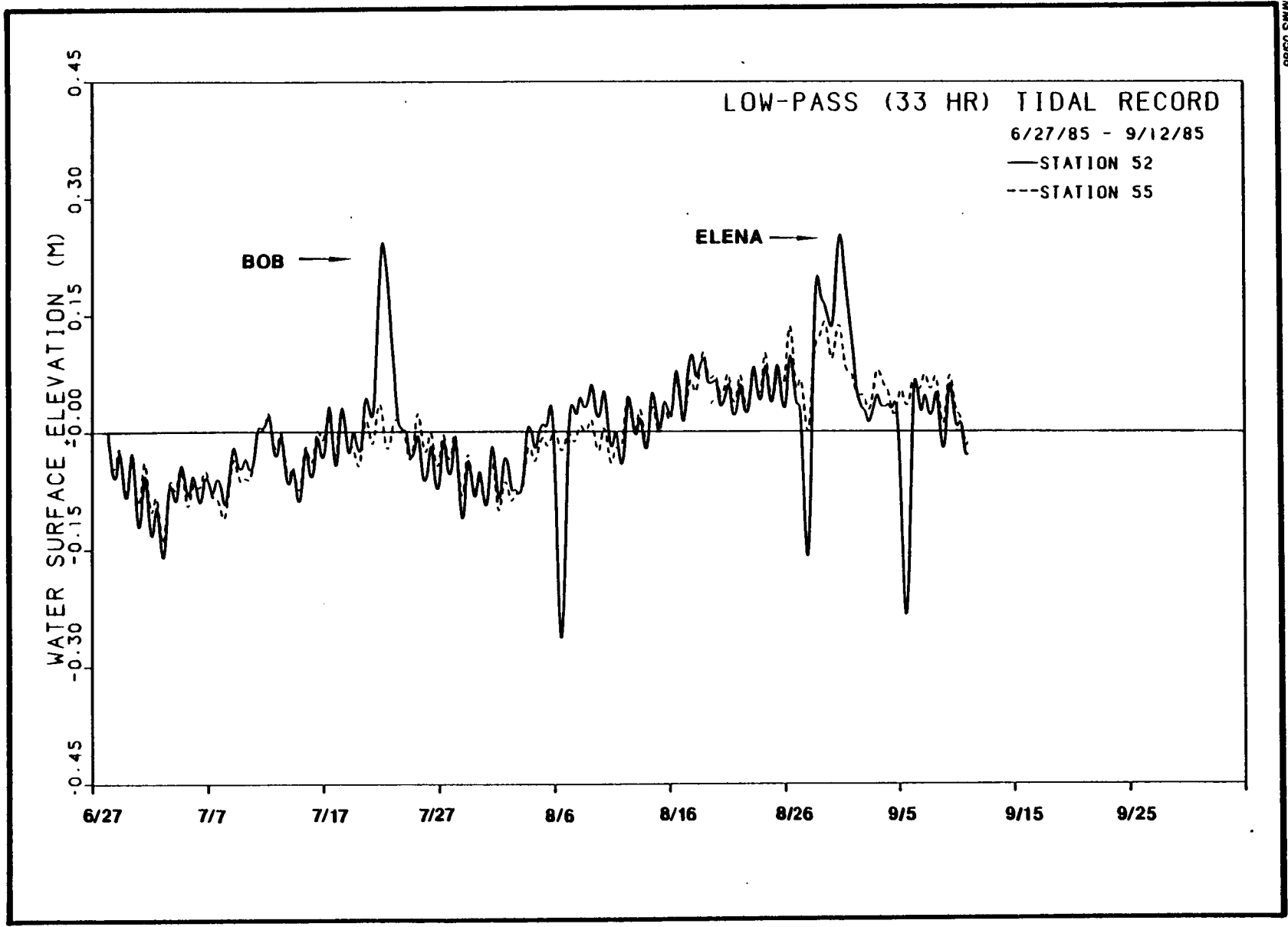


Figure B-104 LOW-PASS (33 HR) FILTERED WATER LEVEL RECORD FOR SUMMER 1985

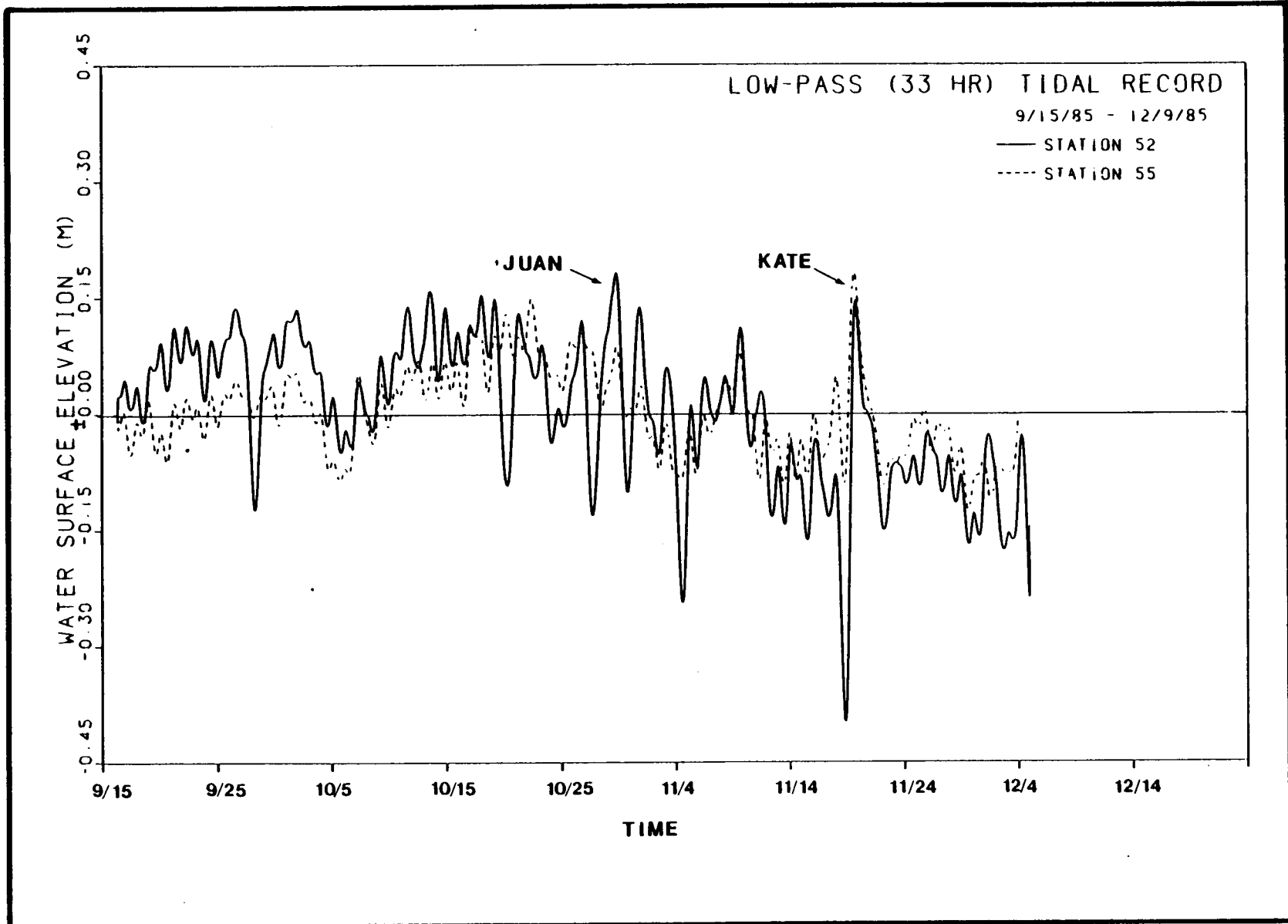


Figure B-105 LOW-PASS (33 HR) FILTERED WATER LEVEL RECORD FOR AUTUMN 1985

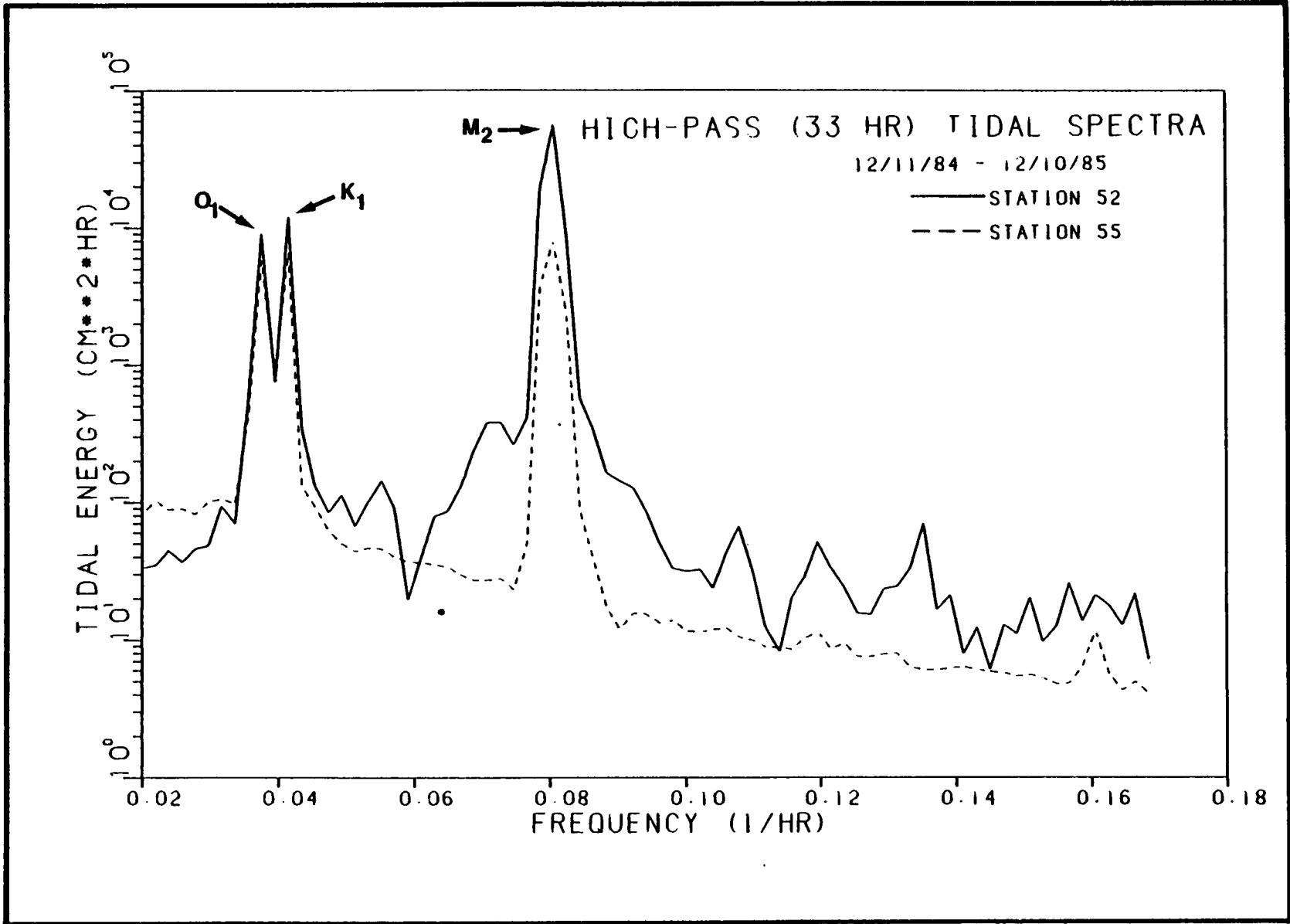


Figure B-106 HIGH-PASS (33 HR) TIDAL SPECTRA FOR STATIONS 52 AND 55 DURING 1985

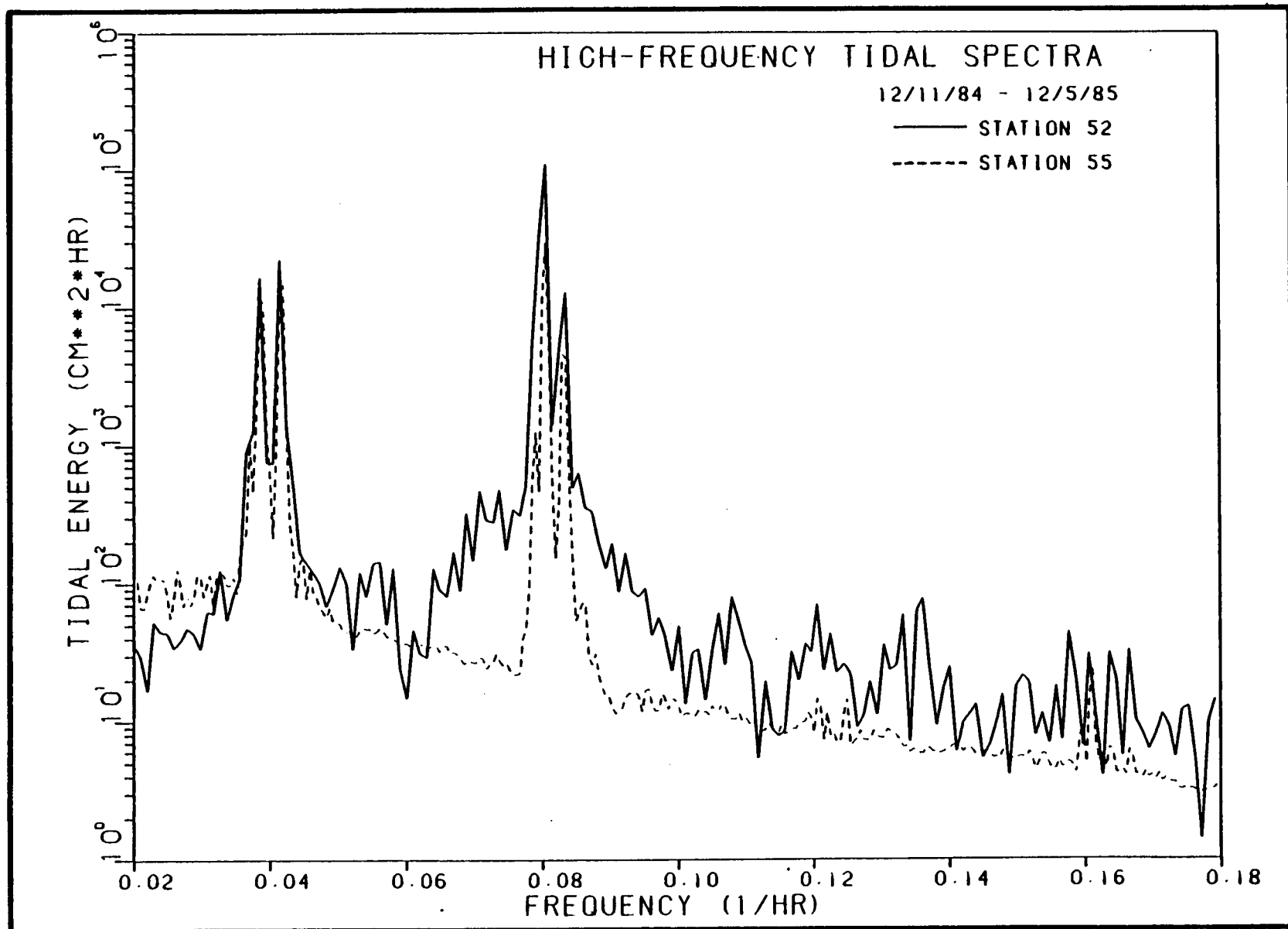


Figure B-107 HIGH FREQUENCY TIDAL SPECTRA FOR STATIONS 52 AND 55 DURING 1985

APPENDIX C

APPENDIX C
ANCILLARY PHYSICAL DATA

Ancillary physical (meteorological or oceanographic) data either from field efforts or outside sources were collected to aid interpretation. Field data consisted of shipboard marine observations collected at the Year 5 stations (Figure C-1). Data from outside sources collected at the stations indicated in Figure C-2 consisted primarily of meteorological and wave data.

Shipboard marine observations for all five Year 5 cruises are presented in Table C-1. The observations include secchi depth; wave height, period, and direction; weather; cloud cover; wind speed and direction; wet and dry temperature; and barometric pressure. These data were collected at the time of the CSTD hydrocast.

Meteorological data in the form of Local Climatological Data Monthly Summaries (LCDs) were obtained for the Fort Myers and Key West, Florida stations (Figure C-2) from National Climatic Data Center (NCDC). These LCDs provide more complete meteorological data near the eastern boundary of the study area. Average and extreme data from the LCDs are presented in Tables C-2 and C-3.

Meteorological and wave data for the western boundary of the study area were obtained from the NDBC's Buoy #42003 (Figure C-2). The data, which cover the period between October 1984 and December 1985 (inclusive), are tabulated (Tables C-4 through C-18) and plotted (Figures C-3 through C-17) on a monthly basis.

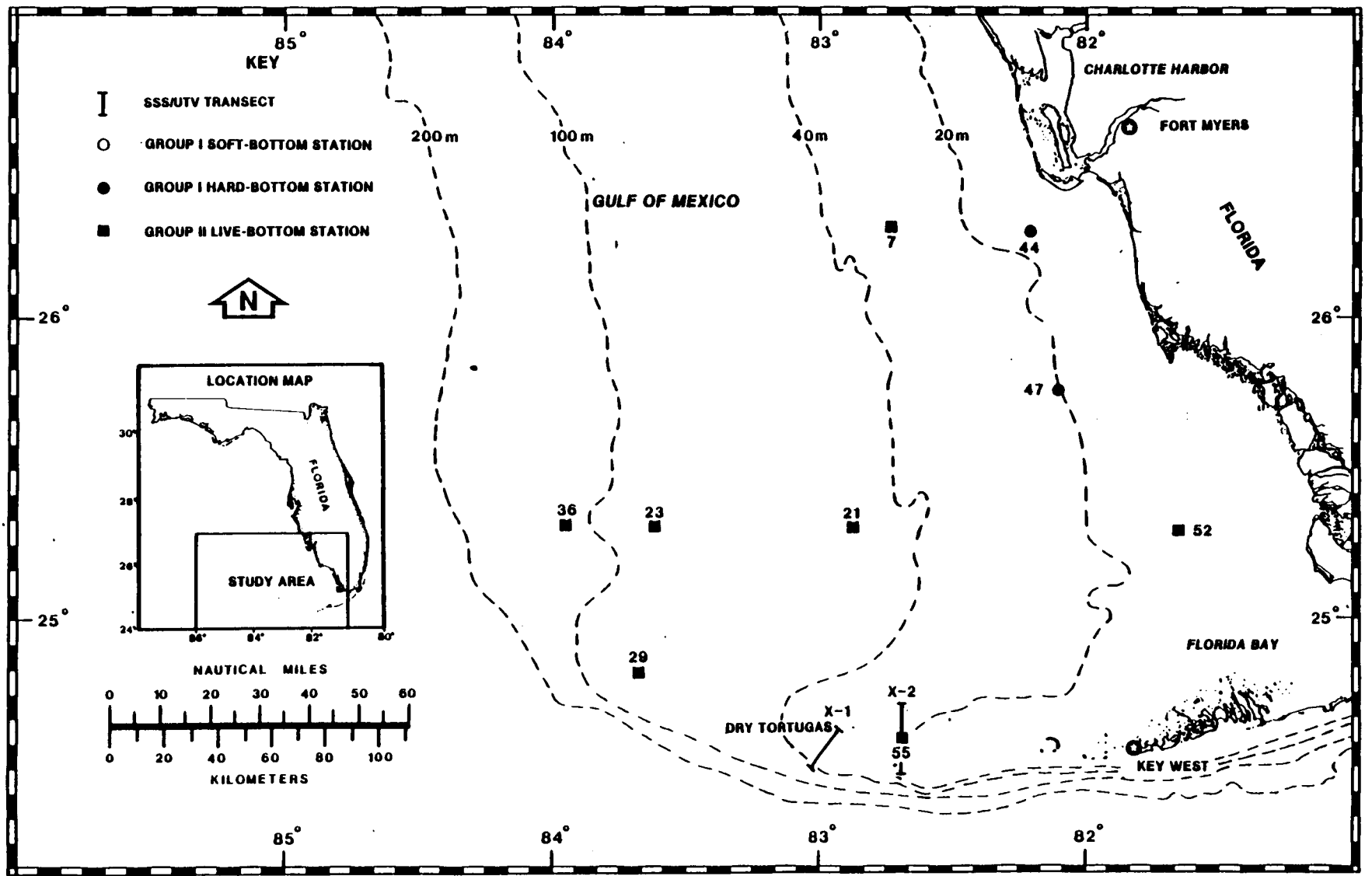


Figure C-1 SHIPBOARD MARINE OBSERVATION STATION LOCATIONS FOR YEAR 5

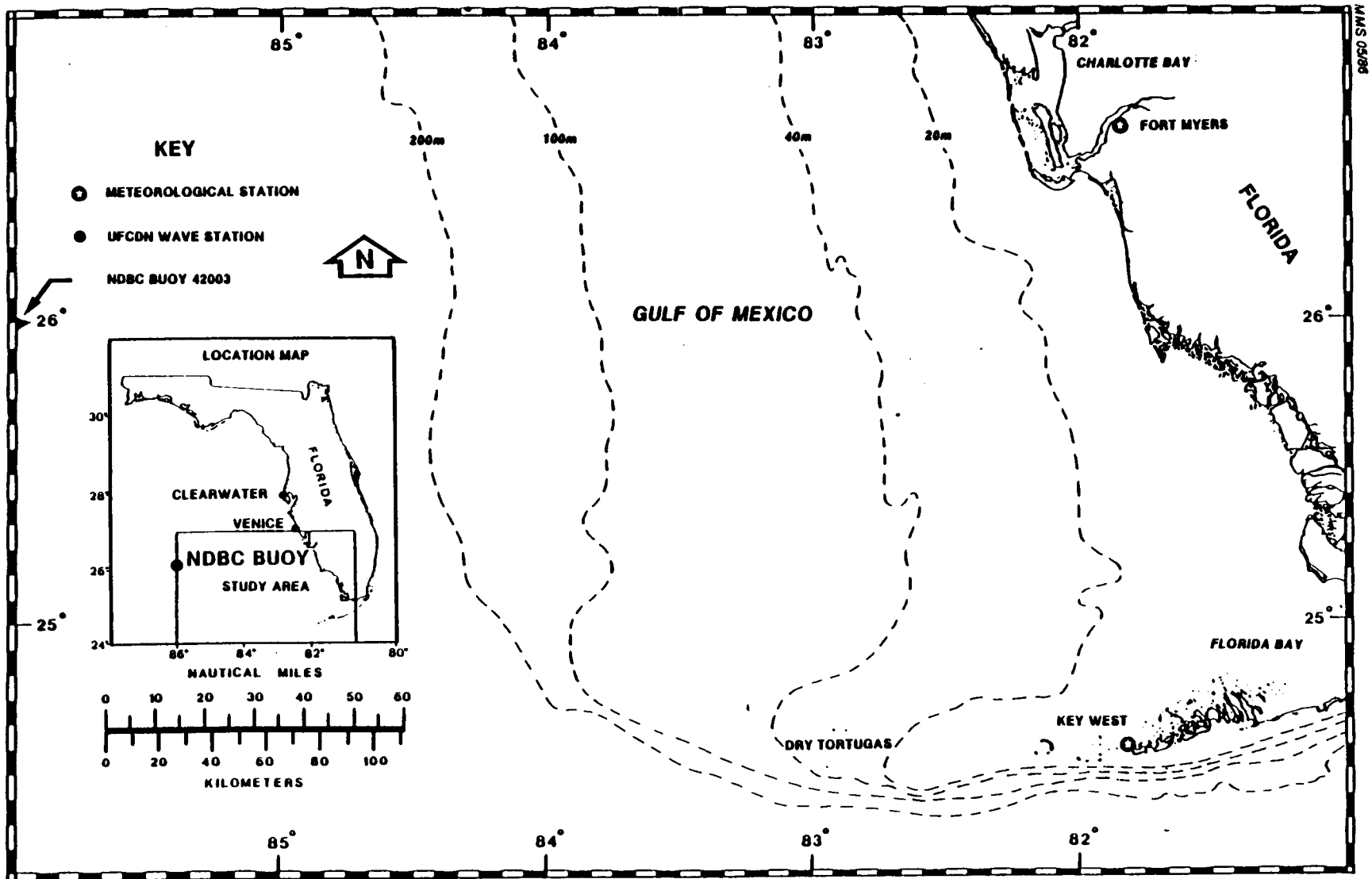


Figure C-2 OUTSIDE DATA SOURCE STATION LOCATIONS FOR YEARS 4 AND 5

Table C-1. Ancillary Shipboard Marine Observations.

Station Number	Secchi (m)	Wave Height (*)	Wave Period (s)	Wave Direction (*)	Weather (*)	Cloud Cover (*)	Wind Speed (knots)	Wind Direction (*)	Wet Temperature (°C)	Dry Temperature (°C)	Barometric Pressure (mb)
Cruise V (December 4 - 14, 1984)											
52	5.0	1	0.0	49	1	1	0	49	23.0	23.8	1029
44	7.5	2	4.0	15	1	1	20	15	22.6	23.4	1025
55	--	1	5.0	08	1	9	5	08	20.0	23.0	1027
7	10.0	2	5.0	11	1	7	13	13	22.2	32.0	1028
21	15.0	3	5.0	35	1	6	7	35	17.0	19.4	1036
29	15.5	1	5.0	49	1	1	10	06	19.0	22.4	1029
23	--	1	4.5	07	0	0	6	07	17.2	20.2	1033
36	--	1	5.0	06	1	9	8	06	18.0	22.0	1031
Cruise VI (March 19 - 31, 1985)											
52	10.0	3	4.5	12	--	9	15	12	21.4	23.4	1027
44	3.0	3	5.5	20	1	1	9	20	21.2	23.8	1021
55	9.0	2	5.0	99	1	9	10	03	19.8	23.0	1031
7	10.0	4	--	14	1	7	20	14	17.8	21.0	--
21	11.0	4	5.0	11	1	9	17	11	20.6	23.0	1029
29	17.0	3	5.0	06	1	9	7	06	20.0	22.4	1026
23	28.0	2	--	99	1	3	7	05	19.8	22.4	1027
36	28.0	3	6.0	25	1	3	9	29	20.2	23.0	1021
Cruise VII (June 24 - July 3, 1985)											
52	6.0	2	3.0	49	1	2	9	15	25.4	28.8	1020
44	8.0	2	--	49	1	4	8	00	27.4	28.2	1027
55	15.0	2	3	23	1	3	11	23	26.0	28.0	1020
7	21.0	3	--	49	1	2	10	18	26.4	28.2	1027
21	--	2	--	--	1	9	8	22	25.6	28.0	1021
29	--	4	5.0	23	1	3	12	23	25.2	27.8	1021
23	16.0	3	5.0	26	1	6	10	09	26.9	28.4	1022
36	--	2	--	--	9	9	8	18	25.0	26.8	1026

Table C-1. "Cont'd"

Station Number	Secchi (m)	Wave Height (*)	Wave Period (s)	Wave Direction (*)	Weather (*)	Cloud Cover (*)	Wind Speed (knots)	Wind Direction (*)	Wet Temperature (°C)	Dry Temperature (°C)	Barometric Pressure (mb)
Cruise VIII (September 12 - 21, 1985)											
52	4.5	2	3.0	07	1	4	12	07	25.8	30.0	1023
44	4.5	3	3.0	07	1	7	14	07	25.2	27.4	1022
55	--	4	6.0	07	1	4	16	07	26.4	28.6	1020
7	14.0	3	4.0	07	1	4	10	02	25.0	26.2	1021
21	--	4	5.0	07	1	4	16	07	25.6	27.8	1023
29	Station Not Occupied										
23	Station Not Occupied										
36	Station Not Occupied										
52	Station Not Occupied										
44	Station Not Occupied										
55	Station Not Occupied										
7	Station Not Occupied										
21	Station Not Occupied										
29	24.0	--	--	--	1	7	--	--	22.6	24.4	1024
23	--	-	--	--	--	--	--	--	23.2	24.8	1023
36	21.0	4	6.0	08	1	4	10	08	22.4	24.2	1029

*NODC codes as follows:

NODC CODES FOR TABLE C-1

WEATHER (WMO4501)

-
- 0 -- CLEAR (NO CLOUD AT ANY LEVEL)
 - 1 -- PARTLY CLOUDY (SCATTERED OR BROKED)
 - 2 -- CONTINUOUS LAYER(S) OF CLOUD(S)
 - 3 -- SANDSTORM, DUSTSTORM, OR BLOWING SNOW
 - 4 -- FOG, THICK DUST OR HAZE
 - 5 -- DRIZZLE
 - 6 -- RAIN
 - 7 -- SNOW, OR RAIN AND SNOW MIXED
 - 8 -- SHOWER(S)
 - 9 -- THUNDERSTORM(S)

WIND-WAVE DIRECTION

-
- 00 -- CALM (NO WAVES-NO MOTION)
 - 01 -- 5 DEGREES - 14 DEGREES
 - 02 -- 15 DEGREES - 24 DEGREES
 - 03 -- 25 DEGREES - 34 DEGREES
 - 04 -- 35 DEGREES - 44 DEGREES
 - 05 -- 45 DEGREES - 54 DEGREES
 - 06 -- 55 DEGREES - 64 DEGREES
 - 07 -- 65 DEGREES - 74 DEGREES
 - 08 -- 75 DEGREES - 84 DEGREES
 - 09 -- 85 DEGREES - 94 DEGREES
 - 10 -- 95 DEGREES - 104 DEGREES
 - 11 -- 105 DEGREES - 114 DEGREES
 - 12 -- 115 DEGREES - 124 DEGREES
 - 13 -- 125 DEGREES - 134 DEGREES
 - 14 -- 135 DEGREES - 144 DEGREES
 - 15 -- 145 DEGREES - 154 DEGREES
 - 16 -- 155 DEGREES - 164 DEGREES
 - 17 -- 165 DEGREES - 174 DEGREES
 - 18 -- 175 DEGREES - 184 DEGREES
 - 19 -- 185 DEGREES - 194 DEGREES
 - 20 -- 195 DEGREES - 204 DEGREES
 - 21 -- 205 DEGREES - 214 DEGREES
 - 22 -- 215 DEGREES - 224 DEGREES
 - 23 -- 225 DEGREES - 234 DEGREES
 - 24 -- 235 DEGREES - 244 DEGREES
 - 25 -- 245 DEGREES - 254 DEGREES
 - 26 -- 255 DEGREES - 264 DEGREES
 - 27 -- 265 DEGREES - 274 DEGREES
 - 28 -- 275 DEGREES - 284 DEGREES
 - 29 -- 285 DEGREES - 294 DEGREES
 - 30 -- 295 DEGREES - 304 DEGREES
 - 31 -- 305 DEGREES - 314 DEGREES
 - 32 -- 315 DEGREES - 324 DEGREES
 - 33 -- 325 DEGREES - 334 DEGREES
 - 34 -- 335 DEGREES - 344 DEGREES
 - 35 -- 345 DEGREES - 354 DEGREES
 - 36 -- 355 DEGREES - 4 DEGREES
 - 49 -- WAVES CONFUSED, DIRECTION INDETERMINATE (WAVES EQUAL TO OR LESS THAN 4 3/4 METERS)
 - 99 -- WAVES CONFUSED, DIRECTION INDETERMINATE (WAVES GEATER THAN 4 3/4 METERS) WINDS VARIABLE, OR ALL DIRECTIONS OR UNKNOWN

CLOUD AMT (WMO2700)

-
- 0 -- 0 (ZERO)
 - 1 -- 1 OKTA OR LESS, BUT NOT ZERO (1/10 OR LESS, BUT NOT ZERO)
 - 2 -- 2 OKTAS 2/10-3/10
 - 3 -- 3 OKTAS 4/10
 - 4 -- 4 OKTAS 5/10
 - 5 -- 5 OKTAS 6/10
 - 6 -- 6 OKTAS 7/10-8/10
 - 7 -- 7 OKTAS OR MORE, BUT NOT 8 OKTAS (9/10 OR MORE, BUT NOT 10/10)
 - 8 -- 8 OKTAS 10/10
 - 9 -- SKY OBSCURED, OR CLOUD AMOUNT CANNOT BE ESTIMATED

SEA STATE (WMO3700)

-
- 0 -- CALM-GLASSY 0 FT (0 METERS)
 - 1 -- CALM-RIPPLED 0-1/3 FT (0-.1 METERS)
 - 2 -- SMOOTH-WAVELET 1/3-1 2/3 FT (.1-.5 METERS)
 - 3 -- SLIGHT 1 2/3 - 4 FT (.5-1.25 METERS)
 - 4 -- MODERATE 4-8 FT (1.25-2.50 METERS)
 - 5 -- ROUGH 8-13 FT (2.50-4.0 METERS)
 - 6 -- VERY ROUGH 13-20 FT (4-6 METERS)
 - 7 -- HIGH 20-30 FT (6-9 METERS)
 - 8 -- VERY HIGH 30-45 FT (9-14 METERS)
 - 9 -- PHENOMENAL >45 FT (>14 METERS)

Table C-2. Local Climatological Data Monthly Summaries from NWS Fort
Myers Station from December 1984 through December 1985

Table C-3. Local Climatological Data Monthly Summaries from NWS Key West Station from December 1984 through December 1985

JUNE 1985

Weather table for June 1985. Columns include Date, Temperature (Max, Min, Average, Departure from Normal, Heating Season, Cooling Season), Degree Days Base 65°F, Weather Types (1-Fog, 2-Heavy Fog, 3-Thunderstorm, 4-Ice Pellets, 5-Mail, 6-Glaze, 7-Duststorm, 8-Snow, Haze, 9-Blowing Snow), Snow/Ice Pellets, Precipitation (Water Equivalent, Snow/Ice Pellets), Average Station Pressure, Wind (M.P.H.) (Average Speed, Resultant Dir, Resultant Spd), Sunshine (Hours), Sky Cover (Tenths), and Date. Includes summary rows for totals and seasonal data.

JULY 1985

Weather table for July 1985. Columns include Date, Temperature (Max, Min, Average, Departure from Normal, Heating Season, Cooling Season), Degree Days Base 65°F, Weather Types (1-Fog, 2-Heavy Fog, 3-Thunderstorm, 4-Ice Pellets, 5-Mail, 6-Glaze, 7-Duststorm, 8-Snow, Haze, 9-Blowing Snow), Snow/Ice Pellets, Precipitation (Water Equivalent, Snow/Ice Pellets), Average Station Pressure, Wind (M.P.H.) (Average Speed, Resultant Dir, Resultant Spd), Sunshine (Hours), Sky Cover (Tenths), and Date. Includes summary rows for totals and seasonal data.

Table C-4

NOAA DATA BUOY 42003
MONTH: OCTOBER YEAR: 84

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	25.18	1018.14	10.20	359.33	1.50	4.89	6.44	27.48
2	24.01	1020.25	7.94	28.49	1.29	5.03	6.57	27.27
3	24.78	1019.14	7.94	48.34	1.08	4.72	5.82	27.27
4	25.43	1018.76	8.09	75.62	1.05	4.74	5.86	27.17
5	26.13	1018.68	7.36	94.48	0.99	4.59	5.69	27.19
6	26.45	1019.80	9.15	86.70	1.42	5.18	6.66	27.10
7	26.25	1020.67	7.79	86.72	1.24	5.00	6.13	26.85
8	26.26	1019.07	6.63	69.14	1.01	4.76	5.65	26.92
9	25.95	1016.94	6.87	68.74	0.90	4.52	5.39	26.94
10	26.07	1016.96	7.80	65.17	1.12	4.66	5.87	26.81
11	26.15	1017.85	8.11	58.46	1.14	4.80	6.15	26.61
12	26.20	1018.49	7.80	70.33	1.14	4.78	6.15	26.60
13	25.74	1017.09	5.17	63.64	0.67	4.38	5.29	26.72
14	25.90	1013.87	4.65	100.20	0.38	3.85	4.16	26.66
15	26.51	1012.63	5.89	171.91	0.52	3.57	3.92	26.89
16	26.71	1015.27	6.13	138.39	0.59	3.91	4.81	27.00
17	26.63	1018.86	7.06	115.21	0.77	4.07	5.10	26.83
18	26.35	1018.82	7.11	104.57	0.87	4.36	5.97	26.74
19	26.42	1017.24	7.64	114.67	1.04	4.48	5.96	26.71
20	26.53	1016.28	8.94	118.56	1.22	4.61	6.16	26.63
21	26.74	1016.12	8.38	127.29	1.24	4.84	6.60	26.66
22	26.79	1017.92	8.50	116.55	1.28	4.97	6.93	26.80
23	26.63	1017.76	8.23	92.77	1.30	5.12	7.16	26.80
24	26.52	1017.51	8.98	91.42	1.55	5.40	7.40	26.80
25	26.46	1018.39	10.27	79.55	1.80	5.45	7.14	26.89
26	26.37	1017.80	9.08	48.98	1.60	5.20	6.52	26.83
27	26.65	1015.10	7.65	106.00	1.28	5.05	6.62	26.92
28	26.83	1016.97	6.83	110.24	1.00	4.87	6.07	27.08
29	26.73	1017.86	7.01	89.89	1.20	5.40	7.27	27.25
30	26.59	1017.65	7.89	67.30	1.22	5.07	7.62	27.20
31	26.35	1017.87	9.19	64.48	1.32	5.06	7.42	27.10
MONTHLY AVERAGE	26.20	1017.60	7.75	86.31	1.12	4.75	6.14	26.93
X. HOURLY ALUES	27.30	1022.40	12.78	359.40	2.30	6.00	8.30	28.18
N. HOURLY ALUES	23.20	1011.40	2.05	0.60	0.30	0.31	2.90	26.33

Table C-5

NOAA DATA BUOY 42003
MONTH: NOVEMBER YEAR: 84

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	26.21	1017.82	9.11	73.67	1.51	5.13	6.67	27.02
2	25.97	1015.88	6.27	50.14	1.02	4.68	6.32	27.04
3	25.77	1011.57	2.15	72.83	0.60	4.64	5.44	27.30
4	25.91	1010.72	3.08	203.33	0.48	4.60	5.36	27.11
5	25.72	1012.76	5.96	353.20	0.49	3.57	4.12	27.07
6	24.11	1017.43	11.42	7.13	1.95	5.31	7.12	26.55
7	22.66	1020.69	9.72	34.77	1.76	5.44	7.28	26.19
8	23.08	1022.28	7.22	61.58	1.15	5.11	6.38	26.28
9	23.64	1020.96	4.79	94.09	0.95	5.51	6.72	26.64
10	25.11	1017.94	4.49	139.54	0.93	5.42	6.69	27.42
11	25.03	1016.38	7.25	287.40	0.99	4.65	6.04	27.38
12	22.32	1019.11	7.55	350.22	1.53	5.59	7.32	27.10
13	21.75	1023.29	8.43	17.32	1.36	5.19	6.48	26.84
14	22.54	1024.99	6.65	67.10	0.99	4.73	5.92	26.88
15	24.74	1023.76	8.79	113.12	1.13	4.30	6.04	26.45
16	25.25	1022.08	5.95	100.12	1.15	5.10	7.01	25.94
17	24.97	1020.54	7.07	78.73	0.95	4.65	6.72	25.57
18	25.79	1016.74	10.12	129.38	1.67	4.92	6.96	25.25
19	25.89	1014.40	8.77	160.22	1.39	4.85	7.00	25.71
20	24.63	1017.65	7.89	34.19	1.39	4.85	5.54	24.96
21	23.34	1020.15	10.90	31.83	1.65	5.02	6.63	24.42
22	21.85	1021.05	14.78	7.27	2.70	5.91	7.78	24.20
23	21.58	1019.67	13.07	6.55	2.61	6.06	8.11	23.96
24	22.95	1019.02	9.55	16.28	1.89	5.60	7.58	24.93
25	24.35	1017.92	7.31	83.11	0.90	4.07	5.92	24.99
26	25.16	1017.52	9.97	102.67	1.36	4.24	6.02	24.56
27	25.65	1017.07	10.97	124.82	2.00	5.35	7.60	24.59
28	23.84	1017.59	9.55	15.68	1.93	5.55	7.52	24.64
29	21.75	1016.88	4.99	38.64	1.52	5.82	7.85	24.19
30	23.67	1015.96	4.63	111.93	0.55	4.24	5.75	24.58
MONTHLY AVERAGE	24.17	1018.33	7.95	60.87	1.35	5.00	6.60	25.86
K. HOURLY ALUES	26.60	1026.50	16.50	359.80	3.40	6.60	10.00	28.80
N. HOURLY ALUES	21.00	1008.90	0.21	0.10	0.30	0.30	2.50	23.68

Table C-7

NOAA DATA BUOY 42003
MONTH: JANUARY YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	25.21	1018.49	7.22	120.86	2.02	6.31	8.02	23.85
2	25.18	1017.29	6.32	131.60	1.39	5.72	7.17	23.82
3	24.57	1014.98	7.34	174.20	1.48	5.39	6.48	23.76
4	20.01	1018.58	14.13	317.90	3.14	5.92	8.95	23.31
5	19.28	1021.37	12.04	329.82	2.71	5.60	8.90	22.70
6	19.32	1023.58	5.15	1.43	1.10	4.78	6.85	22.23
7	22.00	1021.48	5.08	277.69	0.62	4.17	5.62	23.02
8	22.28	1019.82	7.95	343.14	1.12	3.87	5.85	22.79
9	22.37	1019.48	4.06	88.09	0.45	3.89	4.85	22.86
10	23.79	1020.32	8.90	132.33	1.14	5.11	6.14	23.71
11	24.63	1020.76	5.84	43.11	0.82	4.49	6.55	25.16
12	20.89	1021.93	11.51	28.16	1.77	4.19	5.78	25.16
13	19.05	1022.67	7.78	52.76	1.63	4.97	7.51	24.74
14	21.73	1019.00	7.28	102.47	0.92	4.40	5.65	25.06
15	22.25	1020.20	7.82	12.84	1.13	4.03	5.60	24.93
16	21.67	1020.99	6.98	81.05	0.86	4.20	5.75	25.00
17	25.41	1015.32	11.71	190.87	1.69	5.23	6.50	25.33
18	22.95	1013.32	7.86	326.01	1.47	4.64	6.73	25.08
19	21.30	1015.41	7.42	345.50	1.37	4.36	6.50	24.66
20	23.36	1014.45	8.46	240.44	0.92	4.20	5.32	25.08
21	15.90	1024.37	12.64	1.81	2.59	5.35	8.25	24.63
22	16.25	1027.23	7.72	356.09	1.42	4.44	6.96	24.18
23	18.58	1024.34	4.21	341.90	0.70	4.32	5.56	24.57
24	22.37	1020.98	6.34	249.93	0.62	3.77	4.35	24.87
25	24.89	1018.52	11.19	269.93	1.60	4.47	5.72	25.07
26	22.15	1023.01	9.48	357.77	1.56	4.28	5.68	24.81
27	19.67	1022.28	4.43	106.52	1.07	5.12	6.59	24.62
28	24.59	1014.89	10.27	238.57	1.16	4.12	4.95	25.00
29	22.73	1017.93	7.64	25.09	1.21	4.45	6.07	25.08
30	24.92	1017.74	10.41	148.72	1.22	4.91	5.69	25.39
31	26.29	1015.19	12.61	171.34	2.00	5.45	6.83	25.21
MONTHLY AVERAGE	22.12	1019.55	8.32	19.22	1.38	4.71	6.37	24.38
1. HOURLY LUES	26.50	1029.00	16.57	360.00	3.80	6.70	10.00	25.79
1. HOURLY LUES	14.20	1011.60	0.63	0.10	0.30	0.30	2.50	21.52

Table C-8

NOAA DATA BUOY 42003
 MONTH: FEBRUARY YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	26.42	1013.14	12.85	162.53	2.34	5.89	7.40	25.35
2	25.88	1014.35	13.00	197.91	2.60	5.90	8.21	25.54
3	23.51	1020.00	7.43	35.23	1.62	5.88	7.56	25.51
4	24.47	1020.40	10.05	68.36	1.55	5.32	6.05	25.52
5	26.20	1016.48	9.46	158.17	1.28	5.17	5.96	25.69
6	26.27	1013.36	11.49	200.15	1.73	5.09	6.45	25.77
7	23.91	1017.05	9.23	67.89	1.76	5.59	6.67	25.64
8	19.70	1022.96	14.15	35.36	2.70	6.07	7.72	25.08
9	20.07	1023.51	10.16	63.14	2.12	5.89	7.30	24.96
10	22.75	1020.90	8.50	87.60	1.43	5.59	6.72	25.13
11	24.60	1015.33	12.25	170.43	2.56	6.41	8.42	25.24
12	19.01	1020.14	15.15	318.70	3.79	6.20	10.02	24.96
13	18.03	1022.81	9.40	345.40	2.09	5.03	8.63	24.79
14	19.20	1023.55	4.92	12.19	0.83	4.36	6.21	24.61
15	20.01	1019.81	6.62	334.59	0.90	4.07	5.22	24.59
16	20.77	1018.30	7.86	69.43	1.42	4.91	6.11	24.56
17	23.84	1020.19	9.51	131.28	1.84	6.04	7.33	24.70
18	23.75	1024.03	10.37	111.57	1.93	6.13	7.67	24.94
19	23.70	1022.93	7.84	85.29	1.32	5.31	7.09	24.84
20	23.95	1019.97	7.02	59.48	0.84	4.50	5.92	25.14
21	24.28	1021.62	12.86	85.75	1.92	5.07	6.17	25.02
22	24.49	1022.61	12.72	105.59	2.41	5.98	7.65	25.16
23	25.14	1020.63	12.02	115.21	2.20	6.00	7.75	25.24
24	25.64	1019.33	12.84	128.94	2.19	6.00	7.43	25.32
25	25.59	1020.07	7.94	126.24	1.36	5.54	7.29	25.41
26	25.78	1020.60	5.34	138.52	0.92	5.32	7.18	25.68
27	25.57	1021.62	3.79	99.33	0.66	5.32	6.70	25.84
28	25.25	1021.60	4.13	73.27	0.57	5.09	6.65	25.80
MONTHLY AVERAGE	23.49	1019.90	9.60	93.09	1.75	5.49	7.13	25.22
K. HOURLY VALUES	26.90	1026.10	18.23	359.70	4.80	7.30	11.10	26.95
N. HOURLY VALUES	17.50	1010.60	0.63	0.00	0.40	0.32	3.00	24.03

Table C-10

NOAA DATA BUOY 42003
MONTH: APRIL YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	26.04	1016.59	7.23	173.51	1.46	5.42	7.20	25.39
2	22.87	1017.53	8.78	358.18	1.23	4.33	5.67	24.82
3	22.62	1019.53	6.52	357.04	1.33	4.80	6.54	25.09
4	23.67	1018.16	4.58	147.40	0.62	5.12	6.30	25.29
5	25.79	1014.97	9.72	158.24	1.34	5.54	6.42	25.19
6	26.34	1015.08	7.67	163.89	1.47	5.89	7.03	25.37
7	26.12	1018.67	6.00	143.98	1.02	5.13	6.05	25.38
8	25.59	1020.87	6.68	48.09	0.72	4.27	5.90	25.58
9	23.92	1022.02	12.08	35.49	1.78	4.84	6.50	25.40
10	23.86	1021.22	11.77	63.33	1.92	5.42	7.01	25.23
11	24.92	1019.68	11.98	84.97	2.74	6.93	9.07	25.19
12	24.85	1016.67	12.37	105.84	3.94	7.57	9.70	25.19
13	26.91	1014.60	10.86	192.52	2.32	6.25	7.98	25.61
14	26.20	1014.21	4.77	289.51	1.03	5.04	6.67	25.89
15	25.88	1013.13	4.47	357.91	0.62	4.63	6.63	25.88
16	26.11	1014.75	3.93	275.31	0.56	4.11	5.23	25.95
17	25.84	1017.99	4.14	22.91	0.44	3.84	4.64	25.96
18	24.95	1019.97	4.88	65.09	0.41	3.50	3.79	24.56
19	25.22	1018.97	6.84	85.40	0.71	4.21	4.78	23.70
20	25.20	1017.96	4.78	79.54	0.70	4.71	5.91	23.50
21	25.35	1016.37	5.14	77.59	0.58	4.33	5.87	23.74
22	25.56	1015.37	7.42	88.86	0.84	4.11	5.01	23.72
23	25.88	1014.82	8.93	91.80	1.11	4.58	5.66	23.54
24	25.90	1014.60	7.43	107.36	1.01	4.62	6.60	23.68
25	26.09	1013.99	5.18	114.36	0.63	4.30	5.67	23.93
26	26.32	1014.26	7.24	120.67	0.70	3.78	4.40	24.04
27	26.59	1016.27	6.75	122.34	1.02	4.49	6.25	24.25
28	26.40	1017.84	4.20	105.60	0.73	4.65	6.27	24.64
29	26.38	1016.19	1.62	42.70	0.45	4.90	5.82	25.22
30	27.07	1015.01	4.78	33.31	0.31	4.02	5.56	25.63
MONTHLY								
AVERAGE	25.48	1016.91	6.96	86.33	1.13	4.85	6.20	24.89
2. HOURLY								
VALUES	28.20	1023.50	17.92	359.90	4.90	8.10	10.00	27.30
1. HOURLY								
VALUES	19.80	1011.90	0.21	0.20	0.20	0.30	2.50	22.37

Table C-11

NOAA DATA BUOY 42003
MONTH: MAY YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)

1	26.85	1015.14	4.68	109.02	0.55	3.85	4.84	26.43
2	27.29	1014.15	5.91	170.69	0.50	4.04	5.19	27.11
3	27.51	1012.33	7.66	265.47	1.10	4.93	6.33	27.05
4	27.13	1013.18	3.10	358.69	0.93	5.05	6.49	27.58
5	26.93	1016.27	5.04	85.43	0.90	5.14	6.81	27.46
6	27.02	1017.53	4.85	89.35	0.69	4.36	5.46	27.08
7	27.13	1016.79	4.20	93.60	0.50	4.01	5.03	26.37
8	27.17	1016.35	2.47	73.45	0.39	4.38	5.40	26.29
9	27.32	1016.51	3.12	135.65	0.33	4.65	5.45	26.47
10	27.21	1016.35	3.74	107.43	0.32	4.19	4.72	26.33
11	27.31	1014.54	3.52	85.10	0.33	4.39	4.81	26.31
12	27.58	1013.64	3.88	87.59	0.31	4.76	6.62	26.51
13	27.57	1013.72	4.09	95.39	0.29	4.46	6.04	26.79
14	28.00	1013.91	4.14	109.80	0.34	3.88	4.48	27.25
15	28.11	1016.10	3.78	47.89	0.33	4.37	4.95	27.36
16	27.91	1014.54	6.57	353.63	0.64	3.63	3.92	27.08
17	27.84	1010.54	7.88	315.28	1.03	4.39	5.54	26.65
18	27.79	1009.85	5.10	27.01	0.83	4.42	5.00	26.71
19	27.77	1011.31	6.56	141.58	0.57	4.20	4.89	26.58
20	28.41	1013.90	7.07	187.49	1.20	5.19	6.32	26.32
21	28.29	1016.21	4.13	170.71	0.87	4.95	6.33	26.73
22	28.50	1015.95	4.88	137.41	0.54	4.32	5.77	27.06
23	28.70	1015.88	2.52	153.13	0.51	4.42	5.46	27.66
24	28.45	1014.51	3.71	202.44	0.51	4.73	5.75	27.66
25	27.63	1012.25	3.66	293.64	0.35	3.93	4.49	27.38
26	27.80	1011.78	4.00	25.11	0.30	3.98	4.17	27.54
27	27.79	1013.33	4.02	63.96	0.31	3.96	6.61	27.38
28	28.13	1013.96	4.66	82.78	0.39	4.09	6.26	27.76
29	28.25	1014.22	4.19	83.23	0.34	4.20	5.61	27.96
30	28.15	1014.38	4.73	82.78	0.37	3.81	4.65	27.83
31	28.54	1014.99	5.11	87.18	0.44	3.65	4.33	27.50
MONTHLY AVERAGE	27.74	1014.33	4.61	94.65	0.55	4.33	5.41	27.04
K. HOURLY VALUES	29.80	1019.20	13.51	359.90	1.50	6.60	8.30	29.89
N. HOURLY VALUES	25.00	1008.30	0.21	0.10	0.20	0.32	2.50	25.23

Table C-12

NOAA DATA BUOY 42003
 MONTH: JUNE YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	28.82	1015.98	2.62	124.28	0.46	4.46	5.82	28.27
2	28.98	1016.54	2.33	104.83	0.48	5.82	7.20	28.96
3	28.75	1016.82	2.61	93.70	0.42	5.88	7.87	28.92
4	28.50	1016.08	1.96	55.78	0.46	5.90	8.36	29.03
5	28.70	1015.16	3.33	22.87	0.38	5.41	7.33	29.23
6	29.37	1015.12	4.31	52.45	0.32	3.92	5.60	28.96
7	29.73	1015.88	3.37	59.50	0.30	4.00	5.72	29.31
8	29.75	1014.79	3.18	98.18	0.22	4.50	5.47	29.73
9	29.73	1014.98	3.58	154.25	0.26	3.85	4.57	29.41
10	29.67	1016.87	5.39	165.90	0.46	4.02	4.33	29.13
11	29.56	1017.49	6.06	147.37	0.85	4.75	5.93	28.78
12	28.95	1016.57	4.66	134.47	0.84	5.09	6.88	28.37
13	28.67	1015.43	4.49	154.58	0.80	5.48	7.00	28.07
14	28.17	1015.28	9.56	130.18	1.25	4.78	6.66	27.68
15	29.55	1014.20	9.87	149.79	1.75	5.45	7.14	27.57
16	28.88	1016.12	5.94	186.14	1.55	5.80	7.80	27.58
17	29.39	1018.50	6.17	122.44	1.30	5.89	8.03	27.96
18	29.58	1018.45	3.79	124.95	1.12	6.73	9.01	28.50
19	29.67	1017.02	3.18	129.95	0.86	6.78	9.19	28.84
20	29.30	1016.51	1.85	89.64	0.72	7.09	9.27	29.22
21	29.75	1015.96	5.67	77.63	0.65	5.23	8.44	29.01
22	29.89	1016.86	5.41	98.16	0.73	4.47	6.54	29.03
23	29.64	1017.86	5.27	81.17	0.67	4.61	8.10	29.16
24	29.61	1017.62	5.99	71.87	0.82	4.92	9.21	29.11
25	29.54	1015.72	5.51	51.58	0.75	4.88	8.96	29.08
26	29.56	1014.30	4.27	13.73	0.59	4.90	7.15	29.04
27	29.66	1014.67	6.46	306.38	0.69	4.44	5.50	28.89
28	29.65	1014.72	7.20	273.66	0.87	4.30	5.12	28.67
29	28.95	1015.93	5.96	255.30	0.80	4.40	4.97	28.60
30	28.75	1017.78	4.38	235.20	0.53	4.31	5.74	28.36
MONTHLY AVERAGE	29.29	1016.17	4.81	108.61	0.73	5.07	6.96	28.75
X. HOURLY ALUES	31.40	1020.40	20.73	359.00	2.00	7.90	11.10	31.37
N. HOURLY ALUES	24.80	1012.80	0.17	0.50	0.00	0.00	0.00	27.09

Table C-13

NOAA DATA BUOY 42003
MONTH: JULY YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	29.43	1020.65	3.73	188.74	0.62	4.77	7.86	28.34
2	29.28	1021.77	3.06	47.25	0.56	5.91	8.50	28.32
3	29.50	1020.44	5.55	75.55	0.62	4.78	6.47	28.48
4	29.63	1018.37	4.72	98.96	0.57	4.79	6.46	28.51
5	29.70	1015.88	6.44	141.65	0.58	4.33	5.29	28.47
6	29.82	1016.80	7.33	163.84	0.85	4.32	5.65	28.31
7	30.11	1019.31	5.96	125.84	0.96	4.92	6.22	28.58
8	30.16	1020.57	5.73	75.16	0.90	5.47	7.26	28.75
9	29.96	1018.87	4.79	16.34	0.67	5.35	7.21	28.97
10	29.64	1016.05	3.44	316.00	0.55	4.40	5.33	29.10
11	29.61	1015.92	1.33	212.43	0.37	4.60	6.42	29.76
12	29.66	1016.48	3.41	101.28	0.34	4.33	5.53	29.86
13	29.23	1017.63	2.82	213.77	0.51	5.35	6.65	29.17
14	29.35	1018.43	2.64	77.44	0.50	5.42	7.27	29.29
15	29.57	1017.17	2.05	55.01	0.45	5.89	8.21	29.73
16	29.54	1016.18	1.62	302.56	0.39	6.25	8.32	30.28
17	29.87	1014.94	4.24	265.76	0.35	5.30	8.47	29.54
18	29.66	1015.30	4.15	251.99	0.32	3.64	4.87	29.31
19	29.85	1017.50	2.44	136.98	0.36	4.33	5.30	29.85
20	29.10	1017.67	4.71	347.26	0.38	4.21	4.59	29.76
21	28.61	1014.16	6.98	324.07	0.80	3.84	5.00	28.51
22	29.22	1011.63	7.71	333.97	0.91	3.91	4.61	28.43
23	29.58	1012.59	4.75	325.64	0.77	4.65	5.84	28.88
24	29.71	1013.99	2.42	253.09	0.42	4.70	6.50	29.35
25	29.88	1017.30	3.54	155.15	0.29	4.25	5.57	29.28
26	30.07	1018.27	5.64	74.19	0.68	4.72	5.50	29.23
27	29.87	1016.13	4.49	76.40	0.75	5.42	6.43	29.14
28	29.99	1015.20	3.98	134.31	0.53	4.90	5.70	29.10
29	30.21	1017.76	3.83	120.04	0.91	6.14	7.79	29.66
30	30.30	1018.79	4.57	93.49	0.82	5.75	7.47	29.70
31	30.02	1018.60	3.14	101.30	0.61	5.08	5.86	29.64
MONTHLY AVERAGE	29.68	1017.11	4.23	96.86	0.59	4.89	6.39	29.14
X. HOURLY ALUES	31.40	1022.80	12.22	359.80	1.20	6.70	9.10	32.07
N. HOURLY ALUES	25.60	1010.50	0.24	2.20	0.00	0.00	0.00	27.92

Table C-14

NOAA DATA BUOY 42003
MONTH: AUGUST YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	30.10	1017.10	2.87	352.26	0.50	5.18	6.29	29.57
2	29.74	1015.40	1.44	264.26	0.46	5.15	8.12	30.16
3	29.90	1015.57	2.07	237.02	0.38	5.25	7.41	30.25
4	30.02	1016.05	1.98	216.40	0.31	5.74	8.36	30.20
5	30.10	1016.76	2.25	260.26	0.38	5.09	6.89	30.11
6	30.21	1016.60	3.05	239.44	0.46	5.13	7.85	30.03
7	30.24	1016.35	4.82	252.25	0.55	4.60	8.04	30.03
8	30.08	1015.42	4.46	274.97	0.58	4.49	7.13	29.94
9	30.21	1015.24	4.74	272.58	0.50	3.78	5.22	29.18
10	30.45	1015.17	4.61	297.64	0.40	4.07	6.10	29.39
11	30.19	1014.18	3.30	340.18	0.34	4.05	5.05	30.07
12	30.35	1014.12	3.57	105.02	0.22	3.98	5.33	30.32
13	30.16	1014.70	9.37	95.75	1.32	5.43	6.66	29.65
14	30.79	1014.27	10.74	120.82	2.34	6.70	8.55	29.36
15	31.10	1014.58	8.42	137.33	1.57	5.78	6.90	29.63
16	30.69	1015.57	4.48	137.79	1.02	5.63	7.47	29.78
17	30.49	1016.47	2.07	67.10	0.61	5.35	6.74	29.83
18	30.60	1016.65	3.77	15.64	0.37	5.42	6.12	29.53
19	30.31	1016.12	1.68	325.53	0.36	4.53	5.31	30.07
20	30.66	1016.12	1.80	147.35	0.27	4.50	6.60	30.34
21	30.77	1016.87	3.25	124.45	0.37	4.71	5.27	29.93
22	30.97	1016.34	3.00	80.20	0.40	4.71	5.52	30.00
23	31.14	1016.19	4.56	93.20	0.62	5.61	7.08	29.89
24	30.94	1016.65	4.84	94.86	0.62	4.88	6.64	29.88
25	30.98	1015.86	7.05	124.14	0.72	4.96	6.30	30.21
MONTHLY AVERAGE								
	30.45	1015.77	4.17	145.49	0.63	4.99	6.68	29.89
K. HOURLY ALUES								
	31.90	1018.20	14.90	359.10	2.90	7.40	10.00	32.56
N. HOURLY ALUES								
	28.60	1012.30	0.24	1.40	0.00	0.00	0.00	28.66

Table C-18

NOAA DATA BUOY 42003
 MONTH: DECEMBER YEAR: 85

DAY	AIR TEMP. (C)	BAROMET. PRESSURE (MB)	WIND SPEED (M/S)	WIND DIRECTION (TRUE)	SIG. WAVE HEIGHT (M)	AVERAGE PERIOD (SEC)	DOMINANT PERIOD (SEC)	SEA SURFACE TEMP. (C)
1	27.13	1014.82	5.01	140.88	0.65	4.46	5.47	25.01
2	25.20	1017.05	4.32	44.95	0.74	4.67	6.95	24.67
3	24.64	1020.69	10.44	40.74	2.08	5.41	7.58	24.23
4	24.48	1021.42	5.53	33.46	1.11	4.84	6.49	23.99
5	26.39	1018.44	5.36	67.09	0.87	4.52	5.57	24.56
6	24.60	1019.00	11.65	14.18	1.70	4.35	5.92	23.94
7	22.24	978.59	8.25	64.43	1.42	4.61	6.11	23.59
8	24.42	977.64	5.42	92.18	1.00	4.57	5.53	22.75
9	26.28	1020.06	8.55	102.53	1.17	4.77	5.71	24.16
10	26.48	1021.18	8.86	104.70	1.21	4.74	5.92	24.06
11	26.71	1020.23	9.93	117.93	1.58	5.18	6.62	24.44
12	26.93	1017.28	8.22	138.43	1.25	5.08	6.49	24.39
13	27.34	1013.85	6.64	190.79	1.12	4.89	5.99	24.13
14	22.35	1020.39	13.73	340.29	2.95	5.97	7.79	23.56
15	20.06	1025.53	6.71	23.12	1.89	5.81	7.77	22.88
16	21.13	1025.39	6.69	21.28	0.90	4.25	5.32	22.95
17	21.75	1024.02	5.71	26.37	0.60	3.95	4.56	22.95
18	21.60	1022.79	5.64	45.60	0.54	3.60	4.41	22.87
19	22.55	981.48	6.30	42.76	0.64	3.87	4.74	22.93
20	23.10	1024.82	5.50	44.66	1.01	4.76	5.86	22.80
21	21.97	982.46	5.90	15.00	0.58	3.71	4.20	22.69
22	20.55	982.00	4.21	42.02	0.77	4.20	5.21	21.62
23	22.46	1019.18	4.46	119.39	0.50	4.57	5.39	22.54
24	24.65	1014.26	7.64	180.15	0.77	4.10	4.81	22.63
25	22.68	1018.37	11.11	326.58	2.07	5.33	6.64	22.38
26	16.75	984.65	7.55	354.86	2.12	5.53	7.32	20.92
27	20.57	1026.13	2.73	91.85	0.74	4.75	5.45	22.07
28	23.05	1022.17	5.84	127.86	0.67	4.23	5.27	22.29
29	24.92	1019.15	6.24	267.65	0.68	4.42	6.62	22.63
30	23.52	1021.61	7.12	76.23	0.92	4.49	5.27	22.50
31	25.05	1019.69	7.59	138.34	0.98	4.23	4.88	22.54
MONTHLY								
AVERAGE	23.60	1012.72	7.06	64.73	1.14	4.64	5.87	23.22
X. HOURLY								
ALUES	27.90	1029.70	16.27	360.00	4.30	7.30	10.00	25.69
N. HOURLY								
ALUES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

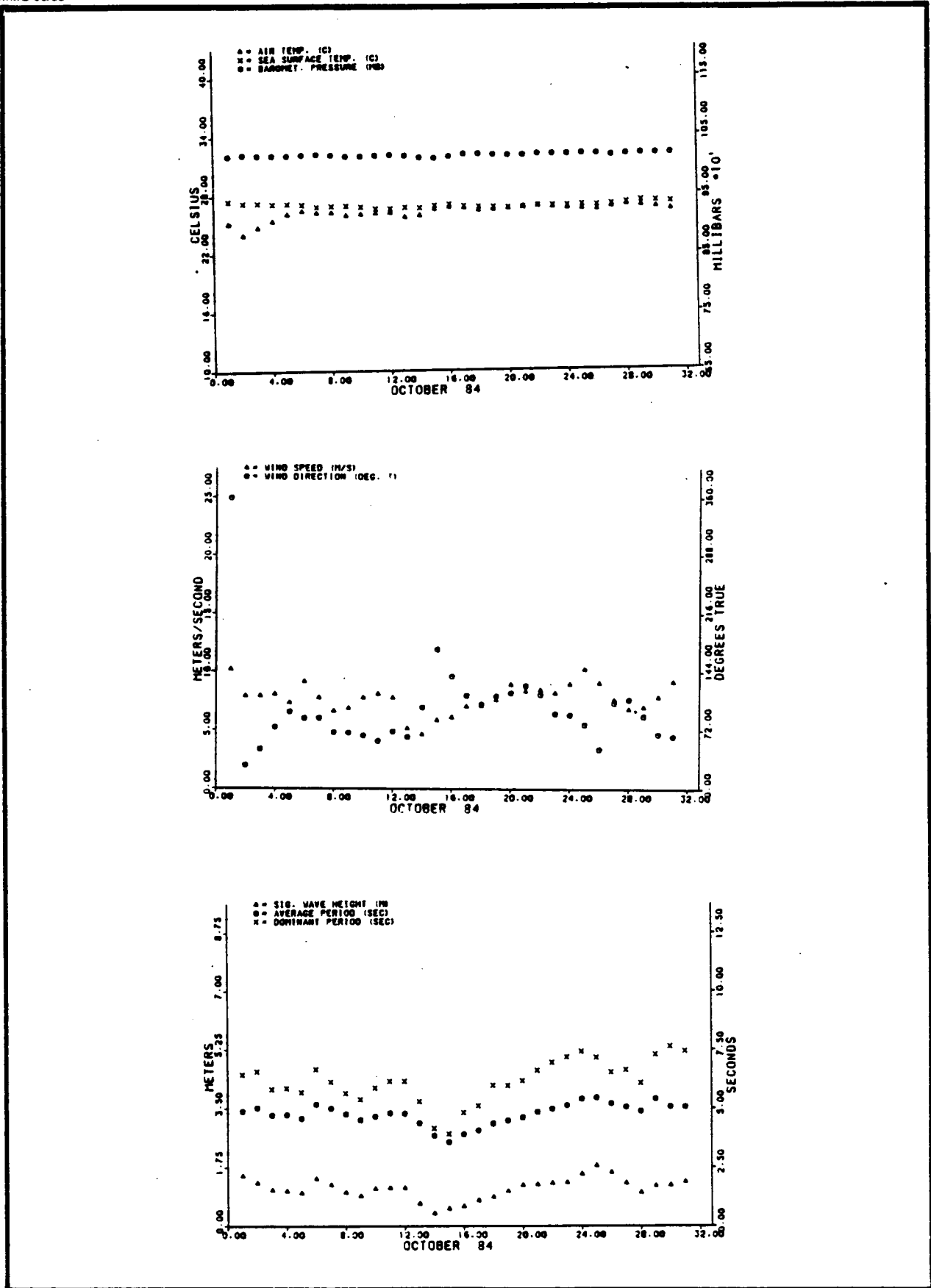


Figure C-3

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - OCT84

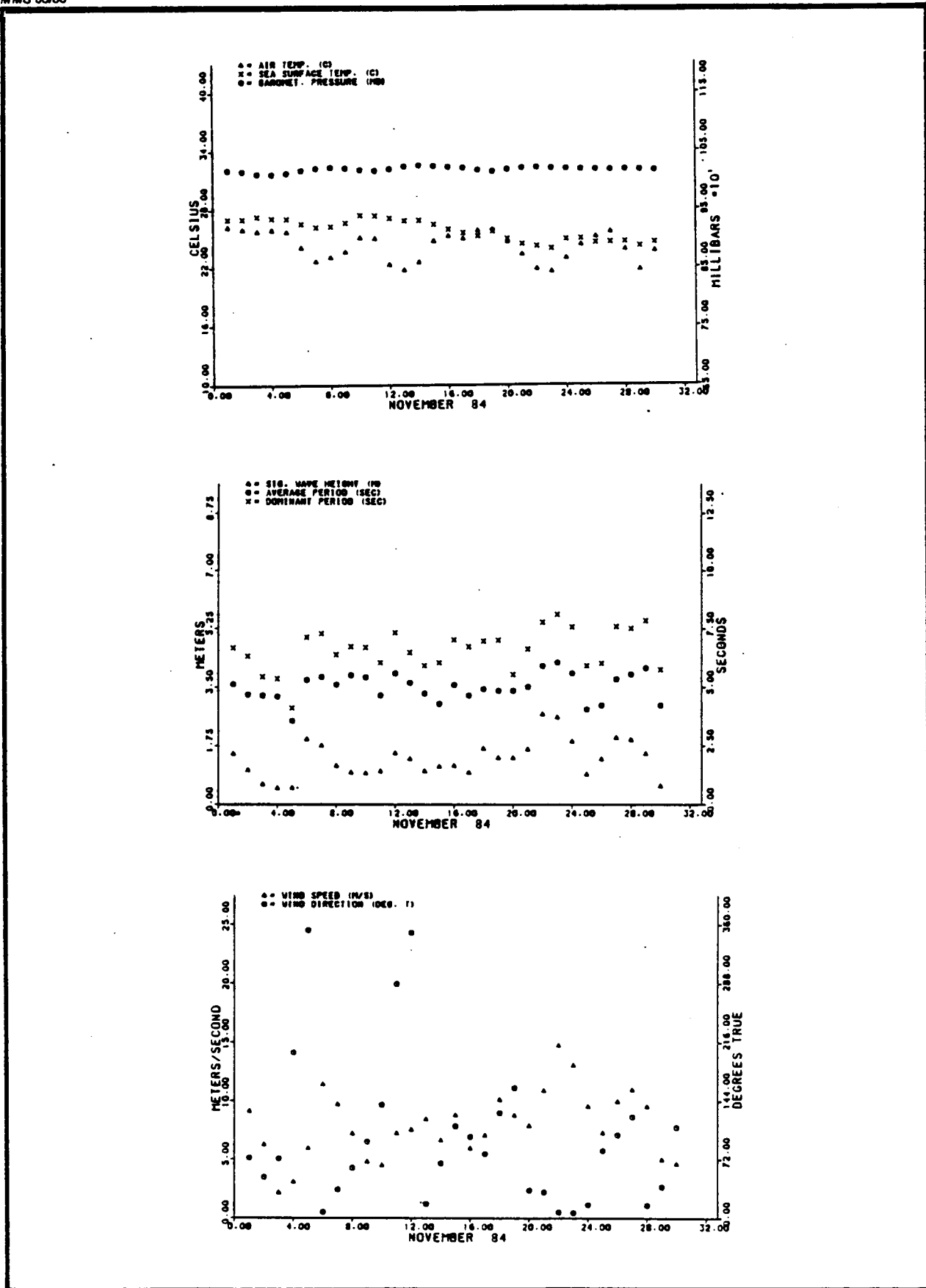


Figure C-4 METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - NOV84

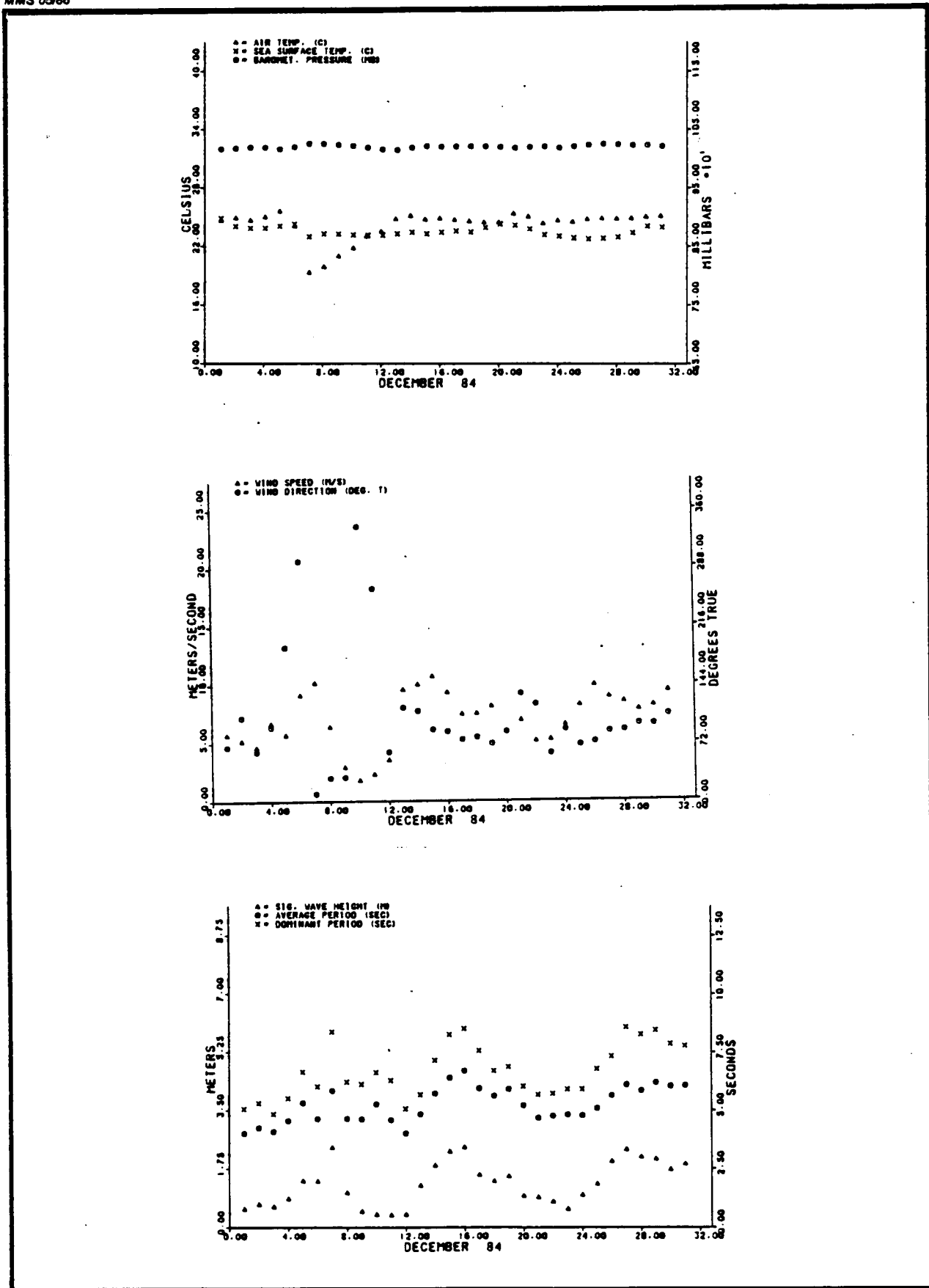


Figure C-5

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - DEC84

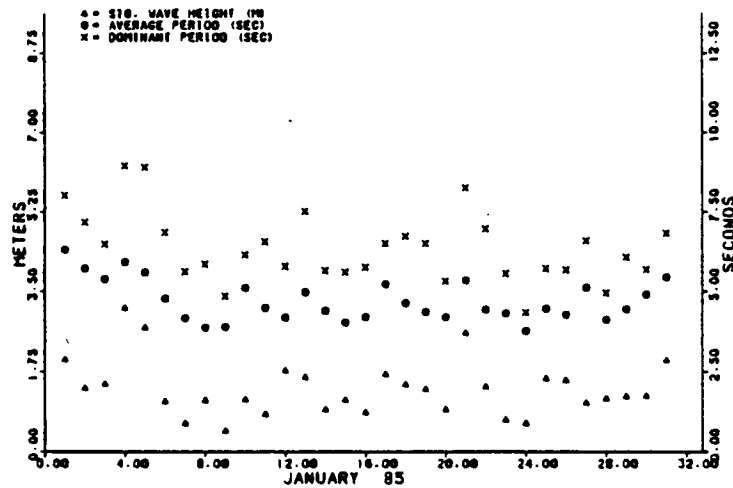
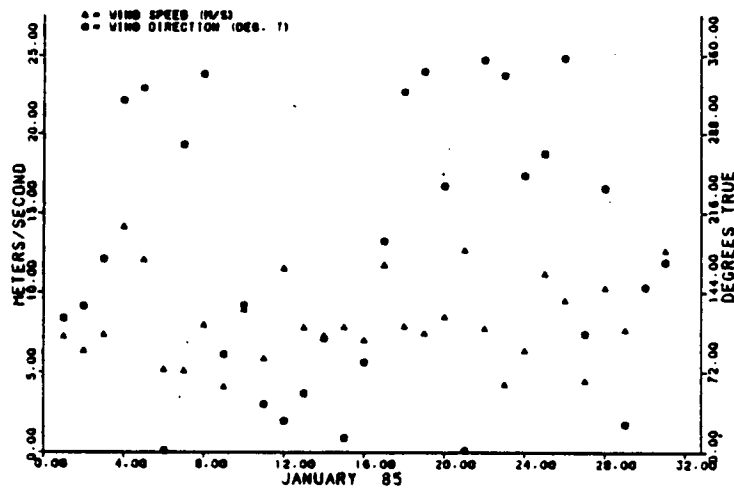
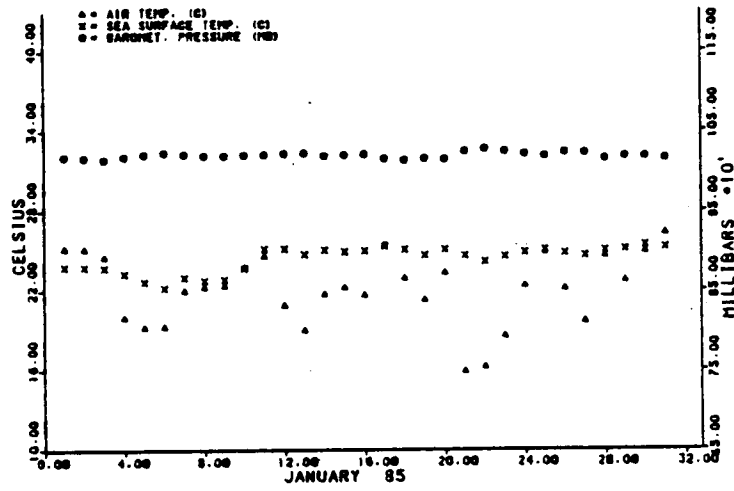


Figure C-6

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - JAN85

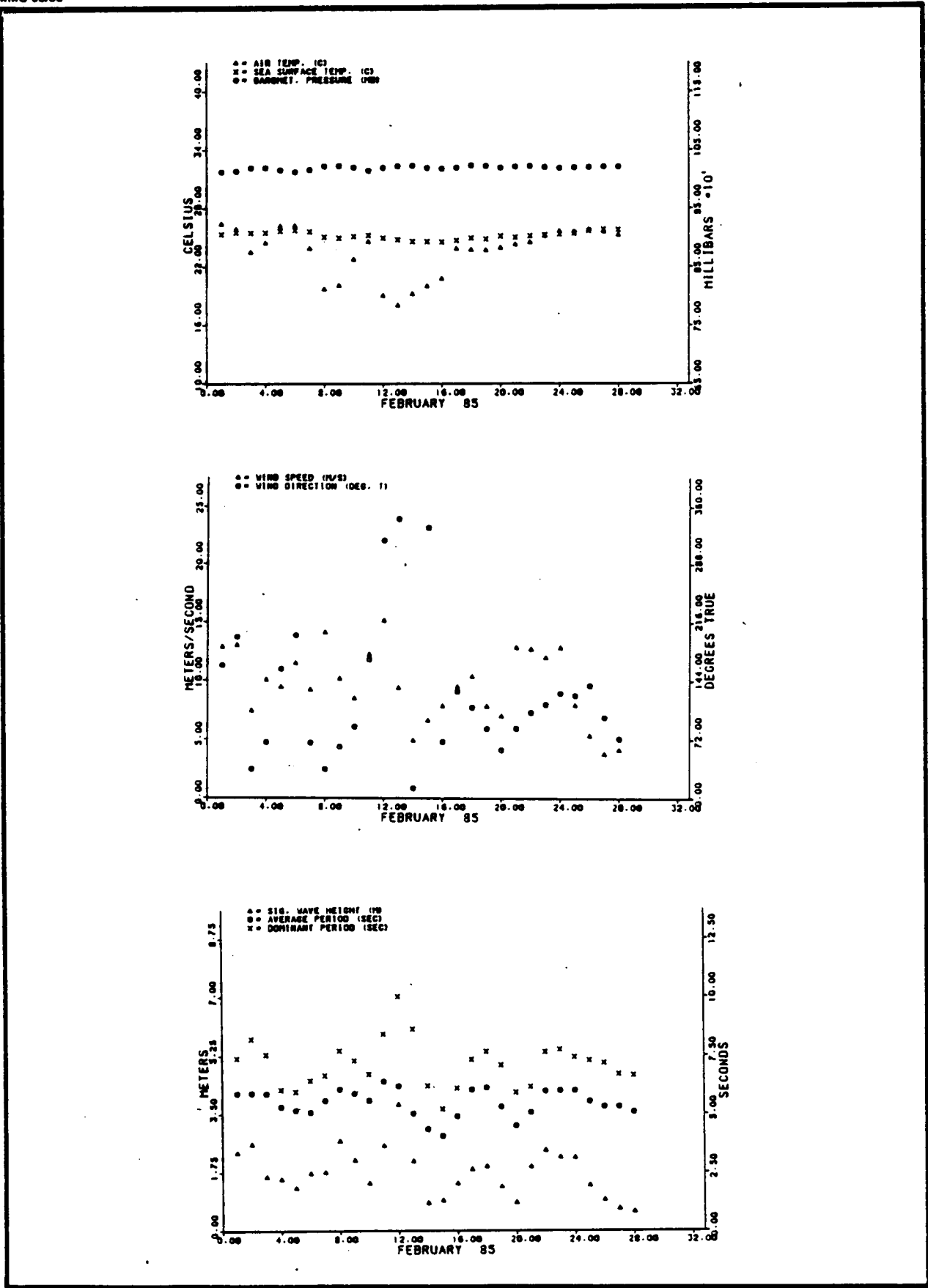


Figure C-7

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - FEB85

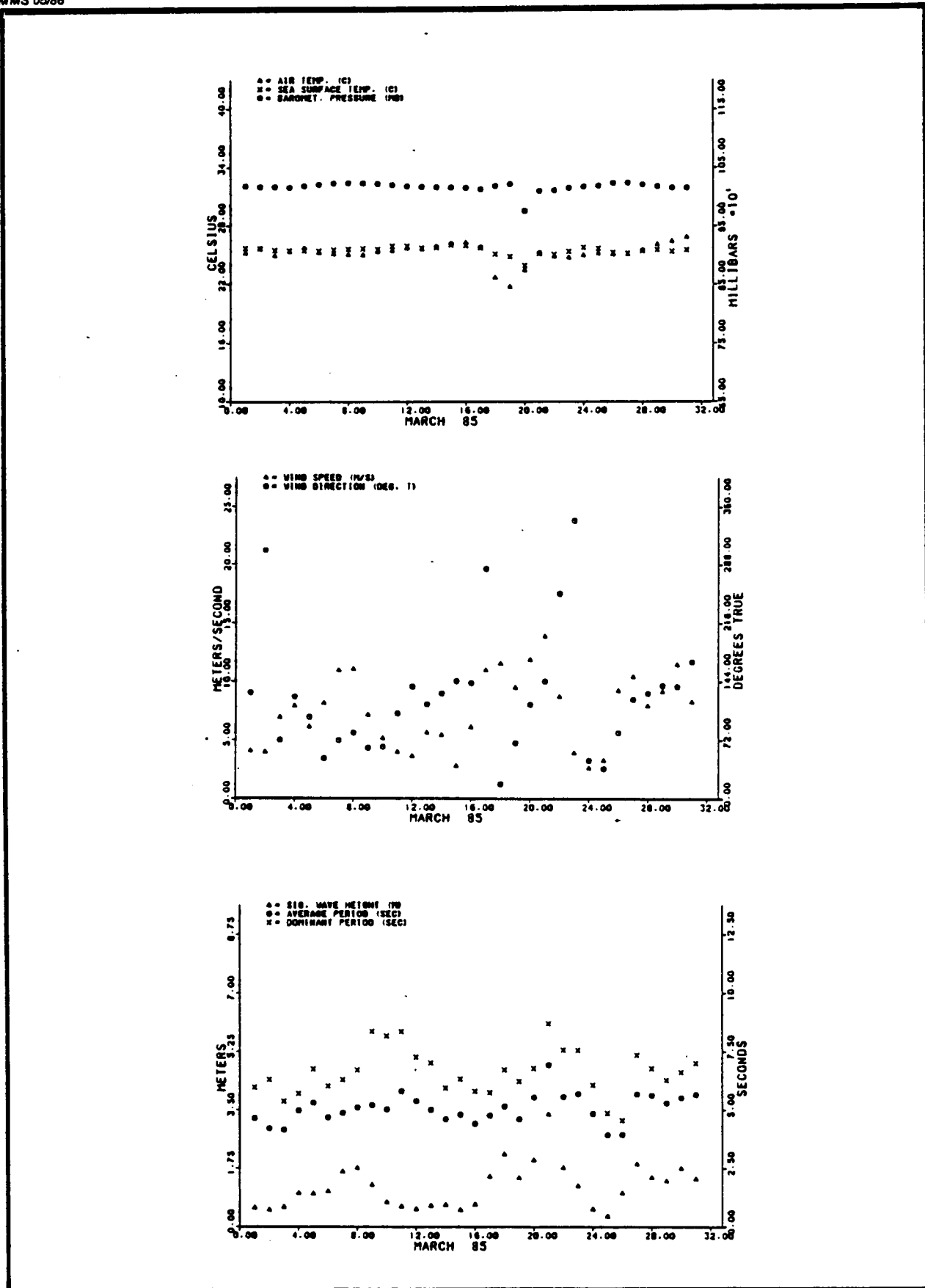


Figure C-8

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - MAR85

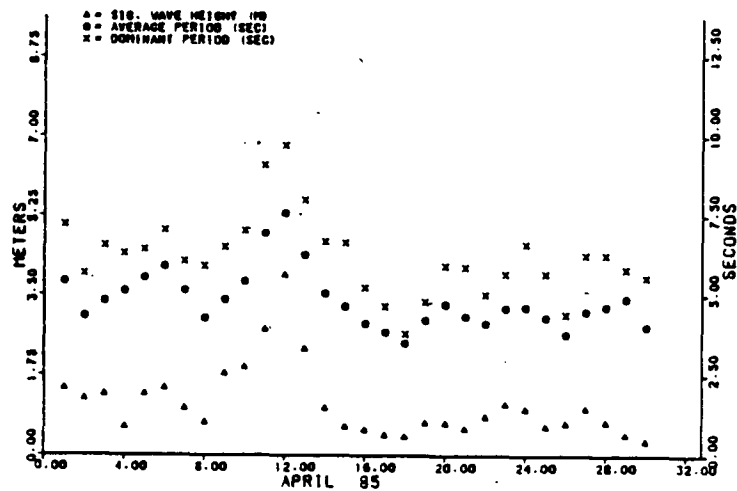
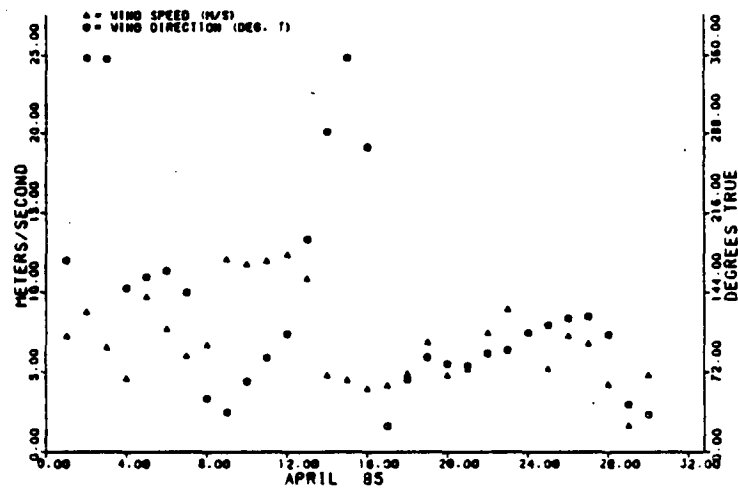
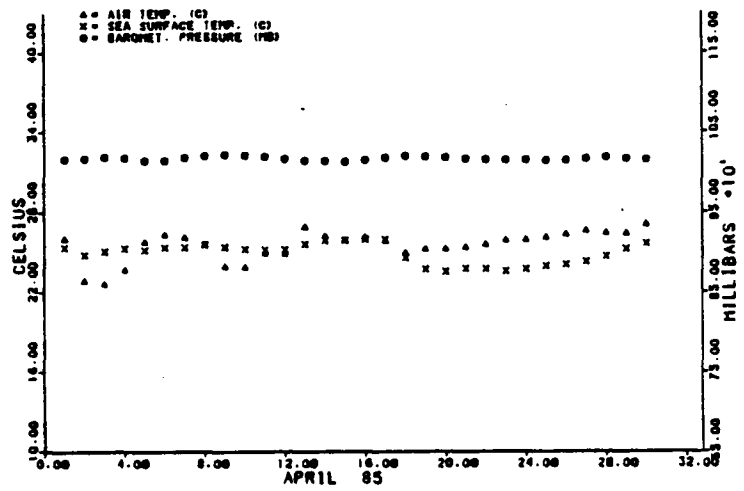


Figure C-9

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - APR85

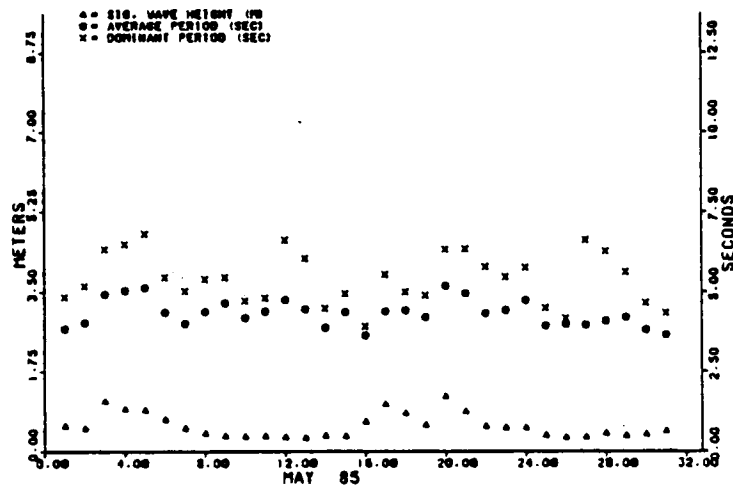
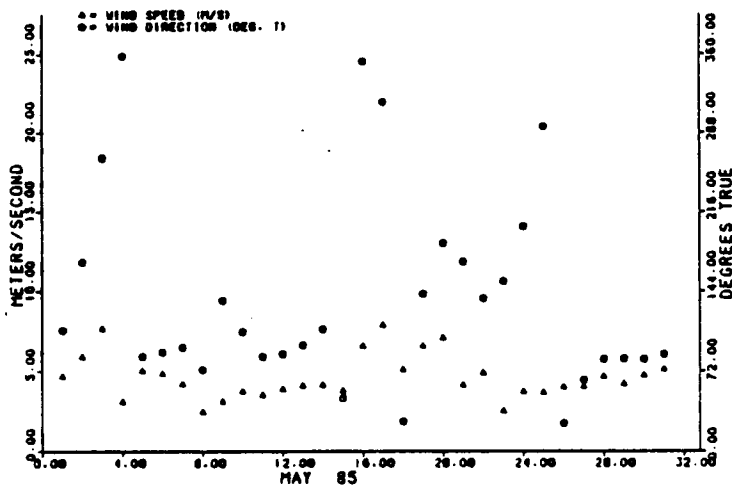
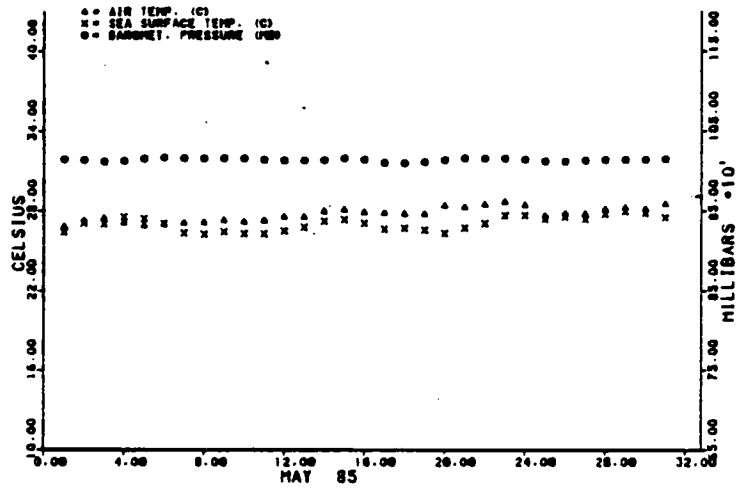


Figure C-10

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - MAY85

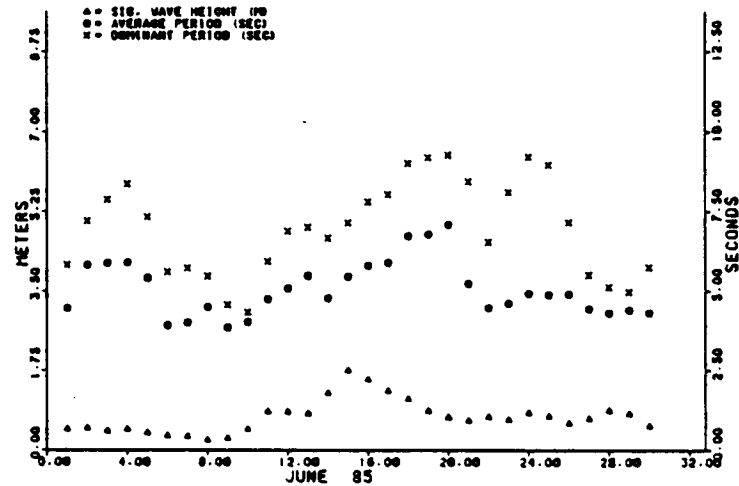
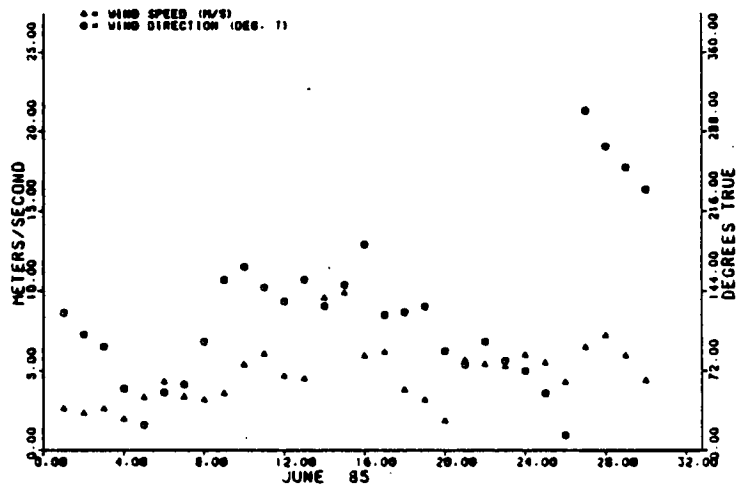
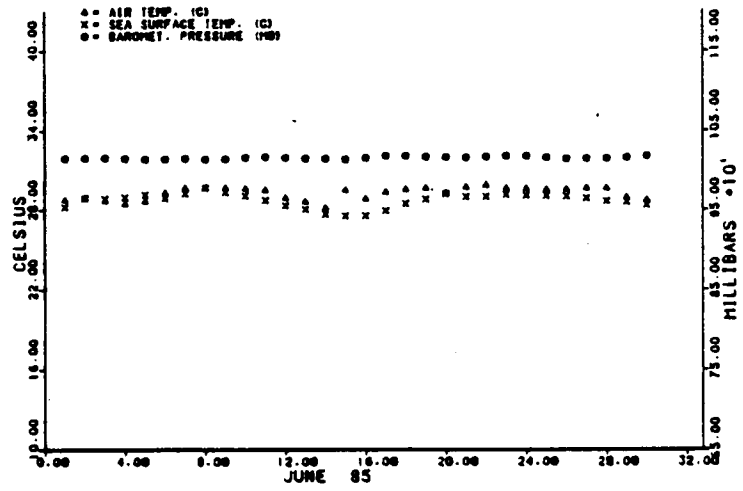


Figure C-11

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - JUN85

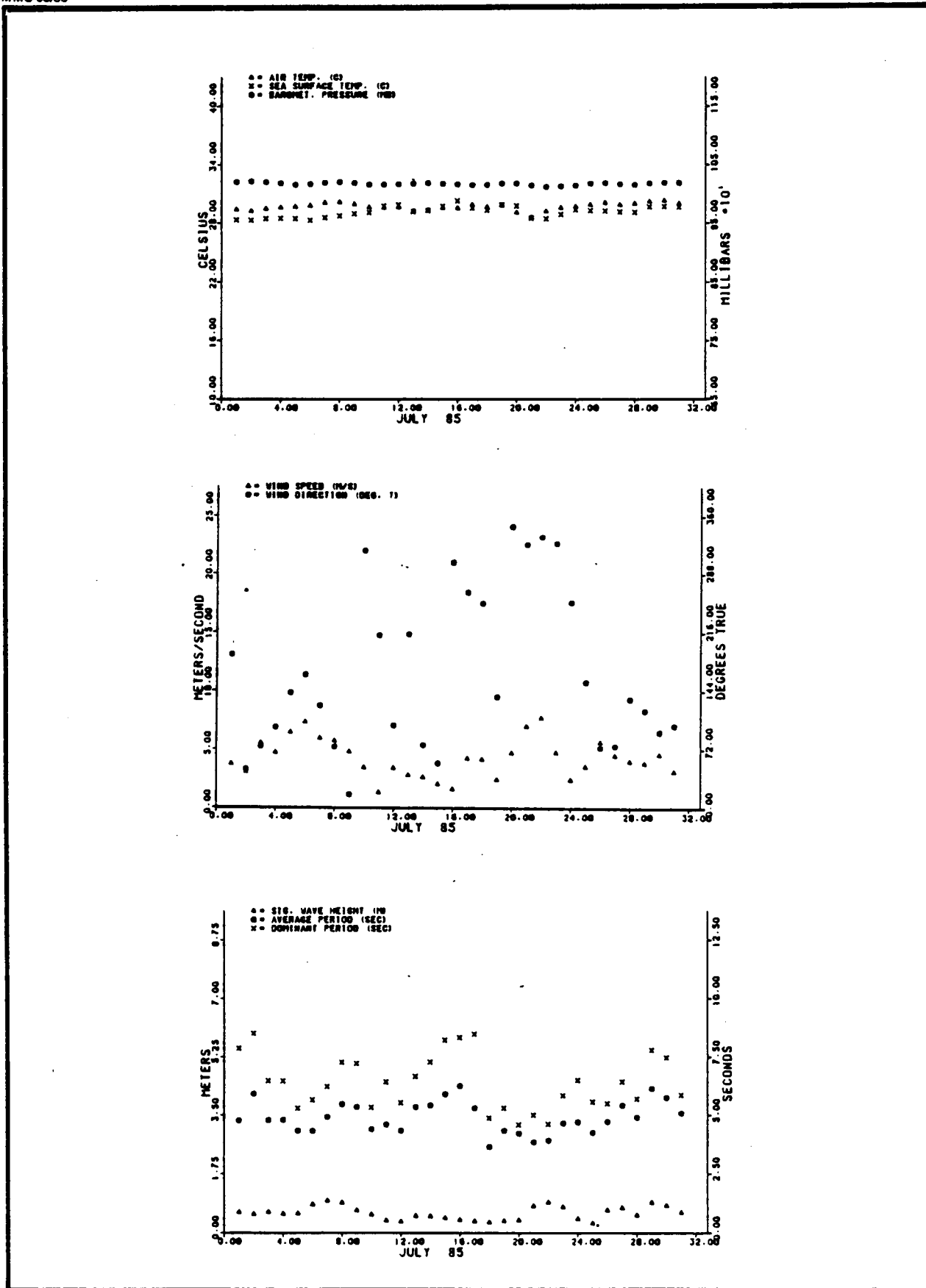


Figure C-12 METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - JUL85

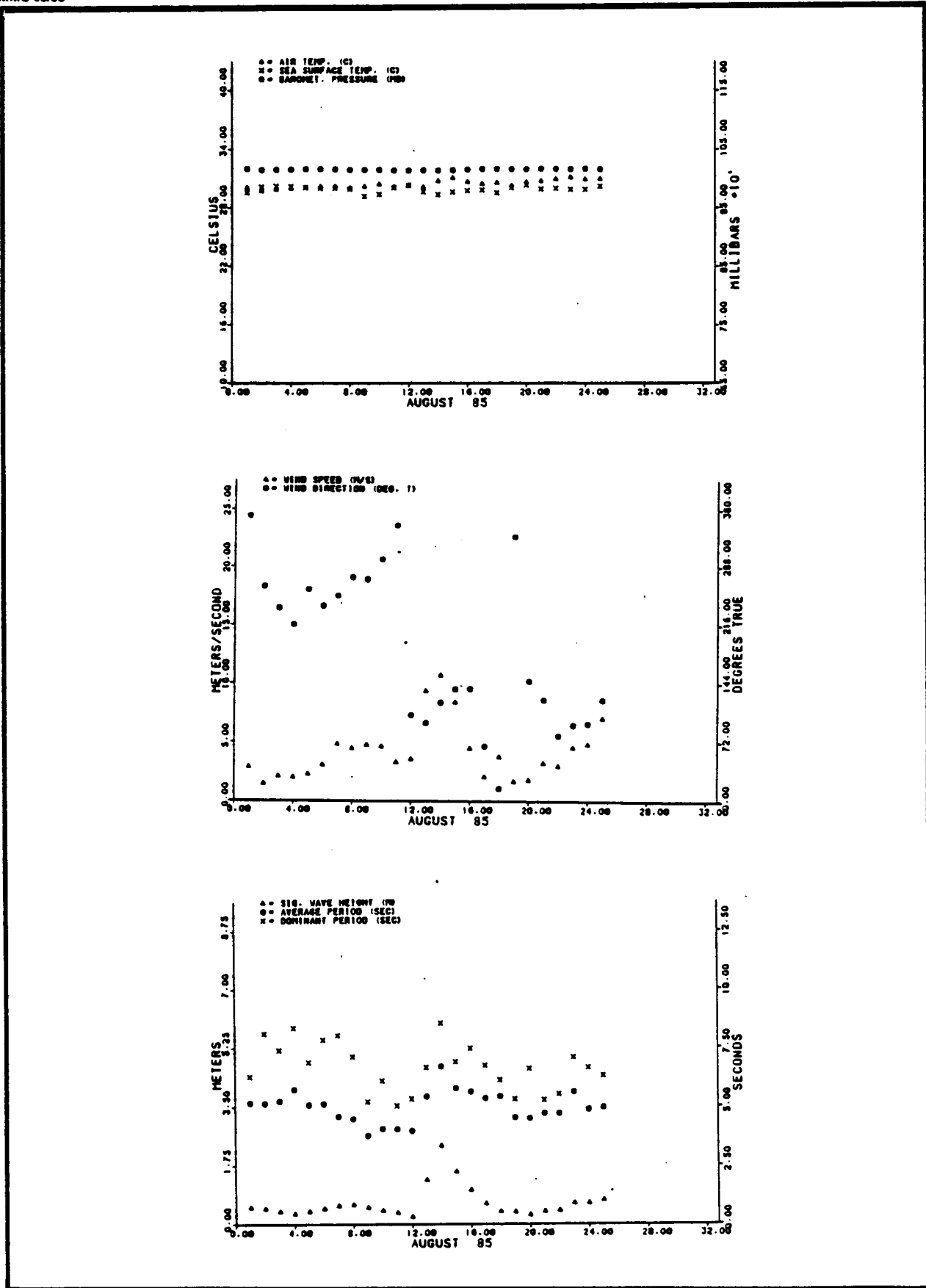


Figure C-13

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - AUG85

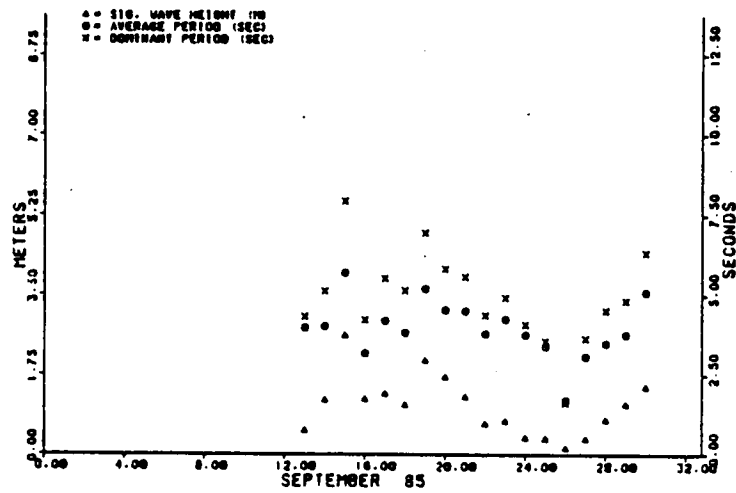
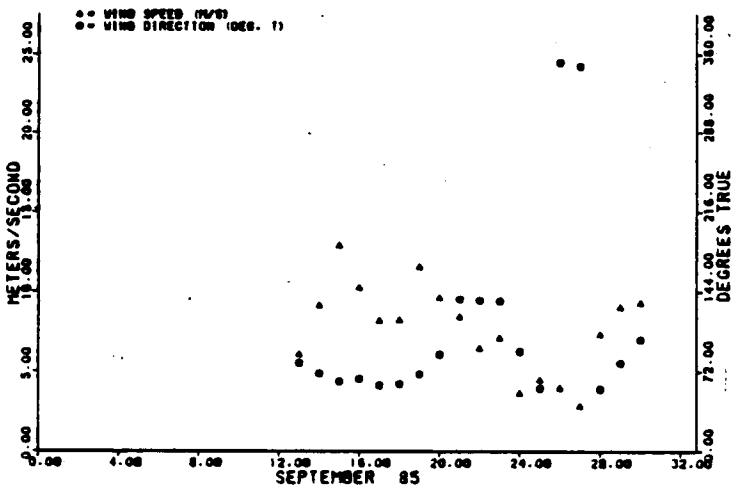
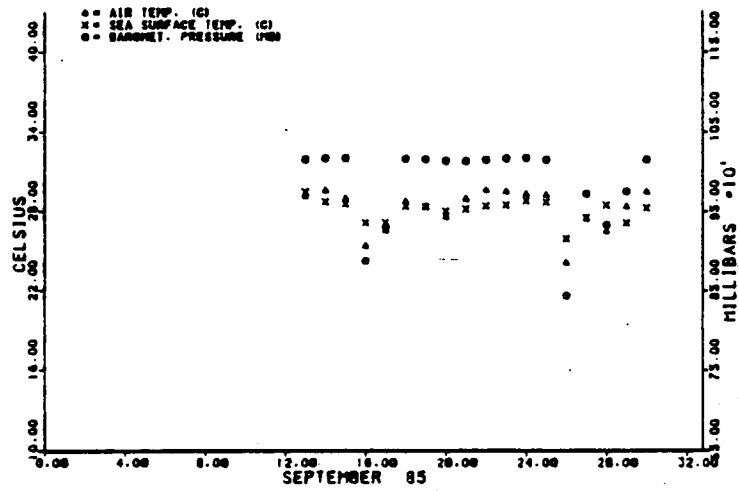


Figure C-14

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - SEP85

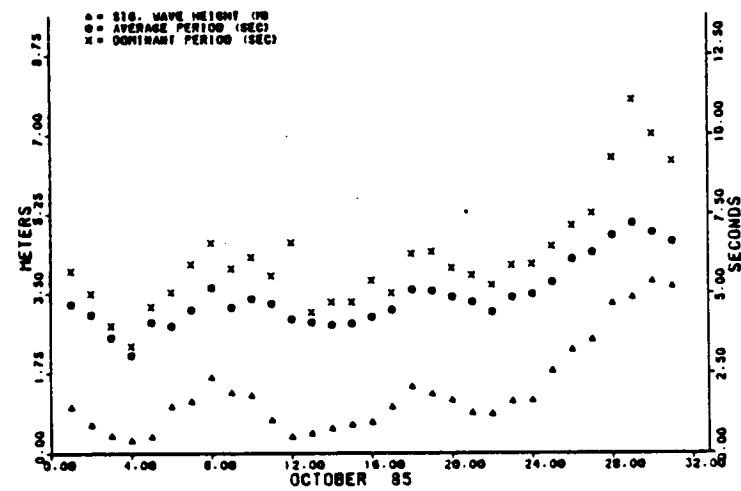
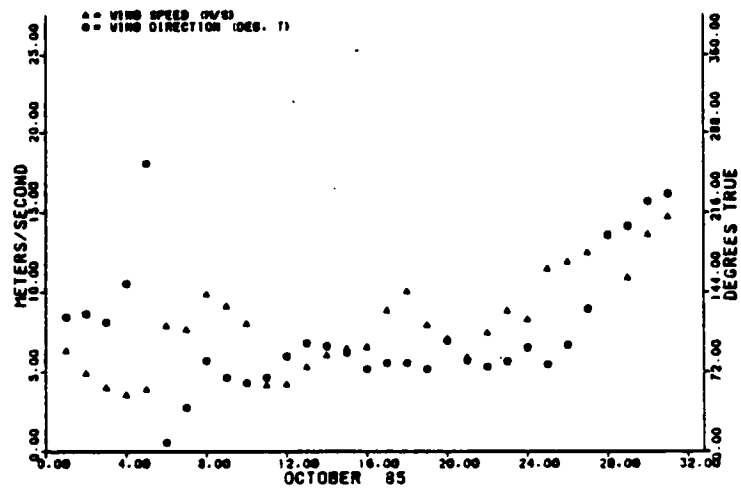
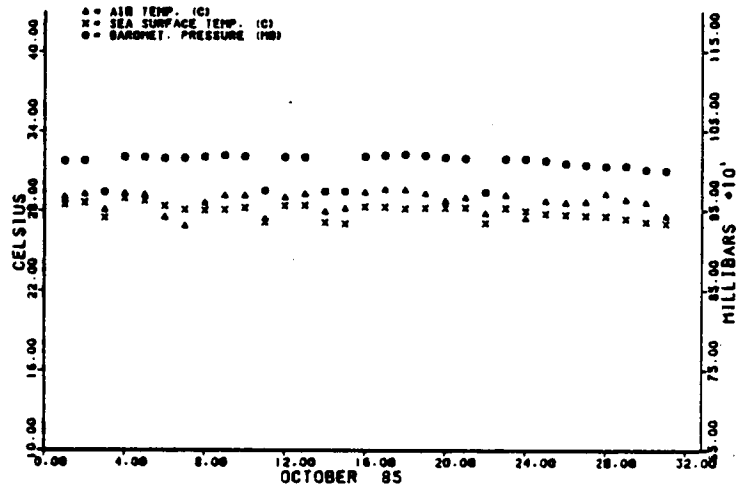


Figure C-15

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - OCT85

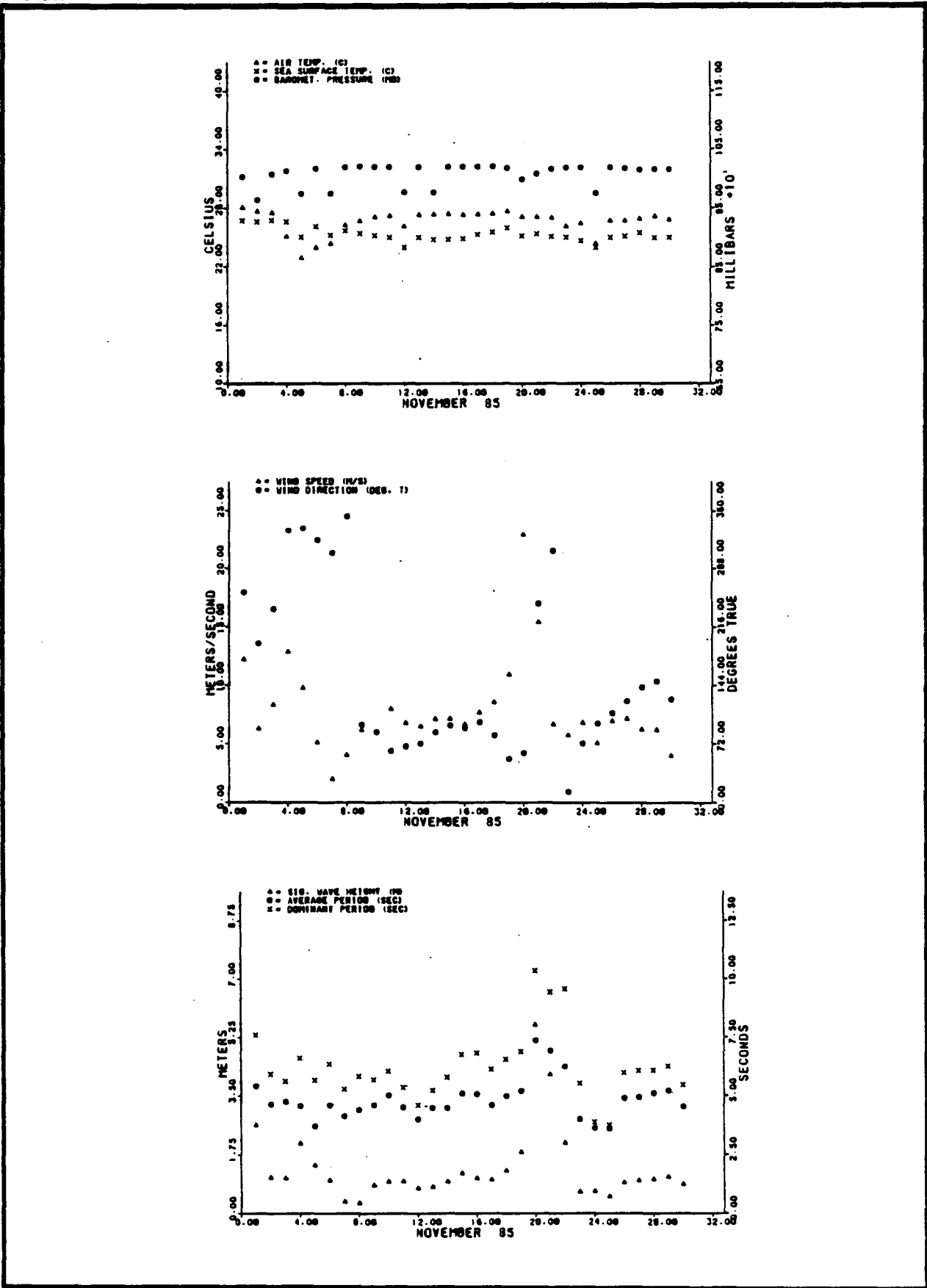


Figure C-16

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - NOV85

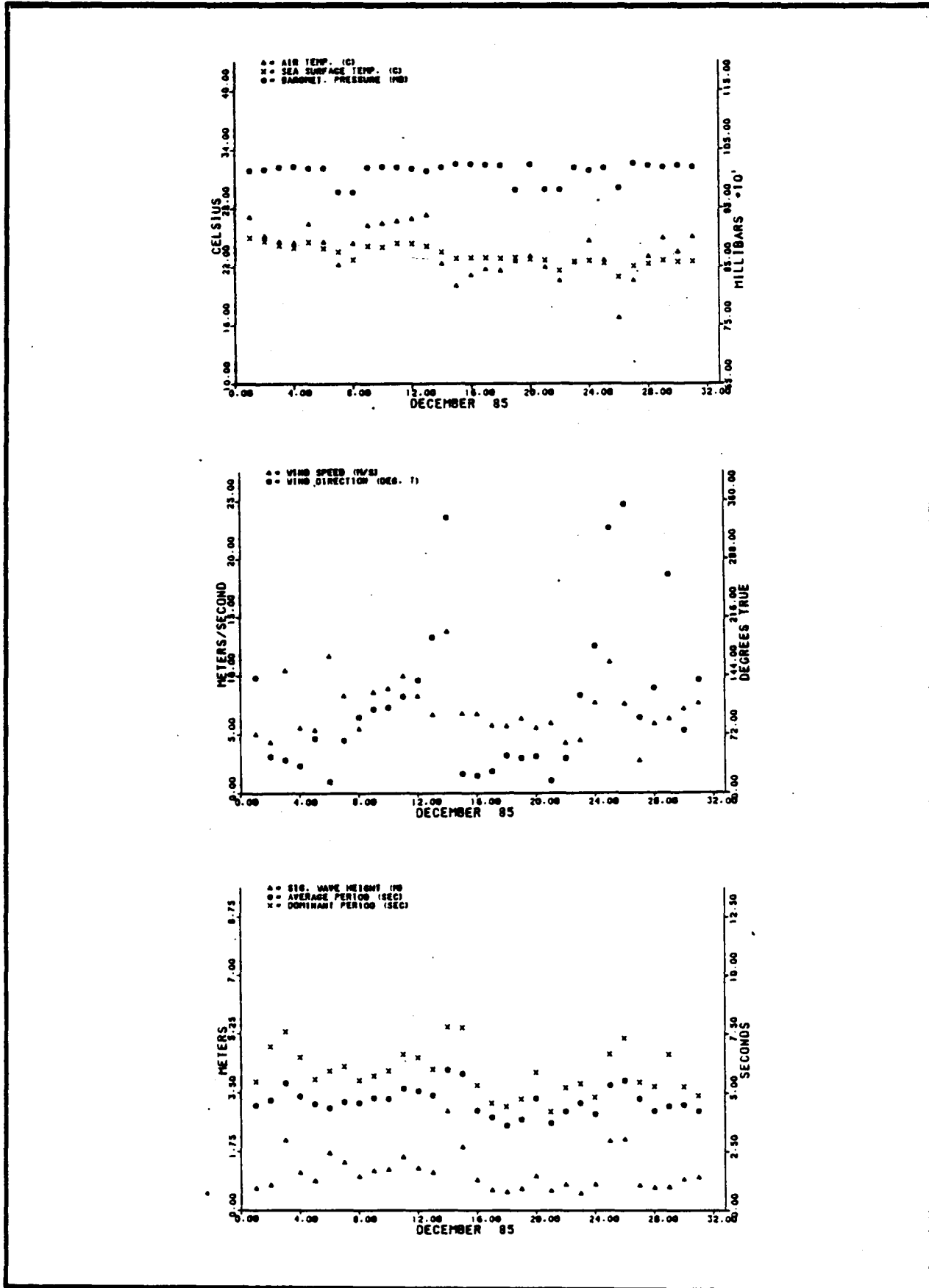


Figure C-17

METEOROLOGICAL, SEA SURFACE TEMPERATURE, AND WAVE DATA FROM NDBC BUOY NUMBER 42003 - DEC85

APPENDIX D

APPENDIX D
SEDIMENTS

Three direct methods were used to study sediment characteristics and dynamics on the southwest Florida shelf--grab samples, sediment traps, and time-lapse photography. The indirect methods of studying sediment dynamics included current and wave measurement. In this appendix the results of the grab sampling and the sediment traps for Years 4 and 5 are presented. The methods of presentation include tabulations and plots of physical and chemical sediment characteristics. The results of the other methods are either presented in the Technical Discussion (Volume 2) or in preceding appendices.

Two replicate sediment grab samples were obtained from each station (Figure D-1) during each year of the study; therefore, those stations that were studied during both Years 4 and 5 (Stations 52, 44, 21, 23, and 36) had four replicates. Only one grab sample was obtained for Station 29 because the continuous Agaricia pavement made sediment sampling with a Smith-McIntyre grab sampler difficult. The results of the grain size analysis of the grab samples are presented in Figures D-2 through D-23. These figures are organized by station with increasing depth as follows: Station 49 (11 m); Stations 44 and 52 (13 m); Station 51 (15 m); Stations 43, 45, and 50 (16 m); Stations 46 and 48 (18 m); Station 47 (20 m); Station 19 (24 m); Station 55 (27 m); Station 7 (32 m); Station 21 (47 m); Station 29 (64 m); Station 23 (74 m); and Station 36 (125 m).

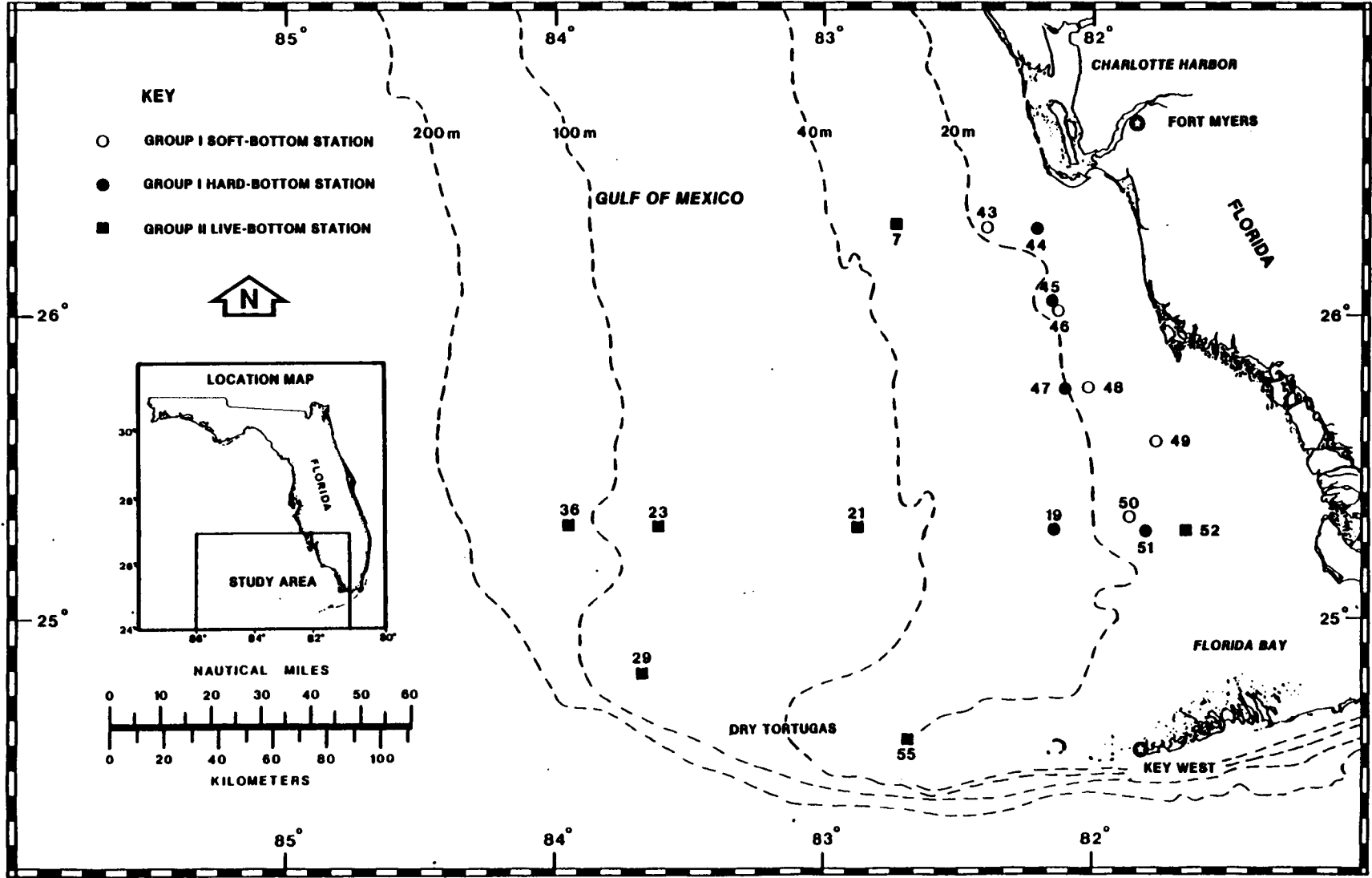
Additional grain size and chemical characteristics data for the sediment grab samples are presented in Table D-1. The data presented includes the following: station number; depth of station; year; sample (replicate) number; percent organics, CaCO₃, sand, silt, and clay; median and mean ϕ ; and sorting, skewness, and kurtosis.

During Year 4 instrumented arrays were installed at Stations 52, 21, 29, 23, and 36; additional arrays were installed at Stations 44, 55, and 7 during Year 5. These arrays were equipped with sediment traps placed 0.5 (B), 1.0 (M), and 1.5 m (T) above the bottom. Each sediment trap consisted of five replicate tubes. Theoretically, these traps were to remain in place for 3 months at a time and then be recovered and a new set installed. Because of difficulties in locating the arrays or inclement weather, this schedule was not always possible.

When these traps were returned to the laboratory, the samples were extracted and analyzed for grain size distribution and chemical characteristics. Depending on the quantity of sediment and the objectives of the specific year, the five replicate tubes that constituted a trap could be either composited or analyzed separately. If there was sufficient sample and evidence of layering, then individual layers within a replicate tube could be sampled and composited with the corresponding layers from the other four replicate tubes. If there was only a small amount of sample, detailed grain size and chemical analyses were precluded. In these cases only an estimate of the deposition rate was presented. This was common for stations with depths greater than 50 m. Estimates of deposition rates lower than 1 metric ton per square kilometer per day (MT/km²/day) should be used cautiously because they could be more the result of biological growth in the sediment trap than actual sedimentation.

The results of these analyses are presented in Tables D-2 through D-9. Each table presents the results for a single station in the following order: 52, 44, 55, 7, 21, 29, 23, and 36 (increasing water depth). Each table presents the following information: date of deployment and elapsed time; sample number (which indicates whether it is the 1.5-m (T), 1.0-m (M), or 0.5-m (B) trap and whether the sample was subsampled); percent organics, CaCO₃, sand, silt, and clay; mean and median ϕ ; the degree of sorting, skewness, and kurtosis; and the estimated deposition rate in

MT/km²/day. Footnotes at the bottom of each table explain the approach used to analyze the sample (e.g., whether the sample was composited or individual layers were analyzed).



D-4

Figure D-1 STATION LOCATIONS FOR YEARS 4 AND 5 SEDIMENT SAMPLING

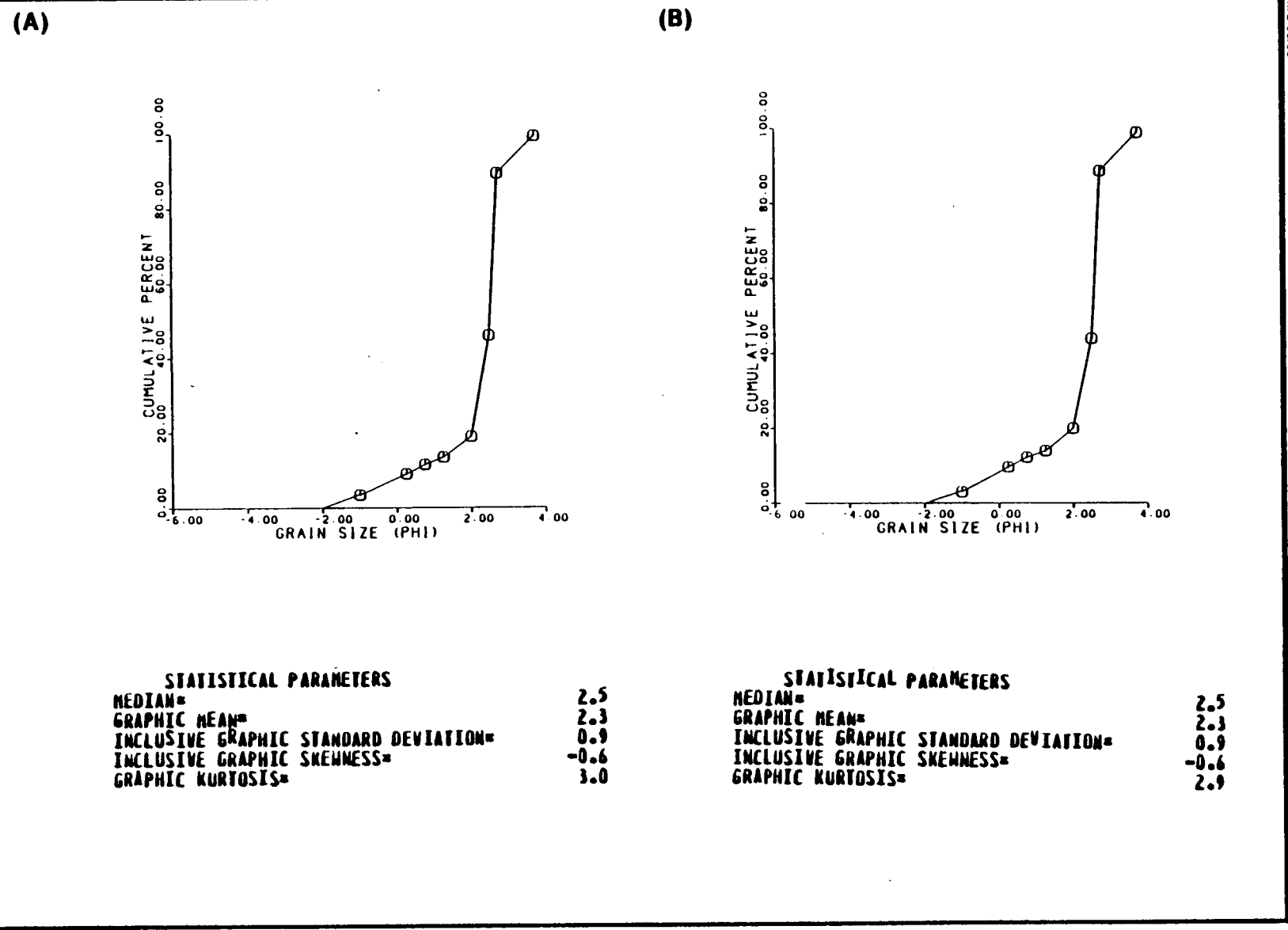


Figure D-2 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 49

2-11

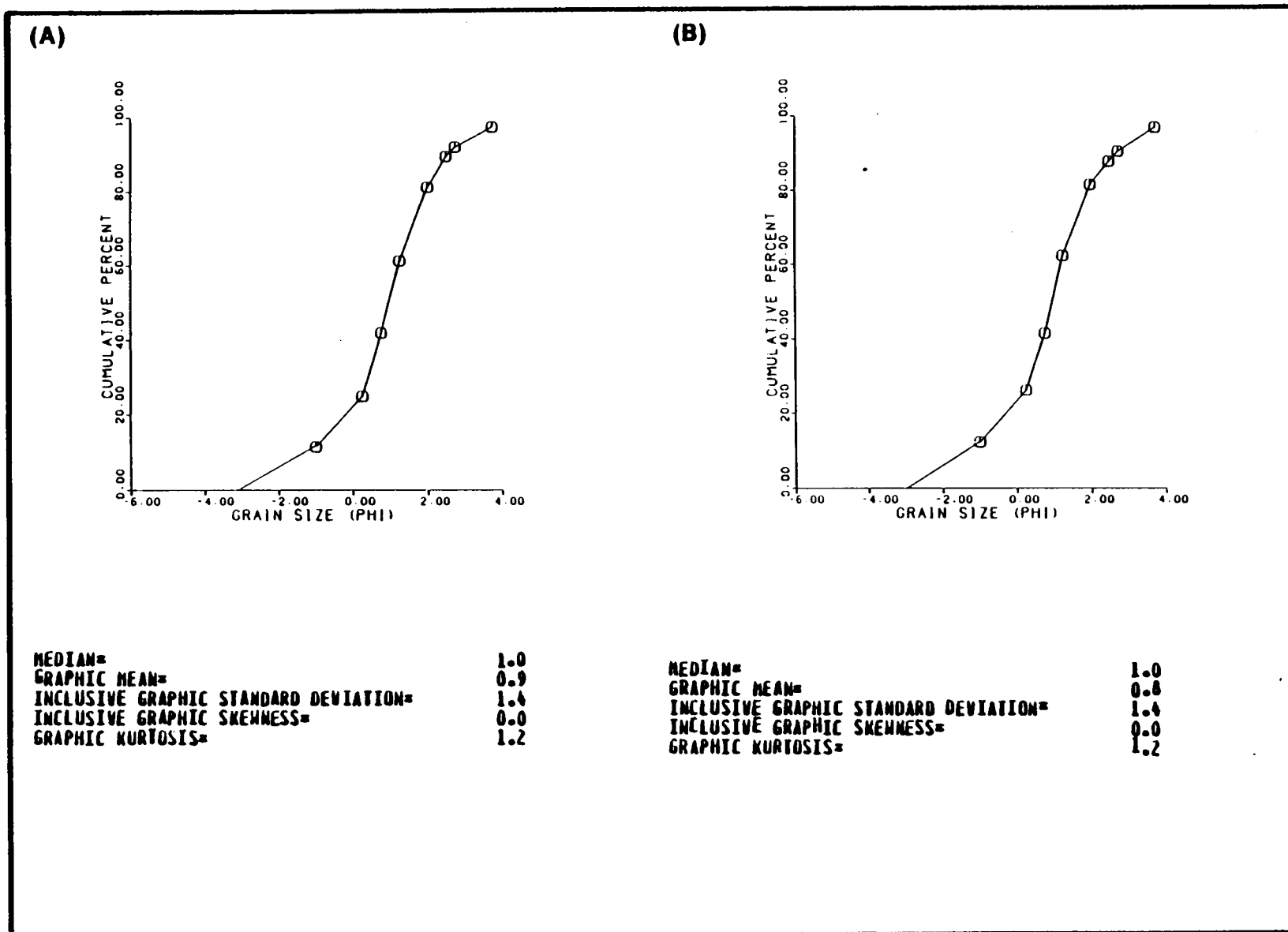


Figure D-3

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 4 4

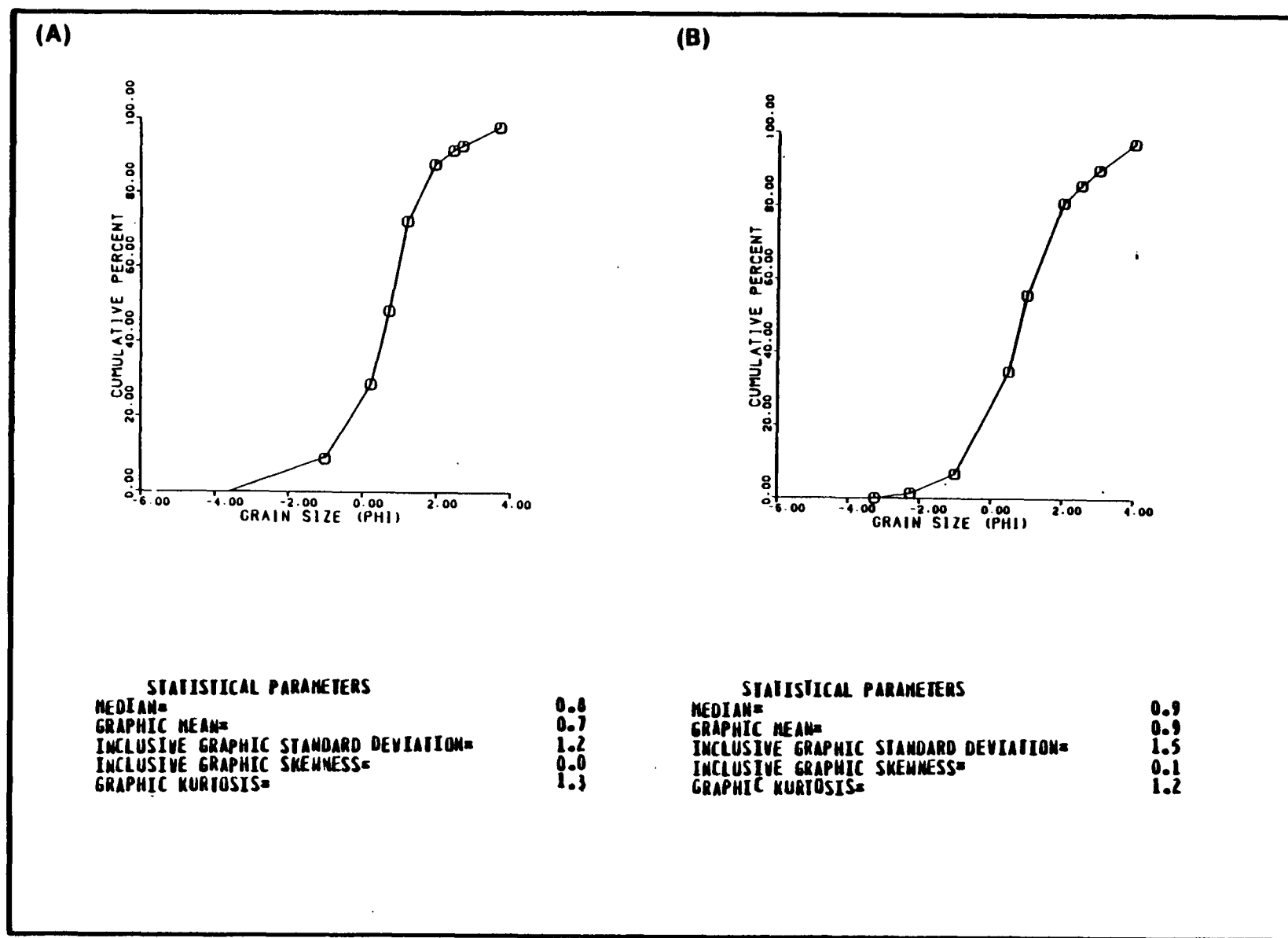
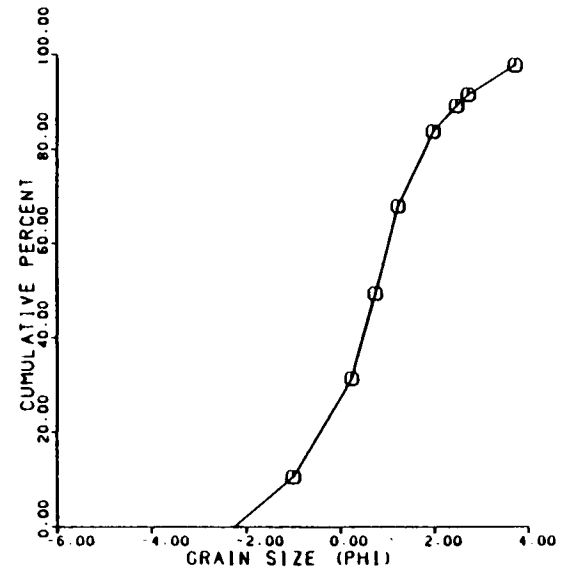


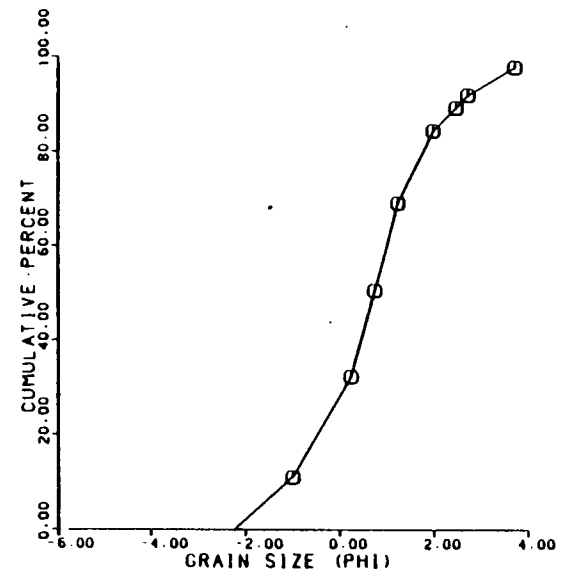
Figure D-4 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 4 4

(A)



MEDIAN= 0.8
GRAPHIC MEAN= 0.7
INCLUSIVE GRAPHIC STANDARD DEVIATION= 1.3
INCLUSIVE GRAPHIC SKEWNESS= 0.1
GRAPHIC KURTOSIS= 1.0

(B)



MEDIAN= 0.7
GRAPHIC MEAN= 0.7
INCLUSIVE GRAPHIC STANDARD DEVIATION= 1.3
INCLUSIVE GRAPHIC SKEWNESS= 0.1
GRAPHIC KURTOSIS= 1.0

Figure D-5

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 52

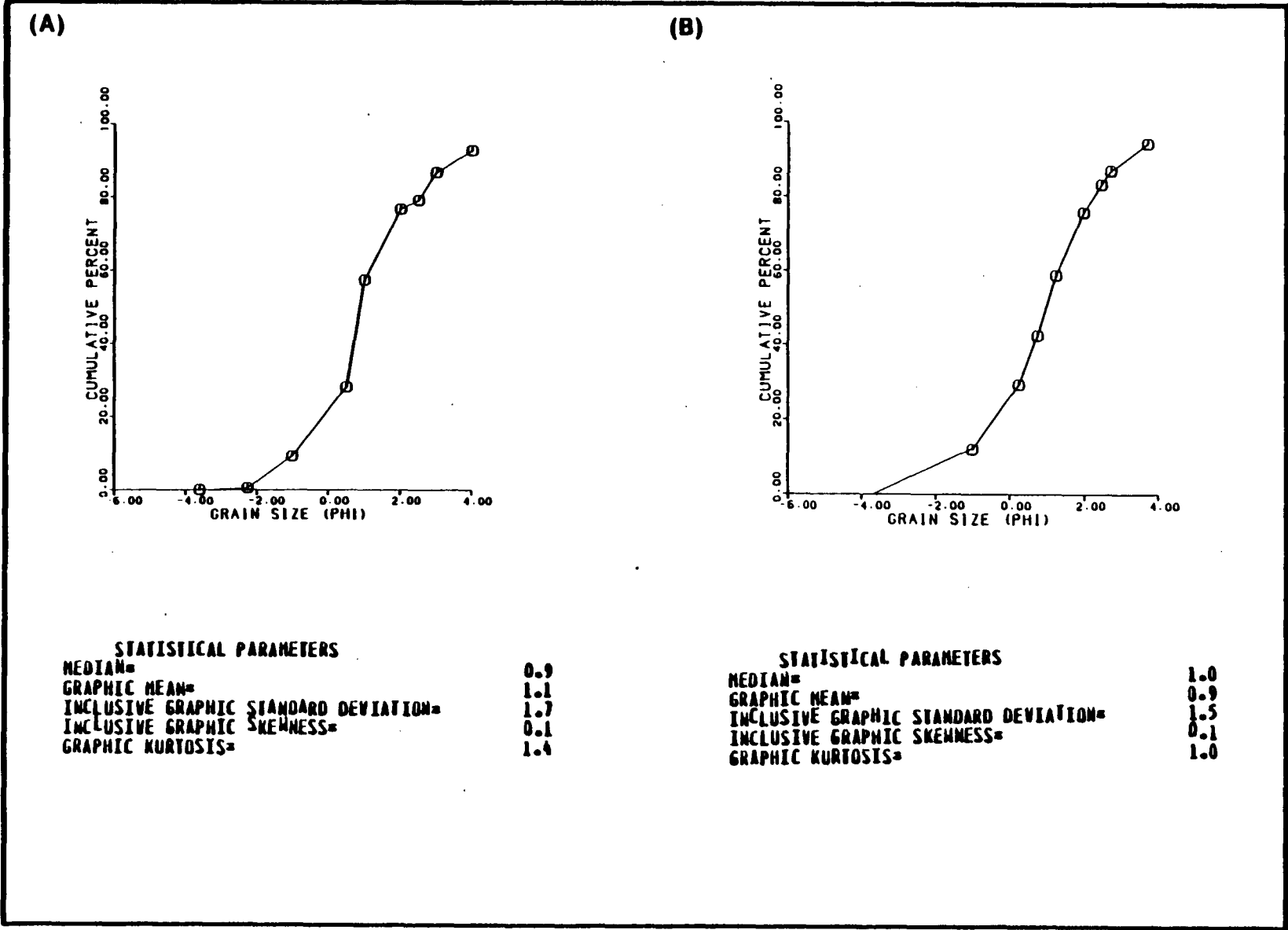


Figure D-6 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 52

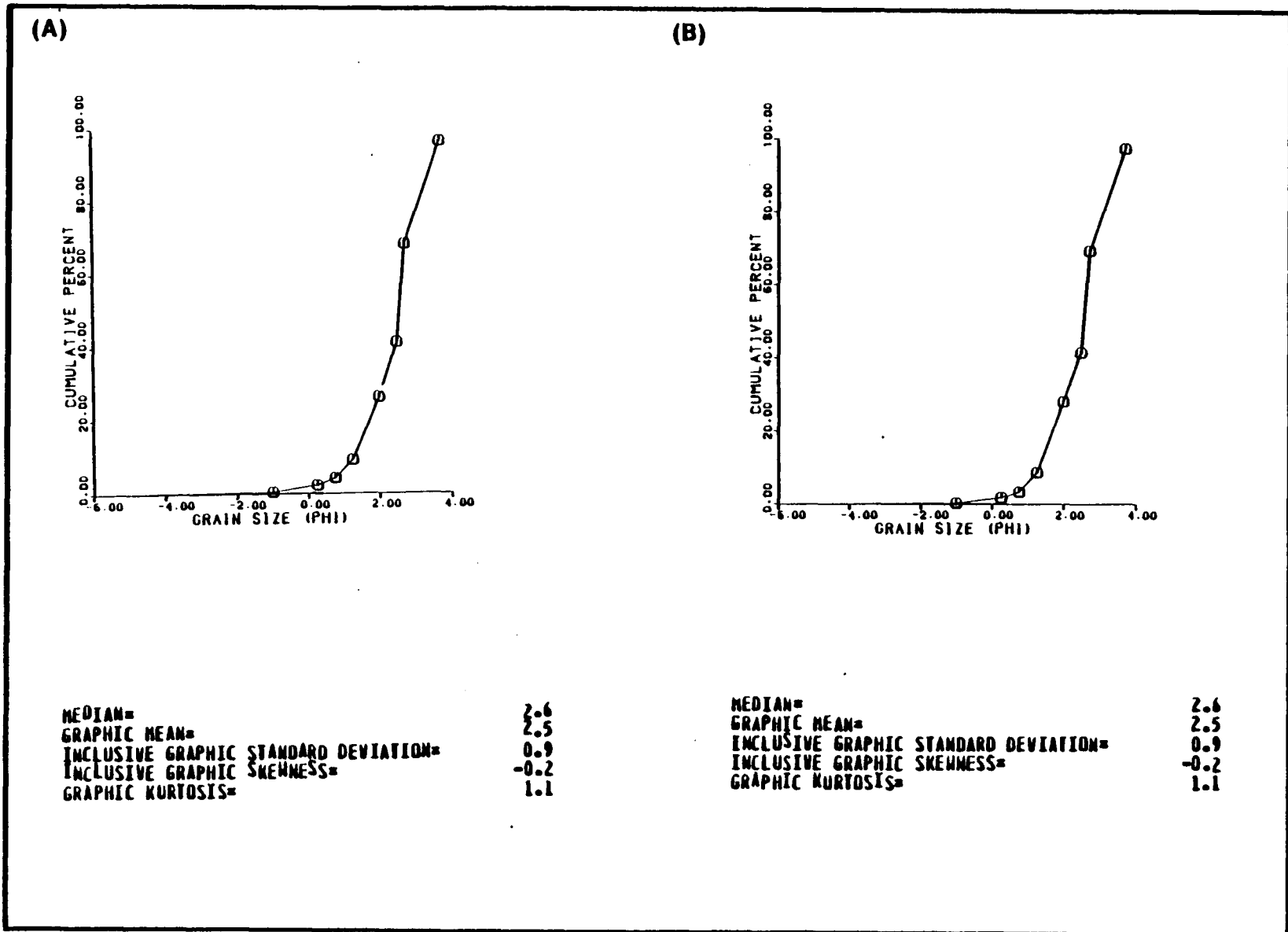
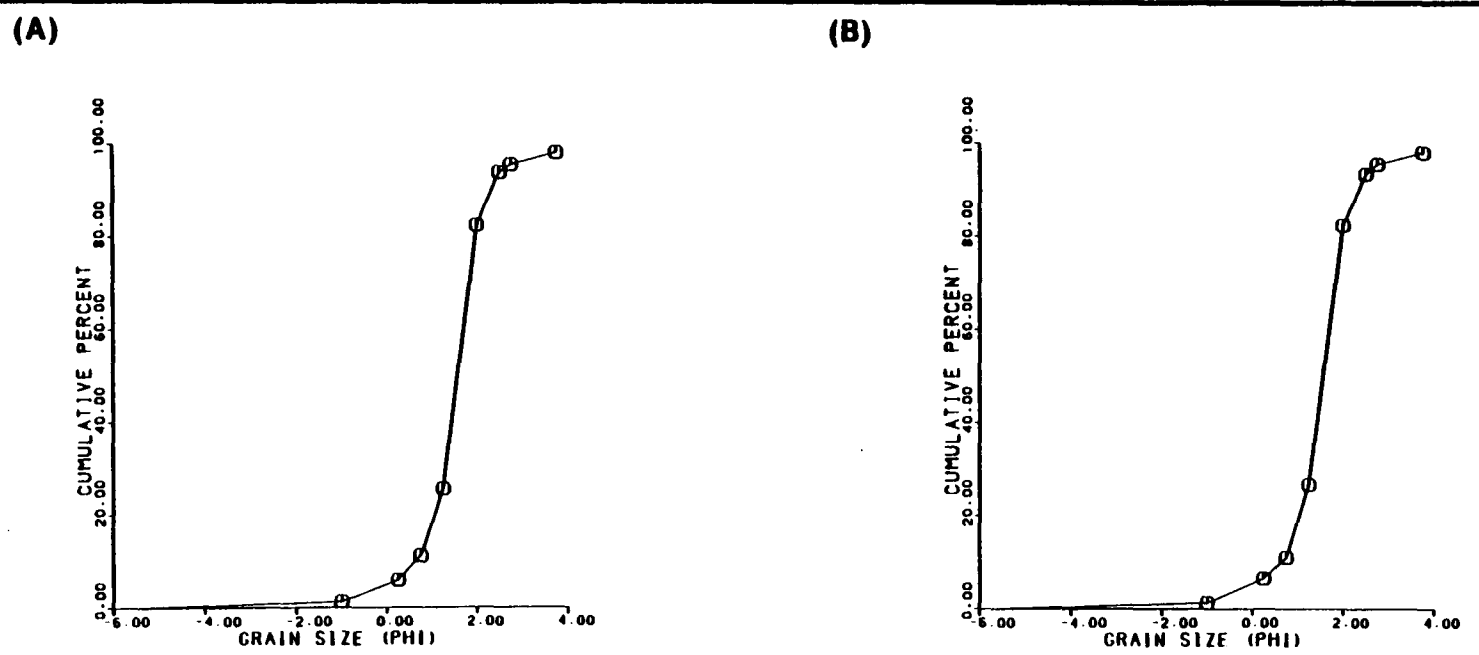


Figure D-7 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 51



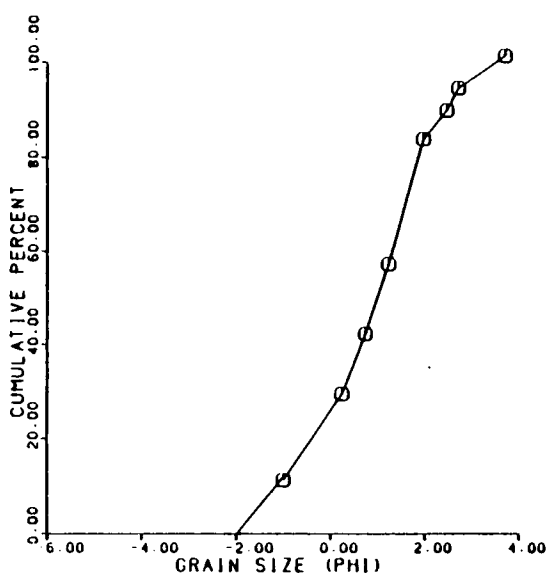
MEDIAN= 1.6
 GRAPHIC MEAN= 1.5
 INCLUSIVE GRAPHIC STANDARD DEVIATION= 0.7
 INCLUSIVE GRAPHIC SKEWNESS= -0.1
 GRAPHIC KURTOSIS= 1.6

MEDIAN= 1.6
 GRAPHIC MEAN= 1.5
 INCLUSIVE GRAPHIC STANDARD DEVIATION= 0.7
 INCLUSIVE GRAPHIC SKEWNESS= -0.2
 GRAPHIC KURTOSIS= 1.6

Figure D-8 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 43

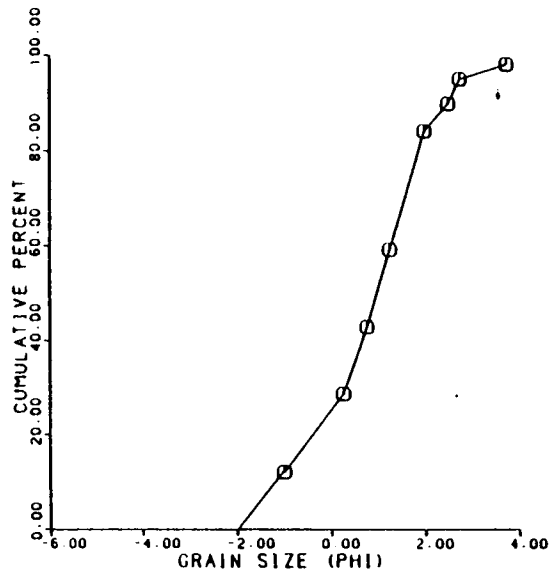
MSW 0888

(A)



STATISTICAL PARAMETERS
MEDIAN= 1.0
GRAPHIC MEAN= 0.8
INCLUSIVE GRAPHIC STANDARD DEVIATION= 1.3
INCLUSIVE GRAPHIC SKEWNESS= -0.1
GRAPHIC KURTOSIS= 0.9

(B)



STATISTICAL PARAMETERS
MEDIAN= 1.0
GRAPHIC MEAN= 0.8
INCLUSIVE GRAPHIC STANDARD DEVIATION= 1.3
INCLUSIVE GRAPHIC SKEWNESS= -0.1
GRAPHIC KURTOSIS= 0.9

Figure D-9

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 45

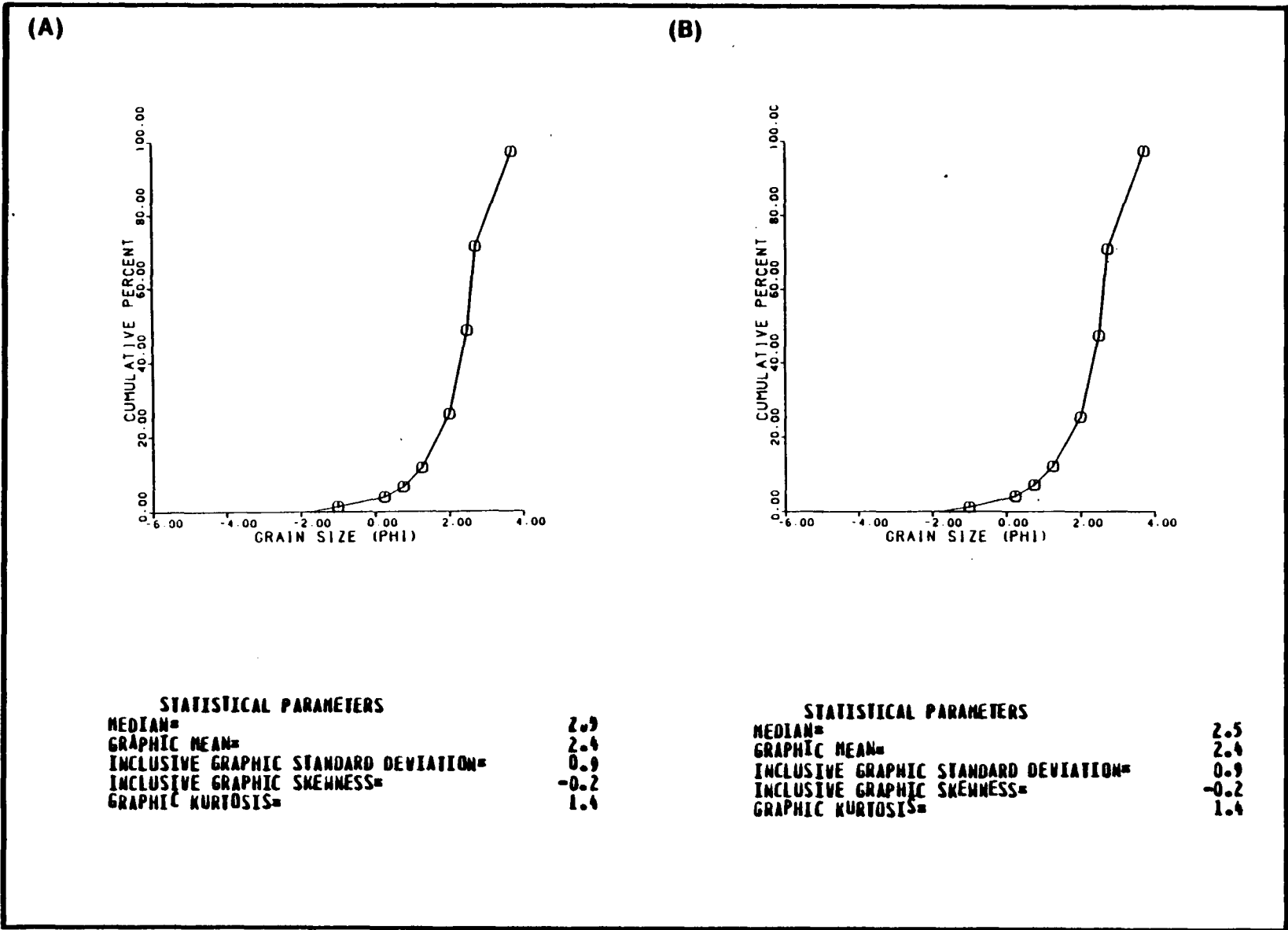


Figure D-10 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 50

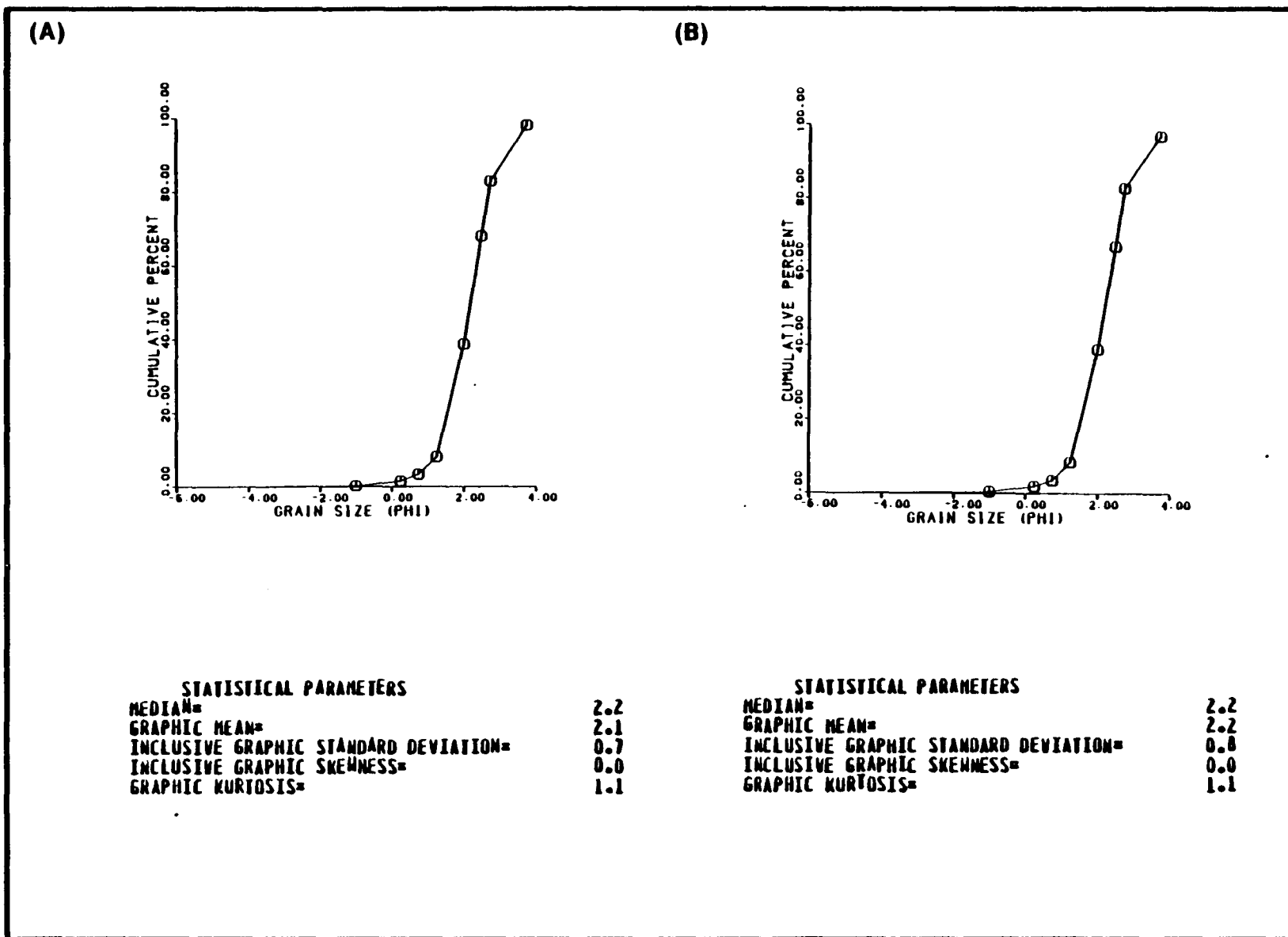


Figure D-11

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 46

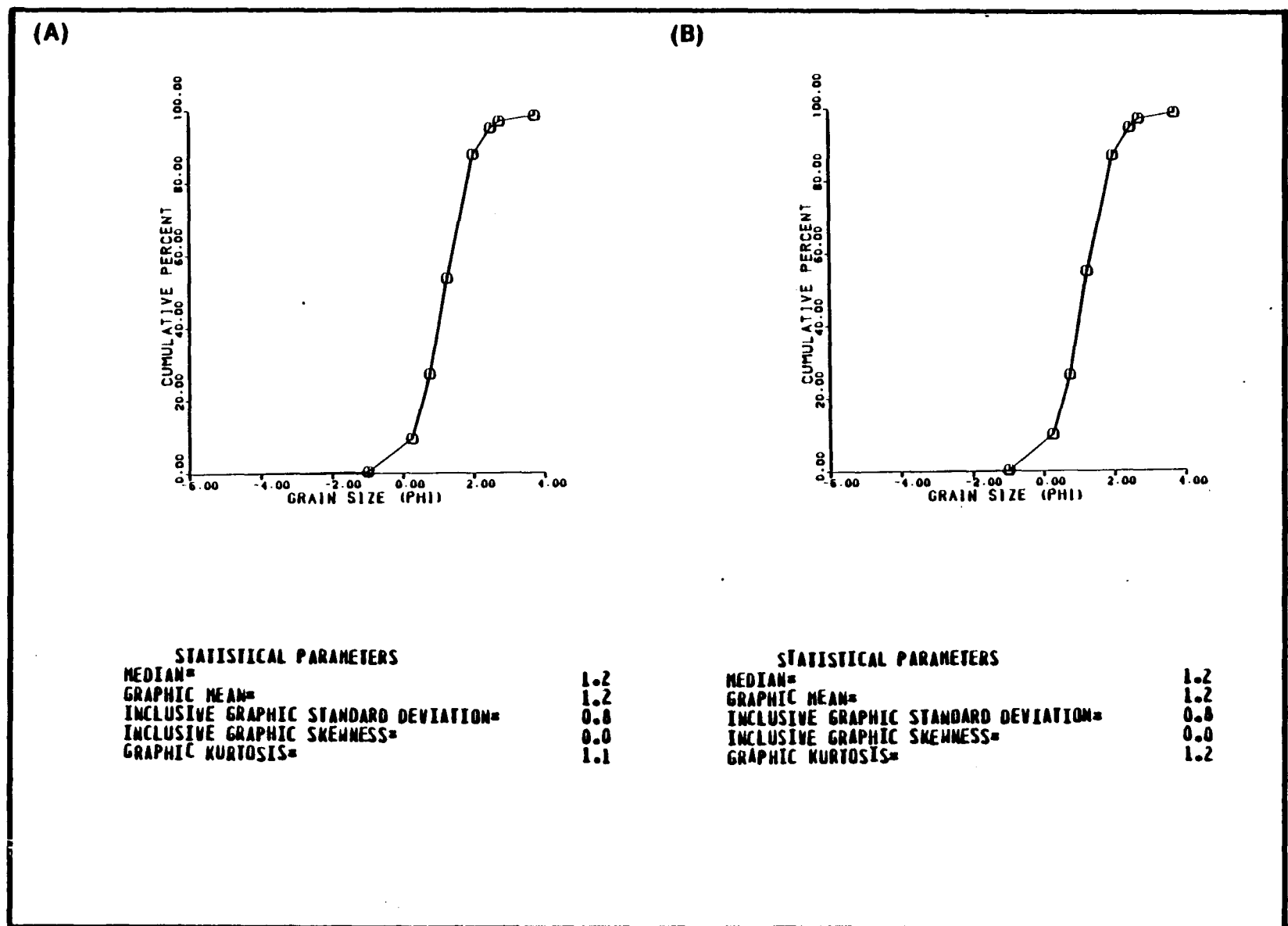


Figure D-12 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 48

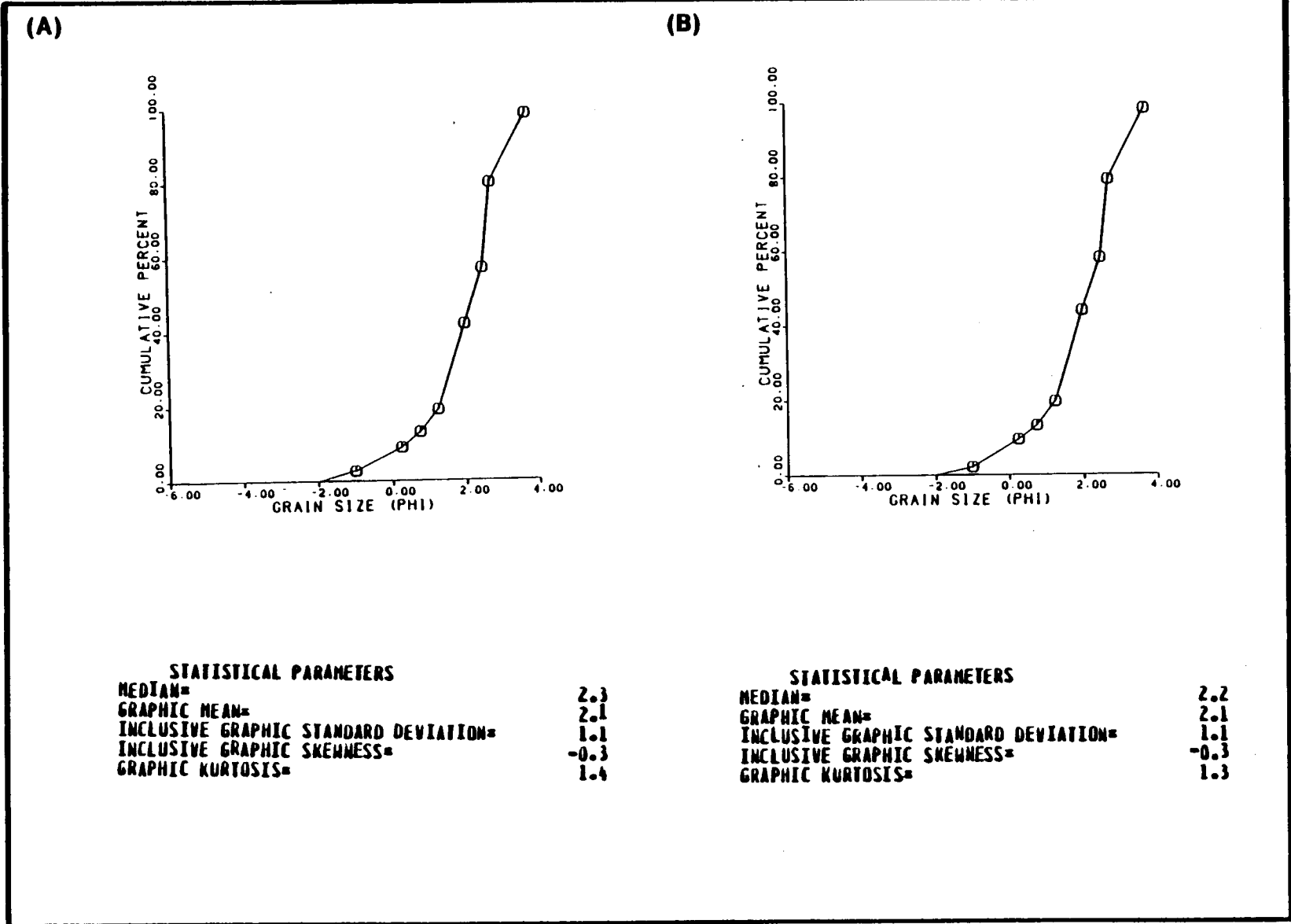
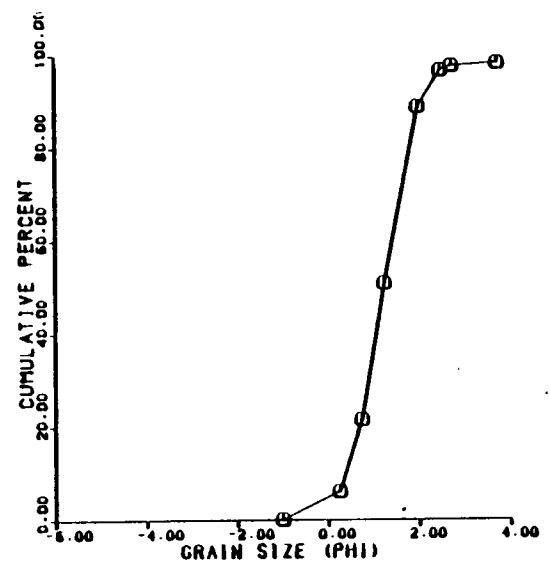


Figure D-13 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 47

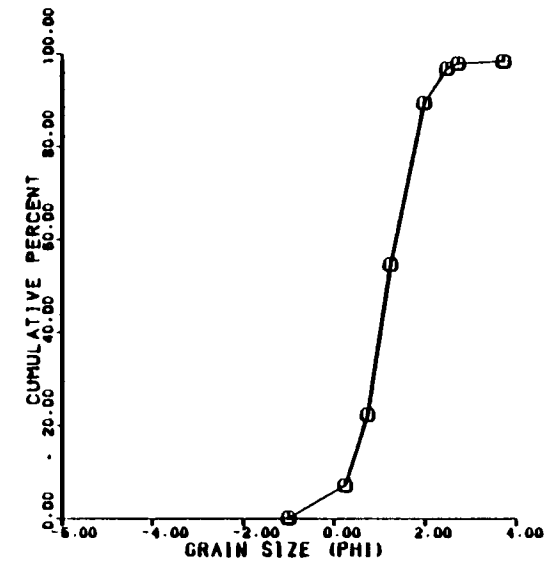
(A)



STATISTICAL PARAMETERS

MEDIAN=	1.2
GRAPHIC MEAN=	1.2
INCLUSIVE GRAPHIC STANDARD DEVIATION=	0.7
INCLUSIVE GRAPHIC SKEWNESS=	0.0
GRAPHIC KURTOSIS=	1.1

(B)



STATISTICAL PARAMETERS

MEDIAN=	1.2
GRAPHIC MEAN=	1.2
INCLUSIVE GRAPHIC STANDARD DEVIATION=	0.7
INCLUSIVE GRAPHIC SKEWNESS=	0.0
GRAPHIC KURTOSIS=	1.1

Figure D-14

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 19

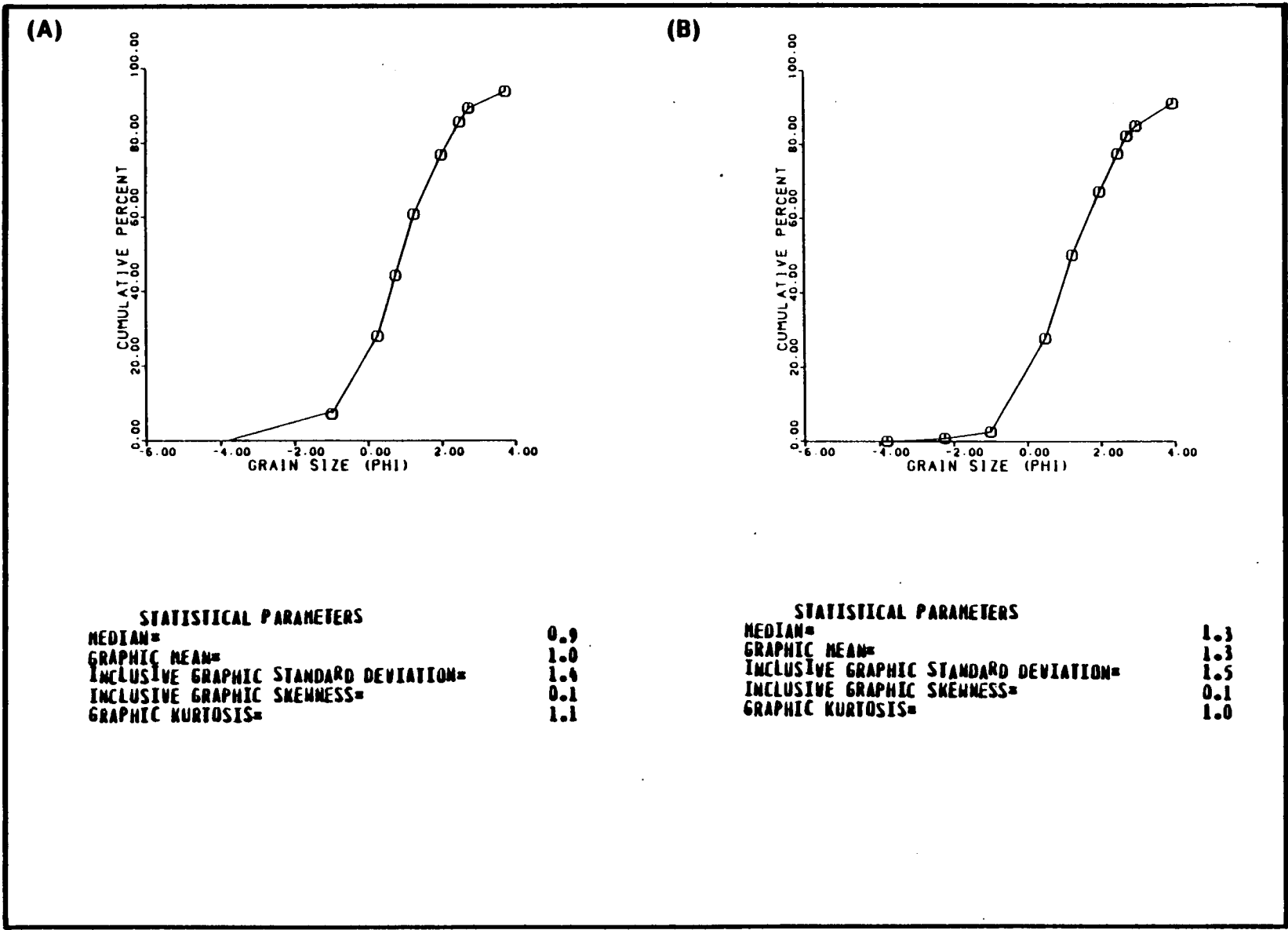


Figure D-15 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 55

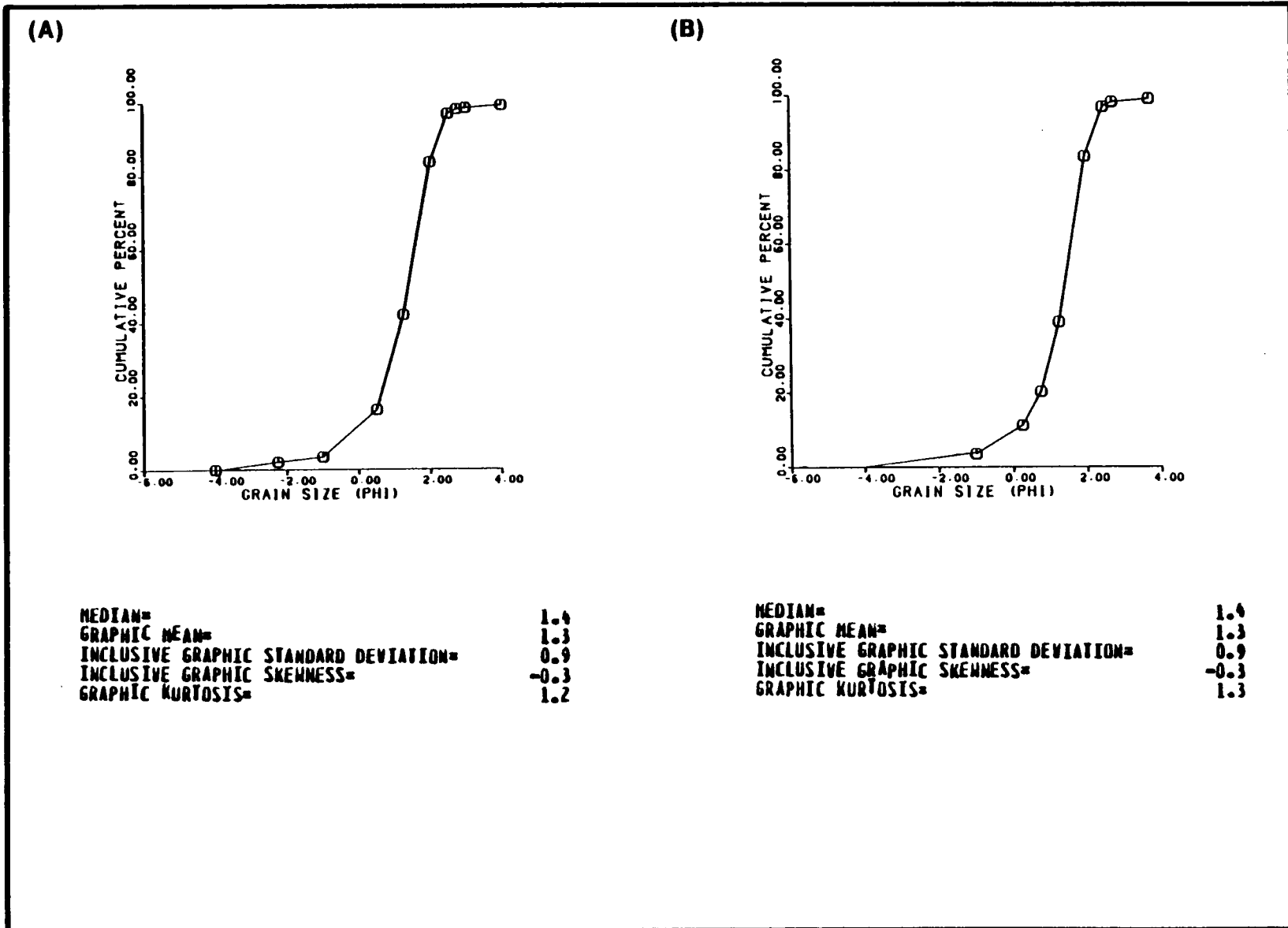


Figure D-16

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 7

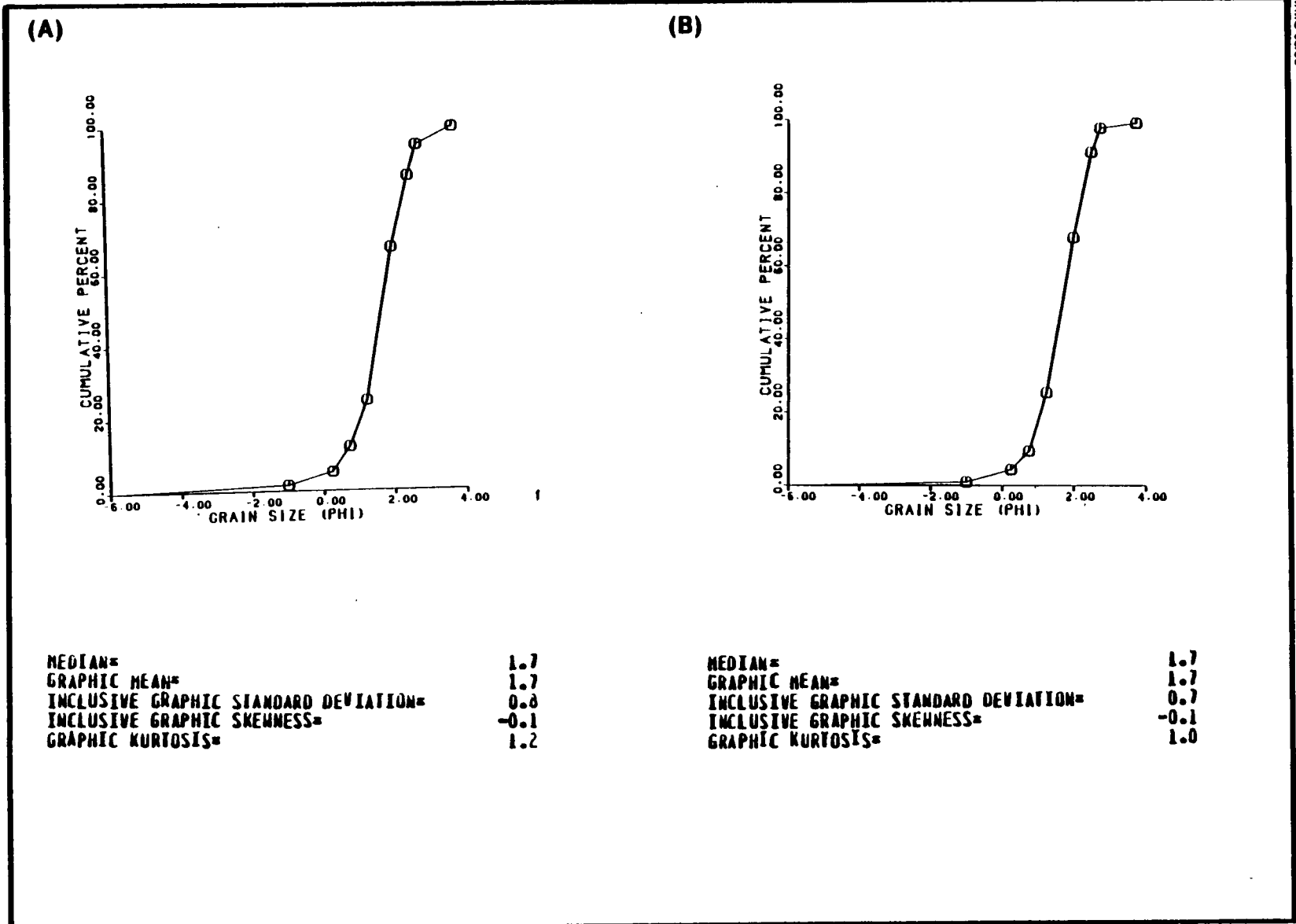


Figure D-17 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 21

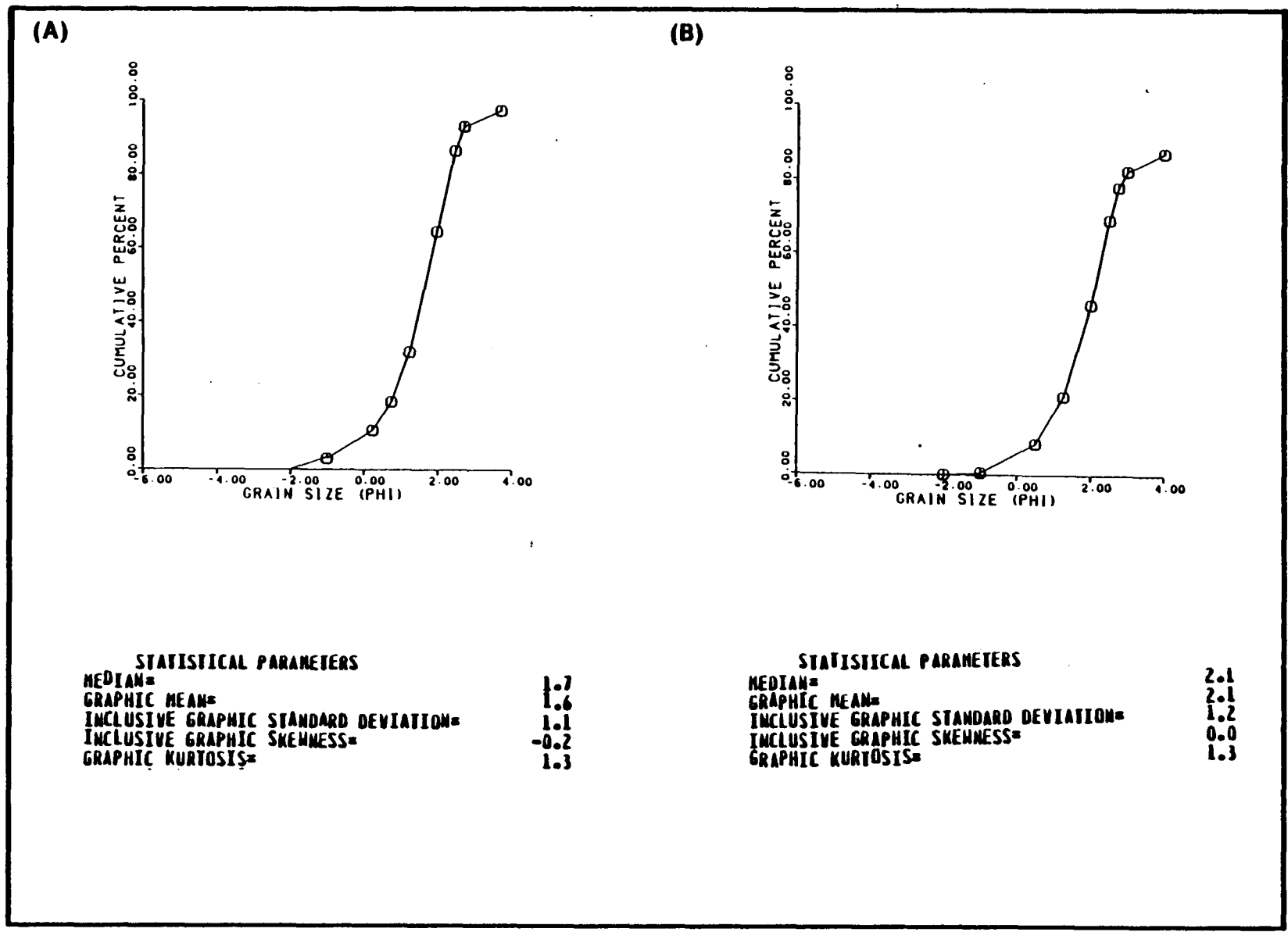


Figure D-18 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 21

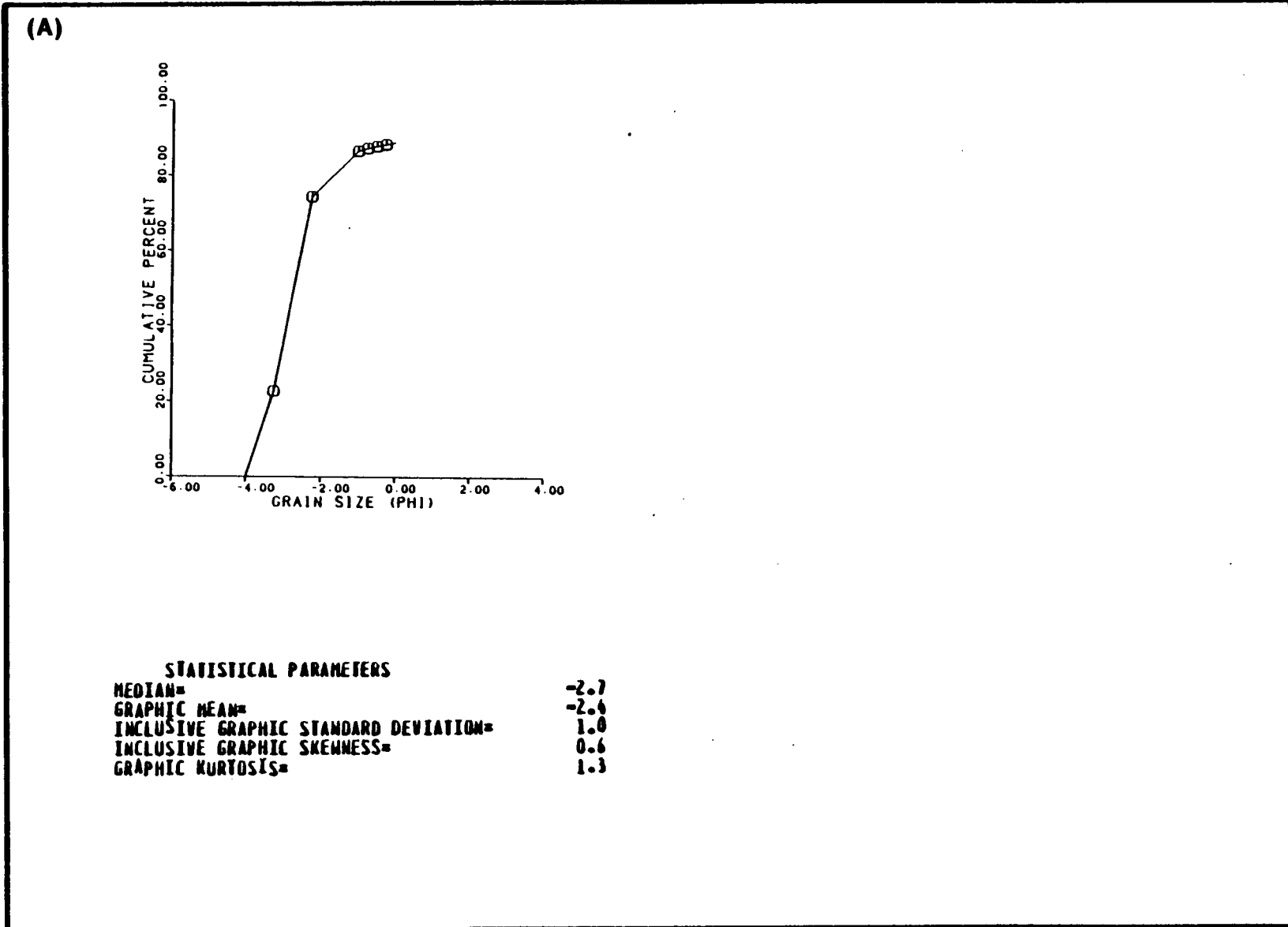


Figure D-19

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 29

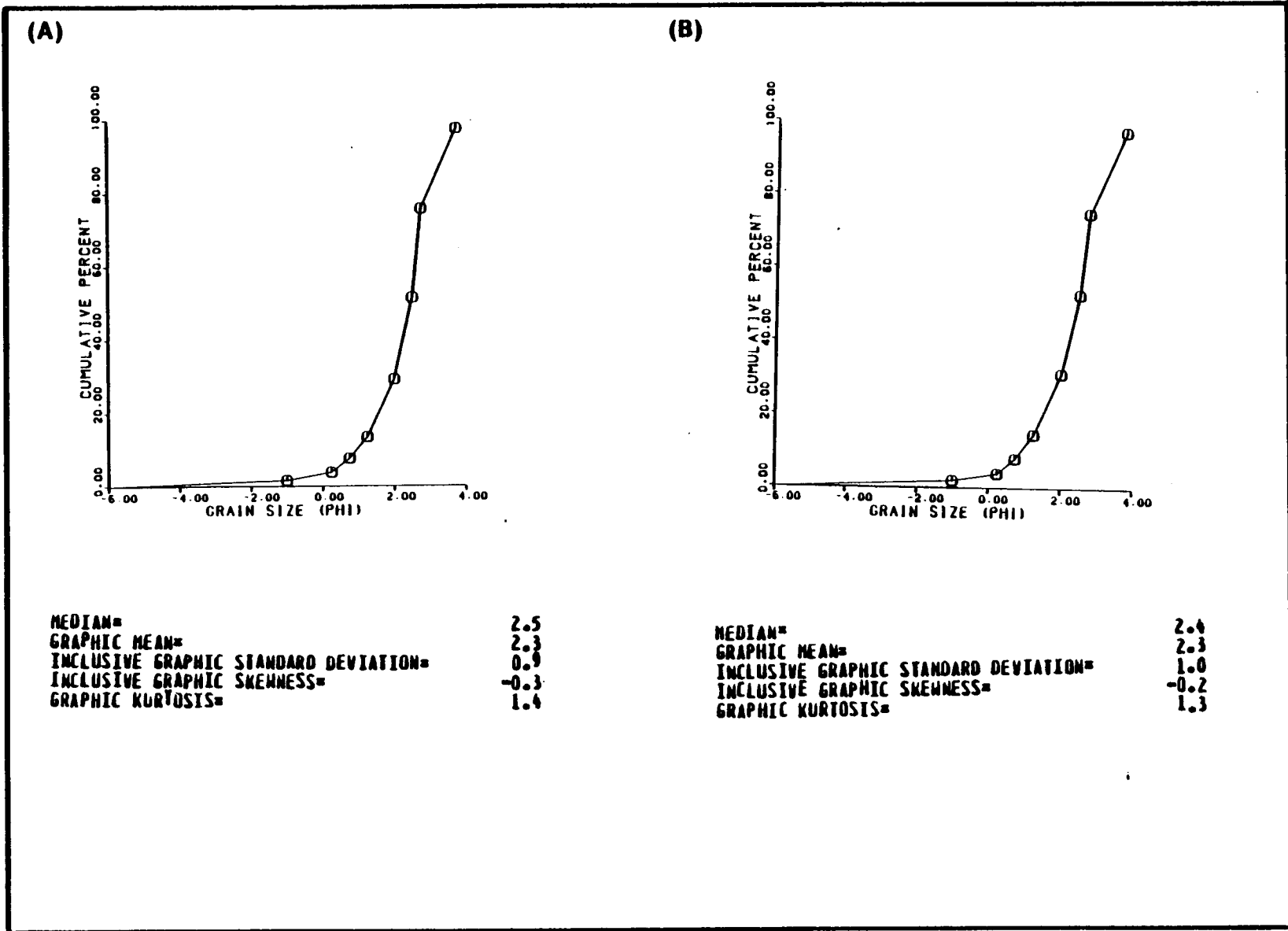


Figure D-20 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 23

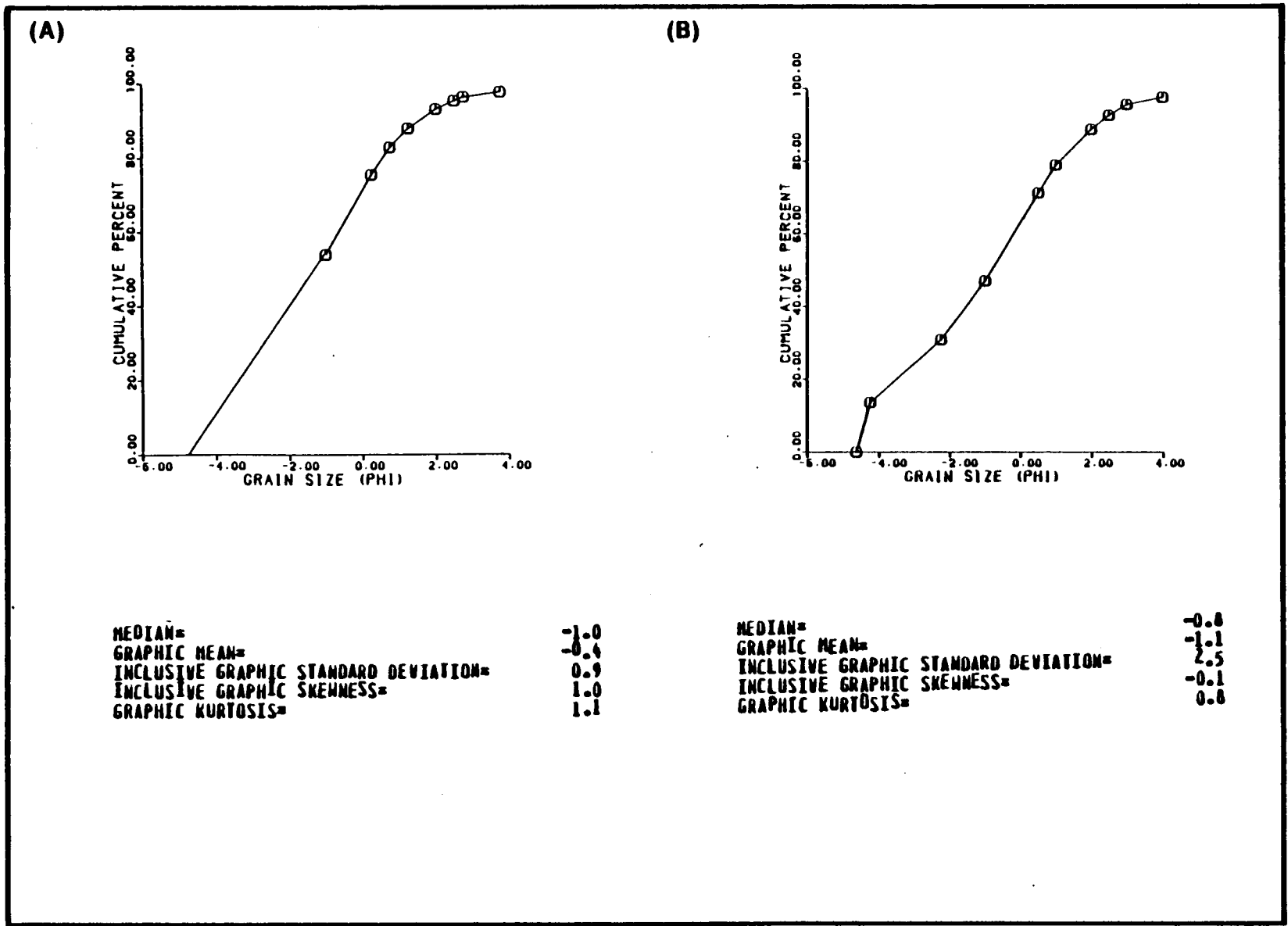


Figure D-21 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 23

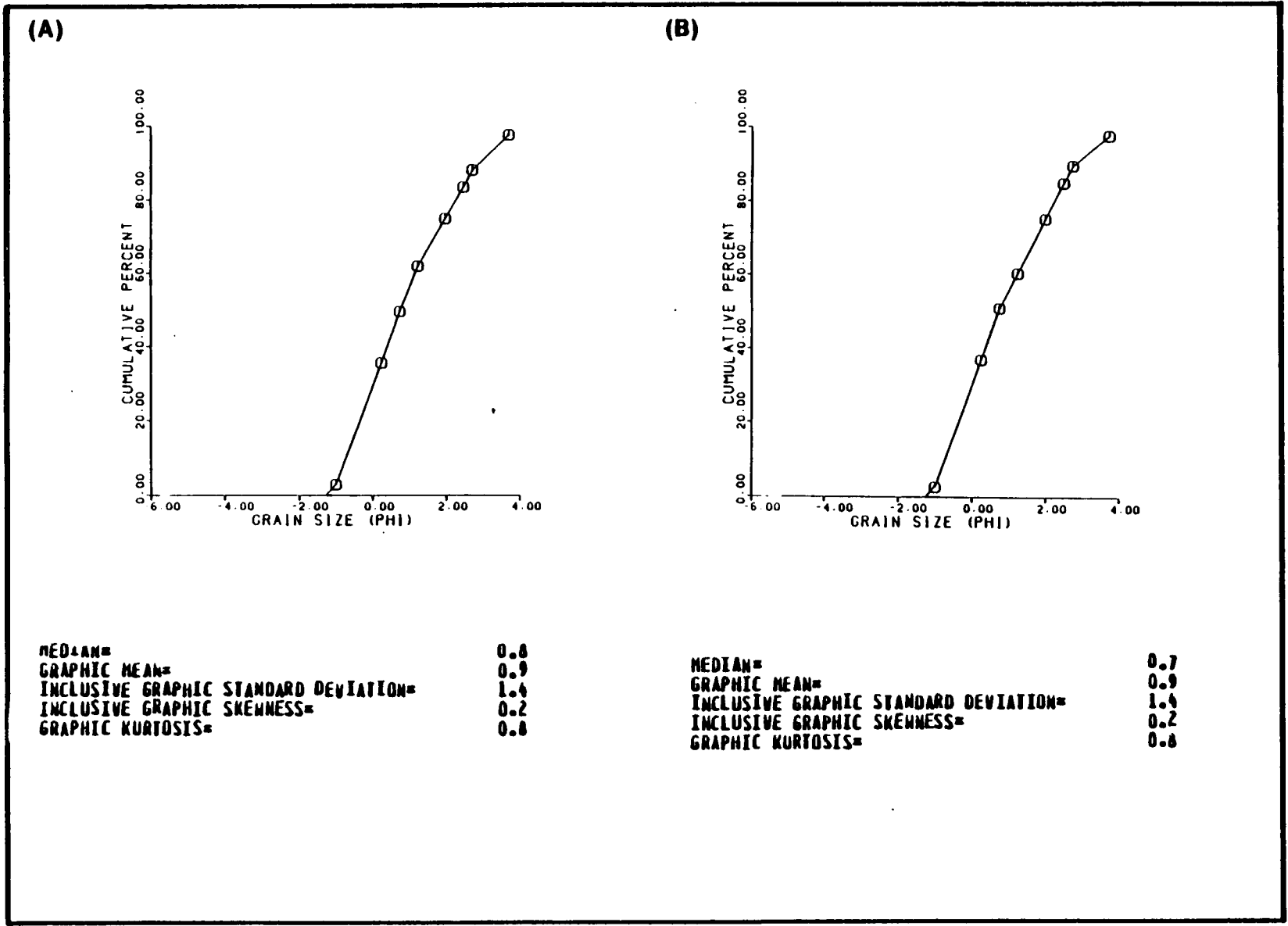


Figure D-22 SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 4 AT STATION 36

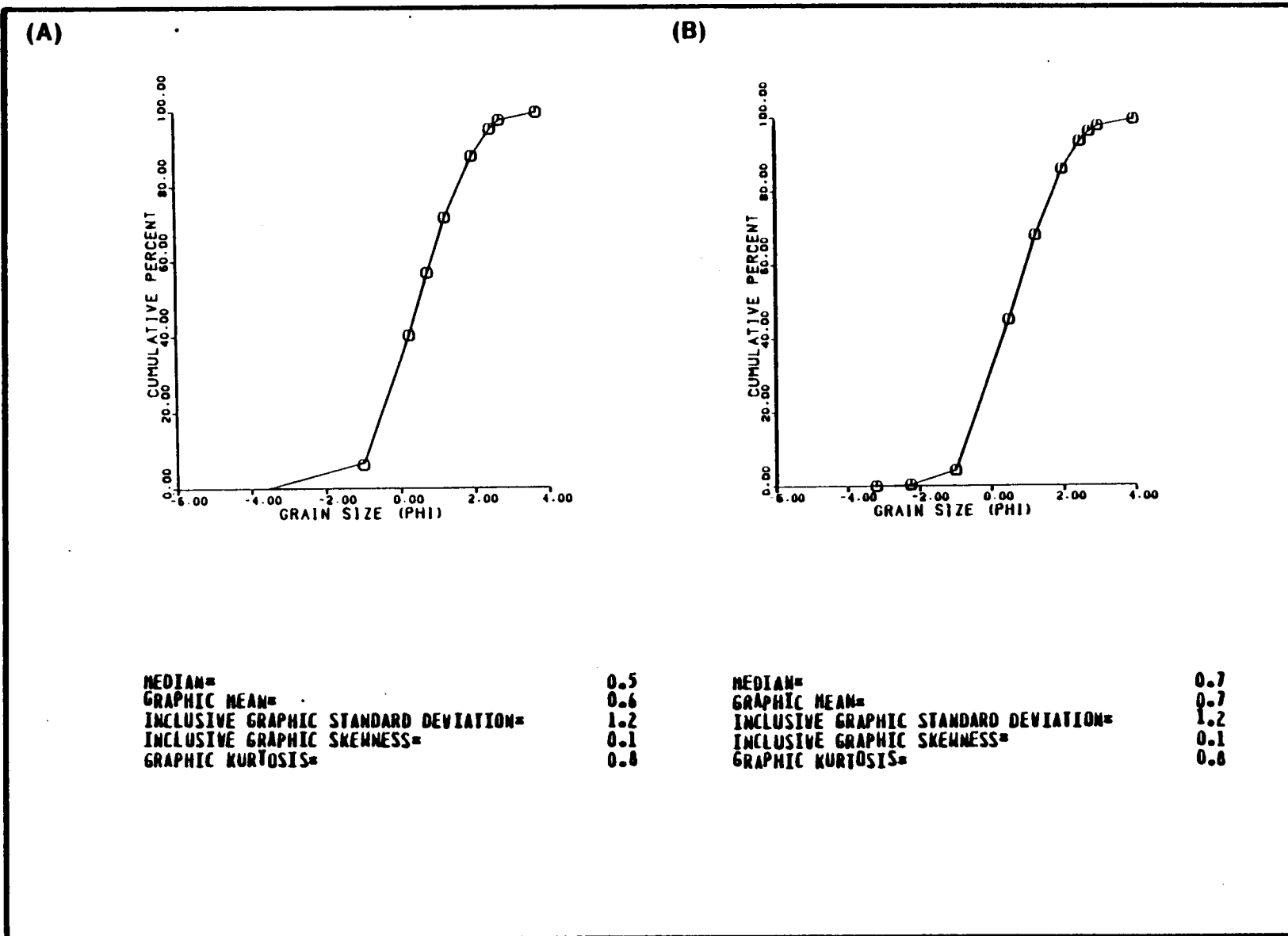


Figure D-23

SEDIMENT GRAIN SIZE DISTRIBUTION AND RELATED STATISTICS FOR GRAB SAMPLES (TWO REPLICATES, A AND B) OBTAINED DURING YEAR 5 AT STATION 36

Table D-1. Physical and Chemical Sediment Characteristics for Year 4 and 5 Grab Samples (in Order of Increasing Depth)

Station Number	Depth	Year	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Standard Deviation	Skewness	Kurtosis
49	(11 m)	4	A	0.9	22.9	99	1	0	2.5	2.3	0.9	-0.6	3.0
			B	0.9	22.9	99	1	0	2.5	2.3	0.9	-0.6	2.9
44	(13 m)	4	A	1.2	87.2	97	3	0	1.0	0.9	1.4	0.0	1.2
			B	1.2	87.2	96	4	0	1.0	0.8	1.4	0.0	1.2
44	(13 m)	5	A	2.8	90.6	98	2	0	0.8	0.7	1.2	0.0	1.3
			B	2.1	62.6	97	3	0	0.9	0.9	1.5	0.1	1.2
52	(13 m)	4	A	1.9	92.6	97	3	0	0.8	0.7	1.3	0.1	1.0
			B	2.9	92.6	98	2	0	0.7	0.7	1.3	0.1	1.0
52	(13 m)	5	A	2.8	69.5	93	7	0	0.9	1.1	1.7	0.1	1.4
			B	2.9	95.7	94	6	0	1.0	0.9	1.5	0.1	1.0
51	(15 m)	4	A	2.2	92.1	96	4	0	2.6	2.5	0.9	-0.2	1.1
			B	2.2	92.1	97	3	0	2.6	2.5	0.9	-0.2	1.1
43	(16 m)	4	A	3.0	82.4	98	2	0	1.6	1.5	0.7	-0.1	1.6
			B	3.0	82.4	98	2	0	1.6	1.5	0.7	-0.2	1.6
45	(16 m)	4	A	2.0	90.8	100	0	0	1.0	0.8	1.3	-0.1	0.9
			B	2.0	90.8	98	2	0	1.0	0.8	1.3	-0.1	0.9
50	(16 m)	4	A	2.3	78.1	97	3	0	2.5	2.4	0.9	-0.2	1.4
			B	2.3	78.1	97	3	0	2.5	2.4	0.9	-0.2	1.4
46	(18 m)	4	A	2.9	92.4	98	2	0	2.2	2.1	0.7	0.0	1.1
			B	2.9	92.4	97	3	0	2.2	2.2	0.8	0.0	1.1
48	(18 m)	4	A	2.9	90.8	98	2	0	1.2	1.2	0.8	0.0	1.1
			B	2.9	90.8	98	2	0	1.2	1.2	0.8	0.0	1.2

Table D-1. Cont'd

Station Number	Depth	Year	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Standard Deviation	Skewness	Kurtosis
47	(20 m)	4	A	2.9	90.2	98	2	0	2.3	2.1	1.1	-0.3	1.4
			B	2.9	90.2	98	2	0	2.2	2.1	1.1	-0.3	1.3
19	(24 m)	4	A	2.1	93.1	98	2	0	1.2	1.2	0.7	0.0	1.1
			B	2.1	93.1	98	2	0	1.2	1.2	0.7	0.0	1.1
55	(27 m)	5	A	3.5	96.6	93	7	0	0.9	1.0	1.4	0.1	1.1
			B	2.5	69.5	91	9	0	1.3	1.3	1.5	0.1	1.0
7	(32 m)	5	A	1.5	3.5	99	1	0	1.4	1.3	0.9	-0.3	1.2
			B	1.8	52.7	98	2	0	1.4	1.3	0.9	-0.3	1.3
21	(47 m)	4	A	2.6	91.2	99	1	0	1.7	1.7	0.8	-0.1	1.2
			B	2.6	91.2	99	1	0	1.7	1.7	0.7	-0.1	1.0
21	(47 m)	5	A	3.6	93.8	97	3	0	1.7	1.6	1.1	-0.2	1.3
			B	2.4	68.7	87	13	0	2.1	2.1	1.2	0.0	1.3
23	(74 m)	4	A	2.8	95.3	98	2	0	2.5	2.3	0.9	-0.3	1.4
			B	2.8	95.3	97	3	0	2.4	2.3	1.0	-0.2	1.3
23	(74 m)	5	A	3.5	96.4	98	2	0	-1.0	-0.4	0.9	1.0	1.1
			B	2.7	44.7	98	2	0	-0.8	-1.1	2.5	-0.1	0.8
36	(125 m)	4	A	2.9	94.4	97	3	0	0.8	0.9	1.4	0.2	0.8
			B	2.9	94.4	98	2	0	0.7	0.9	1.4	0.2	0.8
36	(125 m)	5	A	3.1	96.6	99	1	0	0.5	0.6	1.2	0.1	0.8
			B	2.6	47.3	99	1	0	0.7	0.7	1.2	0.1	0.8

Table D-2. Station 52 (13 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Sorting	Skewness	Kurtosis	Dep. Rate	
												(gn/day)	(MT/day/km ²)
12/10/83-	T0-2	11.52	76.56	7	58	35	6.5	7.2	3.0	0.4	0.7	0.71	565.0
03/02/84	T2-5	12.54	84.28	11	54	35	6.3	7.2	3.1	0.4	0.7	0.71	565.0
(84 days)	T5-8	12.95	68.39	11	51	38	5.9	6.9	3.0	0.5	0.7	0.71	565.0
	T8-10	15.21	81.98	9	59	32	5.6	6.8	3.0	0.6	0.8	0.71	565.0
	T10-13	10.97	79.87	15	53	32	5.6	6.8	3.1	0.6	0.8	0.71	565.0
	M0-2	19.67	86.15	7	54	39	6.5	7.3	3.1	0.4	0.7	0.90	716.2
	M2-4	20.03	82.37	7	51	42	6.8	7.6	3.2	0.3	0.7	0.90	716.2
	M4-6	21.44	83.77	7	47	46	7.4	7.8	3.2	0.2	0.7	0.90	716.2
	M6-8	21.56	83.32	7	56	37	5.9	7.1	3.1	0.6	0.7	0.90	716.2
	M8-10	13.47	82.42	10	52	38	6.0	7.1	3.2	0.5	0.7	0.90	716.2
	M10-12	10.80	87.18	27	44	29	4.5	6.2	3.3	0.7	0.8	0.90	716.2
	M12-15	14.16	84.72	12	49	39	6.7	7.3	3.1	0.3	0.7	0.90	716.2
	B0-2	12.02	82.74	10	56	34	5.9	7.0	3.1	0.5	0.7	1.31	1042.5
	B2-4	11.96	85.25	7	57	36	6.1	7.0	3.0	0.5	0.7	1.31	1042.5
	B4-6	14.18	83.64	3	58	39	6.7	7.6	3.2	0.4	0.7	1.31	1042.5
	B6-8	12.33	85.14	8	55	37	6.3	7.3	3.2	0.5	0.7	1.31	1042.5
	B8-10	12.00	84.84	12	51	37	6.3	7.4	3.3	0.5	0.6	1.31	1042.5
	B10-12	9.19	88.76	31	41	28	4.6	6.0	3.3	0.6	0.9	1.31	1042.5
	B12-14	6.48	88.87	51	36	13	4.0	4.3	2.4	0.4	2.7	1.31	1042.5
	B14-16	7.03	88.44	42	41	17	4.2	5.1	3.0	0.5	1.5	1.31	1042.5
	B16-18	10.39	87.79	26	38	36	5.6	6.6	3.6	0.4	0.8	1.31	1042.5
	B18-20	14.02	85.46	11	42	47	7.7	7.7	3.1	0.1	0.8	1.31	1042.5

Table D-2. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Sorting	Skewness	Kurtosis	Dep. Rate	
												(gm/day)	(MT/day/km ²)
03/02/84-	T0-2	13.9	72.6	6	47	47	7.4	7.9	3.3	0.3	0.7	0.67	533.2
05/12/84	T2-4	12.0	79.2	5	53	41	6.8	7.7	3.3	0.4	0.6	0.67	533.2
(71 days)	T4-6	12.2	63.7	6	50	44	7.4	7.9	3.3	0.2	0.7	0.67	533.2
	T6-8	13.0	71.4	12	41	47	7.2	7.7	3.3	0.3	0.7	0.67	533.2
	T8-10	12.5	65.2	16	42	42	6.7	7.5	3.3	0.4	0.6	0.67	533.2
	M0-2	10.8	60.8	4	51	46	7.4	7.9	3.3	0.3	0.7	0.90	716.2
	M2-4	10.3	70.2	11	46	43	7.0	7.7	3.3	0.3	0.7	0.90	716.2
	M4-6	9.3	78.7	9	52	39	5.9	7.2	3.2	0.6	0.7	0.90	716.2
	M6-8	11.2	75.1	3	52	46	7.1	7.8	3.3	0.3	0.7	0.90	716.2
	M8-10	13.4	74.2	3	47	50	8.0	8.3	3.2	0.1	0.7	0.90	716.2
	M10-12	12.0	58.1	21	36	43	6.9	6.5	3.0	-0.1	0.7	0.90	716.2
	M12-14	12.0	72.6	7	52	42	6.8	7.6	3.2	0.4	0.7	0.90	716.2
	B0-2	11.6	73.3	16	50	34	6.1	6.9	3.0	0.5	0.8	1.10	871.7
	B2-4	10.8	63.3	17	51	31	5.5	6.5	2.9	0.6	0.8	1.10	871.7
	B4-6	8.8	74.1	21	50	29	5.0	6.5	3.0	0.7	0.8	1.10	871.7
	B6-8	10.7	69.3	6	50	44	7.4	7.8	3.3	0.2	0.7	1.10	871.7
	B8-10	11.2	69.7	14	48	37	6.3	6.8	2.9	0.4	0.8	1.10	871.7
	B10-12	10.3	72.5	2	58	40	6.5	7.4	3.1	0.4	0.7	1.10	871.7
	B12-14	11.4	77.1	24	55	21	5.0	6.0	2.4	0.7	0.9	1.10	871.7
05/12/84-	T0-2	19.0	65.0	22	42	36	6.1	7.3	3.3	0.5	0.6	0.07	53.3
08/16/84													
(96 days)	M0-2	20.3	59.0	Insufficient Mass for Pipette								0.06	50.9

Table D-2. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Sorting	Skewness	Kurtosis	Dep. Rate	
												(gm/day)	(MT/day/km ²)
08/16/84-	T0-3	19.3	60.6	20	45	35	5.7	7.1	3.3	0.6	0.6	0.078	62.17
12/06/84	T3-6	15.2	67.5	11	47	42	6.9	7.6	3.3	0.3	0.6	0.073	57.84
(112 days)	M0-5	16.2	68.2	12	50	38	6.1	7.3	3.3	0.5	0.6	0.091	72.40
	M5-9	14.2	70.7	9	51	40	6.4	7.4	3.3	0.5	0.6	0.112	89.03
12/06/84-	T	10.2	84.8	6	57	37	6.3	6.8	2.5	0.3	0.7	0.531	422.5
03/30/85	M	11.5	81.8	7	53	40	6.6	6.8	2.5	0.2	0.6	0.689	548.0
(114 days)													
03/30/85-	T	21.0	69.4	22	48	30	5.7	7.0	3.2	0.6	0.7	0.061	48.6
06/25/85	M	16.5	80.8	38	36	26	4.6	6.4	3.0	0.9	0.8	0.067	53.2
(87 days)													
06/25/85-	T-1	9.0	7.3	17	59	24	5.7	6.3	2.7	0.4	1.1	0.30	239.7
09/13/85	T-2	9.0	7.3	15	64	22	5.5	6.2	2.6	0.4	1.2	0.19	149.5
(80 days)	T-3	9.0	7.3	16	66	18	5.3	5.9	2.4	0.4	1.3	0.34	271.2
	T-4	9.0	7.3	15	61	24	5.7	6.4	2.8	0.4	1.2	0.32	256.9
	T-5	9.0	7.3	15	60	25	5.7	6.3	2.7	0.4	1.0	0.31	249.9
	M-1	9.0	23.6	17	66	17	4.8	5.6	2.4	0.6	2.8	0.41	324.3
	M-2	9.0	23.6	18	50	33	5.7	6.6	3.1	0.4	0.9	0.44	348.7
	M-3	9.0	23.6	21	63	16	5.0	5.5	2.4	0.4	1.7	0.38	304.8
	M-5	9.0	23.6	21	59	20	5.3	5.8	2.6	0.4	1.2	0.42	332.8

Table D-2. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median		Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gm/day)	(MT/day/km ²)
09/13/85-	T	11.3	34.3	17	55	28	5.3	6.4	3.0	0.5	0.9	0.274	218.0
12/12/85 (90 days)	M	12.5	34.9	18	49	33	5.9	6.9	3.3	0.4	0.8	0.389	309.6

Table D-3. Station 44 (13 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Sorting	Skewness	Kurtosis	Mean (gn/day)	Dep. Rate (MT/day/km ²)
12/05/84-	T-1	6.1	28.1	27	48	25	5.3	6.0	2.7	0.4	0.9	0.526	418.2
09/20/85	T-2	6.1	28.1	27	57	16	4.6	5.4	2.5	0.6	1.5	0.506	402.3
(289 days)	T-3	6.1	28.1	27	57	16	4.6	5.4	2.6	0.5	1.7	0.507	403.0
	T-4	6.1	28.1	28	48	24	5.2	5.9	2.7	0.4	1.0	0.584	464.7
	T-5	6.1	28.1	31	52	17	4.6	5.4	2.6	0.6	1.1	0.352	280.0
	M-1	6.1	53.4	28	51	21	5.1	5.9	2.8	0.5	1.1	0.675	537.1
	M-2	6.1	53.4	31	55	14	4.5	5.1	2.2	0.5	1.4	0.626	497.9
	M-3	6.1	53.4	31	55	14	4.5	5.2	2.5	0.5	1.7	0.716	570.1
	M-4	6.1	53.4	37	46	17	4.7	5.3	2.8	0.3	1.3	0.697	554.8
	M-5	6.1	53.4	27	57	16	4.7	5.3	2.4	0.5	1.2	0.716	570.0
07/02/85-	T-1	No Data		36	45	19	4.5	5.6	2.7	0.6	1.4	1.06	847.2
09/20/85	T-2	No Data		38	48	14	4.4	5.0	2.4	0.5	1.5	1.05	834.2
(80 days)	T-3	No Data		34	49	17	4.5	5.4	2.5	0.6	1.6	1.05	833.9
	T-4	No Data		35	54	11	4.4	5.1	2.3	0.6	1.5	1.10	875.6
	T-5	No Data		35	48	17	4.6	5.5	2.7	0.6	1.4	1.07	847.8
09/20/85-	T	10.2	31.4	16	51	49	6.0	6.3	2.7	0.3	0.9	0.43	345.1
12/13/85													
(84 days)	M	9.0	30.4	19	60	22	5.2	6.0	2.6	0.5	1.4	0.63	504.6

Table D-4. Station 55 (27 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median		Sorting	Skewness	Kurtosis	Dep. Rate		
							Phi	Phi				(gn/day)	(MT/day/km ²)	
12/12/84- 03/28/850 (106 days)	T	12.8	86.0	1	61	38	6.3	6.8	1.9	0.3	0.7	0.121	95.9	
	M	9.5	89.1	2	57	41	6.8	7.1	2.2	0.3	0.7	0.137	109.2	
	B	11.1	85.1	1	74	25	5.9	6.6	1.9	0.4	0.8	0.166	132.0	
03/28/85- 12/09/85 (256 days)	T	6.8	36.7	17	55	28	5.7	6.7	3.2	0.4	1.0	0.262	208.7	
	M	6.7	37.4	22	55	23	5.7	6.3	3.1	0.3	1.2	0.301	239.6	
06/27/85- 09/17/85 (82 days)	T-1	4.8	No Data	11	57	32	6.2	7.1	3.2	0.4	0.8	0.225	179.0	
	T-2	4.8	No Data	13	60	27	5.9	7.0	3.2	0.4	1.1	0.327	260.3	
	T-3/4	4.8	No Data	13	60	27	5.8	6.8	3.1	0.5	1.1	0.213	169.3	
	T-5	4.8	No Data	11	54	35	6.0	7.1	3.2	0.5	0.8	0.224	178.4	
	M-1	6.4	29.4	15	50	35	6.0	7.2	3.4	0.5	0.8	0.162	128.7	
	M-2	6.4	29.4	16	57	27	5.6	6.5	2.9	0.5	1.0	0.180	143.4	
	M-3	6.4	29.4	13	58	29	5.8	6.8	3.1	0.4	1.0	0.171	136.0	
	M-4/5	6.4	29.4	14	56	30	6.2	7.3	3.3	0.4	1.1	0.201	159.9	
	B-1	7.0	38.5	15	53	32	5.8	6.9	3.2	0.4	0.9	0.290	230.6	
	B-2	7.0	38.5	14	68	18	5.5	6.0	2.5	0.4	1.6	0.265	211.1	
	B-4	7.0	38.5	14	66	20	5.1	6.2	2.8	0.6	1.8	0.264	209.8	
	B-5	7.0	38.5	15	65	20	5.3	6.2	2.8	0.5	1.6	0.293	233.4	
	09/17/85- 12/09/85 (83 days)	T	7.8	38.5	21	50	29	6.1	6.8	3.3	0.3	1.0	0.72	569.4
		M	7.2	36.9	18	58	24	5.6	6.6	3.2	0.4	1.2	0.78	621.4

Table D-5. Station 7 (32 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Phi	Mean Phi	Sorting	Skewness	Kurtosis	Dep. Rate		
												(gm/day)	(MT/day/km ²)	
12/05/84- 03/22/85 (107 days)	T	9.4	86.5	11	66	23	5.0	6.0	2.5	0.7	1.2	0.169	134.7	
	M	11.0	80.5	6	68	26	5.2	6.4	2.7	0.7	1.0	0.201	159.7	
	B	9.5	83.0	8	69	23	4.9	6.1	2.5	0.7	1.1	0.534	424.7	
03/22/85- 07/01/85 (100 days)	T-1											0.0094	7.48	
	T-2											0.0129	10.23	
	T-3											0.0103	8.20	
	T-4											0.0104	8.30	
	T-5											0.0119	9.44	
	M-1													
	M-2												0.0113	8.99
	M-3												0.0103	8.19
	M-4												0.0177	14.09
	M-5												0.0104	8.27
	07/01/85- 09/21/85 (82 days)	T	7.8	42.8	16	66	18	5.2	5.9	2.4	0.5	1.3	0.15	116.9
M-1		7.5	22.9	17	71	12	4.7	5.2	1.9	0.5	1.8	0.19	151.5	
M-2		7.5	22.9	18	69	13	4.8	5.3	2.1	0.5	1.8	0.21	164.7	
M-3		7.5	22.9	18	68	13	4.8	5.3	2.2	0.5	1.7	0.19	151.3	
M-4		7.5	22.9	17	71	12	4.8	5.3	2.0	0.5	1.7	0.20	155.9	
M-5		7.5	22.9	18	68	14	4.8	5.4	2.0	0.5	1.5	0.20	156.1	
B-1		5.3	32.8	51	38	11	3.9	4.2	2.6	0.3	1.3	0.58	460.3	
B-2		5.3	32.8	49	39	12	4.1	4.4	2.5	0.3	1.2	0.58	464.8	
B-3		5.3	32.8	52	40	9	3.8	4.1	2.5	0.3	1.3	0.57	456.0	
B-4		5.3	32.8	51	37	12	3.9	4.2	2.6	0.3	1.3	0.60	478.5	
B-5		5.3	32.8	50	37	13	4.0	4.3	2.6	0.3	1.2	0.62	495.1	

Table D-5. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median	Mean	Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gn/day)	(MT/day/km ²)
09/21/85- 12/02/85	T	8.3	33.0	18	65	17	5.6	5.9	2.5	0.3	1.4	0.25	195.7
(72 days)	M	7.8	33.6	20	58	23	5.3	6.1	2.9	0.4	1.5	0.33	262.06

Table D-6. Station 21 (47 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Mean		Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gn/day)	(MT/day/km ²)
05/28/84-	T-1											0.0074	5.86
08/20/84	T-2											0.0064	5.07
(84 days)	T-3											0.0054	4.34
	T-4											0.0061	4.89
	T-5											0.0071	5.62
	M-1											0.0084	6.69
	M-2											0.0046	3.65
	M-3											0.0060	4.77
	M-4											0.0067	5.33
	M-5											0.0076	6.057
08/20/84-	M0-2	21.0	59.2	8	58	34	6.1	7.2	3.1	0.5	0.8	0.027	21.15
12/09/84													
(111 days)													
12/09/84-	T	18.0	78.0	7	61	32	6.2	7.2	2.9	0.5	0.9	0.058	46.3
03/29/85													
(110 days)	M	12.0	85.0	5	61	4	6.1	7.1	2.8	0.5	0.9	0.073	57.8
03/29/85-	T-1											0.0041	3.29
06/26/85	T-2											0.0049	3.89
(89 days)	T-3											0.0041	3.26
	T-4											0.0035	2.81
	T-5											0.0049	3.88
	M-1											0.0040	3.18
	M-2											0.0045	3.59
	M-3											0.0042	3.32
	M-4											0.0036	2.89

Table D-6. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median		Sorting	Skewness	Kurtosis	Dep. Rate		
							Phi	Phi				(gm/day)	(MT/day/km ²)	
06/26/85- 12/12/85	T	11.8	37.1	6	60	34	6.3	7.0	2.0	0.3	0.7	0.025	20.1	
(169 days)	M	11.4	36.7	Sample Destroyed - No Grain Size Data									0.027	21.6

Table D-7. Station 29 (64 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Mean		Skewness	Kurtosis	Dep. Rate	
							Phi	Phi			(gn/day)	(MT/day/km ²)
12/13/83-	T-1										0.0014	1.12
03/05/84	T-2										0.0015	1.16
(83 days)	T-3										0.0016	1.28
	T-4										0.0016	1.24
	T-5										0.0011	0.876
	M-1										0.0012	0.943
	M-2										0.0012	0.943
	M-3										0.0014	1.15
	M-4										0.0017	1.39
	M-5										0.0018	1.45
	B-1										0.0012	0.948
	B-2										0.0019	1.48
	B-3										0.0020	1.61
	B-4										0.0017	1.32
	B-5										0.0022	1.72
03/05/84-	T-1										0.00030	0.240
05/16/84	T-2										0.00059	0.466
(72 days)	T-3										0.00052	0.411
	T-4										0.00062	0.495
	T-5										0.00037	0.293
	M-1										0.00066	0.522
	M-2										0.00072	0.574
	M-3										0.00063	0.503
	M-4										0.00045	0.357
	M-5										0.00064	0.512
	B-1										0.00068	0.544
	B-2										0.00063	0.504
	B-3										0.00056	0.442
	B-4										0.00048	0.385
	-										0.00057	0.450

Table D-7. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median		Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gm/day)	(MT/day/km ²)
05/16/84-	T-1											0.00032	0.257
08/17/84	T-2											0.0015	1.198
(93 days)	T-3											0.00032	0.257
	T-4											0.0032	2.567
	T-5											0.00032	0.257
	M-1											0.0011	0.856
	M-2											0.0012	0.941
	M-3											0.00075	0.599
	M-4											0.0011	0.856
	B-1											0.00065	0.513
	B-2											0.0134	10.70
	B-3											0.0255	20.28
	B-4											0.0011	0.856
	B-5											0.00043	0.342
12/11/84-	T-1											0.00027	0.214
03/25/85	T-2											0.00024	0.191
(104 days)	T-3											0.00026	0.207
	T-4											0.00032	0.253
	T-5											0.00037	0.291
	M-1											0.00029	0.230
	M-2											0.0065	5.173
	M-3											0.00029	0.230
	M-4											0.00017	0.138
	M-5											0.00033	0.260
	B-1											0.00014	0.113
	B-2											0.00032	0.253
	B-3											0.00039	0.314
	B-5											0.00023	0.184

Table D-8. Station 23 (74 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Mean		Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gn/day)	(MT/day/km ²)
12/13/83-	T-1											0.0021	1.69
03/06/84	T-2											0.0020	1.56
(84 days)	T-3											0.0028	2.22
	T-4											0.0027	2.14
	T-5											0.0026	2.04
	M-1											0.0025	2.01
	M-2											0.00078	0.620
	B-1											0.0028	2.26
	B-2											0.0038	3.04
	B-3											0.0046	3.67
	B-4											0.0034	2.73
03/06/84-	T-1											0.00082	0.654
05/15/84	T-2											0.0012	0.983
(70 days)	T-3											0.0014	1.14
	T-4											0.00056	0.447
	T-5											0.00079	0.626
	M-1											0.00046	0.365
	M-2											0.00081	0.647
	M-3											0.00080	0.633
	M-4											0.00047	0.373
	M-5											0.00053	0.419
	B-1											0.0008	0.637
	B-2											0.00047	0.376
	B-3											0.00039	0.308
	B-4											0.0015	1.18
	B-5											0.0014	1.10

Table D-8. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Mean		Skewness	Kurtosis	Dep. Rate	
							Phi	Phi			(gn/day)	(MT/day/km ²)
12/09/84-	T-1										0.00078	0.621
03/24/85	T-2										0.00081	0.644
(105 days)	T-3										0.0019	1.546
	T-4										0.00038	0.303
	T-5										0.00068	0.538
	M-1										0.0012	0.917
	M-2										0.00083	0.659
	M-3										0.0012	0.955
	M-4										0.0014	1.076
	M-5										0.0013	1.046
	B-1										0.0105	8.375
	B-3										0.0010	0.818
	B-4										0.0065	5.139
	B-5										0.00088	0.697
03/24/85-	T-1										0.0004	0.320
06/29/85	T-2										0.00028	0.230
(97 days)	T-3										0.00016	0.131
	T-4										0.00094	0.747
	T-5										0.00081	0.648
	M-1										0.0074	0.591
	M-2										0.0011	0.837
	M-3										0.00098	0.779
	M-4										0.0013	1.042
	M-5										0.0014	1.099
	B-1										0.0016	1.263
	B-2										0.0018	1.395
	B-3										0.0025	1.953
	B-4										0.0010	0.804

Table D-9. Station 36 (125 m) Sediment Trap Data

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Mean		Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gn/day)	(MT/day/km ²)
08/18/84-	T-1											0.0011	1.1
12/10/84	T-2											0.0014	1.4
(114 days)	T-3											0.0012	1.2
	T-4											0.0011	1.1
	T-5											0.0010	1.0
	M-1											0.0015	1.5
	M-2											0.0011	1.1
	M-3											0.0012	1.2
	M-4											0.0013	1.3
	M-5											0.0010	1.0
12/10/84-	T-1											0.00038	0.301
03/23/85	T-2											0.00092	0.734
(103 days)	T-3											0.00057	0.456
	T-4											0.00098	0.780
	T-5											0.00042	0.332
	M-1											0.00058	0.464
	M-2											0.00067	0.533
	M-3											0.00074	0.587
	M-4											0.00067	0.533
	M-5											0.00105	0.834
	B-1											0.0011	0.834
	B-2											0.00095	0.912
	B-3											0.00097	0.773
	B-4											0.00059	0.471
	B-5											0.00059	0.471

Table D-9. Cont'd

Date	Sample Number	Organics (Percent)	CaCO ₃ (Percent)	Sand (Percent)	Silt (Percent)	Clay (Percent)	Median Mean		Sorting	Skewness	Kurtosis	Dep. Rate	
							Phi	Phi				(gm/day)	(MT/day/km ²)
03/23/85-	T-1											0.00067	0.53
06/30/85	T-2											0.00161	1.28
(99 days)	T-3											0.00191	1.52
	T-4											0.00139	1.11
	T-5											0.0018	1.43
	M-1											0.0019	1.49
	M-2											0.0011	0.91
	M-3											0.0021	1.64
	M-4											0.0011	0.87
	M-5											0.0017	1.38
	B-1											0.0043	3.42
	B-2											0.0023	2.03
	B-3											0.0030	2.42
	B-4											0.0025	2.03
	B-5											0.0025	1.98
06/30/85-	T											0.0015	1.16
12/04/85													
(157 days)	M											0.0020	1.59
	B											0.0080	6.38

APPENDIX E

APPENDIX E

DREDGE

During Year 4 three replicate tows were made during two cruises at all Group I hard-bottom stations (44, 51, 45, 47, and 19) and during four cruises at the Group II live-bottom (52, 21, 29, 23, and 36) stations (Figure E-1). In the fifth year of the study, dredge sampling was conducted only at Stations 7 and 55 (Figure E-1).

From the dredge data, presence/absence tables (Tables E-1 through E-23) were prepared for each station. There are two tables for each station: the first of the set presents presence/absence data for invertebrates and the second presents presence/absence data for plants (except for Station 36 which had no plants). The presence/absence tables are presented in the order in which the stations are discussed in the Technical Discussion (Volume 2).

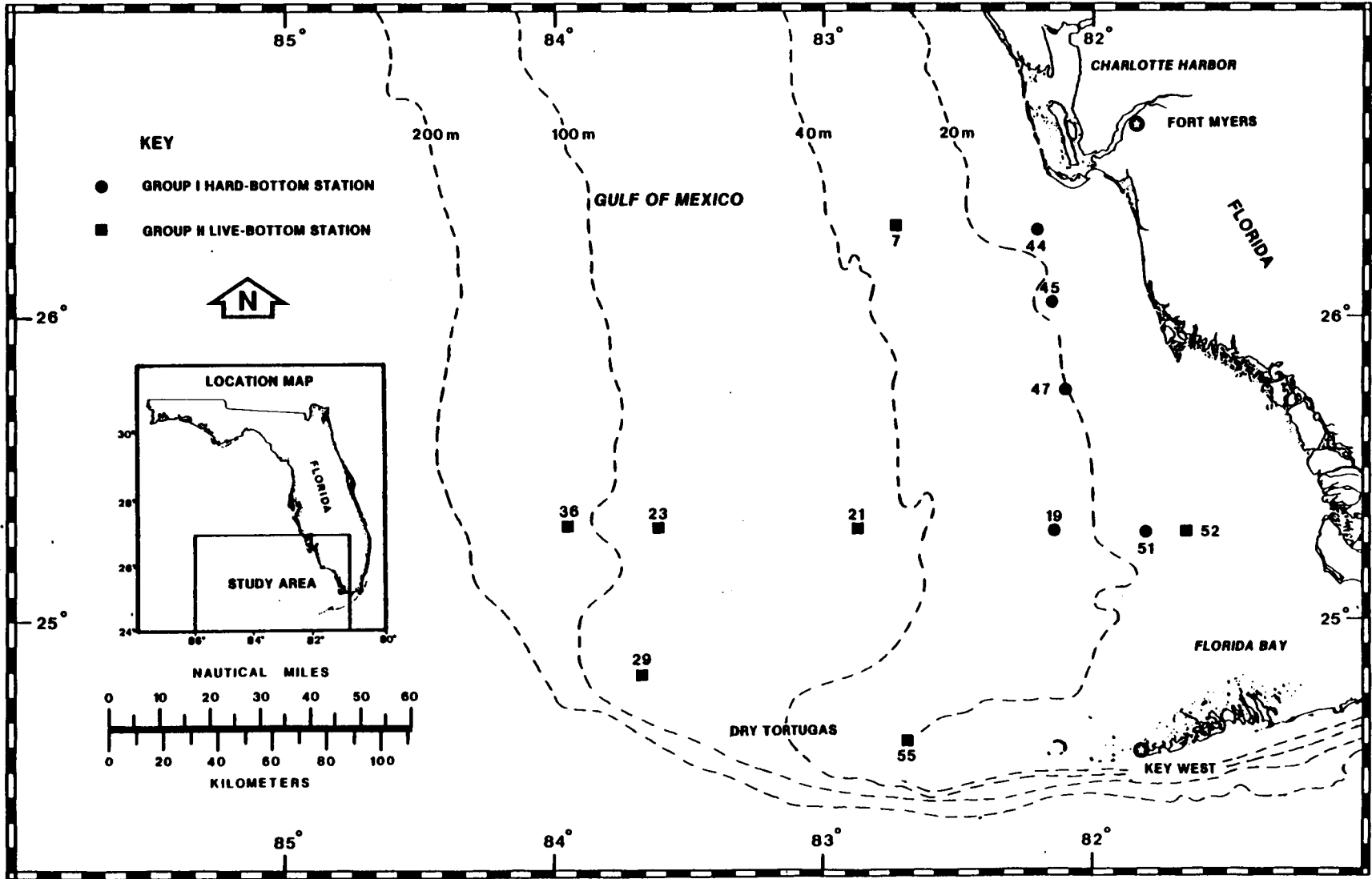


Figure E-1 DREDGE STATION LOCATIONS FOR YEARS 4 AND 5

Table E-1 Presence (+) and frequency of invertebrates collected by dredging at Station 52, by cruise.

Taxon	Cruise					All	Frequency
	1	2	3	4			
ALCYONARIA							
<u>Eunicea asperula</u>		+	+	+			3
<u>Eunicea calyculata</u>			+	+			2
<u>Eunicea knighti</u>		+					1
<u>Eunicea UNIDENT.</u>				+			1
<u>Leptogorgia medusae</u>		+					1
<u>Muricea elongata</u>	+		+				2
<u>Plexaurella fusifera</u>		+		+			2
<u>Plexaurella nutans</u>		+		+			2
<u>Plexaurella pumila</u>			+	+			2
<u>Pseudoplexaura fusifera</u>				+			1
<u>Pseudoplexaura porosa</u>			+				1
<u>Pseudoplexaura wagnaari</u>	+	+	+	+			4
<u>Pterogorgia guadalupensis</u>		+	+	+			3
Number of taxa :	2	7	7	9		13	
ZOANTHARIA							
<u>Phyllangia americana</u>	+	+	+	+			4
<u>Siderastrea siderea</u>				+			1
<u>Solenastrea hyades</u>	+	+	+	+			4
Number of taxa :	2	2	2	3		3	
GASTROPODA							
<u>Cantharus cancellarius</u>		+					1
<u>Cerithium algicola</u>			+				1
<u>Crepidula aculeata</u>	+	+		+			3
<u>Crepidula convexa</u>				+			1
<u>Crepidula fornicata</u>		+					1
<u>Crepidula maculosa</u>		+					1
<u>Crepidula plana</u>				+			1
<u>Cypraea zebra</u>	+						1
<u>Diodora cayenensis</u>				+			1
<u>Diodora listeri</u>			+				1
<u>Fasciolaria liliium</u>			+	+			2
<u>Latirus infundibulum</u>			+				1
<u>Lucapina sowerbii</u>		+					1
<u>Murex brevifrons</u>			+				1
<u>Murex florifer</u>		+					1
<u>Oliva sayana</u>	+						1
<u>Pisania tinctoria</u>		+		+			2
<u>Pleuroploca gigantea</u>				+			1
<u>Polystira UNIDENT.</u>	+						1
<u>Strombus alatus</u>				+			1
<u>Strombus gigas</u>			+	+			2
<u>Terebra dislocata</u>				+			1
<u>Terebra sp. 1</u>				+			1
<u>Vermicularia knorri</u>		+		+			2
Number of taxa :	4	8	6	12		24	

Table E-1 (cont'd)

Taxon	Cruise				All	Frequency
	1	2	3	4		
BIVALVIA						
<u>Anadara notabilis</u>		+				1
<u>Anadara UNIDENT.</u>		+				1
<u>Arca zebra</u>				+		1
<u>Barbatia tenera</u>		+				1
<u>Chama congregata</u>		+				1
<u>Chama florida</u>		+				1
<u>Chama macerophylla</u>		+	+	+		3
<u>Chama sp. 1</u>		+		+		2
<u>Chione cancellata</u>	+					1
<u>Chlamys UNIDENT.</u>	+					1
<u>Lioberus castaneus</u>		+				1
<u>Lithophaga bisulcata</u>		+		+		2
<u>Ostrea permollis</u>		+				1
<u>Pinctada imbricata</u>	+	+				2
<u>Pinctada radiata</u>		+				1
<u>Pteria colymbus</u>	+	+	+			3
<u>Pteria UNIDENT.</u>		+				1
<u>Solen obliquus</u>			+			1
<u>Spondylus americanus</u>			+			1
Number of taxa :	4	14	4	4	19	
CEPHALOPODA						
<u>Octopus UNIDENT.</u>				+		1
Number of taxa :	0	0	0	1	1	
PENAEIDEA						
<u>Penaeus duorarum</u>		+				1
<u>Sicyonia laevigata</u>				+		1
Number of taxa :	0	1	0	1	2	
CARIDEA						
<u>Anchistioides antiguensis</u>	+					1
<u>Hippolyte UNIDENT.</u>		+				1
<u>Periclimenaeus caraibicus</u>				+		1
<u>Periclimenes americanus</u>	+					1
<u>Synalpheus longicarpus</u>		+				1
<u>Synalpheus minus</u>			+	+		2
<u>Synalpheus townsendi</u>				+		1
Number of taxa :	2	2	1	3	7	

Table E-1 (cont'd)

Taxon	Cruise					Frequency
	1	2	3	4	All	
ANOMURA						
<u>Megalobrachium soriatum</u>	+					1
<u>Paguristes sericeus</u>			+			1
<u>Paguristes tortugae</u>	+			+		2
<u>Petrolisthes galathinus</u>	+	+	+	+		4
<u>Petrolisthes UNIDENT.</u>		+				1
<u>Porcellana sayana</u>				+		1
Number of taxa :	3	2	2	3	6	
BRACHYURA						
<u>Dromidia antillensis</u>		+	+	+		3
<u>Euryplax nitida</u>	+			+		2
<u>Hypoconcha sabulosa</u>			+			1
<u>Macrocoeloma camptocerum</u>		+		+		2
<u>Macrocoeloma trispinosum</u>		+		+		2
<u>Mithrax hispidus</u>		+				1
<u>Mithrax pleuracanthus</u>	+	+	+	+		4
<u>Mithrax UNIDENT.</u>		+				1
<u>Panopeus occidentalis</u>				+		1
<u>Panopeus turgidus</u>		+				1
<u>Panoplax depressa</u>				+		1
<u>Pilumnus dasypodus</u>	+	+				2
<u>Pilumnus lacteus</u>	+					1
<u>Pilumnus sayi</u>		+	+	+		3
<u>Pitho lherminieri</u>				+		1
<u>Podochela sidneyi</u>		+				1
<u>Portunus floridanus</u>				+		1
<u>Portunus gibbesii</u>	+					1
<u>Stenorynchus seticornis</u>	+	+				2
Number of taxa :	6	11	4	10	19	
STOMATOPODA						
<u>Gonodactylus bredini</u>			+	+		2
<u>Gonodactylus UNIDENT.</u>		+				1
Number of taxa :	0	1	1	1	2	

Table E-1 (cont'd)

Taxon	Cruise					Frequency
	1	2	3	4	All	
ASTEROIDEA						
<u>Astropecten nitidus</u>	+					1
<u>Echinaster modestus</u>				+		1
<u>Echinaster spinulosus</u>	+			+		2
Number of taxa :	2	0	0	2	3	
OPHIUROIDEA						
<u>Ophiactis savignyi</u>	+	+				2
<u>Ophioderma brevispina</u>	+					1
<u>Ophiostigma isacanthum</u>		+				1
<u>Ophiothrix angulata</u>	+	+	+			3
Number of taxa :	3	3	1	0	4	
ECHINOIDEA						
<u>Arbacia punctulata</u>			+	+		2
<u>Clypeaster rosaceus</u>	+			+		2
<u>Clypeaster subdepressus</u>	+			+		2
<u>Eucidaris tribuloides</u>	+					1
<u>Lytechinus variegatus</u>	+	+	+	+		4
Number of taxa :	4	1	2	4	5	
HOLOTHUROIDEA						
<u>Isostichopus badionotus</u>	+					1
Number of taxa :	1	0	0	0	1	
Number of invertebrate taxa :	33	52	30	53	109	

Table E-2 Presence (+) and frequency of plants collected by dredging at Station 52, by cruise.

Taxon	Cruise					Frequency
	1	2	3	4	All	
CHLOROPHYCEAE						
<u>Caulerpa sertularioides</u>				+		1
<u>Udotea flabellum</u>				+		1
Number of taxa :	0	0	0	2	2	
PHAEOPHYCEAE						
<u>Dictyopteris membranacea</u>	+			+		2
<u>Dictyota bartayresii</u>				+		1
<u>Dictyota linearis</u>				+		1
Number of taxa :	1	0	0	3	3	
RHODOPHYCEAE						
<u>Agardhiella ramosissima</u>				+		1
<u>Botryocladia occidentalis</u>				+		1
<u>Champia parvula</u>				+		1
<u>Gracilaria cylindrica</u>				+		1
<u>Gracilaria foliifera</u>				+		1
<u>Gracilaria sp. 1</u>				+		1
<u>Laurencia sp. 1</u>	+					1
RHODOPHYTA sp. 13				+		1
RHODOPHYTA sp. 14				+		1
RHODOPHYTA sp. 15				+		1
RHODOPHYTA sp. 16				+		1
RHODOPHYTA sp. 17				+		1
RHODOPHYTA sp. 4				+		1
RHODOPHYTA sp. 5				+		1
RHODOPHYTA sp. 6				+		1
RHODOPHYTA sp. 8	+					1
<u>Spyridia filamentosa</u>	+			+		2
Number of taxa :	3	0	0	15	17	
Number of plant taxa :	4	0	0	20	22	

Table E-3 Presence (+) and frequency of invertebrates collected by dredging at Station 44, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
ALCYONARIA				
<u>Eunicea asperula</u>	+			1
<u>Leptogorgia virgulata</u>	+			1
<u>Lophogorgia hebes</u>	+			1
<u>Muricea elongata</u>	+			1
<u>Pterogorgia guadalupensis</u>	+			1
Number of taxa :	5	0	5	
ZOANTHARIA				
<u>Cladocora arbuscula</u>	+			1
<u>Oculina diffusa</u>	+			1
<u>Phyllangia americana</u>	+			1
<u>Siderastrea siderea</u>	+			1
<u>Solenastrea hyades</u>	+			1
Number of taxa :	5	0	5	
GASTROPODA				
<u>Cancellaria reticulata</u>		+		1
<u>Crepidula aculeata</u>	+			1
<u>Crepidula maculosa</u>		+		1
<u>Diodora cayenensis</u>	+			1
<u>Lucapina sowerbii</u>		+		1
<u>Strombus pugilis</u>		+		1
Number of taxa :	2	4	6	
BIVALVIA				
<u>Anadara notabilis</u>	+			1
<u>Arca zebra</u>	+			1
<u>Arcinella cornuta</u>		+		1
<u>Barbatia candida</u>		+		1
<u>Lithophaga bisulcata</u>	+			1
<u>Pinctada imbricata</u>	+			1
Number of taxa :	4	2	6	
ISOPODA				
<u>Paracerceis caudata</u>	+			1
Number of taxa :	1	0	1	
PENAEIDEA				
<u>Penaeus aztecus</u>	+			1
<u>Penaeus setiferus</u>	+			1
Number of taxa :	2	0	2	

Table E-3 (cont'd)

Taxon	Cruise			Frequency
	1	3	All	
CARIDEA				
ALPHEIDAE UNIDENT.	+			1
PALAEONIDAE UNIDENT.	+			1
Number of taxa :	2	0	2	
ANOMURA				
<u>Megalobrachium soriatum</u>	+			1
<u>Paguristes sericeus</u>		+		1
<u>Petrolisthes galathinus</u>	+			1
Number of taxa :	2	1	3	
BRACHYURA				
<u>Calappa sulcata</u>		+		1
<u>Hypoconcha arcuata</u>		+		1
<u>Mithrax forceps</u>	+			1
<u>Mithrax pleuracanthus</u>	+			1
<u>Pilumnus savi</u>	+	+		2
<u>Podochela sidneyi</u>	+			1
<u>Portunus anceps</u>	+			1
<u>Portunus depressifrons</u>		+		1
<u>Stenorhynchus seticornis</u>	+			1
Number of taxa :	6	4	9	
ASTEROIDEA				
<u>Astropecten duplicatus</u>		+		1
<u>Echinaster spinulosus</u>	+			1
Number of taxa :	1	1	2	
OPHIUROIDEA				
<u>Ophiactis savignyi</u>	+			1
<u>Ophioderma brevispina</u>	+			1
<u>Ophiothrix angulata</u>	+			1
<u>Ophiothrix lineata</u>	+	+		2
Number of taxa :	4	1	4	
ECHINOIDEA				
<u>Clypeaster subdepressus</u>		+		1
<u>Diadema antillarum</u>	+			1
<u>Encope aberrans</u>		+		1
<u>Encope michelini</u>		+		1
<u>Lytechinus variegatus</u>	+			1
Number of taxa :	2	3	5	
Number of invertebrate taxa :	36	16	50	

Table E-4 Presence (+) and frequency of plants collected by dredging at Station 44, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
RHODOPHYCEAE				
<u>Botryocladia occidentalis</u>	+			1
<u>Eucheuma nudum</u>	+			1
<u>Gracilaria mammillaris</u>	+			1
RHODOPHYTA sp. 9	+			1
Number of taxa :	4	0	4	
Number of plant taxa :	4	0	4	

Table E-5 Presence (+) and frequency of invertebrates collected by dredging at Station 51, by cruise.

<u>Taxon</u>	<u>Cruise</u>			<u>Frequency</u>
	<u>1</u>	<u>3</u>	<u>All</u>	
<u>ALCYONARIA</u>				
<u>Plexaurella fusca</u>	+			1
Number of taxa :	<u>1</u>	<u>0</u>	<u>1</u>	
<u>GASTROPODA</u>				
<u>Crepidula plana</u>		+		1
<u>Murex pomum</u>		+		1
Number of taxa :	<u>0</u>	<u>2</u>	<u>2</u>	
<u>BIVALVIA</u>				
<u>Pinctada imbricata</u>	+			1
<u>Pteria colymbus</u>		+		1
<u>Spondylus americanus</u>		+		1
Number of taxa :	<u>1</u>	<u>2</u>	<u>3</u>	
<u>PENAEIDEA</u>				
<u>Metapenaeopsis goodei</u>	+			1
<u>Penaeus aztecus</u>	+			1
Number of taxa :	<u>2</u>	<u>0</u>	<u>2</u>	
<u>CARIDEA</u>				
<u>Synalpheus minus</u>		+		1
<u>Synalpheus townsendi</u>	+			1
Number of taxa :	<u>1</u>	<u>1</u>	<u>2</u>	
<u>ANOMURA</u>				
<u>Petrolisthes galathinus</u>	+			1
Number of taxa :	<u>1</u>	<u>0</u>	<u>1</u>	
<u>BRACHYURA</u>				
<u>Mithrax hispidus</u>	+			1
<u>Pilumnus dasypodus</u>	+			1
<u>Pilumnus pannosus</u>		+		1
<u>Pitho UNIDENT.</u>		+		1
<u>Podochela sidneyi</u>	+			1
Number of taxa :	<u>3</u>	<u>2</u>	<u>5</u>	

Table E-5 (cont'd)

<u>Taxon</u>	<u>Cruise</u>			<u>Frequency</u>
	<u>1</u>	<u>3</u>	<u>All</u>	
ASTEROIDEA				
<u>Astropecten americanus</u>		+		1
<u>Astropecten duplicatus</u>	+			1
<u>Echinaster spinulosus</u>		+		1
<u>Luidia alternata</u>		+		1
Number of taxa :	<u>1</u>	<u>3</u>	<u>4</u>	
OPHIUROIDEA				
<u>Amphipholis squamata</u>	+			1
<u>Ophiactis savignyi</u>	+			1
<u>Ophiothrix angulata</u>	+			1
Number of taxa :	<u>3</u>	<u>0</u>	<u>3</u>	
ECHINOIDEA				
<u>Clypeaster subdepressus</u>		+		1
<u>Lytechinus variegatus</u>		+		1
Number of taxa :	<u>0</u>	<u>2</u>	<u>2</u>	
Number of invertebrate taxa :	13	12	25	

Table E-6 Presence (+) and frequency of plants collected by dredging at Station 51, by cruise.

<u>Taxon</u>	<u>Cruise</u>			<u>Frequency</u>
	<u>1</u>	<u>3</u>	<u>All</u>	
CHLOROPHYCEAE				
<u>Halimeda monile</u>	+			1
<u>Halimeda simulans</u>	+	+		2
<u>Udotea conglutinata</u>	+	+		2
Number of taxa :	<u>3</u>	<u>2</u>	<u>3</u>	
PHAEOPHYCEAE				
<u>Dictyopteris membranacea</u>	+			1
<u>Dictyopteris UNIDENT.</u>		+		1
Number of taxa :	<u>1</u>	<u>1</u>	<u>2</u>	
RHODOPHYCEAE				
<u>Gracilaria verrucosa</u>	+			1
RHODOPHYTA sp. 17	+			1
<u>Spyridia filamentosa</u>	+			1
Number of taxa :	<u>3</u>	<u>0</u>	<u>3</u>	
Number of plant taxa :	7	3	8	

Table E-7 Presence (+) and frequency of invertebrates collected by dredging at Station 45, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
ALCYONARIA				
<u>Eunicea asperula</u>	+	+		2
<u>Eunicea fusca</u>	+	+		2
<u>Eunicea UNIDENT.</u>		+		1
<u>Leptogorgia setacea</u>		+		1
<u>Muricea elongata</u>	+	+		2
<u>Muricea pinnata</u>	+			1
<u>Plexaurella nutans</u>	+	+		2
<u>Plexaurella pumila</u>	+			1
<u>Pseudoplexaura porosa</u>	+			1
<u>Pseudoplexaura wagnaari</u>	+	+		2
<u>Pseudopterogorgia acerosa</u>	+	+		2
<u>Pseudopterogorgia rigida</u>		+		1
<u>Pterogorgia guadalupensis</u>	+	+		2
Number of taxa :	10	10	13	
ZOANTHARIA				
<u>Agaricia lamarcki</u>	+			1
<u>Cladocora arbuscula</u>	+	+		2
<u>Isophyllia multiflora</u>	+	+		2
<u>Mussa angulosa</u>		+		1
<u>Porites divaricata</u>	+			1
<u>Scolymia lacera</u>		+		1
<u>Siderastrea siderea</u>	+	+		2
<u>Solenastrea hyades</u>	+	+		2
<u>Stephanocoenia michelini</u>		+		1
Number of taxa :	6	7	9	
GASTROPODA				
<u>Astraea phoebia</u>		+		1
<u>Cerithium atratum</u>		+		1
<u>Crepidula aculeata</u>	+	+		2
<u>Crepidula plana</u>		+		1
<u>Diodora listeri</u>		+		1
FASCIOLARIIDAE UNIDENT.		+		1
<u>Latirus angulatus</u>		+		1
<u>Latirus cariniferus</u>		+		1
<u>Murex florifer</u>		+		1
<u>Ocenebra interfossa</u>	+			1
<u>Strombus costatus</u>		+		1
<u>Strombus gigas</u>		+		1
<u>Terebra dislocata</u>		+		1
<u>Trivia pediculus</u>		+		1
Number of taxa :	2	13	14	

Table E-7 (cont'd)

Taxon	Cruise			Frequency
	1	3	All	
BIVALVIA				
<u>Anadara notabilis</u>	+			1
<u>Arca imbricata</u>	+			1
<u>Arca zebra</u>	+	+		2
<u>Barbatia domingensis</u>	+			1
<u>Chama macerophylla</u>		+		1
<u>Lithophaga aristata</u>	+			1
<u>Lithophaga bisulcata</u>		+		1
<u>Pinctada imbricata</u>	+			1
<u>Pteria colymbus</u>		+		1
<u>Pteria UNIDENT.</u>	+			1
<u>Spondylus americanus</u>		+		1
<u>Spondylus ictericus</u>		+		1
Number of taxa :	7	6	12	
ISOPODA				
<u>FLABELLIFERA UNIDENT.</u>	+			1
<u>Paracerceis caudata</u>	+			1
Number of taxa :	2	0	2	
CARIDEA				
<u>Alpheus normanni</u>	+			1
<u>Periclimenes americanus</u>	+			1
<u>Synalpheus minus</u>	+			1
<u>Synalpheus townsendi</u>		+		1
Number of taxa :	3	1	4	
ANOMURA				
<u>Megalobrachium soriatum</u>	+			1
<u>Paguristes sericeus</u>	+			1
<u>Paguristes tortugae</u>	+			1
<u>Petrolisthes galathinus</u>	+	+		2
Number of taxa :	4	1	4	

Table E-7 (cont'd)

Taxon	Cruise			Frequency
	1	3	All	
BRACHYURA				
<u>Dromidia antillensis</u>	+			1
<u>Hypoconcha sabulosa</u>		+		1
<u>Lobopilumnus agassizi</u>	+			1
<u>Macrocoeloma trispinosum</u>		+		1
<u>Mithrax forceps</u>	+	+		2
<u>Mithrax hispidus</u>	+			1
<u>Mithrax pleuracanthus</u>	+	+		2
<u>Mithrax turceps</u>	+			1
<u>Pilumnus dasypodus</u>	+			1
<u>Pilumnus floridanus</u>	+			1
<u>Pilumnus sayi</u>		+		1
Number of taxa :	8	5	11	
STOMATOPODA				
<u>Gonodactylus bredini</u>	+	+		2
Number of taxa :	1	1	1	
ASTEROIDEA				
<u>Echinaster spinulosus</u>		+		1
<u>Echinaster UNIDENT.</u>		+		1
Number of taxa :	0	2	2	
OPHIUROIDEA				
<u>Ophioderma rubicundum</u>		+		1
<u>Ophiothrix angulata</u>	+	+		2
<u>Ophiothrix suensoni</u>	+	+		2
Number of taxa :	2	3	3	
ECHINOIDEA				
<u>Arbacia punctulata</u>		+		1
Number of taxa :	0	1	1	
HOLOTHUROIDEA				
<u>Isostichopus badionotus</u>		+		1
Number of taxa :	0	1	1	
Number of invertebrate taxa :	45	51	77	

Table E-8 Presence (+) and frequency of plants collected by dredging at Station 45, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
CHLOROPHYCEAE				
<u>Caulerpa peltata</u>	+			1
<u>Codium isthmocladum</u>	+			1
<u>Halimeda discoidea</u>	+			1
<u>Halimeda monile</u>	+			1
<u>Halimeda tuna</u>	+			1
<u>Udotea cyathiformis</u>		+		1
Number of taxa :	5	1	6	
PHAEOPHYCEAE				
<u>Dictyopteris membranacea</u>	+			1
<u>Dictyota bartayresii</u>	+			1
<u>Sargassum cf. hystrix</u>	+	+		2
<u>Sargassum filipendula</u>	+			1
Number of taxa :	4	1	4	
RHODOPHYCEAE				
<u>Botryocladia occidentalis</u>	+	+		2
<u>Eucheuma nudum</u>	+			1
<u>Laurencia cf. obtusa</u>	+			1
<u>Laurencia gemmifera</u>	+			1
<u>Laurencia intricata</u>	+			1
<u>Polysiphonia UNIDENT.</u>	+			1
RHODOPHYTA sp. 1	+			1
RHODOPHYTA sp. 19		+		1
RHODOPHYTA sp. 2	+			1
RHODOPHYTA sp. 3	+			1
RHODOPHYTA sp. 7	+			1
RHODOPHYTA sp.18		+		1
Number of taxa :	10	3	12	
Number of plant taxa :	19	5	22	

Table E-9 Presence (+) and frequency of invertebrates collected by dredging at Station 47, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
ALCYONARIA				
<u>Eunicea asperula</u>	+			1
<u>Eunicea UNIDENT.</u>		+		1
<u>Plexaurella dichotoma</u>	+	+		2
<u>Pseudoplexaura porosa</u>		+		1
<u>Pseudopterogorgia acerosa</u>	+	+		2
<u>Pterogorgia guadalupensis</u>		+		1
Number of taxa :	3	5	6	
ZOANTHARIA				
<u>Cladocora arbuscula</u>		+		1
<u>Siderastrea siderea</u>		+		1
<u>Solenastrea hyades</u>	+	+		2
Number of taxa :	1	3	3	
GASTROPODA				
<u>Conus jaspideus stearnsi</u>		+		1
<u>Crepidula aculeata</u>	+	+		2
<u>Murex brevifrons</u>		+		1
<u>Phalium granulatum</u>	+			1
<u>Pseudostomatella erythrocoma</u>		+		1
<u>Strombus gigas</u>		+		1
Number of taxa :	2	5	6	
BIVALVIA				
<u>Aequipecten acanthodes</u>	+			1
<u>Anadara notabilis</u>		+		1
<u>Arca imbricata</u>	+			1
<u>Arcinella UNIDENT.</u>		+		1
<u>Chione paphia</u>		+		1
<u>Laevicardium laevigatum</u>		+		1
<u>Spondylus ictericus</u>		+		1
Number of taxa :	2	5	7	
PENAEIDEA				
<u>Sicyonia laevigata</u>	+			1
<u>Sicyonia typica</u>	+			1
Number of taxa :	2	0	2	

Taxon	Cruise			Frequency
	1	3	All	
CARIDEA				
<u>Alpheus normanni</u>	+			1
Number of taxa :	1	0	1	
ANOMURA				
<u>Paguristes sericeus</u>		+		1
<u>Petrolisthes galathinus</u>	+	+		2
Number of taxa :	1	2	2	
BRACHYURA				
<u>Calappa flammea</u>		+		1
<u>Dromidia antillensis</u>		+		1
<u>Homola UNIDENT.</u>	+			1
<u>Hypoconcha sabulosa</u>	+			1
<u>Iliacantha intermedia</u>		+		1
<u>Lobopilumnus agassizi</u>	+			1
<u>Macrocoeloma camptocerum</u>	+			1
<u>Macrocoeloma trispinosum</u>	+			1
<u>Metoporchaphis calcarata</u>	+			1
<u>Mithrax pleuracanthus</u>	+			1
<u>Pilumnus dasypodus</u>	+	+		2
<u>Pilumnus sayi</u>	+	+		2
<u>Pitho UNIDENT.</u>	+			1
<u>Podochela riisei</u>	+	+		2
<u>Podochela sidneyi</u>	+			1
<u>Portunus anceps</u>	+			1
<u>Portunus spinimanus</u>		+		1
<u>Stenorynchus seticornis</u>	+	+		2
Number of taxa :	14	8	18	
STOMATOPODA				
<u>Gonodactylus bredini</u>	+			1
Number of taxa :	1	0	1	
ASTEROIDEA				
<u>Astropecten articulatus</u>	+			1
<u>Astropecten comptus</u>		+		1
<u>Astropecten duplicatus</u>		+		1
<u>Luidia alternata</u>	+	+		2
Number of taxa :	2	3	4	

Table E-9 (cont'd)

<u>Taxon</u>	<u>Cruise</u>			<u>Frequency</u>
	<u>1</u>	<u>3</u>	<u>All</u>	
OPHIUROIDEA				
<u>Astrocyclus caecilia</u>		+		1
<u>Ophiolepis elegans</u>	+	+		2
<u>Ophiothrix angulata</u>	+			1
<u>Ophiothrix lineata</u>	+			1
Number of taxa :	<u>3</u>	<u>2</u>	<u>4</u>	
ECHINOIDEA				
<u>Clypeaster subdepressus</u>		+		1
<u>Encope aberrans</u>		+		1
Number of taxa :	<u>0</u>	<u>2</u>	<u>2</u>	
Number of invertebrate taxa :	32	35	56	

Table E-10 Presence (+) and frequency of plants collected by dredging at Station 47, by cruise.

<u>Taxon</u>	<u>Cruise</u>			<u>Frequency</u>
	<u>1</u>	<u>3</u>	<u>All</u>	
CHLOROPHYCEAE				
<u>Caulerpa mexicana</u>	+			1
<u>Caulerpa sertularioides</u>	+			1
<u>Codium isthmocladum</u>	+			1
<u>Halimeda simulans</u>	+			1
<u>Udotea conglutinata</u>	+			1
Number of taxa :	<u>5</u>	<u>0</u>	<u>5</u>	
PHAEOPHYCEAE				
<u>Dictyota bartayresii</u>	+			1
<u>Sargassum cf. hystrix</u>	+	+		2
Number of taxa :	<u>2</u>	<u>1</u>	<u>2</u>	
RHODOPHYCEAE				
<u>Botryocladia occidentalis</u>	+			1
<u>Champia parvula</u>	+			1
<u>Euclima nudum</u>		+		1
<u>Gracilaria armata</u>	+			1
<u>Gracilaria cylindrica</u>	+			1
<u>Gracilaria UNIDENT.</u>		+		1
<u>Jania pumila</u>		+		1
RHODOPHYTA sp. 10	+			1
RHODOPHYTA sp. 9	+			1
<u>Spyridia filamentosa</u>	+			1
<u>Wrightiella tumanowiczi</u>		+		1
Number of taxa :	<u>7</u>	<u>4</u>	<u>11</u>	
Number of plant taxa :	14	5	18	

Table E-11 Presence (+) and frequency of invertebrates collected by dredging at Station 19, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
ALCYONARIA				
<u>Lophogorgia punicea</u>		+		1
<u>Pseudopterogorgia acerosa</u>		+		1
<u>Pterogorgia guadalupensis</u>		+		1
Number of taxa :	0	3	3	
GASTROPODA				
<u>Calliostoma javanicum</u>		+		1
<u>Crepidula aculeata</u>	+	+		2
<u>Diodora cayenensis</u>		+		1
<u>Fasciolaria lilium</u>		+		1
<u>Murex brevifrons</u>		+		1
<u>Oliva reticularis</u>		+		1
<u>Strombus pugilis</u>		+		1
Number of taxa :	1	7	7	
BIVALVIA				
<u>Aequipecten acanthodes</u>	+			1
<u>Aequipecten gibbus</u>		+		1
<u>Aequipecten muscosus</u>	+			1
<u>Arcipella cornuta</u>		+		1
<u>Chione cancellata</u>		+		1
<u>Chione paphia</u>		+		1
<u>Laevicardium laevigatum</u>	+	+		2
<u>Macrocallista maculata</u>		+		1
<u>Tellina aequistriata</u>		+		1
Number of taxa :	3	7	9	
ISOPODA				
<u>Paracerceis caudata</u>	+			1
Number of taxa :	1	0	1	
PENAEIDEA				
<u>Sicyonia laevigata</u>	+			1
Number of taxa :	1	0	1	
CARIDEA				
<u>Synalpheus fritzmuelleri</u>	+			1
<u>Synalpheus townsendi</u>		+		1
Number of taxa :	1	1	2	

Table E-11 (cont'd)

Taxon	Cruise			Frequency
	1	3	All	
ANOMURA				
<u>Paguristes moorei</u>		+		1
<u>Paguristes sericeus</u>		+		1
<u>Pagurus impressus</u>		+		1
<u>Petrolisthes galathinus</u>	+	+		2
Number of taxa :	1	4	4	
BRACHYURA				
<u>Calappa sulcata</u>		+		1
<u>Iliacantha intermedia</u>	+			1
<u>Macrocoeloma camptocerum</u>	+			1
<u>Mithrax pleuracanthus</u>	+	+		2
<u>Pilumnus dasypodus</u>	+	+		2
<u>Pilumnus sayi</u>		+		1
<u>Pitho lherminieri</u>	+			1
<u>Portunus UNIDENT.</u>	+			1
<u>Stenocionops furcata</u>	+			1
<u>Stenorynchus seticornis</u>		+		1
Number of taxa :	7	5	10	
STOMATOPODA				
<u>Gonodactylus bredini</u>		+		1
<u>Gonodactylus UNIDENT.</u>	+			1
Number of taxa :	1	1	2	
ASTEROIDEA				
<u>Astropecten comptus</u>		+		1
<u>Astropecten duplicatus</u>		+		1
<u>Echinaster spinulosus</u>	+	+		2
Number of taxa :	1	3	3	
OPHIUROIDEA				
<u>Astrocyclus caecilia</u>		+		1
<u>Ophiothrix angulata</u>		+		1
Number of taxa :	0	2	2	
ECHINOIDEA				
<u>Encope michelini</u>		+		1
Number of taxa :	0	1	1	
HOLOTHUROIDEA				
<u>Isostichopus badionotus</u>	+	+		2
<u>Thyonella pervicax</u>		+		1
Number of taxa :	1	2	2	
Number of invertebrate taxa :	18	36	47	

Table E-12 Presence (+) and frequency of plants collected by dredging at Station 19, by cruise.

Taxon	Cruise			Frequency
	1	3	All	
CHLOROPHYCEAE				
<u>Caulerpa sertularioides</u>	+			1
<u>Udotea conglutinata</u>	+			1
<u>Udotea cyathiformis</u>	+			1
Number of taxa :	<u>3</u>	<u>0</u>	<u>3</u>	
PHAEOPHYCEAE				
<u>Dictyota bartayresii</u>	+			1
Number of taxa :	<u>1</u>	<u>0</u>	<u>1</u>	
RHODOPHYCEAE				
<u>Champia parvula</u>	+			1
<u>Lithothamnium occidentale</u>	+			1
Number of taxa :	<u>2</u>	<u>0</u>	<u>2</u>	
ANGIOSPERMAE				
<u>Halophila baillonis</u>	+			1
Number of taxa :	<u>1</u>	<u>0</u>	<u>1</u>	
Number of plant taxa :	7	0	7	

Table E-13 Presence (+) and frequency of invertebrates collected by dredging at Station 55, by cruise.

Taxon	Cruise				All	Frequency
	5	6	7	8		
ALCYONARIA						
<u>Eunicea asperula</u>		+	+	+		3
<u>Eunicea calyculata</u>	+	+	+	+		4
<u>Eunicea clavigera</u>	+	+	+	+		4
<u>Eunicea fusca</u>	+	+	+			3
<u>Eunicea knighti</u>	+	+		+		3
<u>Eunicea laciniata</u>				+		1
<u>Eunicea laxispica</u>				+		1
<u>Eunicea palmeri</u>				+		1
<u>Eunicea pinta</u>		+				1
<u>Eunicea succinea forma plantaginea</u>				+		1
<u>Eunicea tourneforti forma atra</u>	+			+		2
<u>Eunicea UNIDENT.</u>	+	+				2
<u>Iciligorgia schrammi</u>	+	+	+	+		4
<u>Lophogorgia barbadensis</u>	+					1
<u>Lophogorgia punicea</u>		+				1
<u>Muricea elongata</u>	+		+	+		3
<u>Muricea laxa</u>	+		+	+		3
<u>Muricea pendula</u>	+	+				2
<u>Muricea pinnata</u>	+	+	+			3
<u>Muriceopsis flavida</u>	+			+		2
<u>Nicella schmitti</u>	+	+	+	+		4
<u>Plexaura flexuosa</u>		+	+	+		3
<u>Plexaura homomalla</u>		+	+			2
<u>Plexaurella dichotoma</u>	+	+	+			3
<u>Plexaurella fusca</u>				+		1
<u>Plexaurella fusifera</u>	+	+		+		3
<u>Plexaurella grisea</u>	+					1
<u>Plexaurella nutans</u>	+	+	+	+		4
<u>Pseudoplexaura crusis</u>	+	+				2
<u>Pseudoplexaura flagellosa</u>				+		1
<u>Pseudoplexaura porosa</u>	+	+	+	+		4
<u>Pseudopterogorgia acerosa</u>		+	+			2
<u>Pseudopterogorgia americana</u>	+					1
<u>Pterogorgia anceps</u>				+		1
<u>Pterogorgia citrina</u>		+				1
<u>Pterogorgia guadalupensis</u>	+	+	+	+		4
Number of taxa :	22	22	16	22	36	

Table E-13 (cont'd)

Taxon	Cruise				All	Frequency
	5	6	7	8		
ZOANTHARIA						
<u>Agaricia fragilis</u>				+		1
<u>Agaricia lamarcki</u>	+					1
<u>Cladocora arbuscula</u>	+	+	+	+		4
<u>Dichocoenia stokesii</u>	+	+		+		3
<u>Helioseris cucullata</u>				+		1
<u>Madracis decactis</u>				+		1
<u>Meandrina meandrites</u>	+	+				2
<u>Montastrea cavernosa</u>	+	+		+		3
<u>Mussa angulosa</u>			+	+		2
<u>Oculina diffusa</u>			+	+		2
<u>Oculina UNIDENT.</u>				+		1
<u>Oculina varicosa</u>	+	+		+		3
<u>Phyllangia americana</u>		+				1
<u>Scolymia UNIDENT.</u>	+					1
<u>Siderastrea siderea</u>	+	+		+		3
<u>Solenastrea bournoni</u>	+	+				2
<u>Solenastrea hyades</u>				+		1
<u>Stephanocoenia michelini</u>	+	+	+	+		4
Number of taxa :	10	9	4	13	18	
GASTROPODA						
<u>Cerodrillia perryae</u>				+		1
<u>Conus floridanus</u>		+				1
<u>Conus spurius</u>				+		1
<u>Crepidula aculeata</u>			+			1
<u>Cypraea cinerea</u>	+	+	+			3
<u>Cypraea zebra</u>	+					1
<u>Diodora listeri</u>	+					1
<u>Distorsio clathrata</u>		+	+			2
<u>Mitra nodulosa</u>		+				1
<u>Murex cabritii</u>		+				1
<u>Oliva sayana</u>			+			1
<u>Strombus alatus</u>		+	+			2
<u>Strombus gigas</u>	+			+		2
<u>Strombus pugilis</u>		+	+			2
<u>Vexillum gemmatum</u>				+		1
Number of taxa :	4	7	6	4	15	

Table E-13 (cont'd)

Taxon	Cruise					Frequency
	5	6	7	8	All	
BIVALVIA						
<u>Aequipecten gibbus</u>			+			1
<u>Aequipecten muscosus</u>	+	+	+	+		4
<u>Arca secticostata</u>				+		1
<u>Laevicardium laevigatum</u>		+	+			2
<u>Lima lima</u>		+	+			2
<u>Lima pellucida</u>	+			+		2
<u>Lima scabra</u>	+	+				2
<u>Macrocallista maculata</u>			+			1
<u>Pecten ziczac</u>			+			1
<u>Spondylus americanus</u>	+			+		2
Number of taxa :	4	4	6	4	10	
CEPHALOPODA						
<u>Octopus UNIDENT.</u>			+			1
Number of taxa :	0	0	1	0	1	
CARIDEA						
<u>Leptocheila serratorbita</u>			+			1
<u>Synalpheus brooksi</u>				+		1
<u>Synalpheus longicarpus</u>	+					1
<u>Synalpheus minus</u>	+					1
<u>Synalpheus townsendi</u>	+			+		2
Number of taxa :	3	0	1	2	5	
ANOMURA						
<u>Dardanus fucosus</u>		+	+			2
<u>Pachycheles rugimanus</u>		+				1
<u>Paguristes lymani</u>			+	+		2
<u>Paguristes sericeus</u>	+	+		+		3
<u>Paguristes triangulatus</u>		+	+			2
<u>Pagurus defensus</u>		+				1
<u>Petrolisthes galathinus</u>	+	+				2
Number of taxa :	2	6	3	2	7	

Table E-13 (cont'd)

Taxon	Cruise					Frequency
	5	6	7	8	All	
BRACHYURA						
<u>Cycloes bairdii</u>		+				1
<u>Dissodactylus orinitichelis</u>		+				1
<u>Iliacantha intermedia</u>		+				1
<u>Macrocoeloma trispinosum</u>				+		1
<u>Macrocoeloma UNIDENT.</u>			+			1
<u>Micropanope nuttingi</u>			+			1
<u>Mithrax acuticornis</u>	+	+				2
<u>Mithrax forceps</u>	+	+	+			3
<u>Mithrax pleuracanthus</u>	+	+	+			3
<u>Panopeus occidentalis</u>				+		1
<u>Paractaea rufopunctata nodosa</u>	+	+				2
<u>Pilumnus pannosus</u>	+					1
<u>Podochela sidneyi</u>			+			1
<u>Portunus ordwayi</u>	+		+			2
<u>Stenocionops furcata</u>			+			1
<u>Stenorynchus seticornis</u>	+	+		+		3
Number of taxa :	7	8	7	3	16	
STOMATOPODA						
<u>Gonodactylus bredini</u>	+	+	+			3
<u>Meiosquilla schmitti</u>			+			1
Number of taxa :	1	1	2	0	2	
ASTEROIDEA						
<u>Astropecten duplicatus</u>				+		1
<u>Oreaster reticulatus</u>		+	+			2
Number of taxa :	0	1	1	1	2	
OPHIUROIDEA						
<u>Ophiactis savignyi</u>		+				1
<u>Ophiactis sp. 1</u>	+					1
<u>Ophioderma brevispina</u>		+				1
<u>Ophiolepis elegans</u>			+			1
Number of taxa :	1	2	1	0	4	
ECHINOIDEA						
<u>Arbacia punctulata</u>				+		1
<u>Clypeaster subdepressus</u>		+		+		2
<u>Eucidaris tribuloides</u>	+	+	+			3
<u>Lytechinus variegatus</u>		+				1
<u>Meoma ventricosa</u>		+		+		2
Number of taxa :	1	4	1	3	5	
Number of invertebrate taxa :	55	64	49	54	121	

Table E-14 Presence (+) and frequency of plants collected by dredging at Station 55, by cruise.

Taxon	Cruise					Frequency
	5	6	7	8	All	
CHLOROPHYCEAE						
<u>Caulerpa taxifolia</u>				+		1
<u>Codium isthmocladum</u>			+	+		2
<u>Halimeda discoidea</u>			+			1
<u>Halimeda gracilis</u>		+				1
<u>Halimeda UNIDENT.</u>		+				1
<u>Udotea cyathiformis</u>		+				1
<u>Udotea flabellum</u>	+			+		2
<u>Udotea spinulosa</u>				+		1
Number of taxa :	1	3	2	4	8	
PHAEOPHYCEAE						
<u>Dictyota divaricata</u>			+			1
<u>Rosenvingea intricata</u>			+			1
SPOROCHNACEAE UNIDENT.			+			1
Number of taxa :	0	0	3	0	3	
RHODOPHYCEAE						
<u>Cryptonemia luxurians</u>				+		1
<u>Gracilaria armata</u>			+			1
<u>Gracilaria blodgetti</u>		+		+		2
<u>Halymenia floresia</u>			+	+		2
<u>Solieria tenera</u>			+			1
Number of taxa :	0	1	3	3	5	
Number of plant taxa :	1	4	8	7	16	

Table E-15 Presence (+) and frequency of invertebrates collected by dredging at Station 7, by cruise.

Taxon	Cruise					Frequency
	5	6	7	8	All	
ZOANTHARIA						
<u>Cladocora arbuscula</u>	+	+	+	+		4
<u>Cladocora debilis</u>				+		1
<u>Isophyllia sinuosa</u>			+			1
<u>Manicina areolata</u>	+	+	+	+		4
<u>Mussa angulosa</u>	+					1
<u>Oculina diffusa</u>			+			1
<u>Oculina varicosa</u>	+		+			2
<u>Phyllangia americana</u>	+	+		+		3
<u>Scolymia lacera</u>	+			+		2
<u>Scolymia UNIDENT.</u>			+			1
<u>Siderastrea siderea</u>	+		+	+		3
<u>Solenastrea bournoni</u>	+					1
<u>Solenastrea hyades</u>	+	+	+	+		4
<u>Stephanocoenia michelini</u>	+	+	+	+		4
Number of taxa :	10	5	9	8	14	
GASTROPODA						
<u>Calliostoma jujubinum</u>			+			1
<u>Conus spurius</u>			+			1
<u>Drillia UNIDENT.</u>				+		1
<u>Fasciolaria destens</u>		+		+		2
<u>Murex cabritii</u>	+					1
<u>Murex florifer</u>			+	+		2
<u>Oliva savana</u>			+	+		2
<u>Strombus alatus</u>	+					1
<u>Turbo castanea</u>	+		+			2
Number of taxa :	3	1	5	4	9	
BIVALVIA						
<u>Aequipecten gibbus</u>			+			1
<u>Aequipecten muscosus</u>	+	+	+	+		4
<u>Cardium isocardia</u>				+		1
<u>Chione latilerata</u>			+			1
<u>Eucrassatella speciosa</u>	+					1
<u>Laevicardium serratum</u>				+		1
<u>Lithophaga bisulcata</u>			+	+		2
<u>Macrocallista maculata</u>				+		1
<u>Pecten ziczac</u>	+	+				2
<u>Semele bellastrata</u>		+		+		2
<u>Spondylus americanus</u>	+		+	+		3
<u>Tellina alternata</u>				+		1
Number of taxa :	4	3	5	8	12	

Table E-15 (cont'd)

Taxon	Cruise				All	Frequency
	5	6	7	8		
PENAEIDEA						
<u>Metapenaeopsis goodei</u>			+			1
<u>Sicyonia typica</u>		+				1
<u>Solenocera atlantidis</u>	+			+		2
Number of taxa :	1	1	1	1	3	
CARIDEA						
<u>Alpheus floridanus</u>		+				1
<u>Leptochela carinata</u>		+				1
<u>Leptochela papulata</u>				+		1
<u>Periclimenes americanus</u>	+					1
<u>Synalpheus longicarpus</u>	+	+				2
<u>Synalpheus townsendi</u>				+		1
Number of taxa :	2	3	0	2	6	
PALINURA						
<u>Scyllarus americanus</u>		+				1
<u>Scyllarus chacei</u>	+		+			2
Number of taxa :	1	1	1	0	2	
ANOMURA						
<u>Dardanus fucosus</u>	+			+		2
<u>Manucomplanus corallinus</u>	+	+		+		3
<u>Paguristes sericeus</u>	+	+	+			3
<u>Pagurus acadianus</u>				+		1
<u>Pagurus arcuatus</u>	+					1
<u>Pagurus carolinensis</u>			+	+		2
<u>Pagurus longicarpus</u>	+					1
<u>Upogebia affinis</u>		+				1
Number of taxa :	5	3	2	4	8	
BRACHYURA						
<u>Aepinus septemspinosus</u>				+		1
<u>Calappa angusta</u>				+		1
<u>Calappa flammea</u>		+				1
<u>Callidactylus asper</u>			+			1
<u>Collodes trispinosus</u>				+		1
<u>Dromidia antillensis</u>	+	+	+			3
<u>Eurypanopeus abbreviatus</u>				+		1
<u>Hypoconcha sabulosa</u>	+		+	+		3
<u>Iliacantha intermedia</u>	+	+	+			3
<u>Macrocoeloma camptocerum</u>			+			1
<u>Macrocoeloma trispinosum</u>	+					1
<u>Micropanope nuttingi</u>				+		1
<u>Mithrax acuticornis</u>	+					1

Table E-15 (cont'd)

Taxon	Cruise				All	Frequency
	5	6	7	8		
BRACHYURA (continued)						
<u>Mithrax holderi</u>	+					1
<u>Mithrax pleuracanthus</u>	+	+	+	+		4
<u>Osachila semilevis</u>				+		1
<u>Paractaea rufopunctata nodosa</u>			+	+		2
<u>Parthenope granulata</u>	+	+	+	+		4
<u>Pilumnus sayi</u>			+			1
<u>Pitho UNIDENT.</u>				+		1
<u>Portunus anceps</u>		+				1
<u>Portunus floridanus</u>				+		1
<u>Ranilia muricata</u>				+		1
<u>Raninoides loevis</u>	+	+	+	+		4
<u>Speocarcinus carolinensis</u>				+		1
<u>Stenocionops furcata</u>				+		1
<u>Stenorynchus seticornis</u>	+		+	+		3
<u>Symethis variolosa</u>				+		1
Number of taxa :	10	7	11	18	28	
STOMATOPODA						
<u>Gonodactylus bredini</u>	+	+	+	+		4
Number of taxa :	1	1	1	1	1	
ASTEROIDEA						
<u>Astropecten comptus</u>	+		+			2
<u>Astropecten duplicatus</u>	+	+	+	+		4
<u>Echinaster spinulosus</u>		+	+	+		3
<u>Luidia alternata</u>		+				1
Number of taxa :	2	3	3	2	4	
OPHIUROIDEA						
<u>Ophioderma brevispina</u>	+	+				2
<u>Ophiolepis elegans</u>	+	+		+		3
<u>Ophiopsila UNIDENT.</u>	+					1
<u>Ophiothrix angulata</u>	+			+		2
Number of taxa :	4	2	0	2	4	
ECHINOIDEA						
<u>Clypeaster subdepressus</u>				+		1
<u>Clypeaster UNIDENT.</u>				+		1
<u>Encope aberrans</u>	+	+	+			3
<u>Lytechinus variegatus</u>	+		+	+		3
<u>Meoma ventricosa</u>	+					1
Number of taxa :	3	1	2	3	5	
Number of invertebrate taxa :	46	31	40	53	96	

Table E-16 Presence (+) and frequency of plants collected by dredging at Station 7, by cruise.

Taxon	Cruise					Frequency
	5	6	7	8	All	
CHLOROPHYCEAE						
<u>Caulerpa peltata</u>				+		1
<u>Codium isthmocladum</u>	+					1
<u>Halimeda discoidea</u>	+	+	+	+		4
<u>Halimeda gracilis</u>	+		+	+		3
<u>Halimeda tuna</u>				+		1
<u>Udotea conglutinata</u>			+			1
<u>Udotea flabellum</u>	+			+		2
<u>Udotea spinulosa</u>			+			1
Number of taxa :	4	1	4	5	8	
PHAEOPHYCEAE						
<u>Dictyota cervicornis</u>			+			1
<u>Rosenvingea intricata</u>			+			1
<u>Sargassum filipendula</u>	+	+	+			3
<u>Sargassum UNIDENT.</u>	+			+		2
<u>Sporochnus bolleanus</u>			+			1
<u>Sporochnus pendunculatus</u>			+			1
Number of taxa :	2	1	5	1	6	
RHODOPHYCEAE						
<u>Botryocladia occidentalis</u>			+	+		2
<u>Dasya baillouviana</u>			+			1
<u>Eucheuma acanthocladum</u>			+	+		2
<u>Eucheuma isiforme</u>			+	+		2
<u>Gracilaria armata</u>			+	+		2
<u>Gracilaria blodgetti</u>			+			1
<u>Halymenia floresia</u>				+		1
<u>Laurencia intricata</u>	+	+	+	+		4
<u>Rhodymenia rhizoides</u>	+	+	+	+		4
<u>Rhodymenia sp. 1</u>			+			1
<u>Rhodymenia sp. 2</u>			+			1
Number of taxa :	2	2	10	7	11	
Number of plant taxa :	8	4	19	13	25	

Table E-17 Presence (+) and frequency of invertebrates collected by dredging at Station 21, by cruise.

Taxon	Cruise				Frequency
	2	3	4	All	
ZOANTHARIA					
<u>Mussa angulosa</u>		+			1
<u>Oculina diffusa</u>		+			1
<u>Oculina varicosa</u>		+			1
<u>Scolymia lacera</u>		+	+		2
<u>Scolymia UNIDENT.</u>		+			1
<u>Siderastrea siderea</u>	+	+	+		3
<u>Stephanocoenia michelini</u>		+			1
Number of taxa :	1	7	2	7	
GASTROPODA					
<u>Calliostoma javanicum</u>			+		1
<u>Calliostoma pulchrum</u>			+		1
<u>Conus villepini</u>	+				1
<u>Crassispira tampaensis</u>	+				1
<u>Latirus cariniferus</u>	+				1
<u>Murex florifer</u>		+			1
<u>Phalium granulatum</u>		+			1
<u>Polystira albida</u>	+	+			2
<u>Scaphella junonia</u>		+			1
<u>Serpulorbis decussatus</u>		+			1
<u>Strombus costatus</u>			+		1
<u>Trivia pediculus</u>			+		1
<u>Vermicularia knorri</u>	+				1
<u>Xenophora conchyliophora</u>	+				1
Number of taxa :	6	5	4	14	
BIVALVIA					
<u>Chama macerophylla</u>			+		1
<u>Eucrassatella speciosa</u>			+		1
<u>Nemocardium peramabile</u>			+		1
<u>Periglypta listeri</u>			+		1
<u>Pododesmus UNIDENT.</u>	+				1
<u>Spondylus americanus</u>			+		1
Number of taxa :	1	0	5	6	
PENAEIDEA					
<u>Parapenaeus politus</u>			+		1
<u>Sicyonia brevirostris</u>	+				1
Number of taxa :	1	0	1	2	

Table E-17 (cont'd)

Taxon	Cruise				Frequency
	2	3	4	All	
CARIDEA					
<u>Alpheus normanni</u>			+		1
<u>Synalpheus minus</u>		+			1
<u>Synalpheus townsendi</u>		+			1
Number of taxa :	0	2	1	3	
STENOPODIDEA					
<u>Stenopus scutellatus</u>			+		1
Number of taxa :	0	0	1	1	
PALINURA					
<u>Scyllarides nodifer</u>			+		1
Number of taxa :	0	0	1	1	
ANOMURA					
<u>Dardanus fucosus</u>	+		+		2
<u>Galathea rostrata</u>	+				1
<u>Munida pusilla</u>		+	+		2
<u>Paguristes sericeus</u>		+			1
<u>Pagurus defensus</u>			+		1
Number of taxa :	2	2	3	5	
BRACHYURA					
<u>Calappa flammea</u>	+				1
<u>Callidactylus asper</u>			+		1
<u>Dromidia antillensis</u>	+		+		2
<u>Macrocoeloma trispinosum</u>			+		1
<u>Mithrax acuticornis</u>			+		1
<u>Mithrax pleuracanthus</u>	+				1
<u>Palicus alternatus</u>			+		1
<u>Paractaea rufopunctata nodosa</u>			+		1
<u>Parthenope granulata</u>			+		1
<u>Portunus ordwayi</u>	+				1
<u>Portunus spinicarpus</u>			+		1
<u>Raninoides louisianensis</u>	+				1
<u>Speloeophorus nodosus</u>		+			1
<u>Stenocionops furcata</u>	+	+			2
<u>Stenorynchus seticornis</u>	+		+		2
Number of taxa :	7	2	9	15	
STOMATOPODA					
<u>Eurysquilla plumata</u>			+		1
<u>Gonodactylus bredini</u>		+	+		2
Number of taxa :	0	1	2	2	

Table E-17 (cont'd)

<u>Taxon</u>	<u>Cruise</u>			<u>All</u>	<u>Frequency</u>
	<u>2</u>	<u>3</u>	<u>4</u>		
<u>ASTEROIDEA</u>					
<u>Astropecten duplicatus</u>			+		1
<u>Astropecten nitidus</u>	+				1
<u>Luidia alternata</u>		+			1
<u>Oreaster reticulatus</u>		+			1
Number of taxa :	<u>1</u>	<u>2</u>	<u>1</u>	<u>4</u>	
<u>OPHIUROIDEA</u>					
<u>Ophioderma brevispina</u>		+	+		2
<u>Ophiothrix angulata</u>		+			1
<u>Ophiothrix lineata</u>			+		1
Number of taxa :	<u>0</u>	<u>2</u>	<u>2</u>	<u>3</u>	
<u>ECHINOIDEA</u>					
<u>Arbacia punctulata</u>		+	+		2
<u>Clypeaster subdepressus</u>		+	+		2
<u>Lytechinus variegatus</u>		+	+		2
<u>Meoma ventricosa</u>			+		1
Number of taxa :	<u>0</u>	<u>3</u>	<u>4</u>	<u>4</u>	
Number of invertebrate taxa :	19	26	36	67	

Table E-18 Presence (+) and frequency of plants collected by dredging at Station 21, by cruise.

Taxon	Cruise				Frequency
	2	3	4	All	
CHLOROPHYCEAE					
<u>Caulerpa racemosa v. macrophysa</u>			+		1
<u>Pseudocodium floridanum</u>			+		1
Number of taxa :	0	0	2	2	
PHAEOPHYCEAE					
<u>Dictyota bartayresii</u>			+		1
<u>Nerstetia tropica</u>			+		1
PHAEOPHYTA sp. 1			+		1
<u>Sargassum cf. hystrix</u>		+			1
<u>Sporochnus pendunculatus</u>			+		1
Number of taxa :	0	1	4	5	
RHODOPHYCEAE					
<u>Agardhiella ramosissima</u>			+		1
<u>Champia parvula</u>			+		1
<u>Fauchea hassleri</u>			+		1
<u>Gracilaria cylindrica</u>			+		1
<u>Gracilaria mammillaris</u>	+				1
<u>Hypoglossum tenuifolium</u>			+		1
<u>Kallymenia westii</u>			+		1
<u>Polysiphonia UNIDENT.</u>			+		1
RHODOPHYTA sp. 10			+		1
RHODOPHYTA sp. 11			+		1
RHODOPHYTA sp. 12			+		1
Number of taxa :	1	0	10	11	
Number of plant taxa :	1	1	16	18	

Table E-19 Presence (+) and frequency of invertebrates collected by dredging at Station 29, by cruise.

Taxon	Cruise					Frequency
	1	2	3	4	All	
ALCYONARIA						
<u>Thesea UNIDENT.</u>			+	+		2
Number of taxa :	0	0	1	1	1	
ZOANTHARIA						
<u>Agaricia agaricites</u>	+	+	+	+		4
<u>Agaricia fragilis</u>		+	+	+		3
<u>Agaricia lamarcki</u>	+	+	+	+		4
<u>Helioseris cucullata</u>	+	+		+		3
<u>Madracis asperula</u>			+			1
<u>Madracis decactis</u>	+	+	+	+		4
<u>Madracis formosa</u>	+	+	+	+		4
<u>Madracis mirabilis</u>	+					1
<u>Manicina areolata</u>	+	+	+	+		4
<u>Montastrea cavernosa</u>			+			1
<u>Porites astreoides</u>	+	+				2
<u>Scolymia UNIDENT.</u>		+				1
Number of taxa :	8	9	8	7	12	
GASTROPODA						
<u>Conus daucus</u>		+				1
<u>Cypraea cinerea</u>		+				1
<u>Cypraea UNIDENT.</u>		+				1
<u>Siliquaria squamata</u>			+			1
Number of taxa :	0	3	1	0	4	
BIVALVIA						
<u>Arca UNIDENT.</u>		+				1
Number of taxa :	0	1	0	0	1	
CARIDEA						
<u>Lysmata rathbunae</u>				+		1
<u>Synalpheus townsendi</u>				+		1
Number of taxa :	0	0	0	2	2	
ANOMURA						
<u>Munida pusilla</u>				+		1
Number of taxa :	0	0	0	1	1	
BRACHYURA						
<u>Micropanope spinipes</u>			+	+		2
<u>Microphrys UNIDENT.</u>		+				1
<u>Mithrax acuticornis</u>			+	+		2
<u>Paractaea rufopunctata nodosa</u>	+		+	+		3
Number of taxa :	1	1	3	3	4	

Table E-19 (cont'd)

Taxon	Cruise					Frequency
	1	2	3	4	All	
STOMATOPODA						
<u>Gonodactylus bredini</u>			+	+		2
<u>Gonodactylus torus</u>				+		1
<u>Gonodactylus UNIDENT.</u>		+				1
Number of taxa :	0	1	1	2	3	
ASTEROIDEA						
<u>Poraniella regularis</u>	+	+	+	+		4
Number of taxa :	1	1	1	1	1	
OPHIUROIDEA						
<u>Ophiactis savignyi</u>		+	+	+		3
<u>Ophiactis UNIDENT.</u>			+	+		2
<u>Ophiocoma UNIDENT.</u>		+	+	+		3
<u>Ophioderma brevispina</u>		+		+		2
<u>Ophioderma rubicundum</u>	+	+	+	+		4
<u>Ophiomyxa flaccida</u>			+	+		2
OPHIOMYXIDAE UNIDENT.		+				1
<u>Ophionereis olivacea</u>			+	+		2
<u>Ophionereis reticulata</u>			+			1
<u>Ophionereis UNIDENT.</u>		+				1
<u>Ophiopsila UNIDENT.</u>				+		1
<u>Ophiothrix angulata</u>			+	+		2
<u>Ophiothrix suensonii</u>		+	+	+		3
Number of taxa :	1	7	9	10	13	
ECHINOIDEA						
<u>Arbacia punctulata</u>				+		1
<u>Diadema antillarum</u>			+			1
<u>Eucidaris tribuloides</u>				+		1
<u>Stylocidaris affinis</u>				+		1
Number of taxa :	0	0	1	3	4	
HOLOTHUROIDEA						
<u>Thyonella gemmata</u>	+					1
Number of taxa :	1	0	0	0	1	
CRINOIDEA						
COMATULIDA UNIDENT.		+	+	+		3
Number of taxa :	0	1	1	1	1	
Number of invertebrate taxa :	12	24	26	31	48	

Table E-20 Presence (+) and frequency of plants collected by dredging at Station 29, by cruise.

Taxon	Cruise					Frequency
	1	2	3	4	All	
CHLOROPHYCEAE						
<u>Anadyomene menziesii</u>		+	+	+		3
<u>Pseudotetraspora antillarum</u>		+		+		2
Number of taxa :	0	2	1	2	2	
PHAEOPHYCEAE						
<u>Lobophora variegata</u>		+				1
PHAEOPHYTA sp. 2				+		1
Number of taxa :	0	1	0	1	2	
RHODOPHYCEAE						
<u>Peyssonnelia rubra orientalis</u>		+				1
<u>Peyssonnelia UNIDENT.</u>		+		+		2
Number of taxa :	0	2	0	1	2	
Number of plant taxa :	0	5	1	4	6	

Table E-21 Presence (+) and frequency of invertebrates collected by dredging at Station 23, by cruise.

Taxon	Cruise					Frequency
	1	2	3	4	All	
ALCYONARIA						
<u>Nicella schmitti</u>				+		1
Number of taxa :	0	0	0	1	1	
ZOANTHARIA						
<u>Madracis asperula</u>				+		1
Number of taxa :	0	0	0	1	1	
GASTROPODA						
<u>Astraea phoebia</u>		+				1
<u>Distorsio clathrata</u>		+				1
<u>Haliotis pourtalesii</u>				+		1
<u>Murex brevifrons</u>			+			1
<u>Murex florifer</u>				+		1
<u>Pleuroploca gigantea</u>		+				1
<u>Siliquaria squamata</u>			+	+		2
<u>Turbo castanea</u>	+	+	+	+		4
Number of taxa :	1	4	3	4	8	
BIVALVIA						
<u>Aequipecten muscosus</u>			+			1
<u>Chama congregata</u>				+		1
<u>Chlamys benedicti</u>				+		1
PECTINIDAE UNIDENT.			+			1
Number of taxa :	0	0	2	2	4	
CARIDEA						
<u>Anchistioides antiguensis</u>			+			1
<u>Palaemonetes intermedius</u>	+					1
<u>Synalpheus goodei</u>			+			1
<u>Synalpheus longicarpus</u>				+		1
<u>Synalpheus townsendi</u>			+			1
Number of taxa :	1	0	3	1	5	

Table E-21 (cont'd)

Taxon	Cruise					Frequency
	1	2	3	4	All	
ANOMURA						
<u>Dardanus fucosus</u>				+		1
<u>Galathea rostrata</u>		+				1
<u>Munida pusilla</u>			+	+		2
<u>Pagurus acadianus</u>			+			1
Number of taxa :	0	1	2	2	4	
BRACHYURA						
<u>Euchirograpsus americanus</u>	+		+	+		3
<u>Iliacantha subglobosa</u>			+			1
<u>Macrocoeloma eutheca</u>				+		1
<u>Micropanope spinipes</u>	+		+	+		3
<u>Mithrax acuticornis</u>			+	+		2
<u>Mithrax UNIDENT.</u>		+				1
<u>Nibilia antilocapra</u>	+					1
<u>Palicus alternatus</u>				+		1
<u>Palicus faxoni</u>			+			1
<u>Paractaea rufopunctata nodosa</u>			+	+		2
<u>Parthenope fraterculus</u>			+	+		2
<u>Portunus ordwayi</u>		+				1
<u>Pyromaia UNIDENT.</u>	+					1
Number of taxa :	4	2	7	7	13	
STOMATOPODA						
<u>Gonodactylus bredini</u>			+	+		2
<u>Gonodactylus UNIDENT.</u>	+	+				2
<u>Squilla prasinolineata</u>		+				1
Number of taxa :	1	2	1	1	3	
ASTEROIDEA						
<u>Echinaster modestus</u>		+				1
<u>Henricia antillarum</u>				+		1
<u>Linckia nodosa</u>				+		1
<u>Luidia barbadensis</u>	+					1
<u>Narcissia trigonaria</u>		+	+	+		3
<u>Poraniella regularis</u>		+	+	+		3
<u>Tosia parva</u>	+	+	+	+		4
Number of taxa :	2	4	3	5	7	

Table E-21 (cont'd)

Taxon	Cruise					Frequency
	1	2	3	4	All	
OPHIUROIDEA						
<u>Macrophiothrix UNIDENT.</u>		+				1
<u>Ophiactis savignyi</u>		+				1
<u>Ophioderma brevispina</u>				+		1
<u>Ophioderma rubicundum</u>	+		+	+		3
<u>Ophioderma UNIDENT.</u>		+				1
<u>Ophiomyxa flaccida</u>	+			+		2
<u>Ophiothrix angulata</u>		+		+		2
<u>Ophiothrix suensonii</u>	+	+	+	+		4
Number of taxa :	3	5	2	5	8	
ECHINOIDEA						
<u>Arbacia punctulata</u>			+	+		2
<u>Eucidaris tribuloides</u>	+	+	+	+		4
<u>Lytechinus callipeplus</u>		+				1
<u>Lytechinus euerces</u>	+		+			2
<u>Stylocidaris affinis</u>	+	+	+	+		4
Number of taxa :	3	3	4	3	5	
Number of invertebrate taxa :	15	21	27	32	59	

Table E-22 Presence (+) and frequency of plants collected by dredging at Station 23, by cruise.

Taxon	Cruise					Frequency
	1	2	3	4	All	
CHLOROPHYCEAE						
<u>Anadyomene menziesii</u>	+	+	+	+		4
<u>Pseudotetraspora antillarum</u>		+		+		2
Number of taxa :	1	2	1	2	2	
PHAEOPHYCEAE						
<u>Dictyopteris</u> sp. 1				+		1
PHAEOPHYTA sp. 2				+		1
Number of taxa :	0	0	0	2	2	
Number of plant taxa :	1	2	1	4	4	

Table E-23 Presence (+) and frequency of invertebrates collected by dredging at Station 36, by cruise.

Taxon	Cruise				All	Frequency
	1	2	3	4		
ALCYONARIA						
<u>Caliacis nutans</u>				+		1
<u>Ellisella barbadensis</u>				+		1
<u>Ellisella elongata</u>		+		+		2
<u>Nidallia occidentalis</u>				+		1
<u>Thesea parviflora</u>				+		1
<u>Thesea UNIDENT.</u>		+		+		2
Number of taxa :	0	2	0	6	6	
ZOANTHARIA						
<u>Caryophyllia UNIDENT.</u>	+					1
<u>Dendrophyllia cornucopia</u>	+					1
<u>Desmophyllum cristagalli</u>	+			+		2
<u>Flabellum fragile</u>	+					1
<u>Paracyathus pulchellus</u>	+			+		2
<u>Rhizopsammia manuelensis</u>	+					1
<u>Rhizosmilia gerdae</u>		+				1
<u>Solenosmilia variabilis</u>		+		+		2
Number of taxa :	6	2	0	3	8	
GASTROPODA						
<u>Fasciolaria lilium</u>			+			1
<u>Sthenorvtyis pernobilis</u>		+				1
Number of taxa :	0	1	1	0	2	
ANOMURA						
<u>Cancellus ornatus</u>	+					1
<u>Manucomplanus corallinus</u>	+					1
<u>Munida pusilla</u>				+		1
<u>Munida UNIDENT.</u>		+				1
<u>Pagurus impressus</u>		+				1
<u>Pagurus politus</u>				+		1
Number of taxa :	2	2	0	2	6	
BRACHYURA						
<u>Anasimus UNIDENT.</u>		+				1
<u>Calappa angusta</u>			+	+		2
<u>Iliacantha subglobosa</u>		+				1
<u>Micropanope spinipes</u>				+		1
<u>Palicus alternatus</u>				+		1
<u>Parthenope fraterculus</u>				+		1
<u>Parthenope pourtalesii</u>			+			1

Table E-23 (cont'd)

Taxon	Cruise					Frequency
	1	2	3	4	All	
BRACHYURA (continued)						
<u>Podochela riisei</u>		+				1
<u>Podochela sidneyi</u>	+					1
<u>Portunus spinicarpus</u>	+	+		+		3
<u>Stenocionops furcata</u>			+			1
<u>Stenorynchus seticornis</u>		+				1
Number of taxa :	2	5	3	5	12	
ASTEROIDEA						
<u>Pectinaster gracilis</u>		+				1
<u>Rosaster alexandri</u>	+			+		2
<u>Sclerasterias contorta</u>				+		1
<u>Tosia parva</u>		+		+		2
Number of taxa :	1	2	0	3	4	
OPHIUROIDEA						
<u>Asteroschema nuttingii</u>		+				1
<u>Astroporpa annulata</u>				+		1
<u>Macrophiothrix UNIDENT.</u>		+				1
<u>Ophiopaepale UNIDENT.</u>		+				1
<u>Ophiothrix suensonii</u>		+		+		2
<u>Ophiozona UNIDENT.</u>		+				1
<u>Ophiura UNIDENT.</u>				+		1
<u>OPHIURIDAE UNIDENT.</u>		+				1
Number of taxa :	0	6	0	3	8	
ECHINOIDEA						
<u>Glypeaster ravenelii</u>	+	+	+	+		4
<u>Coelopleurus floridanus</u>		+		+		2
<u>Echinolampas depressa</u>				+		1
<u>Stylocidaris affinis</u>	+	+		+		3
<u>Stylocidaris lineata</u>				+		1
Number of taxa :	2	3	1	5	5	
CRINOIDEA						
<u>Comactina UNIDENT.</u>			+			1
<u>COMATULIDA UNIDENT.</u>	+	+	+	+		4
Number of taxa :	1	1	2	1	2	
Number of invertebrate taxa :	14	24	7	28	53	

APPENDIX F

APPENDIX F

TRAWL

A single otter trawl was made at Stations 52, 44, 51, 45, 47, 19, 55, 7, 21, 29, 23, and 36 (Figure F-1) each time the station was occupied during Years 4 and 5. The fish were identified in the field and preserved. In the laboratory they were measured and weighed and their stomach contents identified when possible. Mean and overall abundance and frequency data for fish for all cruises by station are presented in Tables F-1 through F-12. Fish weight data for all cruises and stations together are presented in Table F-13. Mean lengths of abundant fish for all stations and cruises are presented in Figure F-2. The results of the stomach contents investigations are presented in the Technical Discussion (Volume 2).

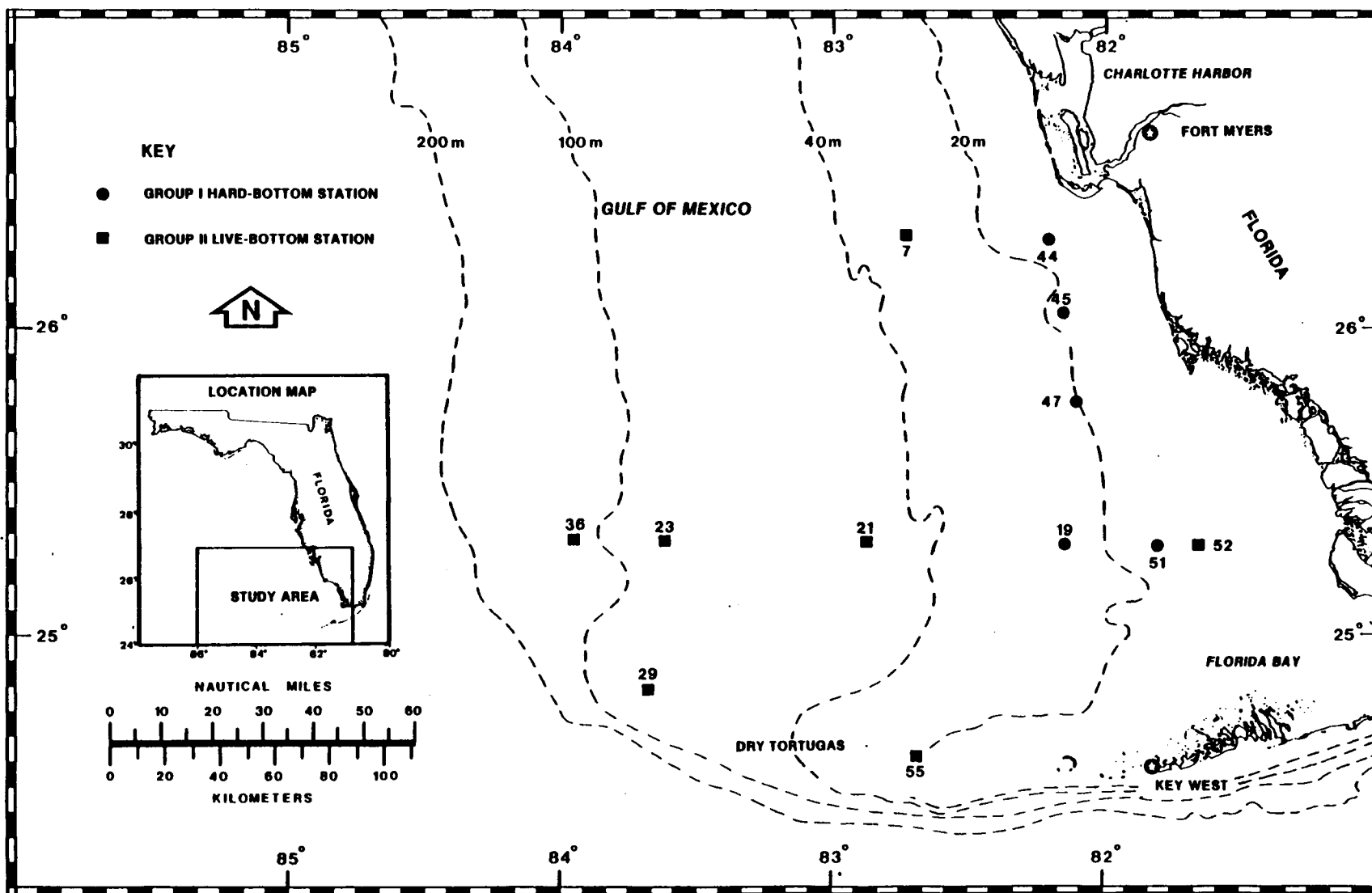


Figure F-1 TRAWL STATION LOCATIONS FOR YEARS 4 AND 5

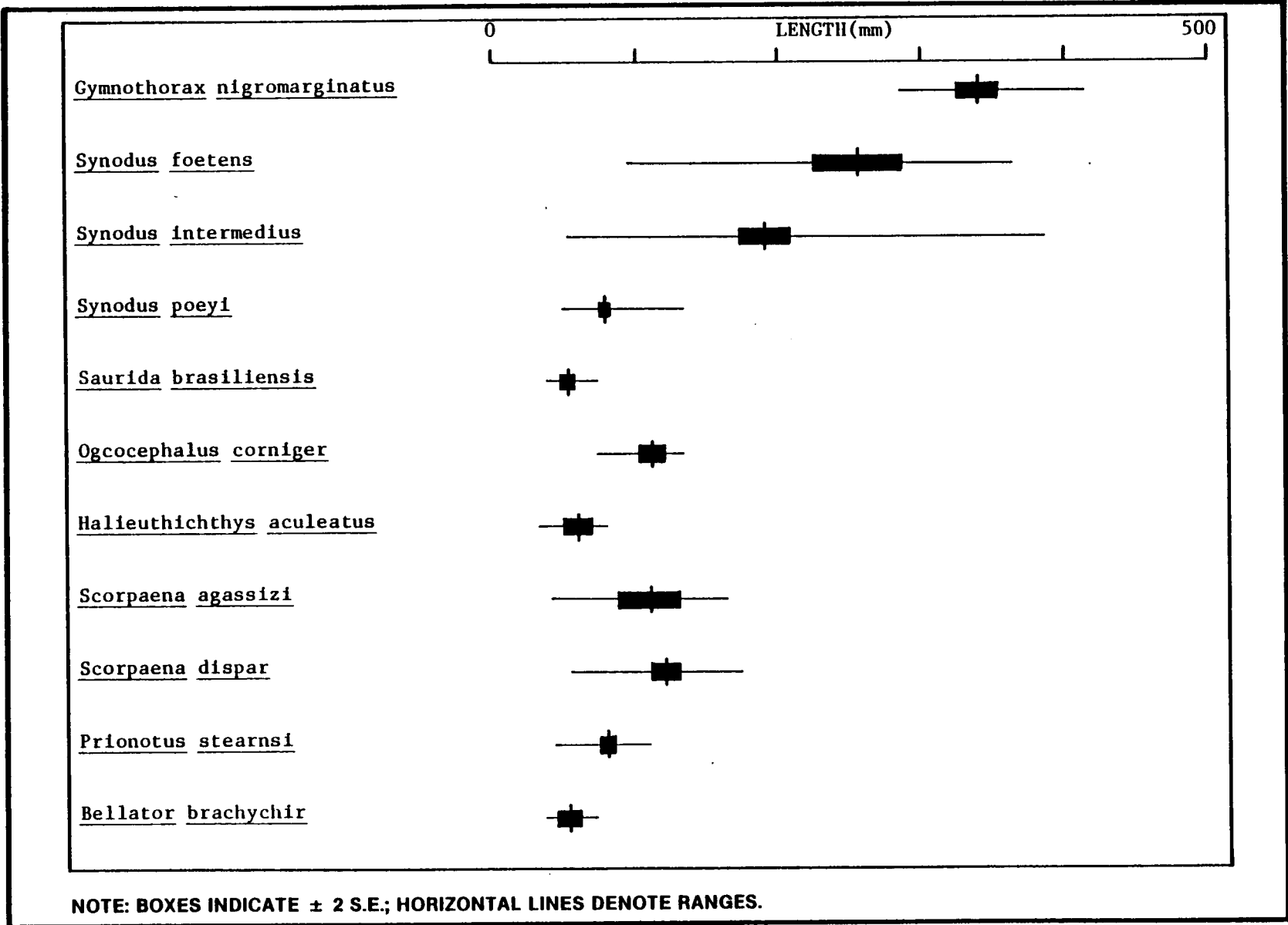


Figure F-2 MEAN LENGTHS OF ABUNDANT FISHES COLLECTED BY TRAWLING, FOR ALL CRUISES AND STATIONS TOGETHER, BY SPECIES

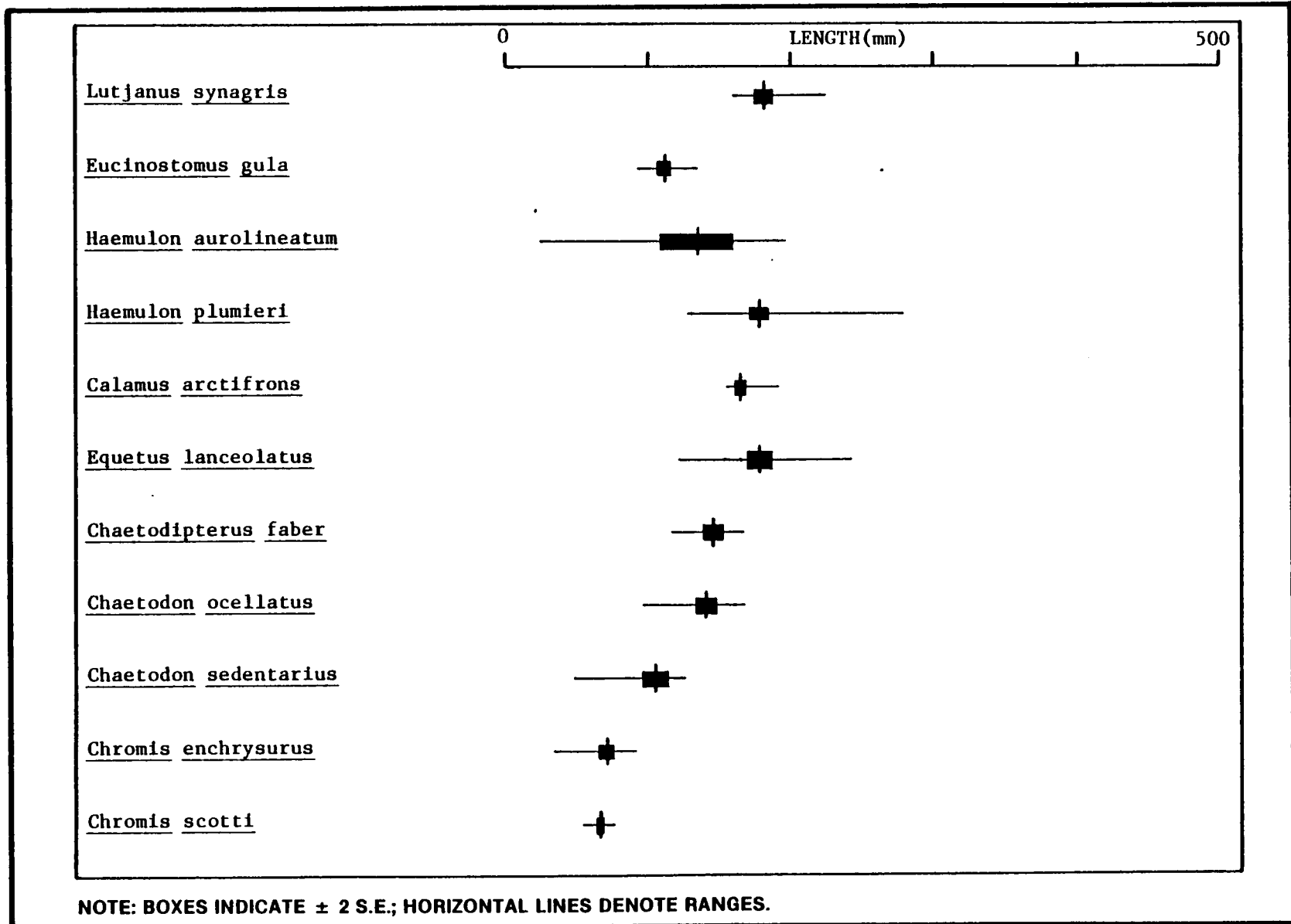


Figure F-2 (cont'd)

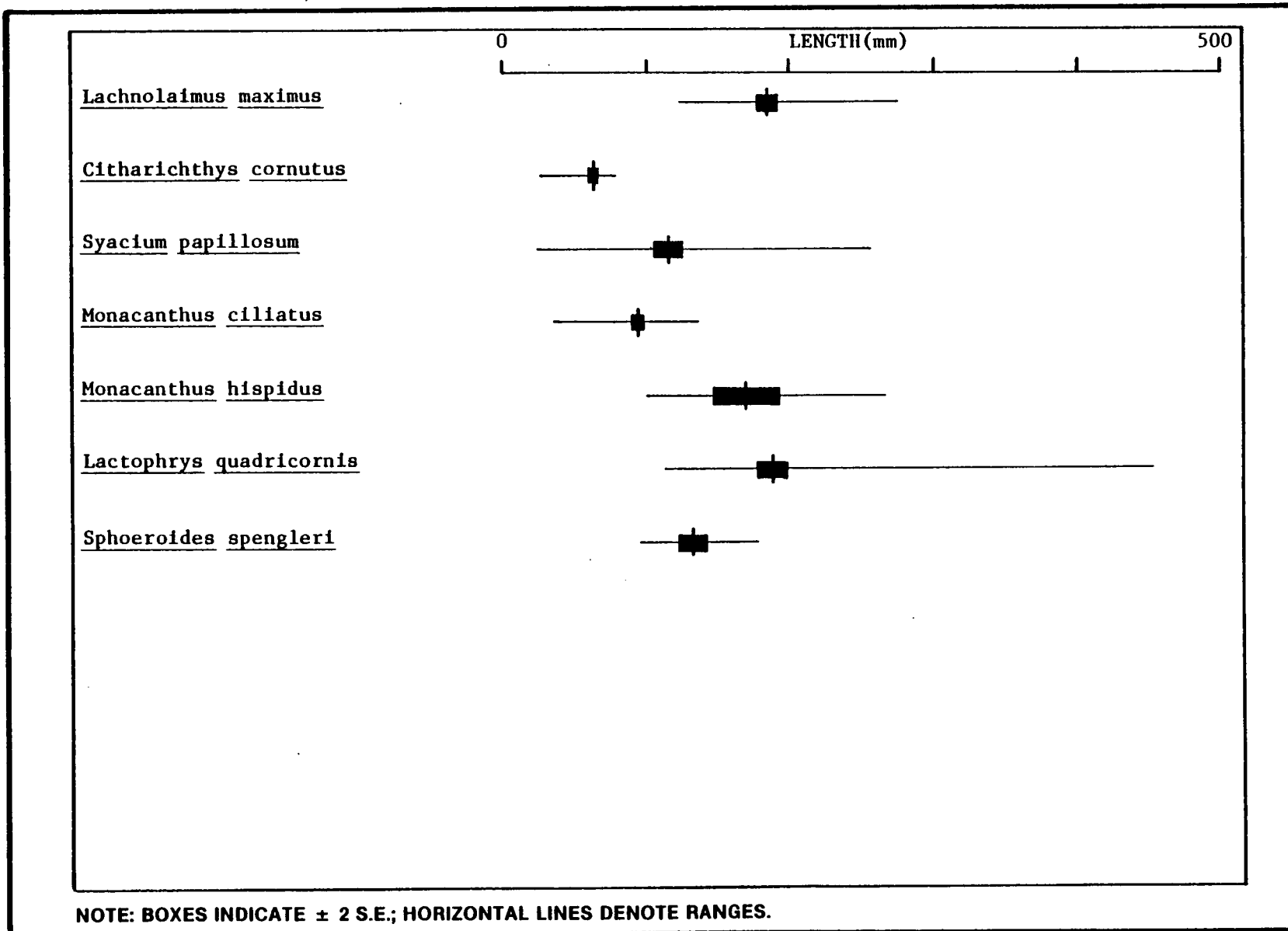


Figure F-2 (cont'd)

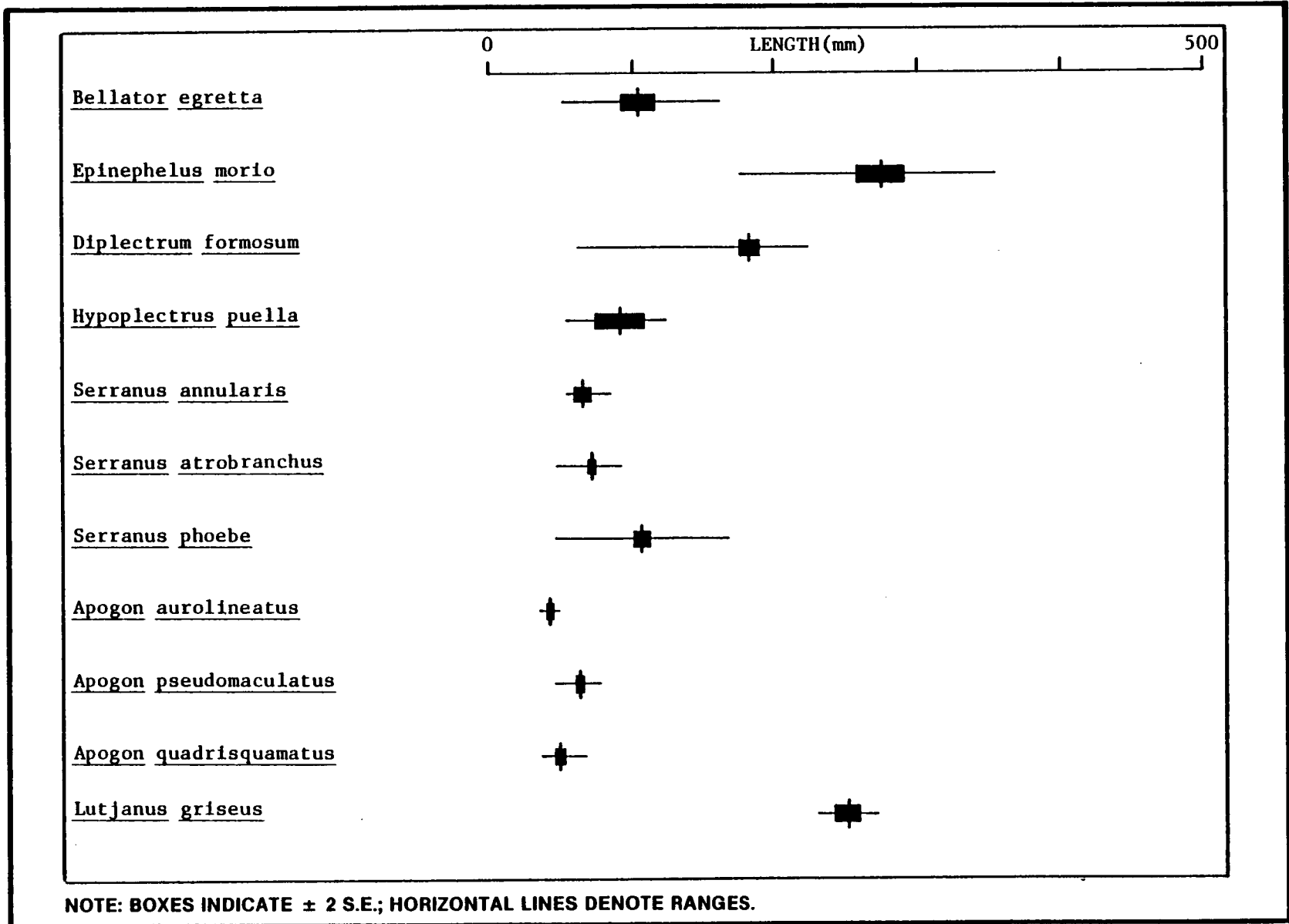


Figure F-2 (cont'd)

Table F-1 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 52, by cruise.

Taxon	Cruise								Overall Abundance	Frequency
	2	3	4	5	6	7	8			
CLUPEIDAE										
<u>Harengula jaguana</u>	5								5	1
SYNODONTIDAE										
<u>Synodus foetens</u>								1	1	1
<u>Synodus intermedius</u>			2	1	1	3		1	8	5
ARIIDAE										
<u>Arius felis</u>						1			1	1
SYNGNATHIDAE										
<u>Hippocampus erectus</u>		1							1	1
SCORPAENIDAE										
<u>Scorpaena brasiliensis</u>						2			2	1
<u>Scorpaena calcarata</u>								1	1	1
TRIGLIDAE										
<u>Prionotus martis</u>		1							1	1
<u>Prionotus scitulus</u>				1	1	2	2		6	4
SERRANIDAE										
<u>Diplectrum formosum</u>				7	2	10	13		32	4
<u>Epinephelus morio</u>		1	1	2		3	1		8	5
<u>Serranus subligarius</u>	1			1					2	2
GRAMMISTIDAE										
<u>Rypticus maculatus</u>	2	1						1	4	3
ECHENEIDAE										
<u>Echeneis neucratoides</u>						1			1	1
CARANGIDAE										
<u>Caranx crysos</u>	2								2	1
LUTJANIDAE										
<u>Lutjanus synagris</u>		2		19				2	23	3
GERREIDAE										
<u>Eucinostomus gula</u>	24			17			2		43	3
HAEMULIDAE										
<u>Anisotremus virginicus</u>				1		1	2		4	3
<u>Haemulon aurolineatum</u>				1		1			2	2
<u>Haemulon plumieri</u>	22	23		20	4	26	39		134	6
SPARIDAE										
<u>Calamus arctifrons</u>	15			5					20	2
<u>Calamus cf. leucosteus</u>							2		2	1
<u>Calamus UNIDENT.</u>						1			1	1
<u>Lagodon rhomboides</u>	4								4	1
SCIAENIDAE										
<u>Equetus lanceolatus</u>		8		7	3	1	7		26	5
MULLIDAE										
<u>Pseudupeneus maculatus</u>				1					1	1
EPHIPPIDAE										
<u>Chaetodipterus faber</u>	2	2		1				1	6	4

Table F-1 (cont'd)

Taxon	Cruise							Overall Abundance	Frequency
	2	3	4	5	6	7	8		
CHAETODONTIDAE									
<i>Chaetodon ocellatus</i>		1						1	1
<i>Pomacanthus arcuatus</i>					1			1	1
LABRIDAE									
<i>Lachnolaimus maximus</i>	6	4	1	11	6	21	28	77	7
SCARIDAE									
<i>Nicholsina usta</i>	1							1	1
BALISTIDAE									
<i>Aluterus schoepfi</i>				1			1	2	2
<i>Monacanthus ciliatus</i>		1		2	2		2	7	4
<i>Monacanthus hispidus</i>	1		1	2	1	1		6	5
OSTRACIIDAE									
<i>Lactophrys quadricornis</i>	1	11	1	15	6	5	11	50	7
TETRAODONTIDAE									
<i>Sphaeroides nephelus</i>					1			1	1
<i>Sphaeroides spengleri</i>				1	1	1	6	9	4
DIODONTIDAE									
<i>Chilomycterus schoepfi</i>					2			2	1
Overall abundance :	86	56	6	116	32	83	119	498	
Number of taxa :	13	12	5	20	14	17	17	38	
Number of families :	12	12	5	14	12	14	13	24	

Table F-2 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 44, by cruise.

Taxon	Cruise		Overall Abundance	Frequency
	1	3		
ENGRAULIDAE				
ENGRAULIDAE UNIDENT.	13		13	1
SYNODONTIDAE				
SYNODONTIDAE UNIDENT.	3		3	1
HAEMULIDAE				
<u>Haemulon aurolineatum</u>	2		2	1
BOTHIDAE				
<u>Citharichthys macrops</u>		1	1	1
SOLEIDAE				
<u>Achirus lineatus</u>		1	1	1
OSTRACIIDAE				
<u>Lactophrys quadricornis</u>	4		4	1
Overall abundance :	22	2	24	
Number of taxa :	4	2	6	
Number of families :	4	2	6	

Table F-3 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 51, by cruise.

Taxon	Cruise		Overall Abundance	Frequency
	1	3		
MURAENIDAE				
<u>Gymnothorax nigromarginatus</u>	1		1	1
SYNODONTIDAE				
<u>Synodus intermedius</u>		2	2	1
SERRANIDAE				
<u>Diplectrum formosum</u>		1	1	1
<u>Epinephelus morio</u>		1	1	1
HAEMULIDAE				
<u>Anisotremus virginicus</u>		1	1	1
<u>Haemulon plumieri</u>	6	2	8	2
SPARIDAE				
<u>Calamus UNIDENT.</u>		2	2	1
SCIAENIDAE				
<u>Equetus lanceolatus</u>		1	1	1
LABRIDAE				
<u>Lachnolaimus maximus</u>		1	1	1
OSTRACIIDAE				
<u>Lactophrys quadricornis</u>		3	3	1
Overall abundance :	7	14	21	
Number of taxa :	2	9	10	
Number of families :	2	7	8	

Table F-4 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 45, by cruise.

Taxon	Cruise		Overall Abundance	Frequency
	1	3		
SYNODONTIDAE				
<u>Synodus foetens</u>	1		1	1
<u>Synodus intermedius</u>	1	2	3	2
OGCOEPHALIDAE				
<u>Ogcocephalus pantostictus</u>		1	1	1
SERRANIDAE				
<u>Epinephelus morio</u>		1	1	1
GRAMMISTIDAE				
<u>Rypticus maculatus</u>	1	1	2	2
HAEMULIDAE				
<u>Haemulon aurolineatum</u>	2	2	4	2
<u>Haemulon plumieri</u>		14	14	1
SPARIDAE				
<u>Calamus baionado</u>	2		2	1
<u>Calamus calamus</u>		1	1	1
<u>Calamus penna</u>		1	1	1
EPHIPPIDAE				
<u>Chaetodipterus faber</u>	19	1	20	2
CHAETODONTIDAE				
<u>Holacanthus bermudensis</u>		2	2	1
LABRIDAE				
<u>Halichoeres bivittatus</u>		6	6	1
<u>Lachnolaimus maximus</u>	1	2	3	2
SCARIDAE				
<u>Nicholsina usta</u>	3		3	1
OSTRACIIDAE				
<u>Lactophrys quadricornis</u>	1	4	5	2
TETRAODONTIDAE				
<u>Sphoeroides spengleri</u>	1	4	5	2
DIODONTIDAE				
<u>Chilomycterus schoepfi</u>		3	3	1
Overall abundance :	32	45	77	
Number of taxa :	10	15	18	
Number of families :	9	12	13	

Table F-5 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 47, by cruise.

Taxon	Cruise		Overall Abundance	Frequency
	1	3		
MURAENIDAE				
<u>Gymnothorax nigromarginatus</u>		1	1	1
SYNODONTIDAE				
<u>Synodus intermedius</u>		1	1	1
OGCOCEPHALIDAE				
<u>Ogcocephalus cubifrons</u>		1	1	1
SYNGNATHIDAE				
<u>Hippocampus erectus</u>		2	2	1
SERRANIDAE				
<u>Diplectrum formosum</u>		1	1	1
<u>Epinephelus morio</u>		1	1	1
LUTJANIDAE				
<u>Lutjanus synagris</u>	1	2	3	2
HAEMULIDAE				
<u>Haemulon aurolineatum</u>	3		3	1
<u>Haemulon plumieri</u>	3	2	5	2
SCIAENIDAE				
<u>Equetus lanceolatus</u>		2	2	1
MULLIDAE				
MULLIDAE UNIDENT.		1	1	1
CHAETODONTIDAE				
<u>Pomacanthus arcuatus</u>		3	3	1
BOTHIDAE				
<u>Cyclopsetta fimbriata</u>		1	1	1
BALISTIDAE				
<u>Balistes capriscus</u>		2	2	1
<u>Monacanthus ciliatus</u>		2	2	1
<u>Monacanthus hispidus</u>		2	2	1
OSTRACIIDAE				
<u>Lactophrys quadricornis</u>	1		1	1
Overall abundance :	8	24	32	
Number of taxa :	4	15	17	
Number of families :	3	12	13	

Table F-6 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 19, by cruise.

Taxon	Cruise		Overall Abundance	Frequency
	1	3		
SYNODONTIDAE				
<u>Synodus foetens</u>		1	1	1
<u>Synodus intermedius</u>	1		1	1
BATRACHOIDIDAE				
<u>Opsanus pardus</u>	1	1	2	2
OGCOEPHALIDAE				
<u>Ogcocephalus pantostictus</u>		1	1	1
SERRANIDAE				
<u>Diplectrum formosum</u>	1	1	2	2
LUTJANIDAE				
<u>Lutjanus synagris</u>	2	1	3	2
HAEMULIDAE				
<u>Haemulon plumieri</u>	1	1	2	2
BLENNIIDAE				
<u>Parablennius marmoreus</u>		1	1	1
BALISTIDAE				
<u>Monacanthus ciliatus</u>	2	3	5	2
DIODONTIDAE				
<u>Chilomycterus schoepfi</u>	1		1	1
Overall abundance :	9	10	19	
Number of taxa :	7	8	10	
Number of families :	7	8	9	

Table F-7 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 55, by cruise.

Taxon	Cruise				Overall Abundance	Frequency
	5	6	7	8		
MURAENIDAE						
<u>Gymnothorax moringa</u>			1		1	1
SYNODONTIDAE						
<u>Synodus intermedius</u>	1				1	1
AULOSTOMIDAE						
<u>Aulostomus maculatus</u>			1		1	1
SERRANIDAE						
<u>Epinephelus morio</u>		2	1	2	5	3
<u>Serranus annularis</u>	1				1	1
LUTJANIDAE						
<u>Lutjanus griseus</u>			8		8	1
HAEMULIDAE						
<u>Haemulon plumieri</u>	1	1	2		4	3
SPARIDAE						
<u>Calamus nodosus</u>	2				2	1
MULLIDAE						
<u>Pseudupeneus maculatus</u>	1				1	1
CHAETODONTIDAE						
<u>Chaetodon ocellatus</u>			1	1	2	2
<u>Holacanthus bermudensis</u>		3			3	1
<u>Pomacanthus arcuatus</u>			3		3	1
LABRIDAE						
<u>Lachnolaimus maximus</u>		1		1	2	2
SCARIDAE						
<u>Sparisoma aurofrenatum</u>		1			1	1
<u>Sparisoma chrysopterum</u>	1		1		2	2
CLINIDAE						
<u>Stathmonotus hemphilli</u>			1		1	1
GOBIIDAE						
<u>Gobiosoma horsti</u>				1	1	1
<u>Risor ruber</u>	1				1	1
ACANTHURIDAE						
<u>Acanthurus bahianus</u>		1			1	1
BOTHIDAE						
<u>Syacium papillosum</u>				2	2	1

Table F-7 (cont'd)

<u>Taxon</u>	<u>Cruise</u>				<u>Overall Abundance</u>	<u>Frequency</u>
	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>		
BALISTIDAE						
<u>Aluterus schoepfi</u>				2	2	1
<u>Monacanthus hispidus</u>		1			1	1
OSTRACIIDAE						
<u>Lactophrys quadricornis</u>	4	4	4		12	3
TETRAODONTIDAE						
<u>Canthigaster rostrata</u>		1			1	1
DIODONTIDAE						
<u>Diodon holocanthus</u>				1	1	1
Overall abundance :	12	15	23	10	60	
Number of taxa :	8	9	10	7	25	
Number of families :	8	9	9	7	19	

Table F-8 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 7, by cruise.

Taxon	Cruise				Overall Abundance	Frequency
	5	6	7	8		
MURAENIDAE						
<u>Gymnothorax nigromarginatus</u>	1		2	2	5	3
<u>Gymnothorax saxicola</u>				1	1	1
SYNODONTIDAE						
<u>Saurida brasiliensis</u>		2			2	1
<u>Saurida sp.</u>			1		1	1
<u>Synodus foetens</u>	4	3	4	3	14	4
<u>Synodus intermedius</u>		2	4	1	7	3
<u>Synodus poeyi</u>	1		29		30	2
<u>Trachinocephalus myops</u>		2		1	3	2
OGCOCEPHALIDAE						
<u>Ogcocephalus cubifrons</u>		1			1	1
SYNGNATHIDAE						
<u>Hippocampus erectus</u>				1	1	1
SCORPAENIDAE						
<u>Scorpaena calcarata</u>			2		2	1
TRIGLIDAE						
<u>Prionotus roseus</u>	2				2	1
SERRANIDAE						
<u>Diplectrum formosum</u>	3	1	3	7	14	4
<u>Epinephelus morio</u>	1				1	1
LUTJANIDAE						
<u>Lutjanus synagris</u>		1			1	1
HAEMULIDAE						
<u>Haemulon aurolineatum</u>		1		2	3	2
SCIAENIDAE						
<u>Equetus lanceolatus</u>	11	3			14	2
CHAETODONTIDAE						
<u>Holacanthus bermudensis</u>	1				1	1
SCARIDAE						
<u>Nicholsina usta</u>			1		1	1
BOTHIDAE						
<u>Bothus ocellatus</u>	1		1		2	2
<u>Syacium papillosum</u>		26	4	3	33	3
BALISTIDAE						
<u>Balistes capriscus</u>			1		1	1
<u>Monacanthus hispidus</u>			1	3	4	2

Table F-8 (cont'd)

Taxon	Cruise				Overall Abundance	Frequency
	5	6	7	8		
TETRAODONTIDAE						
<u>Sphoeroides spengleri</u>			1	1	2	2
Overall abundance :	25	42	54	25	146	
Number of taxa :	9	10	13	11	24	
Number of families :	7	7	8	8	15	

Table F-9 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 21, by cruise.

Taxon	Cruise								Overall Abundance	Frequency
	2	3	4	5	6	7	8			
SYNODONTIDAE										
<i>Saurida brasiliensis</i>				9					9	1
<i>Saurida</i> sp.								1	1	1
SYNODONTIDAE UNIDENT.				1					1	1
<i>Synodus foetens</i>				3					3	1
<i>Synodus intermedius</i>	1	1	3	4		3	3		15	6
<i>Synodus poeyi</i>			1	1	2		1		5	4
BATRACHOIDIDAE										
<i>Porichthys plectrodon</i>				1					1	1
GOBIESOCIDAE										
<i>Gobiesox strumosus</i>		1		4					5	2
ANTENNARIIDAE										
<i>Antennarius ocellatus</i>				1					1	1
OPHIDIIDAE										
OPHIDIIDAE UNIDENT.				1					1	1
HOLOCENTRIDAE										
<i>Holocentrus bullisi</i>				8					8	1
<i>Holocentrus paco</i>				2					2	1
SCORPAENIDAE										
<i>Scorpaena brasiliensis</i>			1						1	1
<i>Scorpaena dispar</i>	2			1					3	2
<i>Scorpaena plumieri</i>	2								2	1
TRIGLIDAE										
<i>Prionotus ophryas</i>				1					1	1
SERRANIDAE										
<i>Diplectrum bivittatum</i>				4					4	1
<i>Diplectrum formosum</i>						2			2	1
<i>Epinephelus morio</i>				7	1	3	1		12	4
<i>Hypoplectrus puella</i>	1	3	3	4					11	4
<i>Hypoplectrus unicolor</i>						2	1		3	2
<i>Mycteroperca phenax</i>						1			1	1
<i>Serranus annularis</i>					1				1	1
<i>Serranus phoebe</i>	1	2	6	12		9	2		32	6
PRIACANTHIDAE										
<i>Priacanthus arenatus</i>				1				1	2	2
<i>Pristigenys alta</i>	1			1					2	2
APOGONIDAE										
<i>Apogon affinis</i>	1								1	1
<i>Apogon aurolineatus</i>				13					13	1
<i>Apogon pseudomaculatus</i>	2		1	33					36	3
<i>Apogon quadrisquamatus</i>				15					15	1
<i>Astrapogon alutus</i>				2					2	1
LUTJANIDAE										
<i>Lutjanus griseus</i>	1	1							2	2
<i>Lutjanus synagris</i>	1	1							2	2
GERREIDAE										
<i>Eucinostomus ionesi</i>	1								1	1
HAEMULIDAE										
<i>Haemulon aurolineatum</i>	2			8					10	2

Table F-9 (cont'd)

Taxon	Cruise							Overall Abundance	Frequency
	2	3	4	5	6	7	8		
SPARIDAE									
<u>Calamus calamus</u>		2						2	1
<u>Calamus nodosus</u>	1			2				3	2
<u>Calamus pennatula</u>	1			2			2	5	3
<u>Calamus sp. 1</u>	1							1	1
SCIAENIDAE									
<u>Equetus lanceolatus</u>				5				5	1
<u>Equetus umbrosus</u>				2				2	1
MULLIDAE									
<u>Pseudupeneus maculatus</u>			1					1	1
CHAETODONTIDAE									
<u>Chaetodon ocellatus</u>	6	1		4	1		1	13	5
<u>Chaetodon sedentarius</u>	4	3		11				18	3
<u>Holacanthus bermudensis</u>				1	2			3	2
POMACENTRIDAE									
<u>Chromis anchrysurus</u>			1	2		1		4	3
<u>Chromis UNIDENT.</u>	1							1	1
SCARIDAE									
<u>Nicholsina usta</u>			1					1	1
<u>Sparisoma atomarium</u>				1				1	1
<u>Sparisoma UNIDENT.</u>			3					3	1
BLENNIIDAE									
<u>Parablennius marmoratus</u>				2				2	1
CLINIDAE									
<u>Emblemaria caldwelli</u>	1			2				3	2
<u>Nemaclinus atelestos</u>				1				1	1
<u>Starksia UNIDENT.</u>						1		1	1
GOBIIDAE									
<u>Evermannia UNIDENT.</u>				1				1	1
<u>Evermannichthys UNIDENT.</u>						1		1	1
<u>GOBIIDAE UNIDENT.</u>				1				1	1
BOTHIDAE									
<u>Bothus ocellatus</u>				1				1	1
<u>Cyclopsetta fimbriata</u>	1							1	1
<u>Syacium papillosum</u>	2	1	3	25		1	5	37	6
BALISTIDAE									
<u>Aluterus heudeloti</u>				2				2	1
<u>Aluterus schoepfi</u>				2				2	1
<u>Monacanthus ciliatus</u>			1					1	1
<u>Monacanthus hispidus</u>	1						1	2	2
<u>Monacanthus UNIDENT.</u>				1				1	1
OSTRACIIDAE									
<u>Lactophrys polygonia</u>				1				1	1
<u>Lactophrys quadricornis</u>	1			1				2	2
TETRAODONTIDAE									
<u>Sphoeroides spengleri</u>	1			3				4	2
DIODONTIDAE									
<u>Diodon holocanthus</u>		1	1	2				4	3
Overall abundance :	37	17	26	212	8	23	19	342	
Number of taxa :	24	11	13	47	6	9	11	69	
Number of families :	16	8	10	25	4	5	7	28	

Table F-10 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 29, by cruise.

Taxon	Cruise							Overall Abundance	Frequency
	1	2	3	4	5	6	7		
SYNODONTIDAE									
<u>Synodus synodus</u>						2		2	1
GOBIESOCIDAE									
<u>Gobiesox cf. punctulatus</u>						1		1	1
HOLOCENTRIDAE									
<u>Adioryx coruscus</u>							2	2	1
<u>Holocentrus bullisi</u>					1			1	1
SYNGNATHIDAE									
<u>Hippocampus erectus</u>			1					1	1
SCORPAENIDAE									
<u>Scorpaena dispar</u>			1	2				3	2
SERRANIDAE									
<u>Gonioplectrus hispanus</u>					1			1	1
<u>Hemanthias vivanus</u>					1			1	1
<u>Schultzea beta</u>	1							1	1
<u>Serranus annularis</u>			1	1		3		5	3
<u>Serranus tortugarum</u>						2		2	1
CHAETODONTIDAE									
<u>Chaetodon aculeatus</u>			1					1	1
<u>Chaetodon sedentarius</u>		1					2	3	2
POMACENTRIDAE									
<u>Chromis enchrysurus</u>	1	2			24	1	6	34	5
<u>Chromis insolatus</u>					1			1	1
<u>Chromis scotti</u>	1	1		2	45	1	7	57	6
<u>Pomacentrus partitus</u>					1			1	1
LABRIDAE									
<u>Bodianus pulchellus</u>					1			1	1
SCARIDAE									
<u>Cryptotomus roseus</u>						1		1	1
<u>Sparisoma atomarium</u>					1	2		3	2
<u>Sparisoma radians</u>							3	3	1
BALISTIDAE									
<u>Monacanthus ciliatus</u>			1				1	2	2
<u>Monacanthus tuckeri</u>		1						1	1
OSTRACIIDAE									
<u>Lactophrys quadricornis</u>							1	1	1
TETRAODONTIDAE									
<u>Canthigaster rostrata</u>					1			1	1
DIODONTIDAE									
<u>Diodon holocanthus</u>						1		1	1
Overall abundance :	3	5	5	5	77	16	20	131	
Number of taxa :	3	4	5	3	10	10	6	26	
Number of families :	2	3	5	3	6	7	5	14	

Table F-11 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 23, by cruise.

Taxon	Cruise						Overall Abundance	Frequency
	2	3	4	5	6	7		
MURAENIDAE								
<u>Gymnothorax nigromarginatus</u>			2		1		3	2
MURAENESOCIDAE								
<u>Paraxenomystax bidentatus</u>				1			1	1
SYNODONTIDAE								
<u>Saurida brasiliensis</u>					1		1	1
<u>Synodus intermedius</u>	2	2	4	2	6		16	5
<u>Synodus poeyi</u>		1	10	2	10		23	4
<u>Synodus synodus</u>			1			2	3	2
LOPHIIDAE								
<u>Lophiodes reticulatus</u>			1				1	1
OGCOEPHALIDAE								
<u>Halieutichthys aculeatus</u>					5	1	6	2
<u>Ogcocephalus parvus</u>		1	1		1		3	3
SYNGNATHIDAE								
<u>Cosmocampus alucens</u>				1			1	1
SCORPAENIDAE								
<u>Scorpaena agassizi</u>					1	1	2	2
<u>Scorpaena brasiliensis</u>					1		1	1
<u>Scorpaena dispar</u>		4	13	1	10		28	4
<u>Scorpaena elachys</u>					1		1	1
<u>Scorpaenodes tredecimspinosus</u>	1						1	1
TRIGLIDAE								
<u>Bellator egretta</u>					1		1	1
<u>Bellator militaris</u>		1					1	1
SERRANIDAE								
<u>Centropristis philadelphica</u>		1					1	1
<u>Serranus annularis</u>	5			1	2		8	3
<u>Serranus atrobranchus</u>	4		30	1	6		41	4
<u>Serranus phoebe</u>	34	35	21	22	37	13	162	6
GRAMMISTIDAE								
<u>Rypticus bistrispinus</u>		2	3		1		6	3
PRIACANTHIDAE								
<u>Priacanthus cruentatus</u>					1		1	1
APOGONIDAE								
<u>Apogon aurolineatus</u>					2		2	1
POMACENTRIDAE								
<u>Chromis enchrysurus</u>	1			3		1	5	3
SCARIDAE								
<u>Sparisoma atomarium</u>				1			1	1
BOTHIDAE								
<u>Syacium papillosum</u>					4		4	1
BALISTIDAE								
<u>Monacanthus ciliatus</u>		5	14	5	17		41	4
OSTRACIIDAE								
<u>Lactophrys polygonia</u>		1		1		1	3	3

Table F-11 (cont'd)

Taxon	Cruise						Overall Abundance	Frequency
	2	3	4	5	6	7		
DIODONTIDAE								
<u>Diodon holocanthus</u>					1		1	1
Overall abundance :	47	53	100	41	109	19	369	
Number of taxa :	6	10	11	12	20	6	30	
Number of families :	4	8	8	9	12	6	18	

Table F-12 Mean and overall abundance (no. per 10-min tow) and frequency of fishes collected by trawling at Station 36, by cruise.

Taxon	Cruise						Overall Abundance	Frequency
	2	3	4	5	6	7		
MURAENIDAE								
<u>Gymnothorax nigromarginatus</u>			1		1		2	2
SYNODONTIDAE								
<u>Saurida brasiliensis</u>				1			1	1
<u>Saurida normani</u>		1	2				3	2
<u>Saurida UNIDENT.</u>			38				38	1
<u>Synodus intermedius</u>		1			1		2	2
<u>Synodus poeyi</u>	2	12	112	14	1		141	5
<u>Trachinocephalus myops</u>	1				2		3	2
ANTENNARIIDAE								
<u>Antennarius radiatus</u>			2			1	3	2
OGCOCEPHALIDAE								
<u>Haliutichthys aculeatus</u>	2	2	1	1	2	2	10	6
<u>Ogcocephalus corniger</u>		2	9		1		12	3
<u>Ogcocephalus parvus</u>	1		1		1		3	3
ZEIDAE								
<u>Zenopsis conchifera</u>						1	1	1
CAPROIDAE								
<u>Antigonia capros</u>	1				1		2	2
SCORPAENIDAE								
<u>Pontinus rathbuni</u>	3						3	1
<u>Scorpaena agassizi</u>	4	6	4	2	4		20	5
TRIGLIDAE								
<u>Bellator brachychir</u>		5	5				10	2
<u>Bellator egretta</u>	5	4	19	2	9	8	47	6
<u>Bellator militaris</u>			1				1	1
<u>Prionotus stearnsi</u>	14	20	6	1	13	6	60	6
SERRANIDAE								
<u>Hemanthias vivanus</u>		1		1			2	2
<u>Holanthias martinicensis</u>	4	3				2	9	3
<u>Plectranthias garrupellus</u>	2	1					3	2
<u>Serranus atrobranchus</u>	25	28	88	27	15	12	195	6
<u>Serranus phoebe</u>	14		1	2	3	2	22	5
PRIACANTHIDAE								
<u>Priacanthus cruentatus</u>					1		1	1
<u>Pristigenys alta</u>	2	2					4	2
APOGONIDAE								
<u>Apogon UNIDENT.</u>						5	5	1
CHAETODONTIDAE								
<u>Chaetodon aya</u>	2	1			2	4	9	4
POMACENTRIDAE								
<u>Chromis scotti</u>			1				1	1
LABRIDAE								
<u>Decodon puellaris</u>			2	2			4	2
<u>Halichoeres bathyphilus</u>				1			1	1
LABRIDAE UNIDENT.	1						1	1
OPISTOGNATHIDAE								
<u>Opistognathus UNIDENT.</u>		1					1	1

Table F-12 (cont'd)

Taxon	Cruise						Overall Abundance	Frequency
	2	3	4	5	6	7		
BOTHIDAE								
<i>Ancylopsetta dilecta</i>		1	1	1			3	3
<i>Citharichthys cornutus</i>			38	3		9	50	3
<i>Citharichthys dinoceros</i>				1			1	1
<i>Citharichthys gymnorhinus</i>		3					3	1
<i>Citharichthys</i> UNIDENT.	3						3	1
<i>Cyclopsetta fimbriata</i>					1		1	1
<i>Syacium papillosum</i>		1		1	7	2	11	4
TRIACANTHODIDAE								
<i>Parahollandia lineata</i>		2	3	1	2		8	4
TETRAODONTIDAE								
<i>Sphaeroides spangleri</i>				3			3	1
Overall abundance :	86	97	335	64	67	54	703	
Number of taxa :	17	20	20	17	18	12	42	
Number of families :	10	10	11	9	11	8	18	

Table F-13 Weight (g) of fishes collected by trawling, for all cruises and stations together.

	TOTAL N	overall mean	std. error	minimum	maximum
<u>Gymnothorax moringa</u>	1	233.4		233.4	233.4
<u>Gymnothorax nigromarginatus</u>	12	70.4	11.40	29.5	150.5
<u>Gymnothorax saxicola</u>	1	131.9		131.9	131.9
<u>Paraxenomystax bidentatus</u>	1	.9		.9	.9
<u>Harengula jaguana</u>	5	41.0	2.66	36.5	51.4
SYNODONTIDAE UNIDENT.	1	.2		.2	.2
<u>Synodus foetens</u>	20	162.0	21.48	4.2	416.3
<u>Synodus intermedius</u>	56	83.8	12.33	2.1	487.4
<u>Synodus poeyi</u>	199	3.1	.16	.5	16.3
<u>Synodus synodus</u>	5	21.3	2.52	16.2	30.5
<u>Saurida sp.</u>	2	1.2	.30	.9	1.5
<u>Saurida brasiliensis</u>	13	1.3	.25	.3	3.2
<u>Saurida normani</u>	3	79.8	49.28	15.9	176.7
<u>Saurida UNIDENT.</u>	38	.9	.09	.1	2.2
<u>Trachinocephalus myops</u>	6	44.7	15.42	.4	103.7
<u>Arius felis</u>	1	129.4		129.4	129.4
<u>Porichthys plectrodon</u>	1	3.5		3.5	3.5
<u>Opsanus pardus</u>	2	2.2	.65	1.5	2.8
<u>Gobiesox strumosus</u>	5	1.8	.49	.8	3.1
<u>Gobisox cf. punctulatus</u>	1	2.5		2.5	2.5
<u>Lophiodes reticulatus</u>	1	364.7		364.7	364.7
<u>Atennarius ocellatus</u>	1	4.4		4.4	4.4
<u>Atennarius radiosus</u>	3	12.1	9.91	1.4	31.9
<u>Ogcocephalus cubifrons</u>	2	97.2	66.60	30.6	163.8
<u>Ogcocephalus parvus</u>	6	10.2	2.10	4.5	15.3
<u>Ogcocephalus pantostictus</u>	2	135.6	23.75	111.8	159.3
<u>Ogcocephalus corniger</u>	12	18.6	1.96	4.7	28.0
<u>Haliethichthys aculeatus</u>	12	4.8	.97	.8	11.1
OPHIDIIDAE UNIDENT.	1	1.0		1.0	1.0
<u>Holocentrus bullisi</u>	9	47.8	5.68	24.0	75.1
<u>Adioryx coruscus</u>	2	18.1	0.00	18.1	18.1
<u>Holocentrus poco</u>	2	3.1	.05	3.0	3.1
<u>Antigonia capros</u>	2	52.1	11.10	41.0	63.2
<u>Aulostomus maculatus</u>	1	134.8		134.8	134.8
<u>Hippocampus erectus</u>	4	19.1	8.69	2.4	35.8
<u>Cosmocampus alucens</u>	1	.5		.5	.5
<u>Pontinus rathbuni</u>	3	4.5	.88	2.9	5.9
<u>Scorpaena agassizi</u>	22	29.4	5.59	1.3	71.6
<u>Scorpaena brasiliensis</u>	4	73.5	24.60	7.6	126.8
<u>Scorpaena calcaratta</u>	3	5.7	2.38	.9	8.1
<u>Scorpaena dispar</u>	33	30.6	3.47	2.7	79.1
<u>Scorpaena elachys</u>	1	2.1		2.1	2.1
<u>Scorpaena plumieri</u>	2	386.2	98.65	287.5	484.8
<u>Scorpaenodes tredecimspinosus</u>	1	1.5		1.5	1.5
<u>Prionotus scitulus</u>	6	47.2	4.20	30.2	59.2
<u>Prionotus martis</u>	1	43.2		43.2	43.2
<u>Prionotus ophryas</u>	1	51.2		51.2	51.2
<u>Prionotus roseus</u>	2	44.5	12.80	31.7	57.3
<u>Prionotus stearnsi</u>	60	6.8	.49	.8	16.9
<u>Bellator brachychir</u>	10	2.6	.50	.7	5.3
<u>Bellator egretta</u>	48	15.5	1.60	1.9	49.8
<u>Bellator militaris</u>	2	2.8	2.60	.2	5.4
<u>Centropristis philadelphica</u>	1	39.7		39.7	39.7
<u>Epinephelus morio</u>	29	337.8	30.05	67.4	743.9

Table F-13 (cont'd)

	TOTAL N	overall mean	std. error	minimum	maximum
<u>Mycteroperca phenax</u>	1	146.1		146.1	146.1
<u>Diplectrum formosum</u>	52	89.2	4.44	2.1	136.7
<u>Diplectrum bivittatum</u>	4	2.5	.67	1.1	4.3
<u>Gonioplectrus hispanus</u>	1	11.8		11.8	11.8
<u>Hemanthias vivanus</u>	3	19.2	9.40	.5	30.3
<u>Hypoplectrus unicolor</u>	3	26.4	7.07	17.3	40.3
<u>Hypoplectrus puella</u>	11	15.8	4.01	2.1	36.7
<u>Schultzea beta</u>	1	1.3		1.3	1.3
<u>Serranus annularis</u>	15	4.0	.56	1.9	8.9
<u>Serranus atrobranchus</u>	232	5.9	.17	1.3	11.7
<u>Serranus phoebe</u>	216	24.3	1.41	1.2	81.4
<u>Serranus subligarius</u>	2	3.3	.20	3.1	3.5
<u>Serranus tortugarum</u>	2	3.7	.10	3.6	3.8
<u>Plectranthias garrupellus</u>	3	4.6	1.10	2.7	6.5
<u>Holanthias martinicensis</u>	9	30.1	12.08	4.0	120.3
<u>Rypticus bistrispinus</u>	6	8.4	.57	6.7	10.1
<u>Rypticus maculatus</u>	6	28.3	3.96	9.3	35.4
<u>Priacanthus arenatus</u>	2	202.2	54.40	147.8	256.6
<u>Priacanthus cruentatus</u>	2	46.9	37.20	9.7	84.1
<u>Pristigenys alta</u>	6	107.3	22.41	33.4	186.1
<u>Apogon sp.</u>	4	.2	.05	.1	.3
<u>Apogon affinis</u>	1	12.2		12.2	12.2
<u>Apogon aurolineatus</u>	15	1.1	.09	.6	1.8
<u>Apogon pseudomaculatus</u>	35	3.5	.18	1.2	6.0
<u>Apogon quadrisquamatus</u>	15	1.9	.31	.7	4.0
<u>Astrapogon alutus</u>	2	.9	.10	.8	1.0
<u>Eucheneis neucratoides</u>	1	352.1		352.1	352.1
<u>Caranx crysos</u>	2	80.3	28.60	51.7	108.9
<u>Lutianus griseus</u>	10	220.1	12.34	171.2	297.5
<u>Lutianus synagris</u>	32	100.9	6.97	59.8	185.1
<u>Eucinostomus gula</u>	43	32.1	1.24	20.6	48.0
<u>Eucinostomus jonesi</u>	1	71.3		71.3	71.3
<u>Haemulon aurolineatum</u>	24	68.1	8.94	.2	124.9
<u>Haemulon plumieri</u>	144	112.4	4.73	40.8	405.3
<u>Anisotremus virginicus</u>	5	101.2	29.52	26.3	197.3
<u>Lagodon rhomboides</u>	4	61.0	2.34	56.7	66.7
<u>Calamus UNIDENT.</u>	3	68.4	10.91	48.1	85.5
<u>Calamus arctifrons</u>	20	103.2	4.08	77.5	149.5
<u>Calamus bajonado</u>	2	31.5	.15	31.3	31.6
<u>Calamus calamus</u>	3	68.4	16.06	46.4	99.7
<u>Calamus cf. leucosteus</u>	2	119.1	13.60	105.5	132.7
<u>Calamus nodosus</u>	5	159.4	36.04	43.4	247.1
<u>Calamus pennatula</u>	5	152.3	22.77	91.0	223.6
<u>Calamus penna</u>	1	195.0		195.0	195.0
<u>Equetus lanceolatus</u>	48	62.4	4.09	12.0	157.3
<u>Equetus umbrosus</u>	2	67.2	8.10	59.1	75.3
MULLIDAE UNIDENT.	1	.8		.8	.8
<u>Pseudupeneus maculatus</u>	3	102.3	48.29	6.1	157.6
<u>Chaetodipterus faber</u>	26	107.9	6.29	50.5	183.0
<u>Chaetodon ocellatus</u>	16	79.0	5.51	21.9	121.0
<u>Chaetodon aya</u>	9	26.4	1.54	18.2	33.7
<u>Chaetodon sedentarius</u>	21	32.7	3.21	2.4	54.1
<u>Holacanthus bermudensis</u>	9	308.1	67.94	38.7	773.8
<u>Pomacanthus arcuatus</u>	7	512.7	167.02	96.9	1092.5
<u>Chaetodon aculeatus</u>	1	8.5		8.5	8.5

Table F-13 (cont'd)

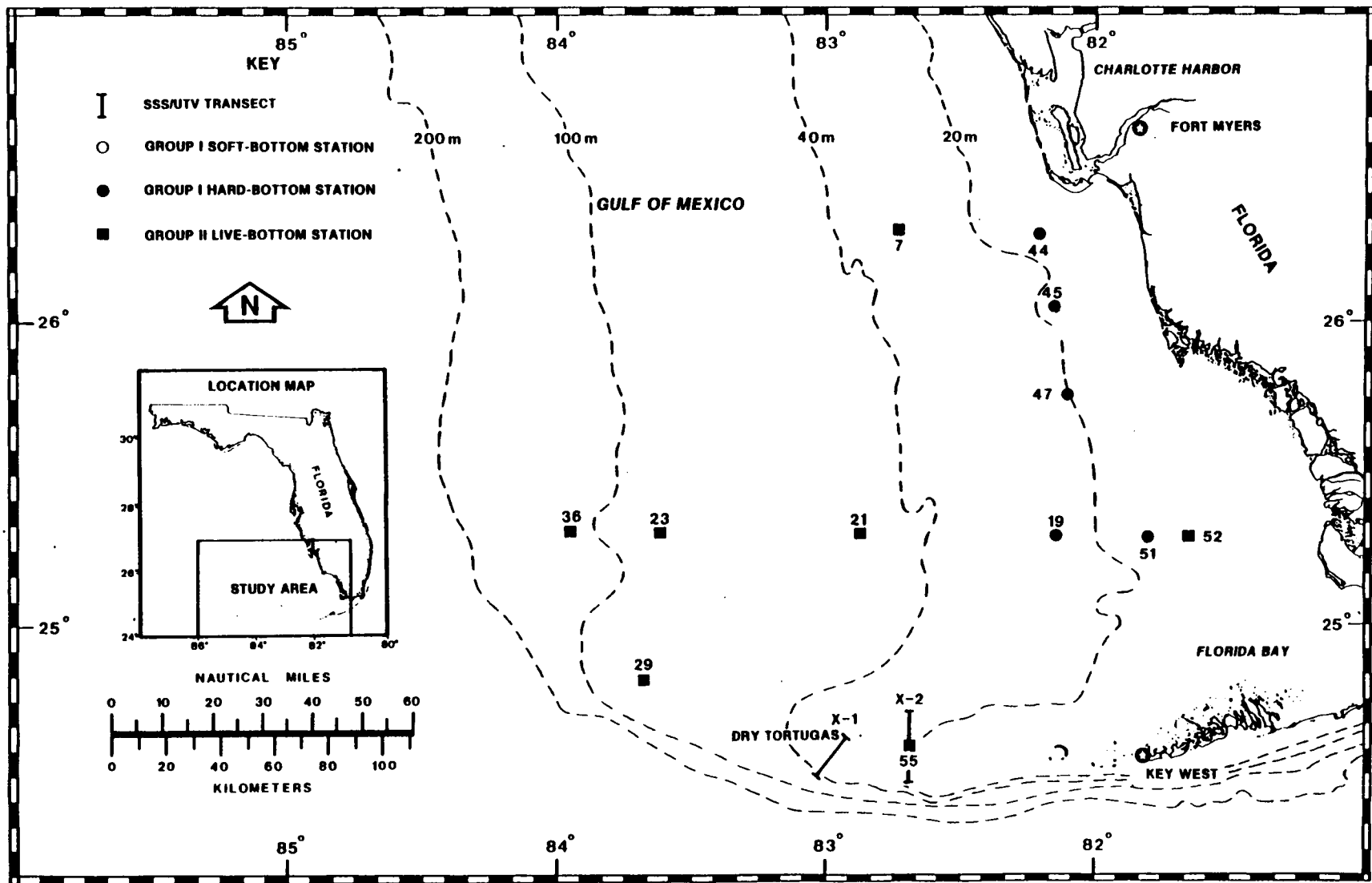
	TOTAL N	overall mean	std. error	minimum	maximum
<u>Chromis UNIDENT.</u>	1	4.5		4.5	4.5
<u>Chromis enchrysurus</u>	42	9.7	.72	.8	18.8
<u>Chromis insolatus</u>	1	1.1		1.1	1.1
<u>Chromis scotti</u>	58	8.2	.26	2.8	11.6
<u>Pomacentrus partitus</u>	1	6.1		6.1	6.1
LABRIDAE UNIDENT.	1	2.4		2.4	2.4
<u>Bodianus pulchellus</u>	1	11.9		11.9	11.9
<u>Decodon puellaris</u>	4	1.7	.74	.3	3.0
<u>Halichoeres bathyphilus</u>	1	29.5		29.5	29.5
<u>Halichoeres bivittatus</u>	6	5.9	2.76	2.1	19.0
<u>Lachnolaimus maximus</u>	66	133.4	9.95	33.5	386.1
<u>Cryptotomus roseus</u>	1	1.8		1.8	1.8
<u>Nicholsina usta</u>	6	28.5	16.73	1.9	89.5
<u>Sparisoma UNIDENT.</u>	3	1.2	.35	.5	1.6
<u>Sparisoma atomarium</u>	5	7.4	2.62	1.4	16.6
<u>Sparisoma aurofrenatum</u>	1	230.1		230.1	230.1
<u>Sparisoma chrysopterum</u>	2	472.2	124.75	347.4	596.9
<u>Sparisoma radians</u>	3	8.5	2.92	5.2	14.3
<u>Opistognathus UNIDENT.</u>	1	.8		.8	.8
<u>Parablennius marmoreus</u>	3	.7	.41	.1	1.5
<u>Emblemaria caldwelli</u>	3	.9	.28	.6	1.5
<u>Stathmonotus hemphilli</u>	1	.1		.1	.1
<u>Nemaclinus atelestos</u>	1	.5		.5	.5
GOBIIDAE UNIDENT.	1	3.1		3.1	3.1
<u>Evermannichthys UNIDENT.</u>	1	.1		.1	.1
<u>Acanthurus bahianus</u>	1	123.3		123.3	123.3
<u>Citharichthys UNIDENT.</u>	3	.5	.15	.3	.8
<u>Citharichthys cornutus</u>	50	2.4	.15	.2	4.7
<u>Citharichthys dinoceros</u>	1	2.7		2.7	2.7
<u>Citharichthys gymnorhinus</u>	3	1.1	.44	.2	1.6
<u>Ancylopsetta dilecta</u>	3	6.1	2.90	2.7	11.9
<u>Bothus ocellatus</u>	3	26.3	11.63	3.6	42.0
<u>Cyclopsetta fimbriata</u>	3	30.0	20.10	.3	68.3
<u>Syacium papillosum</u>	86	18.5	2.50	.1	120.6
<u>Parabollardia lipsata</u>	8	9.1	1.55	2.0	15.6
<u>Aluterus schoepfi</u>	6	346.1	84.40	125.1	633.8
<u>Aluterus heudeloti</u>	2	359.4	282.30	77.1	641.7
<u>Balistes capriscus</u>	3	88.1	8.65	76.7	105.1
<u>Monacanthus UNIDENT.</u>	1	.6		.6	.6
<u>Monacanthus ciliatus</u>	58	14.5	1.12	.9	38.0
<u>Monacanthus tuckeri</u>	1	2.1		2.1	2.1
<u>Monacanthus hispidus</u>	15	90.9	18.33	16.7	292.5
<u>Lactophrys quadricornis</u>	78	140.9	15.28	38.4	1178.1
<u>Lactophrys polygonus</u>	4	504.7	121.50	149.1	698.4
<u>Sphoeroides nephelus</u>	1	52.1		52.1	52.1
<u>Sphoeroides spengleri</u>	23	39.9	4.96	11.1	98.9
<u>Canthigaster rostrata</u>	2	5.4	2.90	2.5	8.3
<u>Chilomycterus schoepfi</u>	6	517.8	58.01	136.9	540.6
<u>Diodon holocanthus</u>	7	277.8	20.93	200.7	341.9

APPENDIX G

APPENDIX G
UNDERWATER TELEVISION

A minimum of 2 km of sea floor per cruise were surveyed with underwater television during Years 4 and 5 at selected stations (Figure G-1). The Group I hard-bottom stations (44, 45, 47, 19, and 51) were surveyed only during Cruises I and III. Each of the Group II live-bottom stations were surveyed a minimum of eight times during the two-year study. The new stations added during Year 5 (Stations 7 and 55) were surveyed only during Cruises V through VIII.

Mean and overall densities of benthic invertebrates and fishes are presented for the individual stations by cruise in Tables G-1 through G-12 and Figures G-2 through G-37. They are presented in the order in which they are discussed in the Technical Discussion (Volume 2).



G-2

Figure G-1 UNDERWATER TELEVISION STATION LOCATIONS FOR YEARS 4 AND 5

Table G-1 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 52, by cruise.

Taxon	Cruise								Overall Density
	1	3	4	5	6	7	8		
ECHINODERMATA									
ASTEROIDEA									
ASTEROIDEA UNIDENT.	3.0	16.2	2.6	8.0	42.3	11.9	11.2	14.7	
<u>Oreaster reticulatus</u>						4.0		0.3	
ECHINOIDEA									
MELLITIDAE UNIDENT.					2.8			0.5	
HOLOTHUROIDEA									
HOLOTHUROIDEA UNIDENT.		5.4		4.0			2.8	1.8	
<u>Isoestichopus badionotus</u>				8.0				0.5	
CNIDARIA									
HYDROIDA									
HYDROIDA UNIDENT.		66.9			174.7		14.0	48.6	
ZOANTHARIA									
ACTINIARIA UNIDENT.	1.5	1.1						0.5	
<u>Solenastrea hyades</u>	1.5				71.9	4.0		13.5	
ALCYONARIA									
**GORGONACEA UNIDENT.	26628.0	10107.5	29353.1	14553.6	31312.1	69107.1	49081.7	28237.0	
<u>Pterogorgia guadalupensis</u>	54.7		270.9	8.0	16.9	557.5	188.1	118.2	
PORIFERA									
** <u>Ircinia campana</u>	613.7	389.6	445.0	393.7	226.8	541.6	432.3	404.4	
<u>Ircinia strobilina</u>	100.6	60.4	30.1	128.6	9.9	23.9	25.3	51.1	
CRUSTACEA									
ANOMURA									
PAGURIDAE UNIDENT.					1.4			0.3	
FISHES									
CLUPEIDAE									
CLUPEIDAE UNIDENT.			10.5					2.0	
SYNODONTIDAE									
SYNODONTIDAE UNIDENT.	1.5							0.3	
<u>Synodus</u> UNIDENT.	1.5	1.1						0.5	
<u>Synodus intermedius</u>				4.0				0.3	
SCORPAENIDAE									
SCORPAENIDAE UNIDENT.							2.8	0.3	
PERCIFORMES									
PERCIFORMES UNIDENT.			1.3					0.3	
SERRANIDAE									
<u>Epinephelus morio</u>	19.2	6.5	23.6	8.0	8.5	59.7	42.1	19.1	
<u>Diplectrum</u> UNIDENT.	4.4				8.5	8.0		2.8	
<u>Serranus</u> UNIDENT.			1.3					0.3	
GRAMMISTIDAE									
<u>Rypticus maculatus</u>							5.6	0.5	
ECHENEIDAE									
<u>Echeneis naucrates</u>	1.5							0.3	
CARANGIDAE									
<u>Caranx bartholomaei</u>			1.3					0.3	
<u>Caranx hippos</u>			5.2					1.0	
<u>Caranx crysos</u>	1.5		74.6				28.1	17.3	
<u>Caranx ruber</u>			22.3					4.3	
<u>Seriola dumerili</u>						15.9		1.0	

Table G-1 (cont'd)

Taxon	Cruise								Overall Density
	1	3	4	5	6	7	8		
LUTJANIDAE									
<i>Lutjanus</i> UNIDENT.			2.6			4.0			0.8
<i>Lutjanus griseus</i>							2.8		0.3
<i>Lutjanus synagris</i>			1.3				36.5		3.6
HAEMULIDAE									
<i>Haemulon aurolineatum</i>			1.3						0.3
<i>Haemulon plumieri</i>	482.2	51.8	617.8	8.0	138.1	310.6	199.3		278.4
<i>Orthopristis chrysoptera</i>		7.6	58.9						13.2
<i>Anisotremus virginicus</i>	3.0	1.1	5.2		1.4	4.0	5.6		2.8
SPARIDAE									
<i>Archosargus probatocephalus</i>		5.4	9.2		5.6				4.1
<i>Calamus</i> UNIDENT.	3.0	6.5	10.5				11.9	14.0	6.1
SCIAENIDAE									
<i>Equetus lanceolatus</i>	7.4	3.2	13.1	8.0	14.1	35.8	11.2		10.9
EPHIPPIDAE									
<i>Chaetodipterus faber</i>							15.9		1.0
CHAETODONTIDAE									
<i>Chaetodon sedentarius</i>							8.0		0.5
<i>Pomacanthus</i> UNIDENT.			2.6						0.5
LABRIDAE									
<i>Halichoeres</i> UNIDENT.			5.2						1.0
<i>Lachnolaimus maximus</i>	39.9	2.2	44.5		11.3	135.4	131.9		38.7
BALISTIDAE									
<i>Aluterus</i> UNIDENT.							5.6		0.5
<i>Aluterus schoepfi</i>			7.9				2.8		1.8
<i>Balistes caprisicus</i>			1.3						0.3
<i>Monacanthus</i> UNIDENT.			1.3				2.8		0.5
<i>Monacanthus ciliatus</i>						4.0			0.3
OSTRACHIDAE									
<i>Lactophrys</i> UNIDENT.					1.4				0.3
<i>Lactophrys quadricornis</i>	5.9	1.1	2.6						1.8
TETRAODONTIDAE									
<i>Sphaeroides spengleri</i>	1.5		1.3		1.4		2.8		0.3
									0.8
Number of fish taxa :	13	10	25	4	9	12	15		
Number of fish families :	10	7	13	4	7	10	11		
Total number of fish taxa :	40								
Total number of fish families :	18								

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-2 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 44, by cruise.

Taxon	Cruise		Overall Density
	1	3	
ECHINODERMATA			
ASTEROIDEA			
ASTEROIDEA UNIDENT.	52.5	52.2	52.3
ECHINOIDEA			
<u>Clypeaster</u> UNIDENT.		0.8	0.7
MELLITIDAE UNIDENT.	36.4	736.5	618.9
HOLOTHUROIDEA			
<u>Isostichopus badionotus</u>		1.6	1.4
CNIDARIA			
HYDROIDA			
HYDROIDA UNIDENT.	76.8	3.3	15.6
ALCYONARIA			
**GORGONACEA UNIDENT.	23133.3	823.8	4571.1
PORIFERA			
** <u>Ircinia campana</u>	303.0		50.9
<u>Ircinia strobilina</u>	109.1	0.8	19.0
MOLLUSCA			
BIVALVIA			
<u>Atrina</u> UNIDENT.		62.8	52.3
GASTROPODA			
<u>Strombus</u> UNIDENT.		14.7	12.2
CRUSTACEA			
BRACHYURA			
<u>Galappa</u> UNIDENT.	4.0		0.7
PORTUNIDAE UNIDENT.		0.8	0.7
ANOMURA			
PAGURIDAE UNIDENT.		6.5	5.4
FISHES			
SCORPAENIDAE			
SCORPAENIDAE UNIDENT.	4.0		0.7
SERRANIDAE			
<u>Diplectrum</u> UNIDENT.	4.0		0.7
<u>Epinephelus/Mycteroperca</u> UNIDENT.	8.1		1.4

Table G-2 (cont'd)

<u>Taxon</u>	<u>Cruise</u>		<u>Overall Density</u>
	<u>1</u>	<u>3</u>	
CARANGIDAE			
<u>Caranx crysos</u>		6.5	5.4
<u>Decapterus punctatus</u>		29.4	24.4
LUTJANIDAE			
<u>Lutjanus UNIDENT.</u>	20.2		3.4
<u>Lutjanus synagris</u>	8.1		1.4
HAEMULIDAE			
<u>Haemulon UNIDENT.</u>	8.1		1.4
<u>Haemulon aurolineatum</u>	56.6		9.5
<u>Haemulon plumieri</u>	8.1		1.4
SCIAENIDAE			
<u>Equetus lanceolatus</u>	20.2		3.4
CHAETODONTIDAE			
<u>Chaetodon sedentarius</u>	4.0		0.7
LABRIDAE			
<u>Lachnolaimus maximus</u>	4.0		0.7
OSTRACHIDAE			
<u>Lactophrys quadricornis</u>	12.1		2.0
DIODONTIDAE			
<u>Chilomycterus schoepfi</u>	4.0		0.7
Number of fish taxa :	13	2	
Number of fish families :	9	1	
Total number of fish taxa :	15		
Total number of fish families :	10		

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-3 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 51, by cruise.

Taxon	Cruise		Overall Density
	1	3	
ECHINODERMATA			
ASTEROIDEA			
ASTEROIDEA UNIDENT.		2.0	1.2
ECHINOIDEA			
<u>Diadema antillarum</u>		0.7	0.4
HOLOTHUROIDEA			
HOLOTHUROIDEA UNIDENT.		6.7	4.2
<u>Isostichopus badionotus</u>	1.1		0.4
CNIDARIA			
HYDROIDA			
HYDROIDA UNIDENT.		101.1	62.8
ZOANTHARIA			
ACTINIARIA UNIDENT.		0.7	0.4
<u>Solenastrea hyades</u>	2.2	1.3	1.7
ALCYONARIA			
**GORGONACEA UNIDENT.	15801.4	39526.8	30537.3
<u>Pterogorgia guadalupensis</u>	8.8		3.3
PORIFERA			
** <u>Ircinia campana</u>	81.2	224.2	170.0
<u>Ircinia strobilina</u>	98.7	53.5	70.7
CRUSTACEA			
BRACHYURA			
<u>Calappa UNIDENT.</u>	1.1		0.4
FISHES			
SYNODONTIDAE			
<u>Synodus intermedius</u>	1.1		0.4
SERRANIDAE			
<u>Epinephelus morio</u>	18.7	6.7	11.2
<u>Diplectrum UNIDENT.</u>	2.2	10.7	7.5
CARANGIDAE			
<u>Caranx crysos</u>	3.3	14.1	10.0
<u>Decapterus punctatus</u>		2.7	1.7
LUTJANIDAE			
<u>Lutjanus synagris</u>	2.2		0.8

Table G-3 (cont'd)

Taxon	Cruise		Overall Density
	1	3	
GERREIDAE			
<u>Eucinostomus</u> UNIDENT.		2.7	1.7
HAEMULIDAE			
<u>Haemulon</u> UNIDENT.		0.7	0.4
<u>Haemulon aurolineatum</u>	3.3	0.7	1.7
<u>Haemulon plumieri</u>	521.2	81.7	248.2
<u>Orthopristis chrysoptera</u>	1.1		0.4
<u>Anisotremus virginicus</u>		0.7	0.4
SPARIDAE			
<u>Calamus</u> UNIDENT.	3.3	0.7	1.7
SCIAENIDAE			
<u>Equetus lanceolatus</u>	20.8		7.9
<u>Equetus umbrosus</u>	26.3	1.3	10.8
CHAETODONTIDAE			
<u>Holacanthus</u> UNIDENT.	1.1	1.3	1.2
<u>Pomacanthus arcuatus</u>	5.5		2.1
POMACENTRIDAE			
<u>Pomacentrus</u> UNIDENT.		2.0	1.2
LABRIDAE			
<u>Lachnolaimus maximus</u>	11.0	4.0	6.7
BALISTIDAE			
<u>Aluterus schoepfi</u>		0.7	0.4
<u>Aluterus scriptus</u>		0.7	0.4
<u>Balistes capriscus</u>		0.7	0.4
<u>Cantherhines macrocerus</u>		0.7	0.4
OSTRACHIDAE			
<u>Lactophrys</u> UNIDENT.		1.3	0.8
<u>Lactophrys quadricornis</u>	1.1	0.7	0.8
TETRAODONTIDAE			
<u>Sphoeroides</u> UNIDENT.	1.1		0.4
Number of fish taxa :	16	20	
Number of fish families :	11	11	
Total number of fish taxa :	26		
Total number of fish families :	14		

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-4 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 45, by cruise.

Taxon	Cruise		Overall Density
	1	3	
ECHINODERMATA			
ASTEROIDEA			
ASTEROIDEA UNIDENT.	1.8	10.9	9.0
ECHINOIDEA			
MELLITIDAE UNIDENT.	28.5		5.8
HOLOTHUROIDEA			
HOLOTHUROIDEA UNIDENT.	1.8	2.3	2.2
<u>Isostichopus badionotus</u>	1.8	3.2	2.9
CNIDARIA			
HYDROIDA			
HYDROIDA UNIDENT.	5.4		1.1
ZOANTHARIA			
SCLERACTINIA UNIDENT.	19.6	1.4	5.1
<u>Solenastrea hyades</u>	57.1	4.5	15.2
<u>Mussa angulosa</u>	8.9		1.8
ALCYONARIA			
**GORGONACEA UNIDENT.	106643.5	169604.0	156842.5
<u>Pterogorgia guadalupensis</u>	1.8	0.9	1.1
PORIFERA			
** <u>Ircinia campana</u>	33.9	29.0	30.0
<u>Ircinia strobilina</u>	1.8	5.9	5.1
FISHES			
RHINOBATIDAE			
<u>Rhinobatos lentiginosus</u>	1.8		0.4
SYNODONTIDAE			
<u>Synodus intermedius</u>	1.8		0.4
PERCIFORMES			
PERCIFORMES UNIDENT.		0.9	0.7
SERRANIDAE			
<u>Epinephelus guttatus</u>		0.5	0.4
<u>Epinephelus morio</u>	1.8	0.9	1.1
<u>Mycteroperca interstitialis</u>		0.5	0.4
<u>Diplectrum formosum</u>		0.9	0.7
<u>Epinephelus/Mycteroperca UNIDENT.</u>		0.5	0.4

Table G-4 (cont'd)

Taxon	Cruise		Overall Density
	1	3	
CARANGIDAE			
<u>Caranx crysos</u>		5.9	4.7
<u>Decapterus punctatus</u>		1.8	1.4
LUTJANIDAE			
<u>Lutjanus apodus</u>		0.5	0.4
<u>Lutjanus synagris</u>		0.9	0.7
HAEMULIDAE			
<u>Haemulon UNIDENT.</u>		0.9	0.7
<u>Haemulon aurolineatum</u>	12.5	2.3	4.3
<u>Haemulon plumieri</u>		5.4	4.3
SPARIDAE			
<u>Calamus UNIDENT.</u>		5.4	4.3
SCIAENIDAE			
<u>Equetus UNIDENT.</u>		6.8	5.4
EPHIPPIDAE			
<u>Chaetodipterus faber</u>		0.5	0.4
CHAETODONTIDAE			
<u>Chaetodon UNIDENT.</u>	1.8		0.4
<u>Holacanthus ciliaris</u>		1.8	1.4
<u>Pomacanthus arcuatus</u>	1.8	1.8	1.8
LABRIDAE			
<u>Lachnolaimus maximus</u>	3.6	0.9	1.4
OSTRACHIDAE			
<u>Lactophrys quadricornis</u>		1.4	1.1
Number of fish taxa :	7	20	
Number of fish families :	6	11	
Total number of fish taxa :	23		
Total number of fish families :	13		

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-5 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 47, by cruise.

Taxon	Cruise		Overall Density
	1	3	
ECHINODERMATA			
ASTEROIDEA			
ASTEROIDEA UNIDENT.	2.1	4.4	3.7
<u>Astropecten</u> UNIDENT.		0.5	0.3
<u>Oreaster reticulatus</u>	5.3	2.9	3.7
ECHINOIDEA			
MELLITIDAE UNIDENT.	9.5	3.9	5.7
HOLOTHUROIDEA			
HOLOTHUROIDEA UNIDENT.	1.1	1.0	1.0
<u>Isostichopus badionotus</u>	1.1	2.0	1.7
CHIDARIA			
HYDROIDA			
HYDROIDA UNIDENT.		9.3	6.4
ZOANTHARIA			
SCLERACTINIA UNIDENT.	2.1		0.7
<u>Solenastrea hyades</u>	1.1	0.5	0.7
<u>Mussa angulosa</u>	1.1		0.3
ALCYONARIA			
**GORGONACEA UNIDENT.	19718.2	117520.1	86555.9
PORIFERA			
** <u>Ircinia campana</u>	15.9	5.4	8.7
<u>Ircinia strobilina</u>	68.9	8.3	27.5
MOLLUSCA			
GASTROPODA			
<u>Strombus</u> UNIDENT.		0.5	0.3
XIPHOSURA			
<u>Limulus polyphemus</u>		0.5	0.3
CRUSTACEA			
ANOMURA			
PAGURIDAE UNIDENT.		0.5	0.3
FISHES			
SERRANIDAE			
<u>Epinephelus morio</u>	5.3	1.5	2.7
<u>Diplectrum</u> UNIDENT.	1.1	0.5	0.7

Table G-5 (cont'd)

Taxon	Cruise		Overall Density
	1	3	
CARANGIDAE			
<u>Caranx crysos</u>		1.0	0.7
LUTJANIDAE			
<u>Lutjanus apodus</u>		2.5	1.7
<u>Lutjanus synagris</u>		1.5	1.0
HAEMULIDAE			
<u>Haemulon aurolineatum</u>	1.1	1.5	1.3
<u>Haemulon plumieri</u>	4.2	17.2	13.1
SPARIDAE			
<u>Calamus</u> UNIDENT.	1.1		0.3
SCIAENIDAE			
<u>Equetus lanceolatus</u>	9.5	8.3	8.7
<u>Equetus umbrosus</u>	8.5		2.7
CHAETODONTIDAE			
<u>Pomacanthus arcuatus</u>	1.1		0.3
POMACENTRIDAE			
<u>Chromis</u> UNIDENT.		0.5	0.3
<u>Pomacentrus partitus</u>		2.0	1.3
BALISTIDAE			
<u>Monacanthus</u> UNIDENT.		0.5	0.3
Number of fish taxa :	8	11	
Number of fish families :	5	7	
Total number of fish taxa :	14		
Total number of fish families :	9		

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-6 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 19, by cruise.

Taxon	Cruise		Overall Density
	1	3	
ECHINODERMATA			
ASTEROIDEA			
ASTEROIDEA UNIDENT.	8.8	3.0	5.4
<u>Oreaster reticulatus</u>	33.3	24.3	28.0
ECHINOIDEA			
MELLITIDAE UNIDENT.	33.3		13.6
HOLOTHUROIDEA			
HOLOTHUROIDEA UNIDENT.	9.6		3.9
<u>Isoetichopus badionotus</u>		6.7	3.9
CNIDARIA			
HYDROIDA			
HYDROIDA UNIDENT.		24.9	14.7
ZOANTHARIA			
ACTINIARIA UNIDENT.	0.9		0.4
ALCYONARIA			
**GORGONACEA UNIDENT.	285.0	1000.0	707.0
<u>Pterogorgia guadalupensis</u>	0.9		0.4
PORIFERA			
** <u>Ircinia campana</u>	8.8	1.8	4.7
<u>Ircinia strobilina</u>	122.5	20.1	62.1
MOLLUSCA			
GASTROPODA			
<u>Strombus</u> UNIDENT.		0.6	0.4
CRUSTACEA			
BRACHYURA			
PORTUNIDAE UNIDENT.	1.8		0.7
FISHES			
SYNODONTIDAE			
SYNODONTIDAE UNIDENT.	1.8		0.7
PERCIFORMES			
PERCIFORMES UNIDENT.	10.5		4.3
SERRANIDAE			
<u>Epinephelus morio</u>	5.3		2.2
<u>Diplectrum</u> UNIDENT.	22.8	6.7	13.3
<u>Liopropoma sukrius</u>	0.9		0.4
<u>Serranus subligarius</u>	0.9		0.4
<u>Epinephelus/Mycteroperca</u> UNIDENT.	0.9		0.4

Table G-6 (cont'd)

Taxon	Cruise		Overall Density
	1	3	
CARANGIDAE			
<u>Caranx</u> <u>crysos</u>		4.3	2.5
<u>Seriola</u> <u>dumerili</u>	0.9		0.4
LUTJANIDAE			
<u>Lutjanus</u> <u>mahogoni</u>	1.8		0.7
<u>Lutjanus</u> <u>synagris</u>	1.8		0.7
HAEMULIDAE			
<u>Haemulon</u> UNIDENT.	0.9		0.4
<u>Haemulon</u> <u>aurolineatum</u>	7.9		3.2
<u>Haemulon</u> <u>plumieri</u>	90.2		36.9
SPARIDAE			
<u>Calamus</u> UNIDENT.	8.8	2.4	5.0
SCIAENIDAE			
<u>Equetus</u> <u>lanceolatus</u>	9.6		3.9
CHAETODONTIDAE			
<u>Chaetodon</u> <u>sedentarius</u>	4.4		1.8
<u>Holacanthus</u> UNIDENT.	5.3		2.2
<u>Holacanthus</u> <u>bermudensis</u>	1.8		0.7
<u>Pomacanthus</u> UNIDENT.	0.9		0.4
<u>Pomacanthus</u> <u>arcuatus</u>	7.0		2.9
POMACENTRIDAE			
<u>Pomacentrus</u> <u>variabilis</u>	0.9		0.4
SPHYRAENIDAE			
<u>Sphyræna</u> <u>barracuda</u>	0.9		0.4
LABRIDAE			
<u>Halichoeres</u> <u>caudalis</u>	7.0		2.9
BALISTIDAE			
BALISTIDAE UNIDENT.	0.9		0.4
<u>Balistes</u> <u>capricus</u>	0.9		0.4
<u>Cantherhines</u> <u>macrocerus</u>		0.6	0.4
<u>Cantherhines</u> <u>pullus</u>	0.9		0.4
<u>Monacanthus</u> UNIDENT.	1.8		0.7
<u>Monacanthus</u> <u>hispidus</u>	0.9		0.4
OSTRACHIDAE			
<u>Lactophrys</u> <u>quadricornis</u>	2.6		1.1

Table G-6 (cont'd)

<u>Taxon</u>	<u>Cruise</u>		<u>Overall Density</u>
	<u>1</u>	<u>3</u>	
SYNGNATHIDAE			
<u>Hippocampus UNIDENT.</u>	0.9		0.4
GOBIIDAE			
<u>Ioglossus callurus</u>	7.9		3.2
Number of fish taxa :	31	4	
Number of fish families :	16	4	
Total number of fish taxa :	33		
Total number of fish families :	16		

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-7 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 55, by cruise.

Taxon	Cruise				Overall Density
	5	6	7	8	
ECHINODERMATA					
ASTEROIDEA					
ASTEROIDEA UNIDENT.				1.3	0.4
<u>Oreaster reticulatus</u>		5.9	13.5	1.3	4.3
HOLOTHUROIDEA					
<u>Isostichopus badionotus</u>		1.5			0.4
CNIDARIA					
ALCYONARIA					
**GORGONACEA UNIDENT.	71294.6	62301.7	53272.9	36667.3	54214.8
<u>Pterogorgia guadalupensis</u>			102.5		16.2
** <u>Ellisella</u> UNIDENT.	5.9				1.3
PORIFERA					
** <u>Ircinia campana</u>	158.6	159.5	167.2	109.4	143.7
<u>Ircinia strobilina</u>	51.5	35.1	64.7	31.8	42.2
FISHES					
SERRANIDAE					
<u>Epinephelus morio</u>		2.9			0.9
PRIACANTHIDAE					
<u>Priacanthus arenatus</u>	2.0				0.4
LUTJANIDAE					
<u>Lutianus griseus</u>	17.8			7.6	6.4
<u>Lutianus synagris</u>	2.0				0.4
HAEMULIDAE					
<u>Haemulon plumieri</u>	13.9	1.5	2.7	1.3	4.3
<u>Anisotremus virginicus</u>	2.0				0.4
SPARIDAE					
<u>Calamus</u> UNIDENT.	9.9	2.9	5.4	2.5	4.7
MULLIDAE					
<u>Pseudupeneus maculatus</u>	2.0				0.4
CHAETODONTIDAE					
<u>Chaetodon sedentarius</u>			5.4		0.9
<u>Holacanthus bermudensis</u>	2.0		10.8		2.1
<u>Romacanthus arcuatus</u>		11.7			3.4
<u>Chaetodon aculeatus</u>	7.9		10.8	3.8	4.7

Table G-7 (cont'd)

Taxon	Cruise				Overall Density
	5	6	7	8	
LABRIDAE					
<i>Lachnolaimus maximus</i>				1.3	0.4
OSTRACHIDAE					
<i>Lactophrys</i> UNIDENT.	2.0				0.4
HOLOCENTRIDAE					
<i>Holocentrus rufus</i>			2.7		0.4
Number of fish taxa :	10	4	6	5	
Number of fish families :	7	4	4	5	
Total number of fish taxa :	15				
Total number of fish families :	10				

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-8 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 7, by cruise.

Taxon	Cruise				Overall Density
	5	6	7	8	
ECHINODERMATA					
ASTEROIDEA					
ASTEROIDEA UNIDENT.	13.0	20.8	22.5	4.0	13.6
<u>Oreaster reticulatus</u>		2.1	2.0		0.7
ECHINOIDEA					
MELLITIDAE UNIDENT.	3.2	2.1			1.7
<u>Meoma ventricosa</u>			2.0		0.3
HOLOTHUROIDEA					
HOLOTHUROIDEA UNIDENT.	1.6				0.7
<u>Isostrichopus badiotus</u>		2.1			0.3
CNIDARIA					
HYDROIDA					
HYDROIDA UNIDENT.	6.5	45.8	6.1	8.0	13.2
ALCYONARIA					
**GORGONACEA UNIDENT.		54.2	3363.2		565.9
PORIFERA					
** <u>Ircinia campana</u>	4.9	6.3	4.1	2.7	4.4
MOLLUSCA					
CEPHALOPODA					
TEUTHOIDEA UNIDENT.	0.8				0.3
FISHES					
SERRANIDAE					
<u>Epinephelus morio</u>	4.1				1.7
<u>Diplectrum</u> UNIDENT.	11.4	6.3	6.1		6.8
<u>Serranus</u> UNIDENT.	1.6				0.7
<u>Epinephelus/Mycteroperca</u> UNIDENT.	1.6		4.1		1.4
CARANGIDAE					
<u>Decapterus</u> UNIDENT.				41.4	10.5
HAEMULIDAE					
<u>Haemulon aurolineatum</u>				53.4	13.6
<u>Haemulon plumieri</u>	0.8				0.3
SPARIDAE					
<u>Calamus</u> UNIDENT.	3.2				1.4
SCIAENIDAE					
<u>Equetus lanceolatus</u>	25.2		32.8		15.9

Table G-8 (cont'd)

Taxon	Cruise				Overall Density
	5	6	7	8	
MULLIDAE					
<u>Mulloidichthys martinicus</u>	0.8				0.3
CHAETODONTIDAE					
CHAETODONTIDAE UNIDENT.		2.1			0.3
<u>Chaetodon sedentarius</u>	0.8				0.3
<u>Holacanthus bermudensis</u>	4.1	2.1	4.1	1.3	3.1
BOTHIDAE					
<u>Bothus</u> UNIDENT.	0.8				0.3
BALISTIDAE					
<u>Aluterus</u> UNIDENT.			2.0		0.3
<u>Aluterus schoepfi</u>			2.0		0.3
DIODONTIDAE					
<u>Diodon</u> UNIDENT.	0.8				0.3
GOBIIDAE					
<u>Ioglossus calliurus</u>	18.7	83.3	120.8		41.4
Number of fish taxa :	13	4	7	3	
Number of fish families :	9	3	5	3	
Total number of fish taxa :	18				
Total number of fish families :	11				

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-9

Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 21, by cruise.

Taxon	Cruise							Overall Density
	2	3	4	5	6	7	8	
ECHINODERMATA								
ASTEROIDEA								
<u>ASTEROIDEA UNIDENT.</u>					1.5	1.5		0.4
ECHINOIDEA								
<u>MELLITIDAE UNIDENT.</u>	9.8							0.7
HOLOTHUROIDEA								
<u>HOLOTHUROIDEA UNIDENT.</u>	7.3	0.6	4.9	5.5	6.2	1.5	1.2	2.9
<u>Isostichopus badionotus</u>				2.8		3.0	2.4	0.9
CNIDARIA								
HYDROIDA								
<u>HYDROIDA UNIDENT.</u>	7.3	11.7		2.8	1.5	1.5		4.9
ALCYONARIA								
** <u>GORGONACEA UNIDENT.</u>		500.0			1.5			161.6
** <u>Ellisella UNIDENT.</u>	2.4							0.2
PORIFERA								
** <u>Ircinia campana</u>	146.3	35.7	105.0	113.7	135.4	32.7	26.1	69.1
<u>Ircinia strobilina</u>	46.3	52.5	92.8	94.3	101.5	43.1	30.8	62.0
CRUSTACEA								
PALINURA								
<u>Panulirus argus</u>					1.5			0.2
<u>Scyllarides UNIDENT.</u>						1.5		0.2
FISHES								
SYNODONTIDAE								
<u>Synodus intermedius</u>	2.4		1.2					0.4
SERRANIDAE								
<u>Epinephelus morio</u>		3.9	19.5	22.2	13.8	34.2	9.5	12.8
<u>Diplectrum UNIDENT.</u>	2.4	0.6						0.4
<u>Hypoplectrus unicolor</u>			2.4					0.4
<u>Serranus UNIDENT.</u>			1.2	5.5		4.5		1.1
<u>Serranus phoebe</u>			4.9			22.3	1.2	3.6
<u>ANTHINAE UNIDENT.</u>						17.8		2.2
PRIACANTHIDAE								
<u>Priacanthus UNIDENT.</u>			2.4					0.4
<u>Priacanthus arenatus</u>		0.6		2.8	12.3	1.5		2.0
<u>Pristigenys alta</u>			2.4					0.4
APOGONIDAE								
<u>Apogon pseudomaculatus</u>					4.6			0.5
CARANGIDAE								
<u>Caranx crysos</u>		8.4						2.7
<u>Seriola dumerili</u>			12.2				19.0	4.7
<u>Decapterus UNIDENT.</u>							1186.2	180.3
<u>Decapterus punctatus</u>						37.2		4.5
LUTJANIDAE								
<u>Lutjanus UNIDENT.</u>		0.6						0.2
<u>Lutjanus synagris</u>						1.5		0.2
HAEMULIDAE								
<u>Haemulon aurolineatum</u>						41.6		5.0

Table G-9 (cont'd)

Taxon	Cruise							Overall Density
	2	3	4	5	6	7	8	
SPARIDAE								
<u>Calamus</u> UNIDENT.		2.2	12.2	13.9	3.1	31.2	3.6	8.1
CHAETODONTIDAE								
CHAETODONTIDAE UNIDENT.			1.2					0.2
<u>Chaetodon sedentarius</u>	4.9	1.7	8.6	5.5	20.0	7.4	1.2	6.0
<u>Holacanthus</u> UNIDENT.	2.4							0.2
<u>Holacanthus bermudensis</u>			9.8	5.5	7.7	10.4		4.0
<u>Pomacanthus arcuatus</u>		2.8						0.9
POMACENTRIDAE								
POMACENTRIDAE UNIDENT.			2.4					0.4
<u>Chromis</u> UNIDENT.		7.3						2.3
<u>Chromis enchrysurus</u>		3.9	180.8	219.1	84.6	331.5	142.3	114.0
LABRIDAE								
<u>Halichoeres</u> UNIDENT.			13.4					2.0
BOTHIDAE								
<u>Bothus</u> UNIDENT.				2.8		1.5		0.4
OSTRACHIDAE								
<u>Lactophrys quadricornis</u>	2.4							0.2
TETRAODONTIDAE								
<u>Sphoeroides</u> UNIDENT.						1.5		0.2
DIODONTIDAE								
<u>Diodon</u> UNIDENT.				2.8				0.2
Holocentridae								
HOLCENTRIDAE UNIDENT.			1.2					0.2
<u>Holocentrus rufus</u>				2.8				0.2
<u>Holocentrus</u> UNIDENT.					3.1			0.4
GOBIIDAE								
<u>Ioglossus calliurus</u>			48.9	5.5		23.8	1.2	10.6
Number of fish taxa :	5	10	17	11	8	15	8	
Number of fish families :	4	7	10	9	7	11	6	
Total number of fish taxa :	36							
Total number of fish families :	17							

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-10 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 29, by cruise.

Taxon	Cruise							Overall Density
	1	2	3	4	5	6	7	
ECHINODERMATA								
CRINOIDEA								
**COMATULIDA UNIDENT.			16.1	19.0				5.8
CNIDARIA								
HYDROIDA								
HYDROIDA UNIDENT.		0.6	10.3	32.5	15.4	27.4	3.1	11.4
ZOANTHARIA								
ACTINIARIA UNIDENT.				4.1		1.3		0.6
<u>Madracis</u> UNIDENT.		1.8						0.4
ALCYONARIA								
**GORGONACEA UNIDENT.						1.3		0.1
<u>Thesea</u> UNIDENT.					1.2			0.1
** <u>Ellisella</u> UNIDENT.	21.7	8.3	8.4	20.3	5.9	11.7	10.8	11.0
PORIFERA								
** <u>Ircinia campana</u>	35.4	17.3	0.6	12.2	1.2		9.2	9.5
<u>Ircinia strobilina</u>	3.9	8.9	5.2	2.7	1.2			4.2
FISHES								
ORECTOLOBIDAE								
<u>Girellacanthus cirratum</u>	2.0							0.1
SERRANIDAE								
<u>Epinephelus morio</u>				1.4	1.2		7.7	1.0
<u>Heranthis</u> UNIDENT.					2356.7			294.9
<u>Hypoplectrus unicolor</u>			0.6					0.1
<u>Licoropoma eukrines</u>			0.6	2.7				0.4
<u>Serranus</u> UNIDENT.		4.2	153.0	1.4	4.7	80.9	4.6	46.6
<u>Serranus annularis</u>				2.7				0.3
<u>Serranus phoebe</u>	2.0		30.3	4.1	3.6			8.0
<u>Epinephelus/Mycteroperca</u> UNIDENT.		0.6	3.9	12.2	9.5			3.6
ANTRINAE UNIDENT.		82.8	173.0				76.9	67.9
CARANGIDAE								
CARANGIDAE UNIDENT.					1.2			0.1
<u>Seriola dumerili</u>			16.8	2.7	1.2			4.3
EMPELICHTHYIDAE								
<u>Inertia vittata</u>				886.8				97.3
SPARIDAE								
<u>Calamus</u> UNIDENT.		0.6	0.6					0.3
CHAETODONTIDAE								
CHAETODONTIDAE UNIDENT.		0.6						0.1
<u>Chaetodon ocellatus</u>	3.9							0.3
<u>Chaetodon sedentarius</u>	17.7	10.7	9.0	31.1	21.4	11.7	16.9	15.1
<u>Holacanthus</u> UNIDENT.	2.0	0.6						0.3
<u>Holacanthus ciliaris</u>		1.8						0.4
<u>Holacanthus tricolor</u>	5.9	3.6	8.4	6.8	3.6	3.9	1.5	5.0
<u>Holacanthus bermudensis</u>		1.2	1.9	5.4	1.2	1.3		1.6
<u>Pomacanthus arcuatus</u>	3.9							0.3
POMACENTRIDAE								
POMACENTRIDAE UNIDENT.				33.8				3.7
<u>Chromis</u> UNIDENT.	19.7		1.9					1.9
<u>Chromis enchrysurus</u>	137.8	234.6	362.1	333.1	1586.6	524.5	735.6	518.0
<u>Chromis insolatus</u>				5.4				0.6
<u>Chromis scotti</u>	7.9	4.8	90.4	389.9	295.5	130.5	164.7	133.1
<u>Pomacentrus leucostictus</u>					30.9			3.9
<u>Pomacentrus partitus</u>	7.9	1.8	15.5	65.0			7.7	12.5

Table G-10 (cont'd)

Taxon	Cruise							Overall Density
	1	2	3	4	5	6	7	
LABRIDAE								
<u>Bodianus pulchellus</u>	2.0	4.2	11.0	17.6	14.2	1.3	9.2	8.5
<u>Halichoeres UNIDENT.</u>					1.2			0.1
BALISTIDAE								
<u>Balistes caprisus</u>						1.3		0.1
OSTRACHIDAE								
<u>Lactophrys UNIDENT.</u>		0.6				1.3		0.3
<u>Lactophrys quadricornis</u>	2.0							0.1
DIODONTIDAE								
<u>Diodon UNIDENT.</u>				1.4				0.1
Holocentridae								
HOLCENTRIDAE UNIDENT.	3.9			2.7				0.6
<u>Holocentrus UNIDENT.</u>						1.3		0.1
Number of fish taxa :	14	15	16	19	15	10	9	
Number of fish families :	7	6	6	8	5	7	4	
Total number of fish taxa :	37							
Total number of fish families :	12							

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-11 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 23, by cruise.

Taxon	Cruise							Overall Density
	2	3	4	5	6	7		
ECHINODERMATA								
ASTEROIDEA								
<u>ASTEROIDEA UNIDENT.</u>					4.8			0.5
PORIFERA								
** <u>Ircinia campana</u>	2.0		3.6	2.7				1.3
<u>Ircinia strobilina</u>			4.8					0.7
CRUSTACEA								
ANOMURA								
<u>PAGURIDAE UNIDENT.</u>			1.2		8.0			1.1
PALINURA								
<u>Panulirus argus</u>		0.6						0.2
FISHES								
SERRANIDAE								
<u>Epinephelus morio</u>		2.5	1.2	16.3				2.0
<u>Mycteroperca phenax</u>			3.6					0.5
<u>Epinephelus fulvus</u>		0.6						0.2
<u>Serranus UNIDENT.</u>	2.0				6.4	93.0		10.8
<u>Serranus annularis</u>			1.2					0.2
<u>Serranus phoebe</u>	38.3	1.2	12.0	19.0	19.1	7.2		16.8
<u>Epinephelus/Mycteroperca UNIDENT.</u>	4.0		3.6	5.4		3.6		2.4
<u>ANTHINAE UNIDENT.</u>						21.5		2.2
PRIACANTHIDAE								
<u>Priacanthus arenatus</u>			1.2					0.2
<u>Priacanthus cruentatus</u>		1.2						0.4
APOGONIDAE								
<u>Apogon pseudomaculatus</u>			1.2					0.2
CARANGIDAE								
<u>Seriola dumerili</u>	2.7		2.4			3.6		1.5
<u>Decapterus punctatus</u>			6012.5					911.7
EMMELICHTHYIDAE								
<u>Inermia vittata</u>			18.0					2.7
LUTJANIDAE								
<u>Lutjanus UNIDENT.</u>						7.2		0.7
SPARIDAE								
<u>Calamus UNIDENT.</u>			1.2		6.4			0.9
SCIAENIDAE								
<u>Equetus lanceolatus</u>		21.7			51.1			12.2
<u>Equetus umbrosus</u>		1.2						0.4
CHAETODONTIDAE								
<u>Chaetodon ocellatus</u>			2.4					0.4
<u>Chaetodon sedentarius</u>	4.0		6.0	13.6	9.6	12.5		5.3
<u>Holacanthus bermudensis</u>			3.6	2.7	12.8	7.2		2.9
<u>Pomacanthus UNIDENT.</u>	1.3							0.4
<u>Pomacanthus arcuatus</u>	0.7		3.6					0.7
<u>Chaetodon aculeatus</u>						3.6		0.4
POMACENTRIDAE								
<u>POMACENTRIDAE UNIDENT.</u>			3.6					0.5
<u>Chromis encarysurus</u>	81.3	32.9	441.3	423.2	315.9	566.8		221.0
<u>Chromis insolatus</u>			15.6					2.4

Table G-11 (cont'd)

Taxon	Cruise						Overall Density
	2	3	4	5	6	7	
LABRIDAE							
<i>Rodianus pulchellus</i>				2.7		1.8	0.4
<i>Halichoeres</i> UNIDENT.			22.8	271.3			21.7
<i>Halichoeres caudalis</i>			1.2				0.2
BALISTIDAE							
<i>Balistes caprisicus</i>	2.0					3.6	0.9
OSTRACHIDAE							
<i>Lactophrys quadricornis</i>						1.8	0.2
TETRAODONTIDAE							
<i>Sphaeroides spangleri</i>		0.6					0.2
HOLOCENTRIDAE							
HOLCENTRIDAE UNIDENT.			1.2				0.2
<i>Holocentrus rufus</i>				2.7			0.2
Number of fish taxa :	9	8	21	9	7	13	
Number of fish families :	5	5	10	5	5	8	
Total number of fish taxa :	35						
Total number of fish families :	15						

** Estimate based on individual counts and range estimates. See text for explanation.

Table G-12 Mean and overall densities (no. per hectare) of benthic invertebrates and fishes which could be counted, from UTV data for Station 36, by cruise.

Taxon	Cruise						Overall Density
	2	3	4	5	6	7	
ECHINODERMATA							
ASTEROIDEA							
ASTEROIDEA UNIDENT.		4.5			8.5	4.4	2.0
OPHIUROIDEA							
OPHIUROIDEA UNIDENT.		2.3			4.3		0.9
ECHINOIDEA							
ECHINACEA UNIDENT.	3.9						0.6
<u>Clypeaster</u> UNIDENT.		4.5				17.8	1.7
MELLITIDAE UNIDENT.					2.1		0.3
CRINOIDEA							
** <u>COMATULIDA</u> UNIDENT.	42250.6	19766.6	22519.0	47314.0	10604.5	20251.2	29681.2
CNIDARIA							
HYDROIDA							
HYDROIDA UNIDENT.	2.0	2.3				13.3	1.4
ALCYONARIA							
** <u>Ellisella</u> UNIDENT.	1824.4	838.2	36.2	8464.0	2.1	883.3	2613.0
MOLLUSCA							
CEPHALOPODA							
TEUTHOIDEA UNIDENT.		6.8					0.9
FISHES							
SYNODONTIDAE							
SYNODONTIDAE UNIDENT.		2.3	1.1				0.6
<u>Synodus</u> UNIDENT.	21.5	2.3				8.9	4.0
<u>Synodus intermedius</u>	2.0						0.3
<u>Synodus poeyi</u>					55.5		7.5
<u>Trachinocephalus myops</u>	2.0						0.3
OGCOEPHALIDAE							
<u>Ogcocephalus corniger</u>						8.9	0.6
SCORPAENIDAE							
SCORPAENIDAE UNIDENT.		6.8					0.9
SERRANIDAE							
<u>Anthias</u> UNIDENT.					53.3		7.2
<u>Serranus</u> UNIDENT.		20.3					2.6
<u>Serranus atrobranchus</u>						13.3	0.9
<u>Serranus phoebe</u>	62.5	6.8	1.1			4.4	10.6
<u>Holanthias martinicensis</u>				1.1			0.3
<u>Epinephelus/Mycteroperca</u> UNIDENT.			2.1				0.6
ANTHINAE UNIDENT.		106.2	265.8	23.5	288.0		130.1
PRIACANTHIDAE							
<u>Priacanthus arenatus</u>		6.8					0.9
MALACANTHIDAE							
<u>Malacanthus</u> UNIDENT.		2.3					0.3
MULLIDAE							
MULLIDAE UNIDENT.			1.1				0.3
CHAETODONTIDAE							
<u>Chaetodon aya</u>	2.0	20.3		1.1	12.8	8.9	5.5
<u>Chaetodon sedentarius</u>			1.1				0.3

Table G-12 (cont'd)

Taxon	Cruise						Overall Density
	2	3	4	5	6	7	
BOTHIDAE							
<i>Bothus</i> UNIDENT.				1.1			0.3
HOLOCENTRIDAE							
<i>Holocentrus rufus</i>				1.1			0.3
Number of fish taxa :	5	9	6	5	4	5	
Number of fish families :	3	6	4	4	3	4	
Total number of fish taxa :	21						
Total number of fish families :	10						

** Estimate based on individual counts and range estimates. See text for explanation.

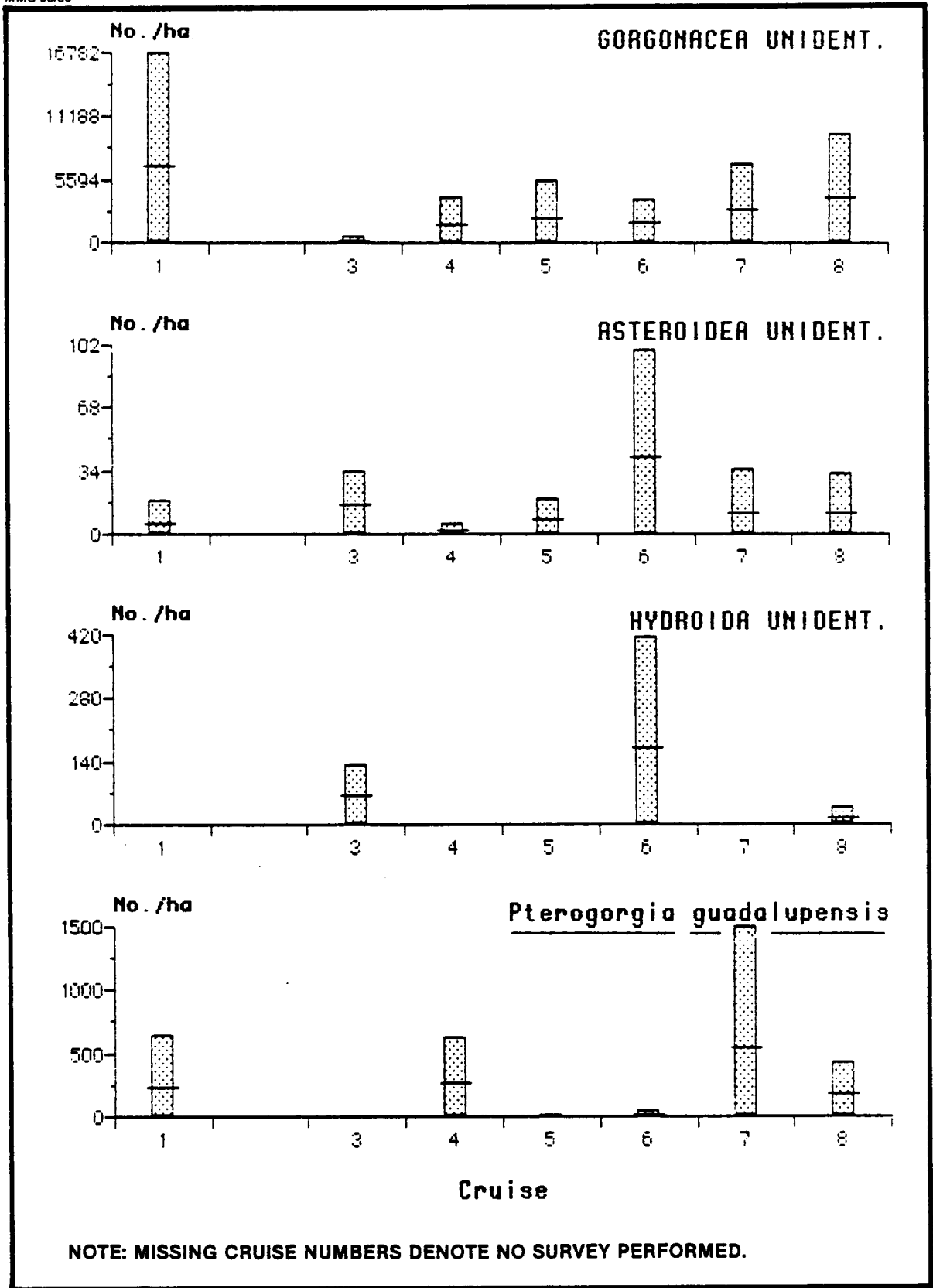


Figure G-2 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 52, BY CRUISE

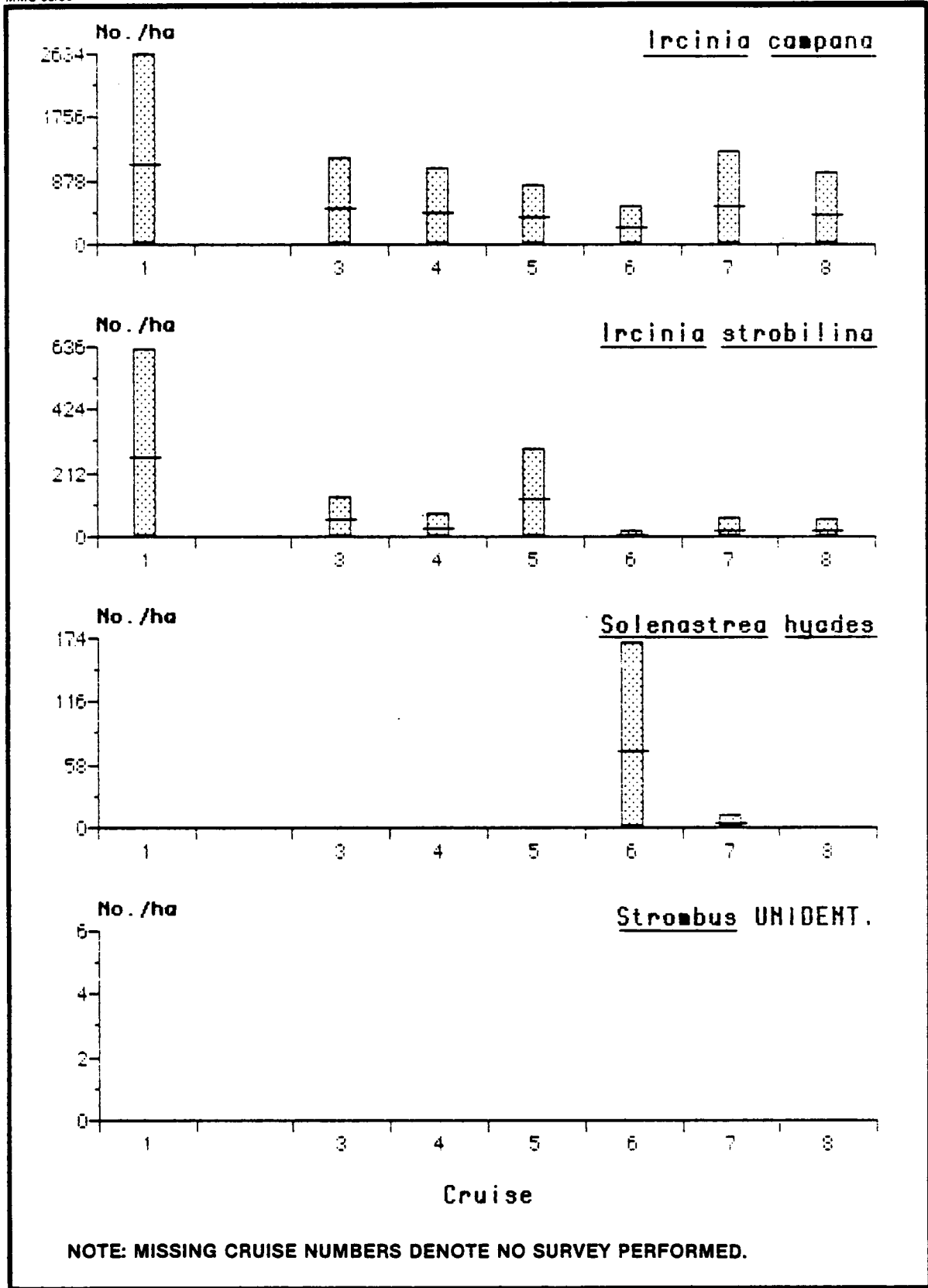
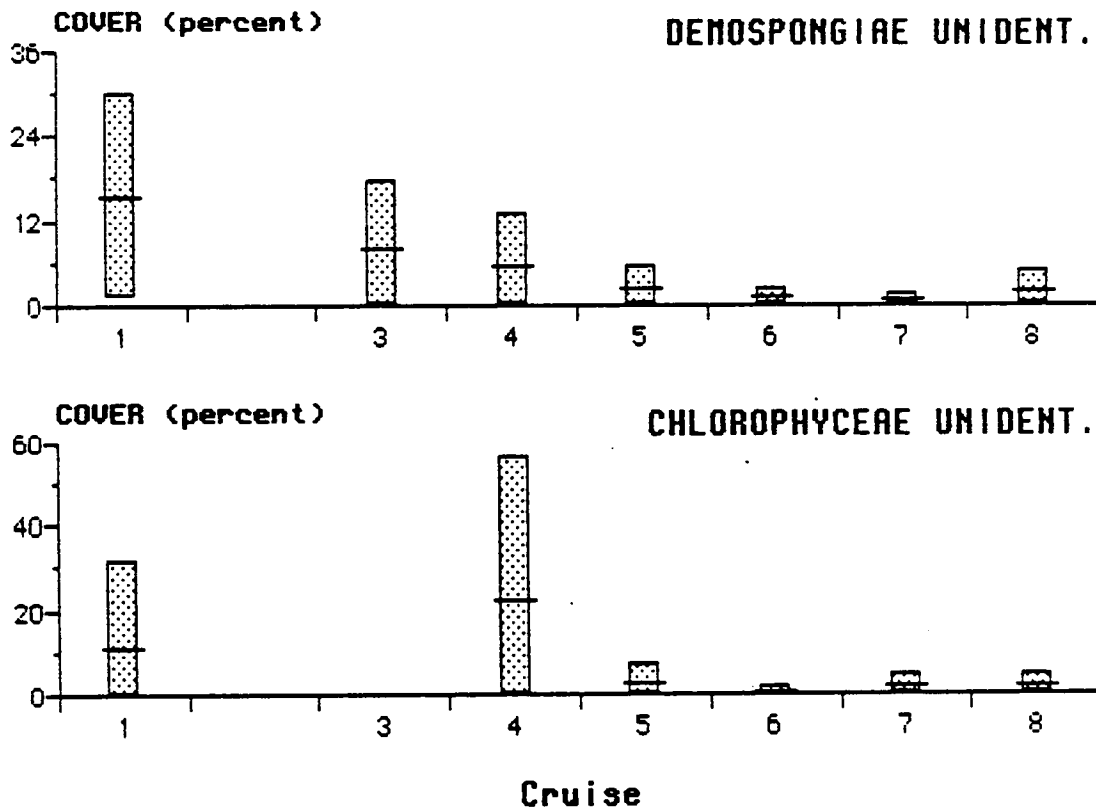


Figure G-2 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-3 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 52, BY CRUISE

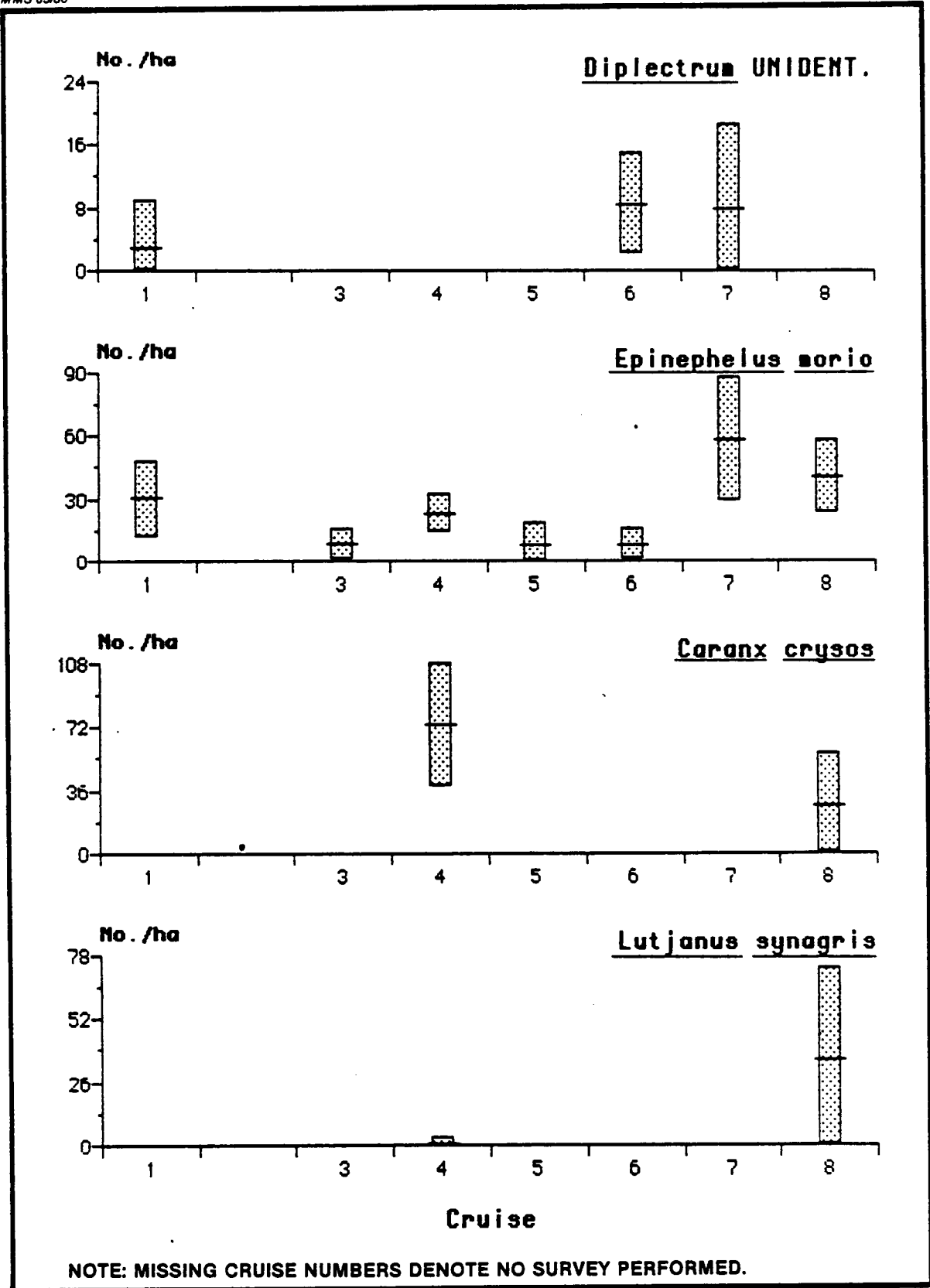


Figure G-4 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 52, BY CRUISE

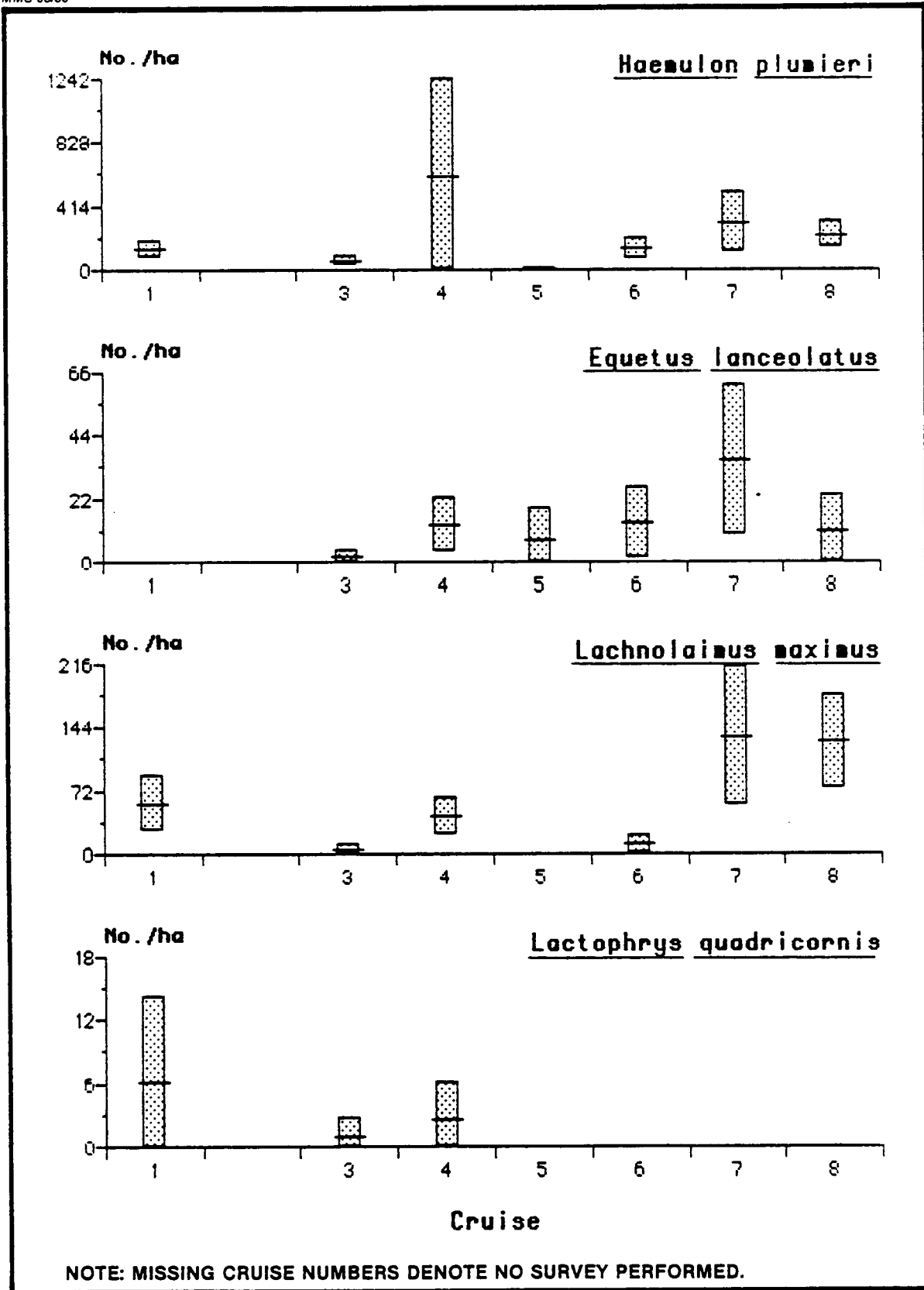


Figure G-4 (cont'd)

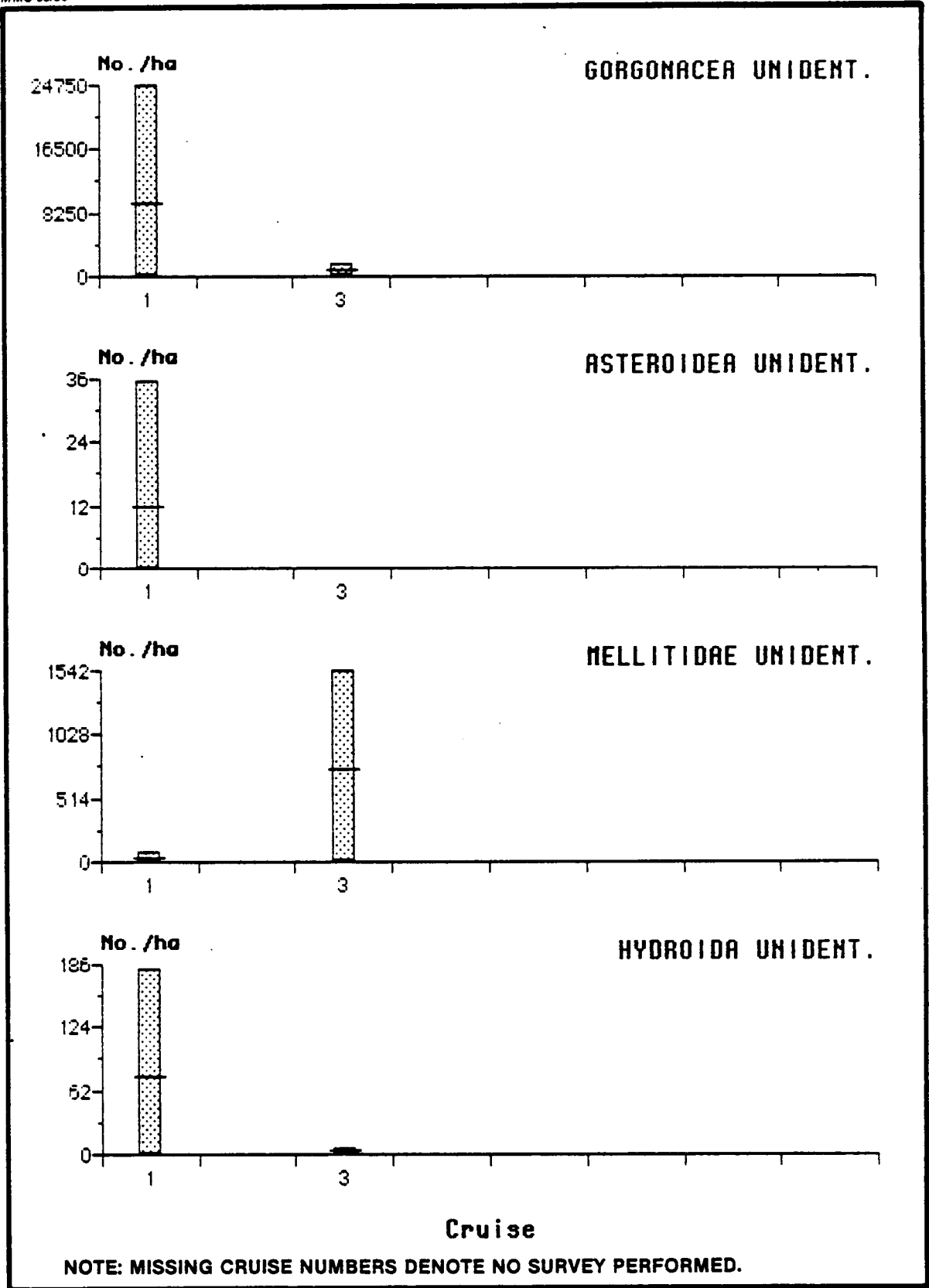


Figure G-5 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 44, BY CRUISE

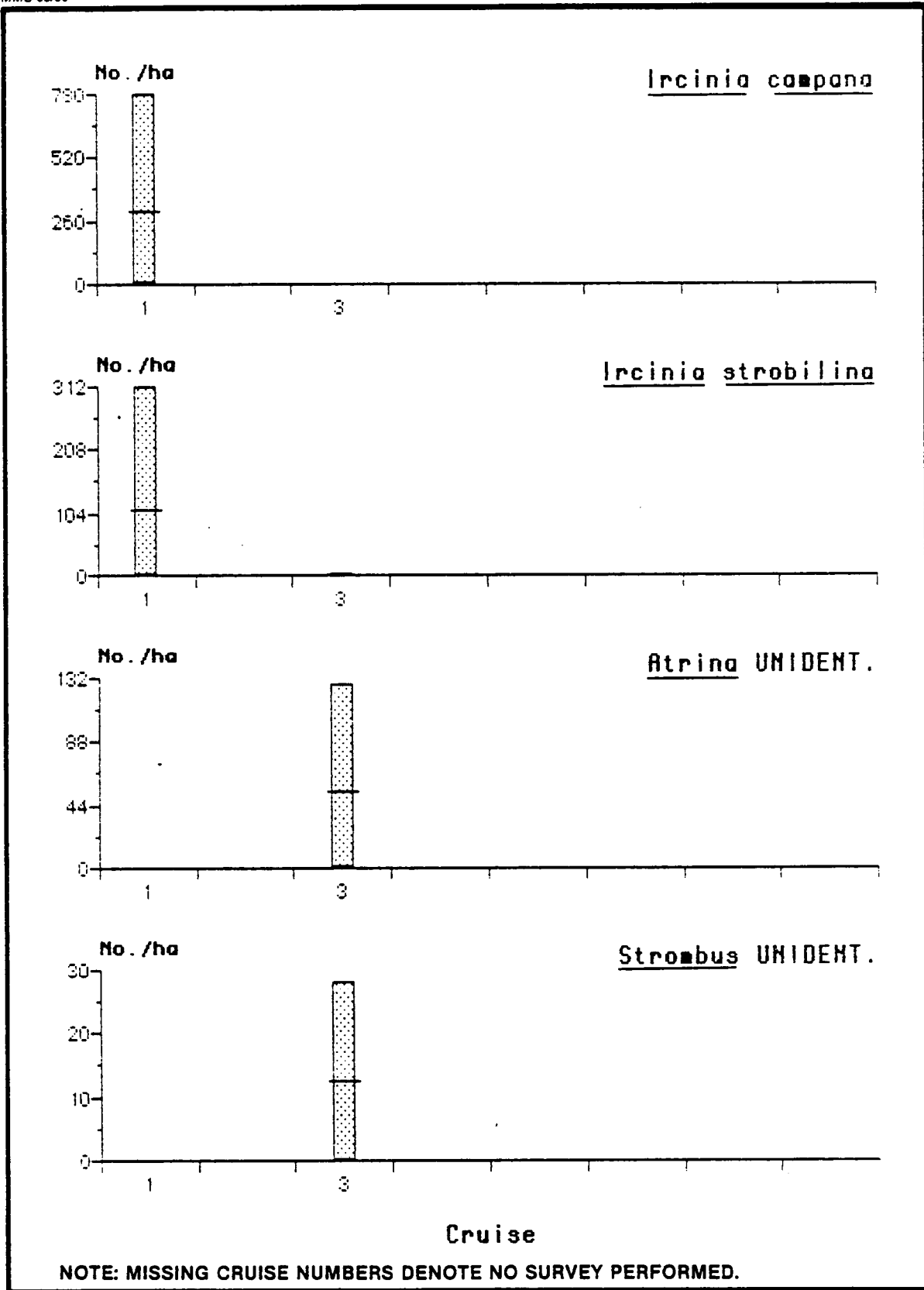
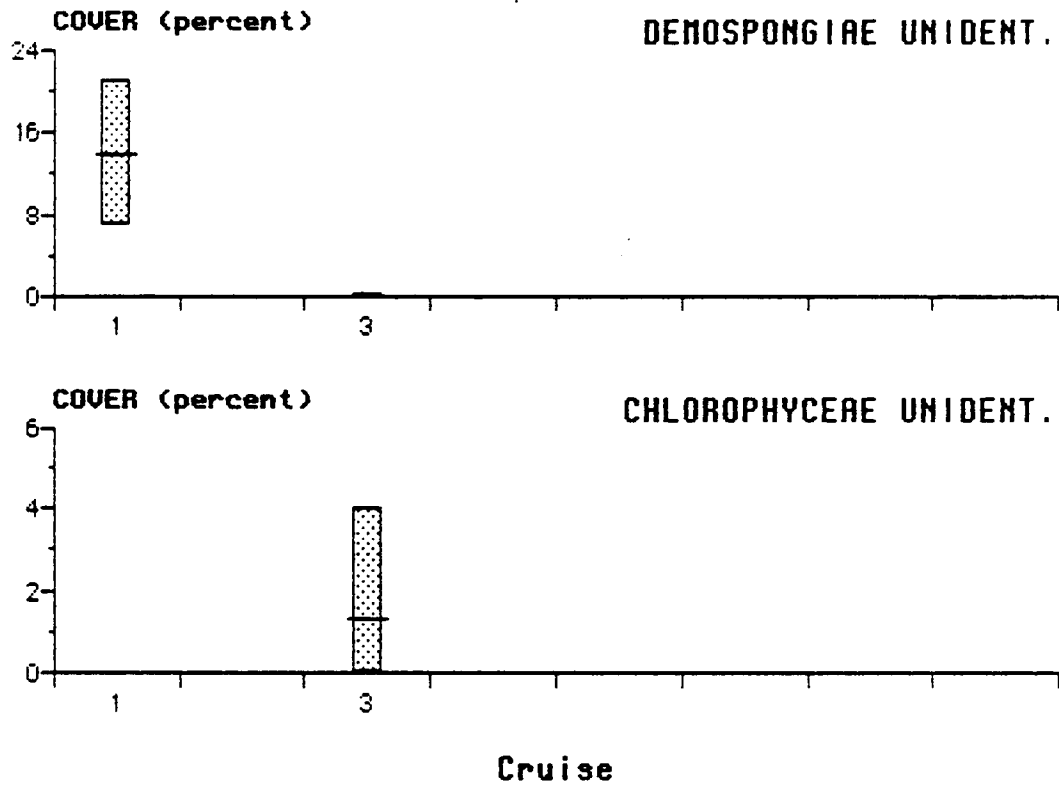


Figure G-5 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-6 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 44, BY CRUISE

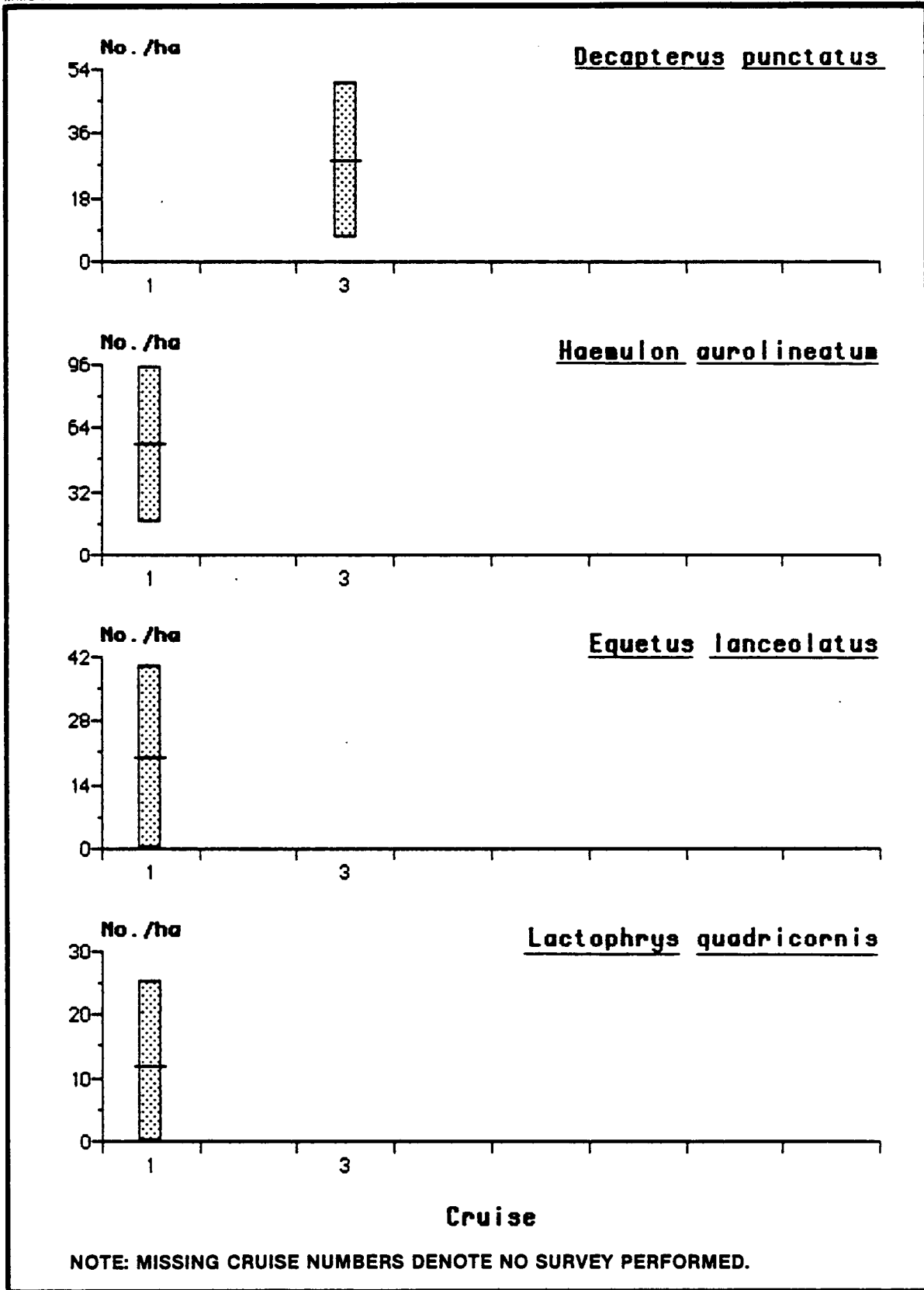


Figure G-7 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 44, BY CRUISE

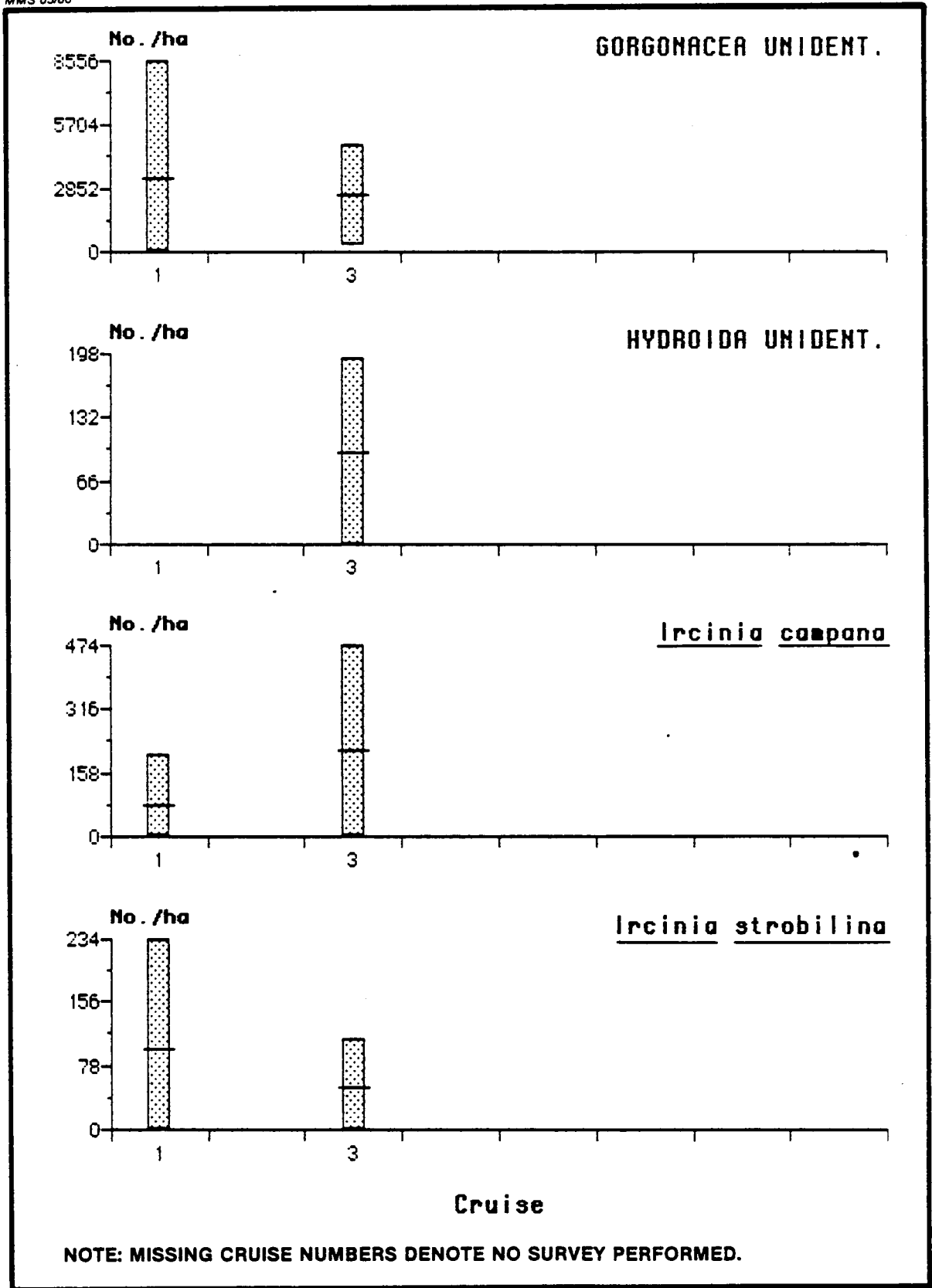


Figure G-8 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 51, BY CRUISE

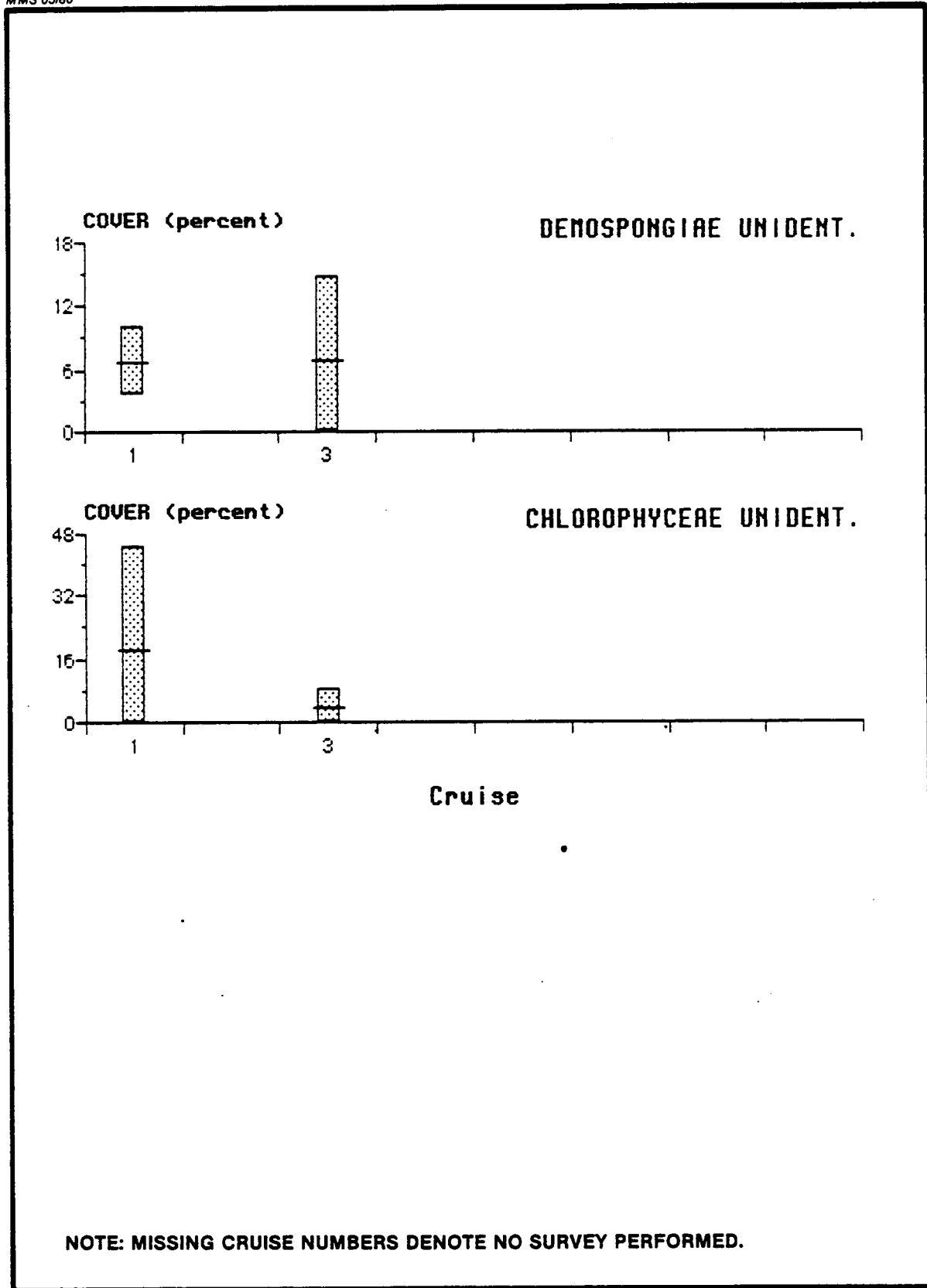


Figure G-9 MEAN COVER (± 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 51, BY CRUISE

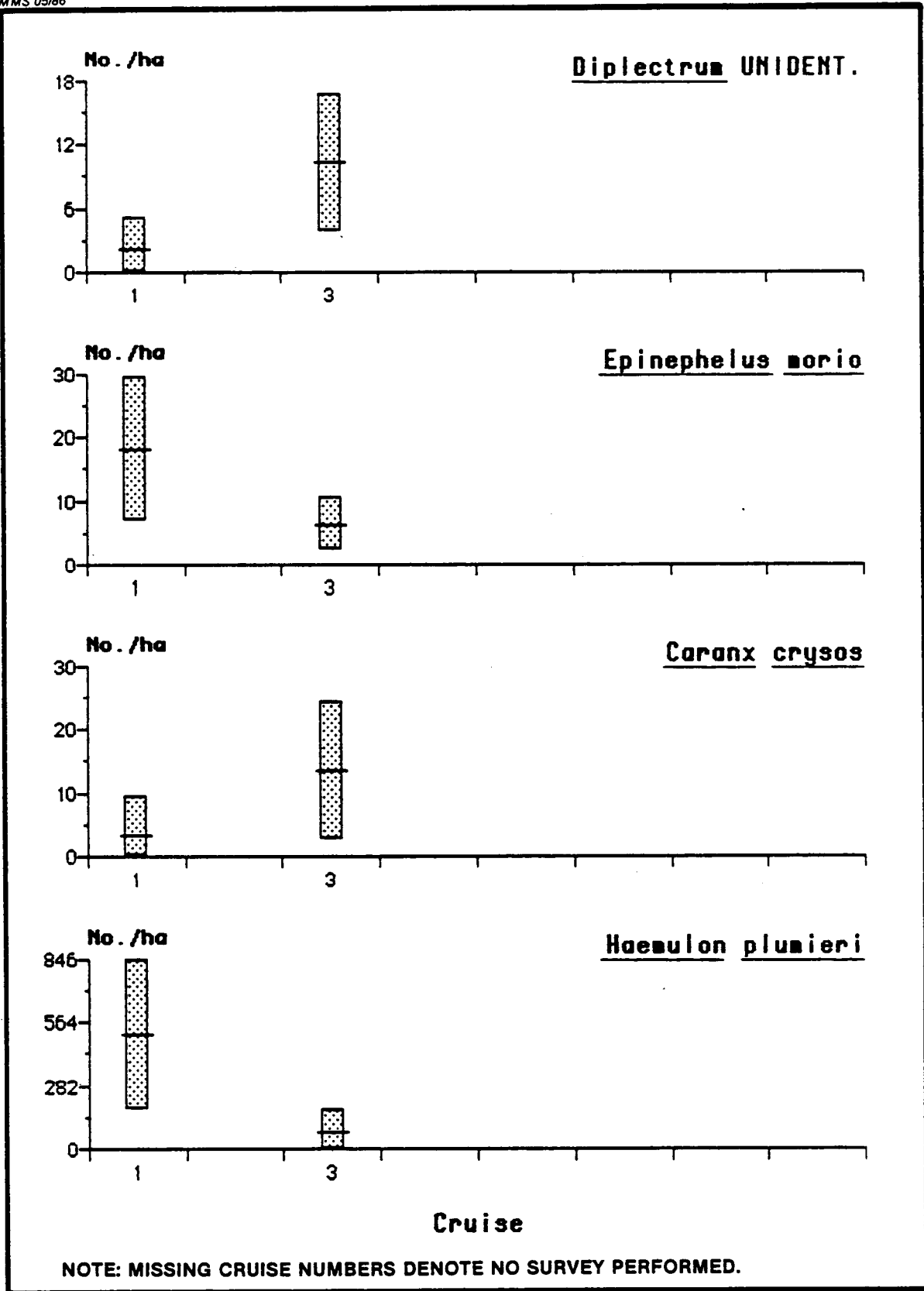
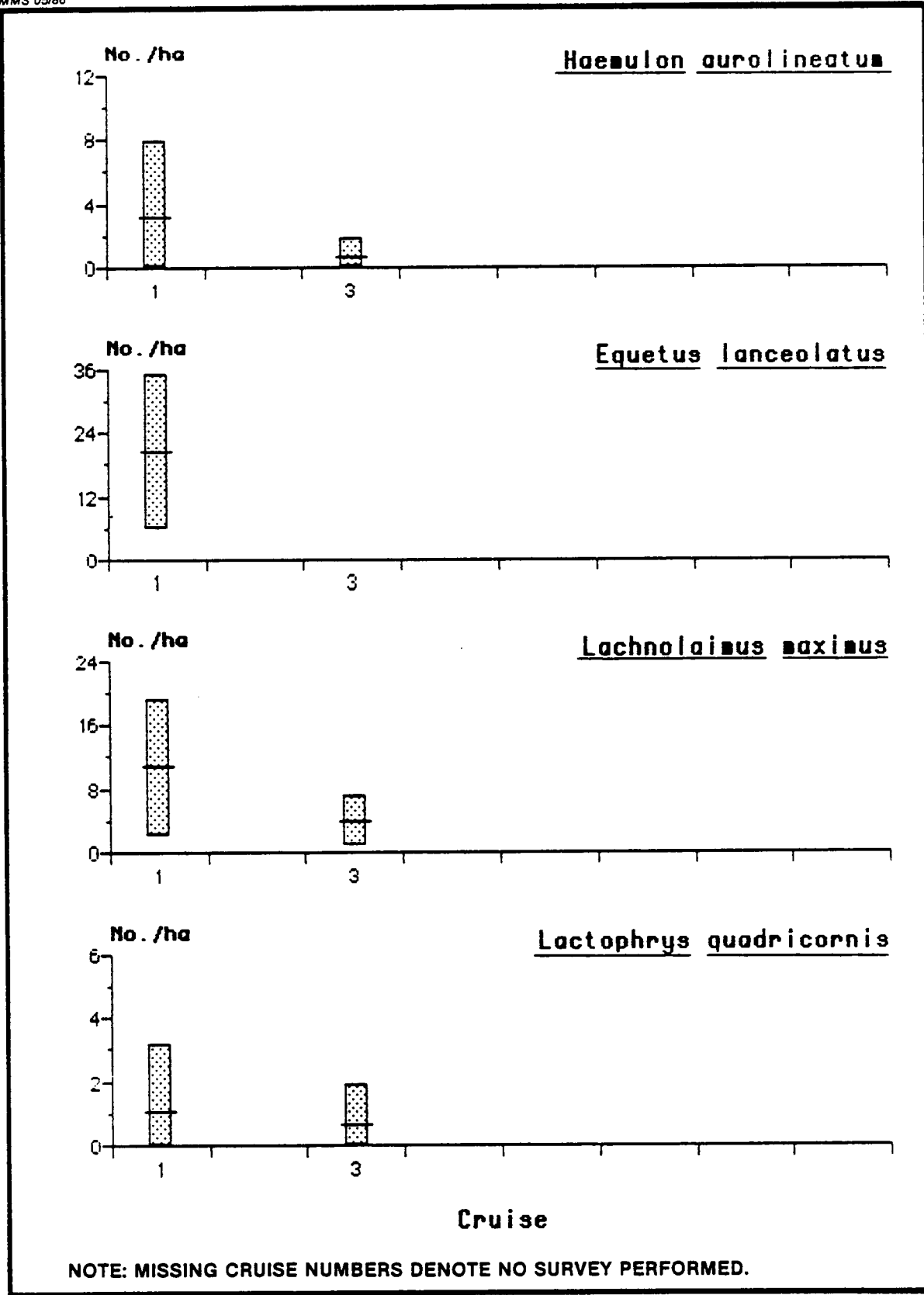


Figure G-10 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 51, BY CRUISE



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-10 (cont'd)

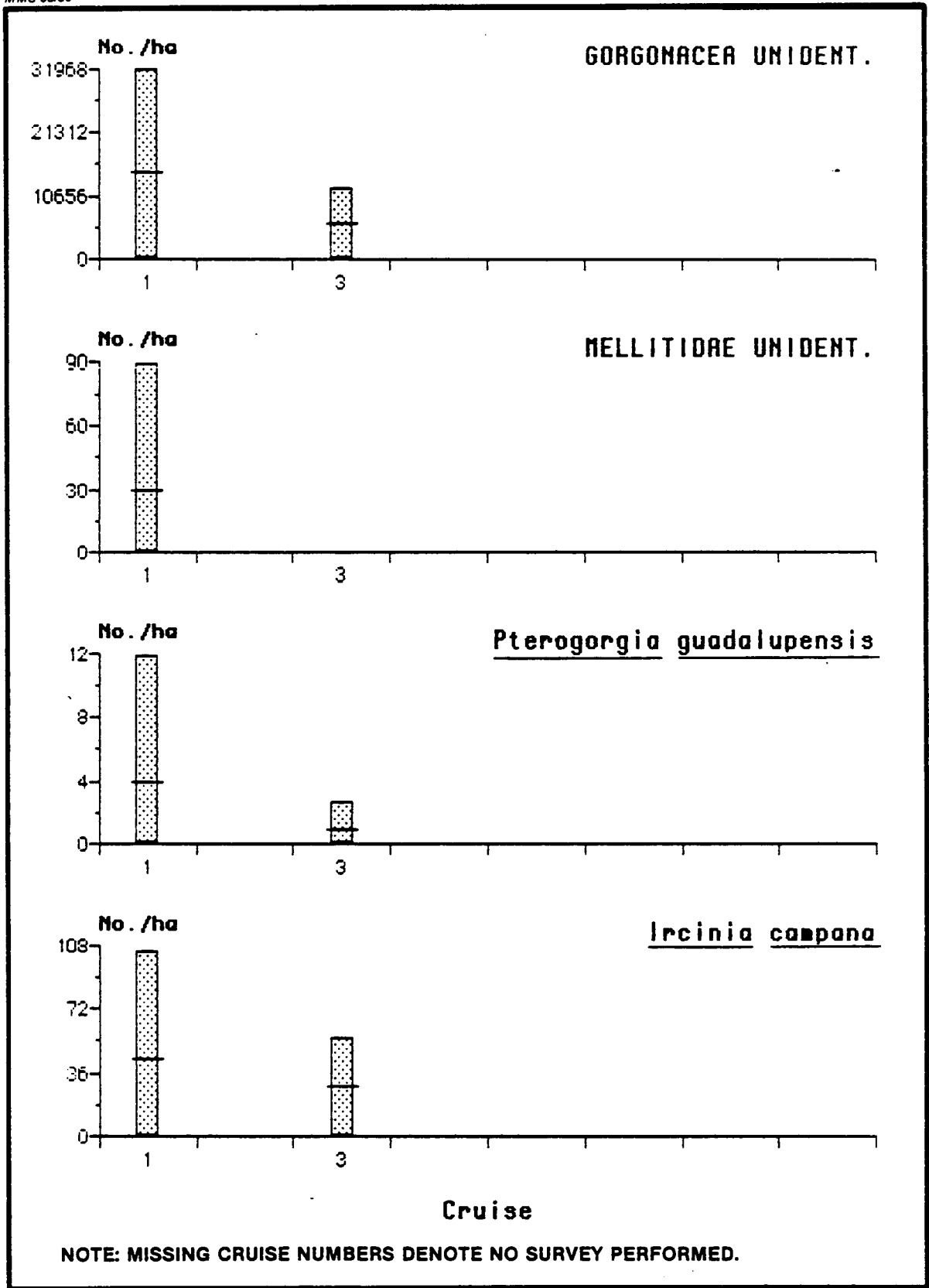
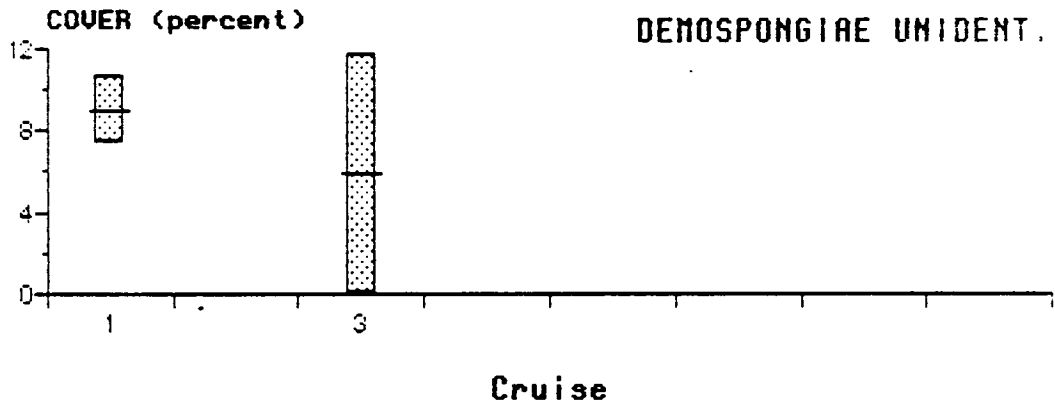


Figure G-11 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 45, BY CRUISE



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-12 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 45, BY CRUISE

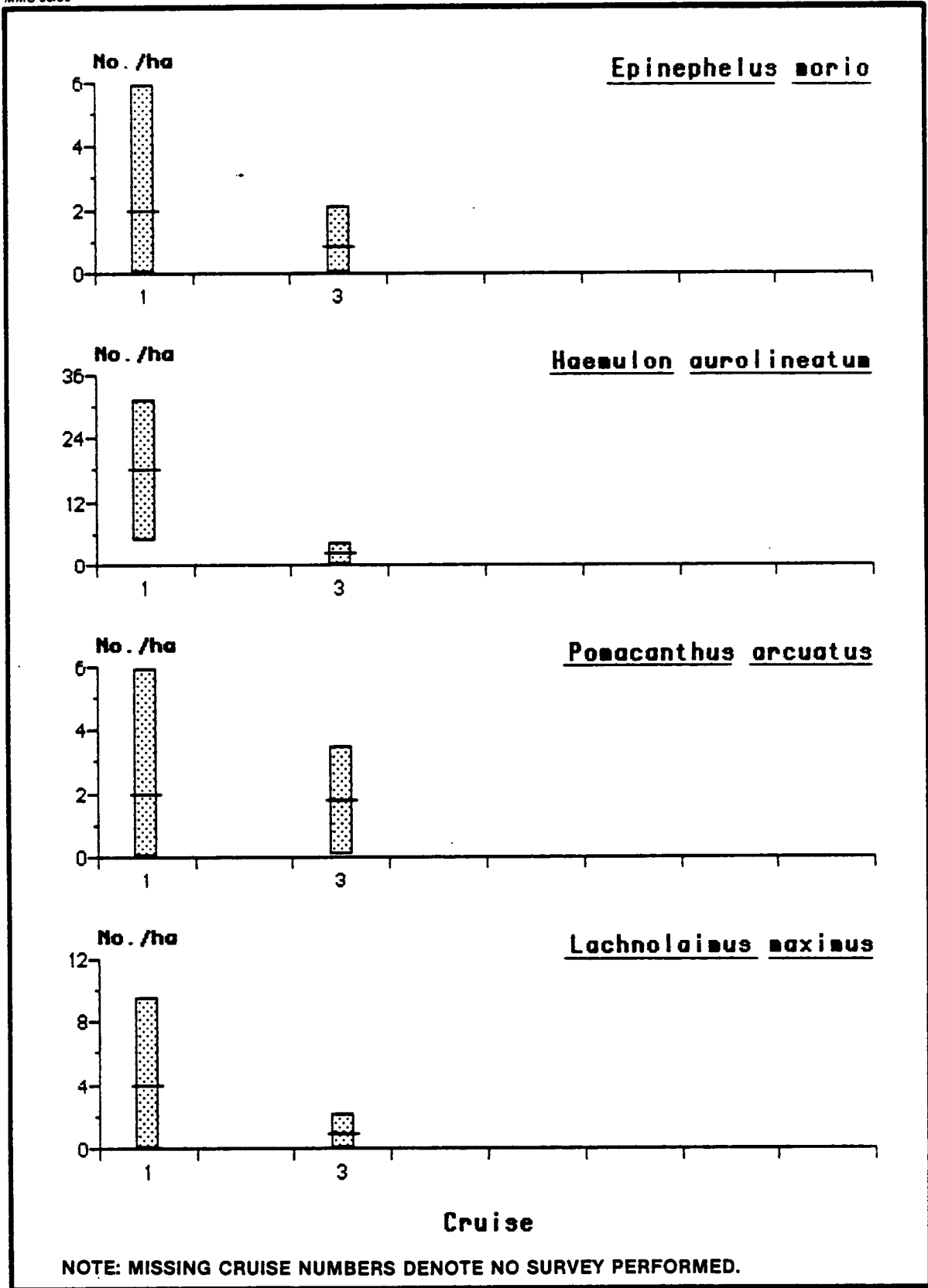


Figure G-13 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 45, BY CRUISE

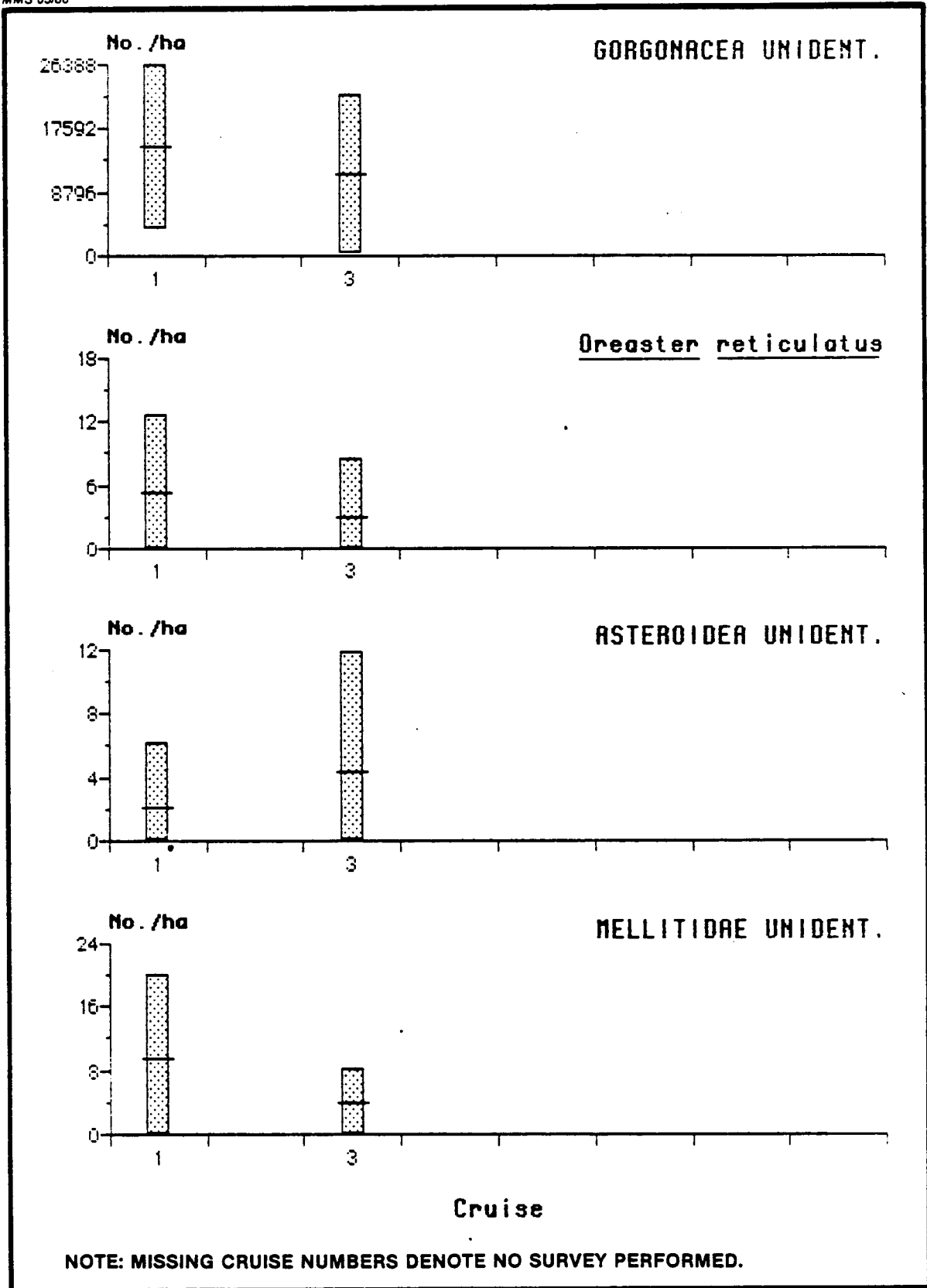


Figure G-14 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 47, BY CRUISE

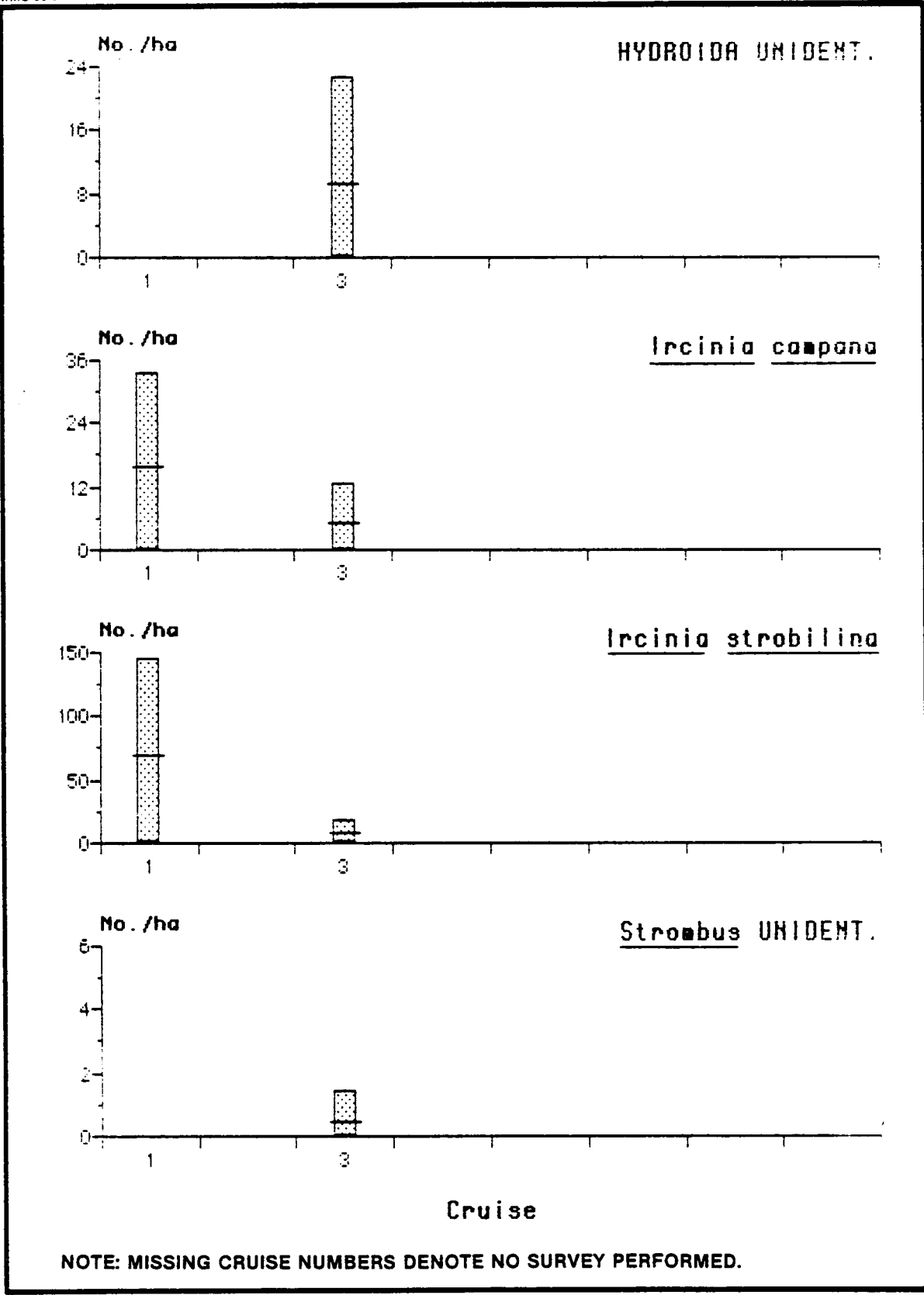
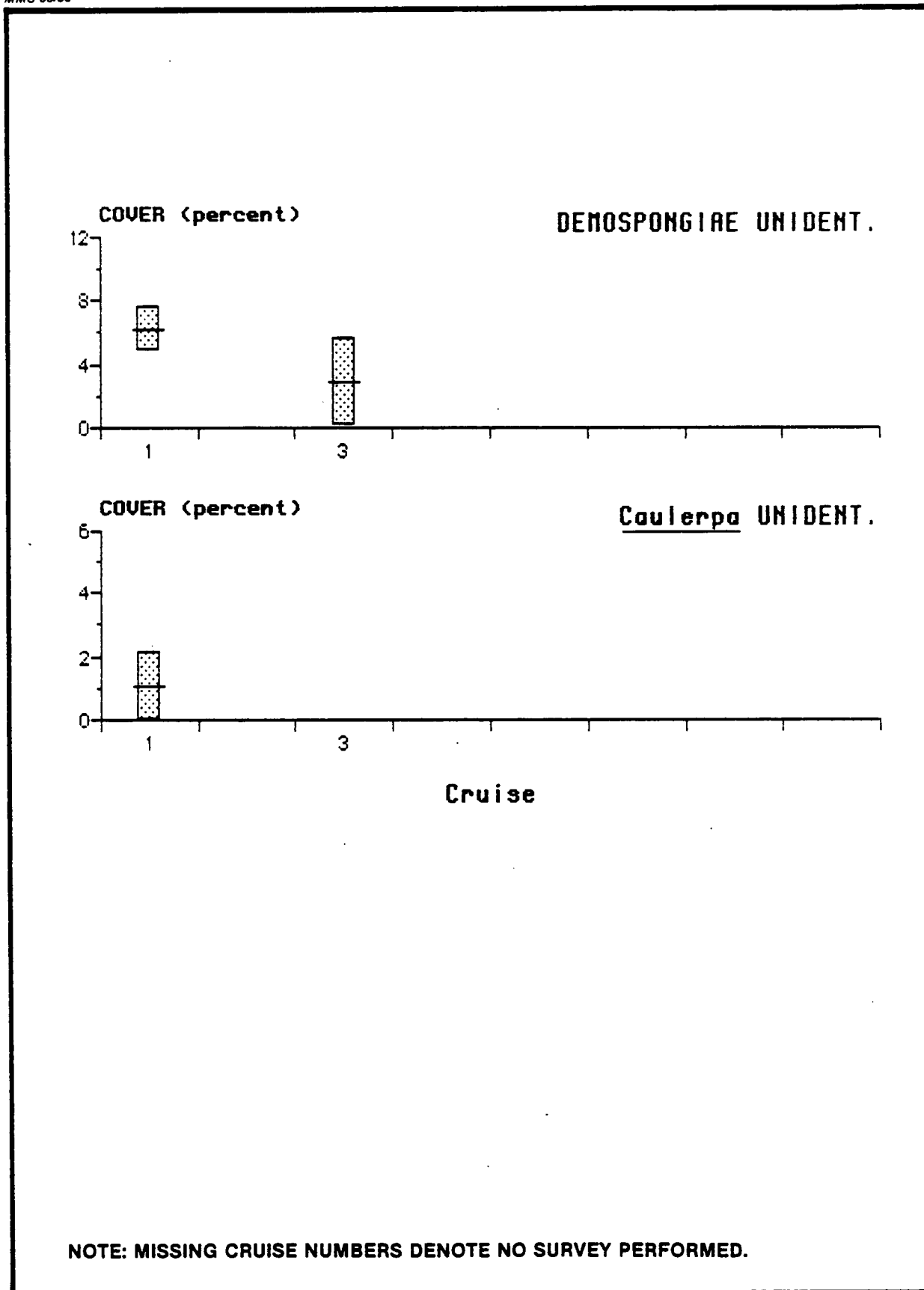


Figure G-14 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-15 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 47, BY CRUISE

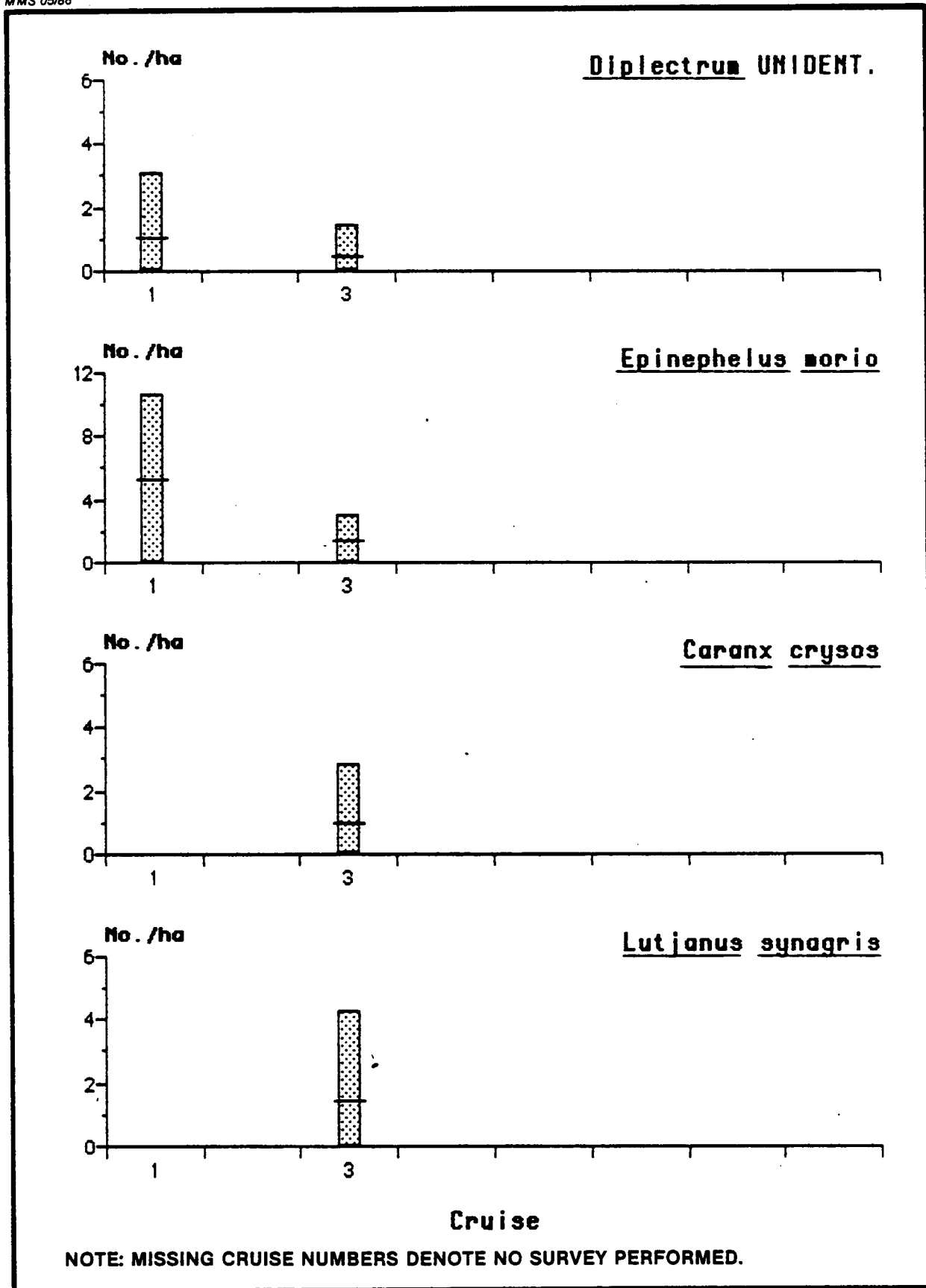


Figure G-16 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 47, BY CRUISE

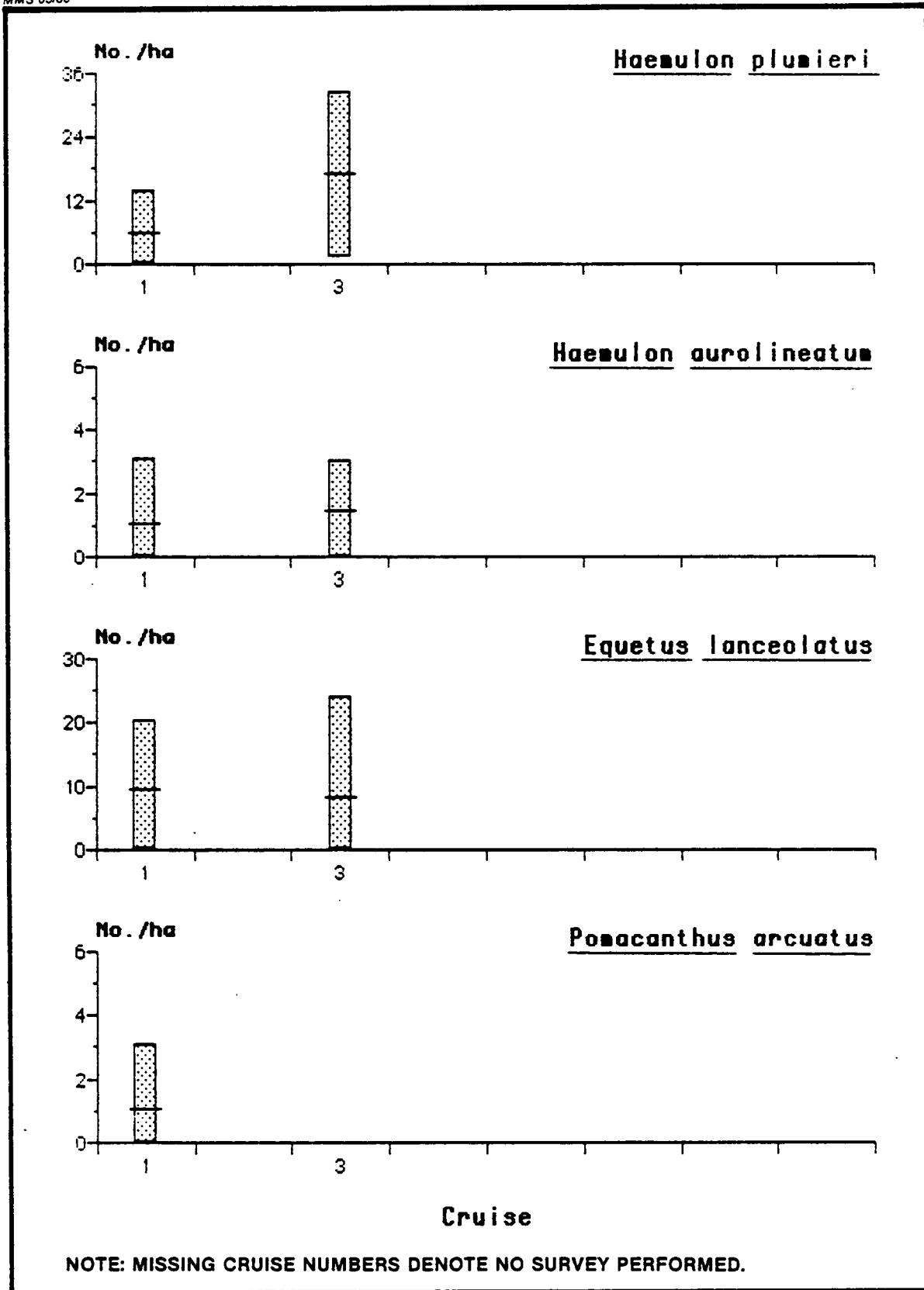


Figure G-16 (cont'd)

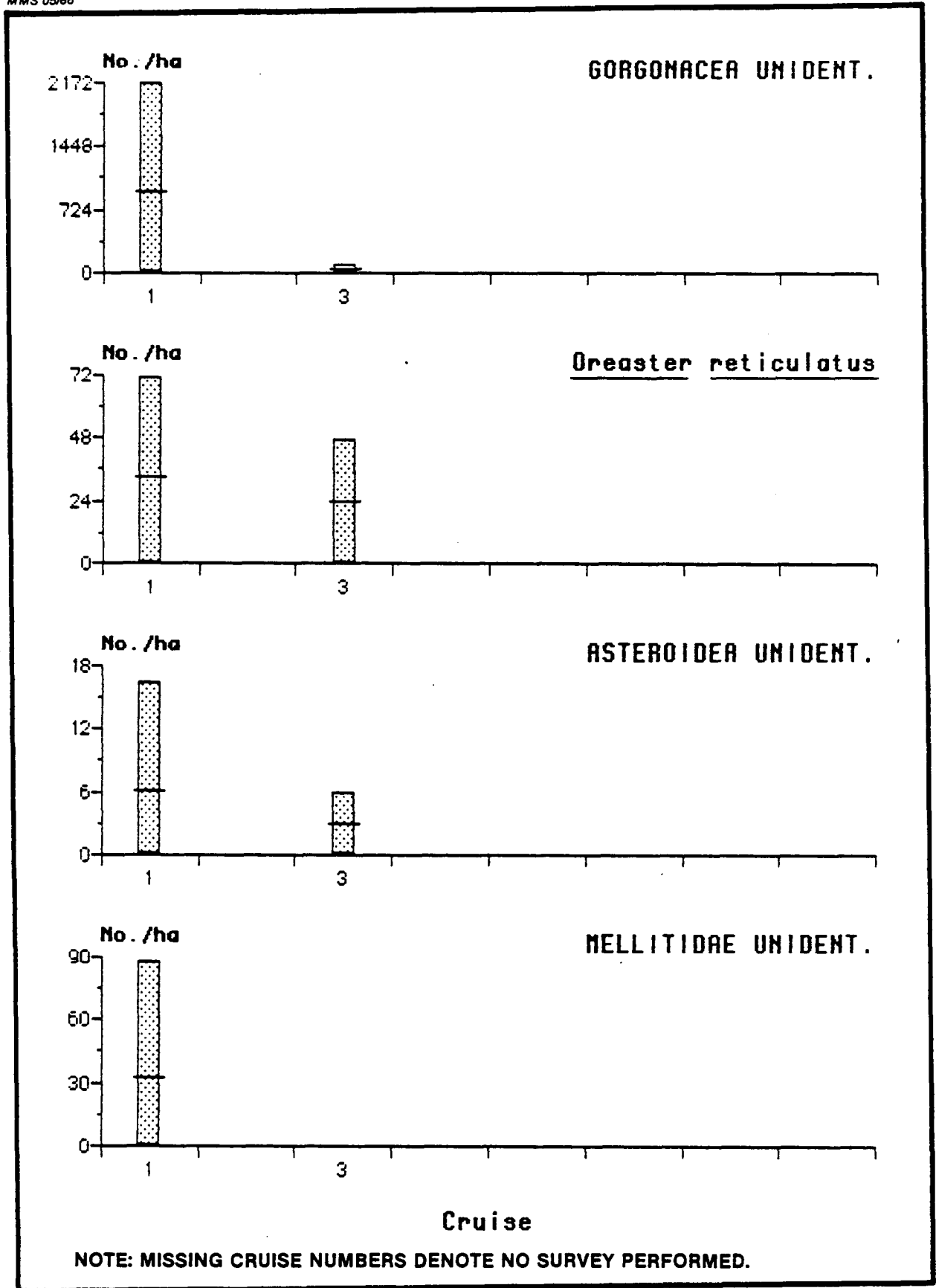


Figure G-17 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 19, BY CRUISE

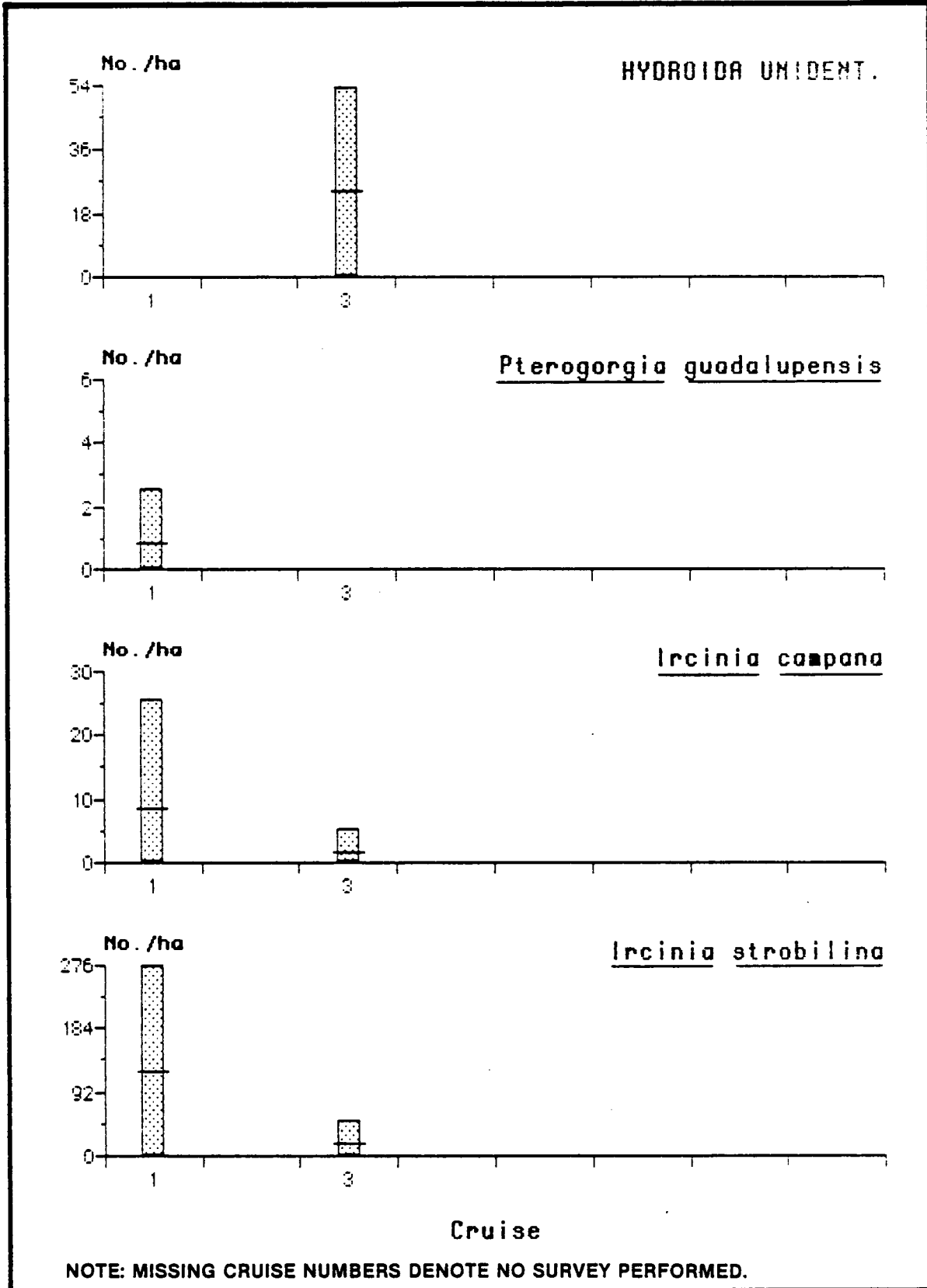
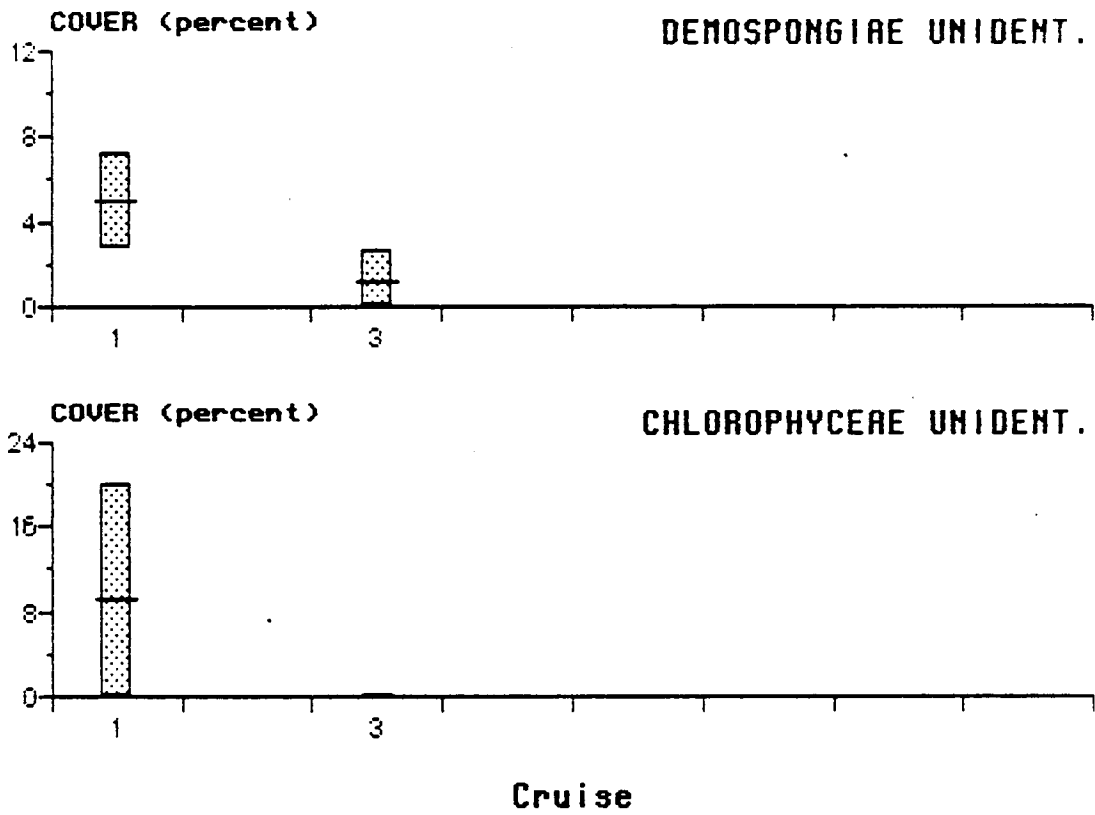


Figure G-17 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-18 MEAN COVER (± 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 19, BY CRUISE

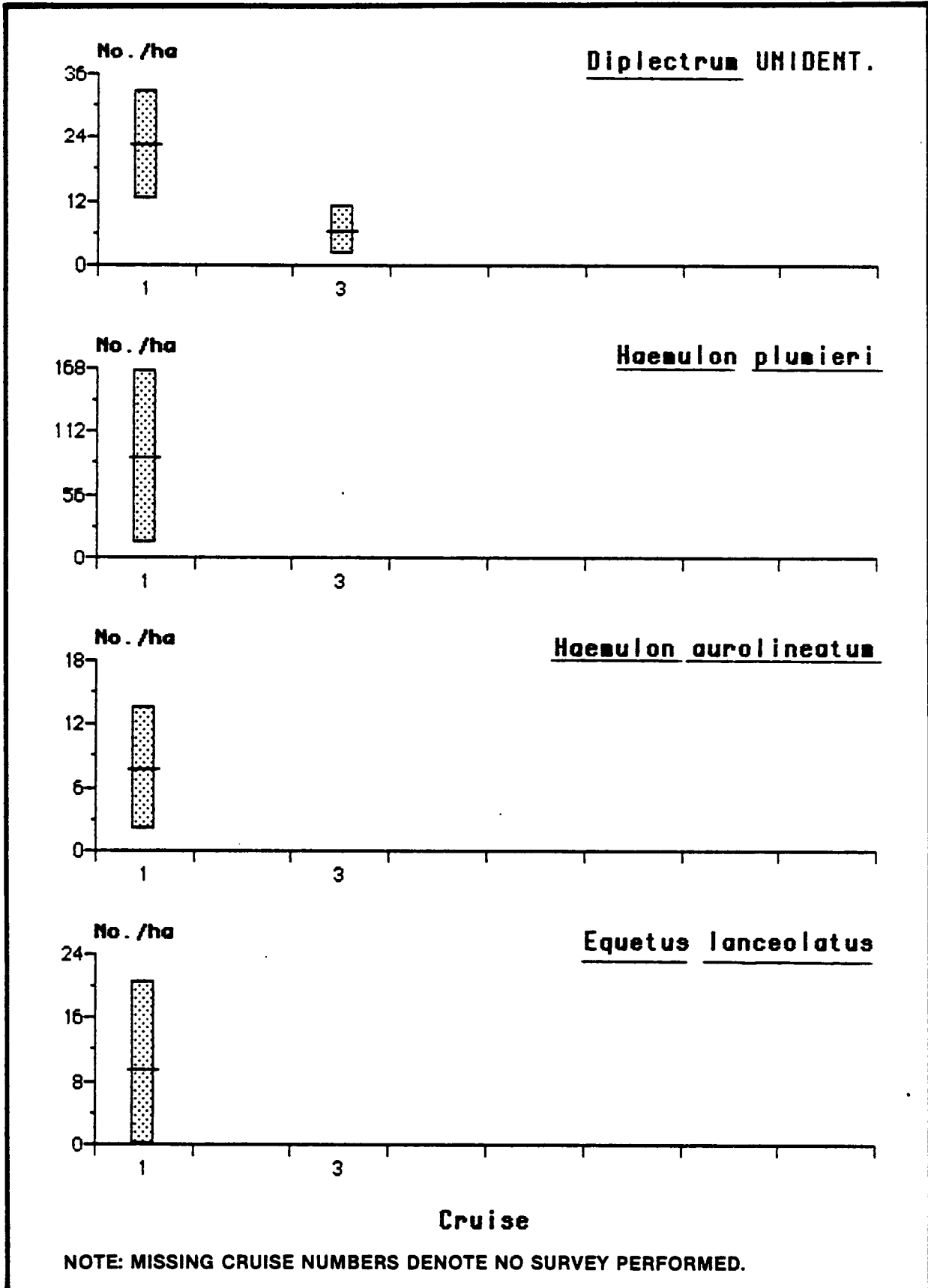


Figure G-19 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 19, BY CRUISE

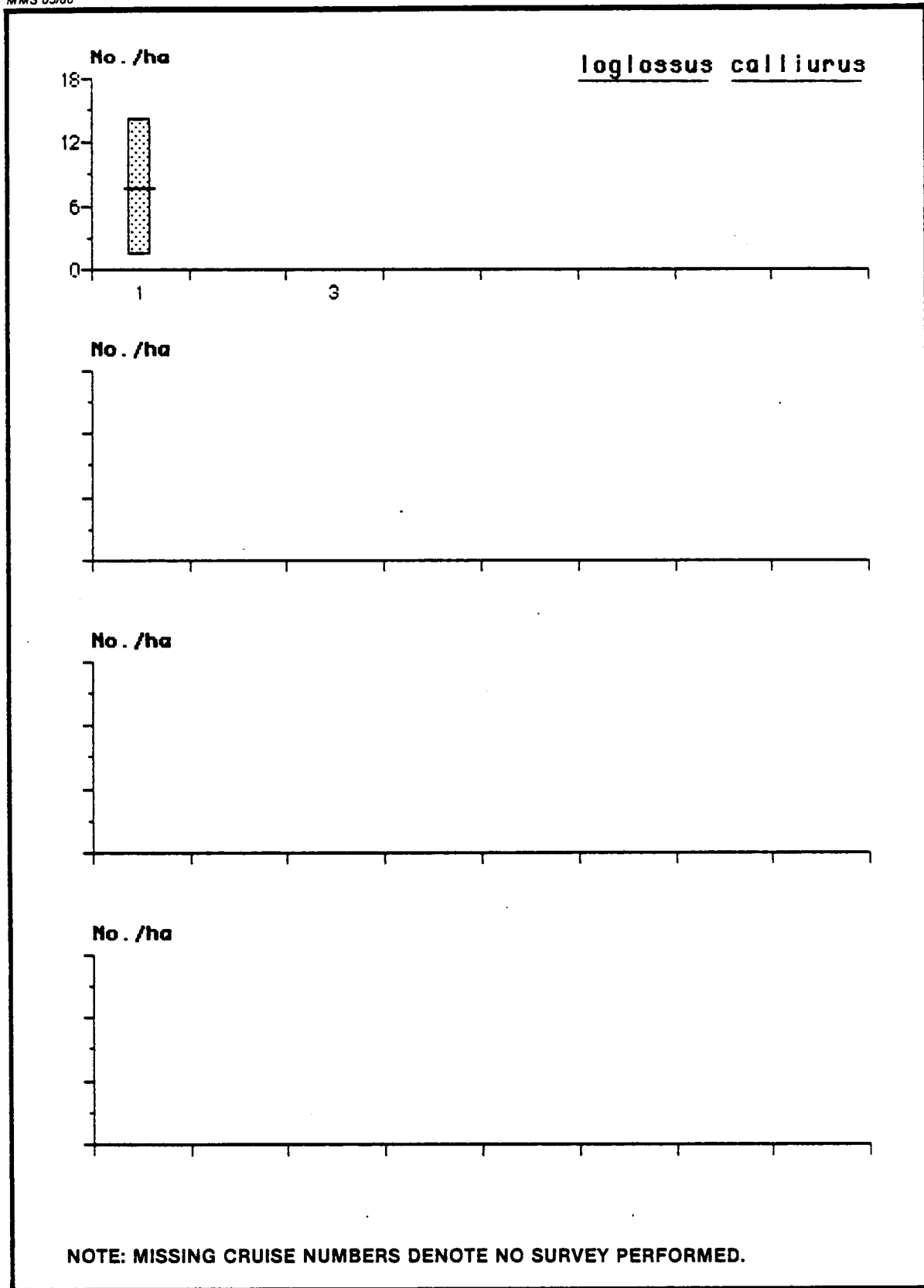


Figure G-19 (cont'd)

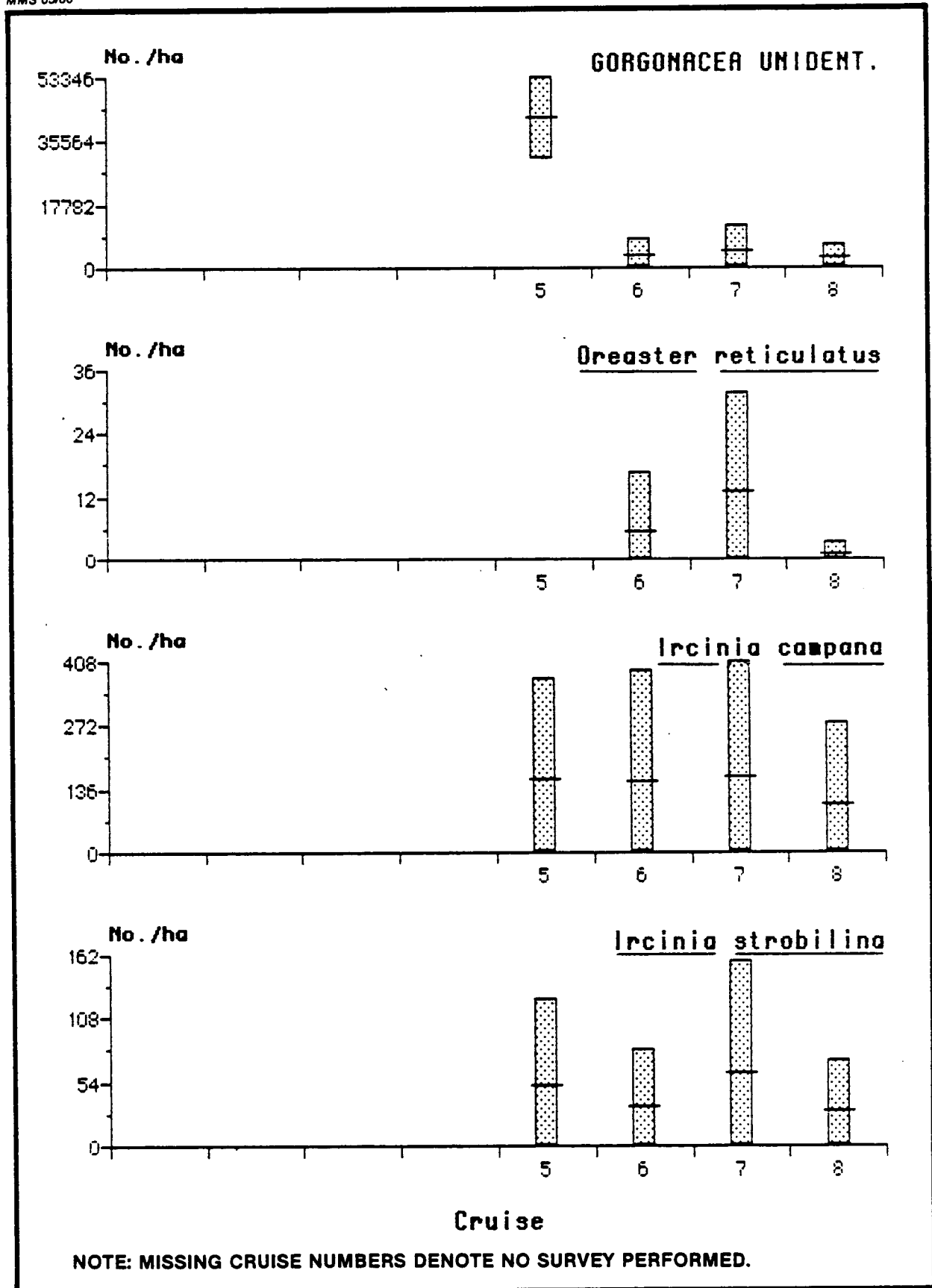
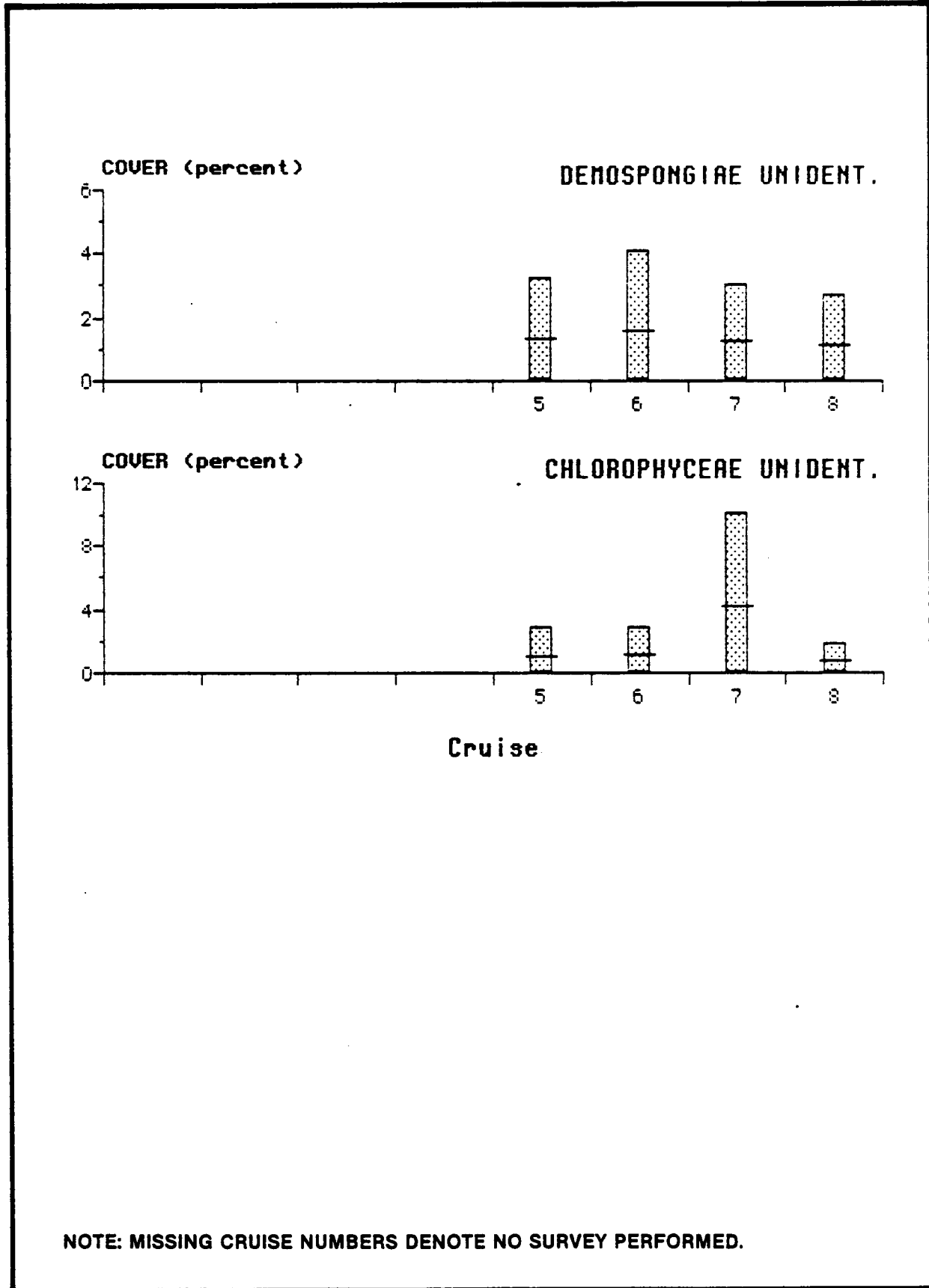


Figure G-20 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 55, BY CRUISE



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-21 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 55, BY CRUISE

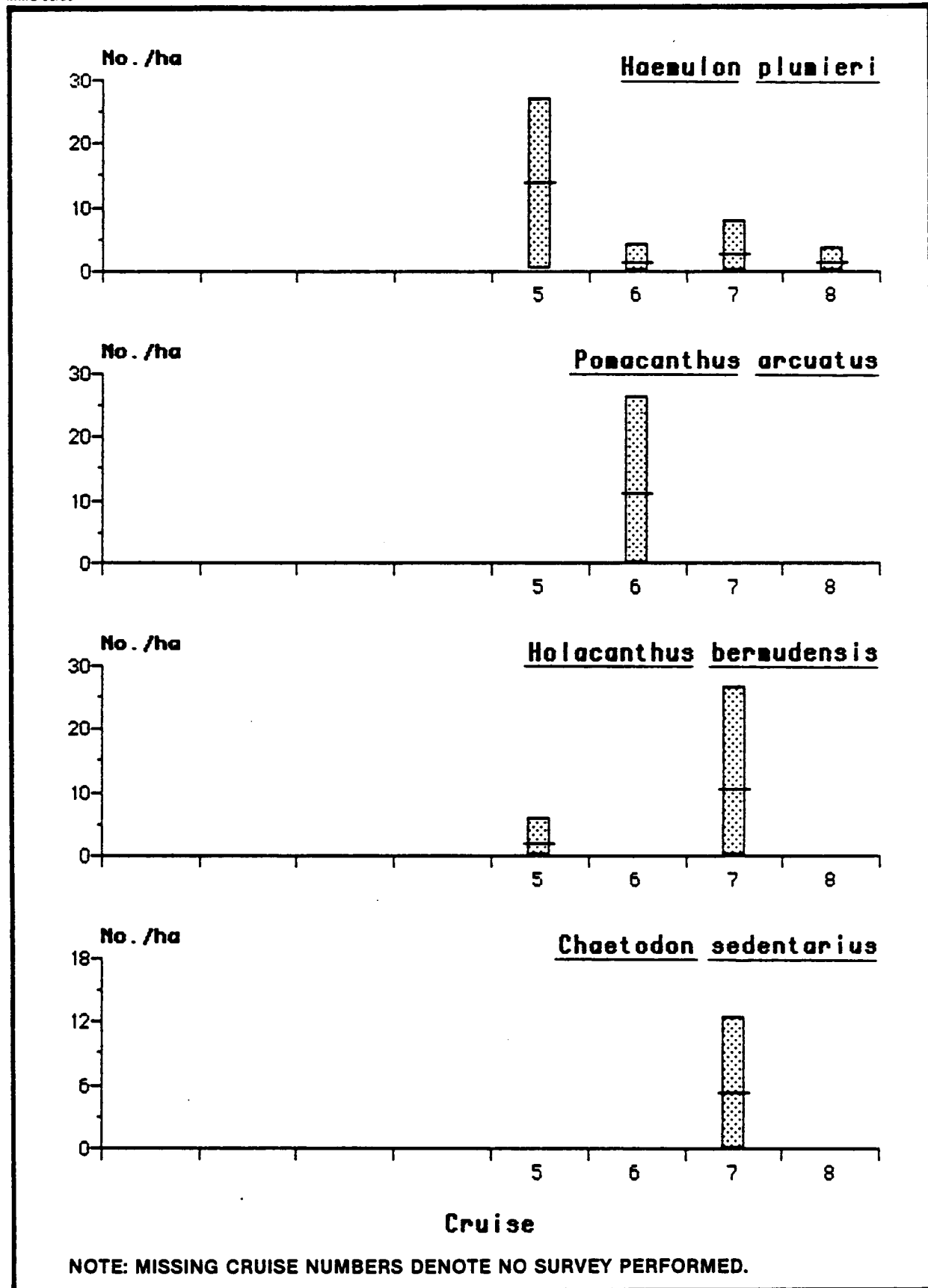


Figure G-22 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 55, BY CRUISE

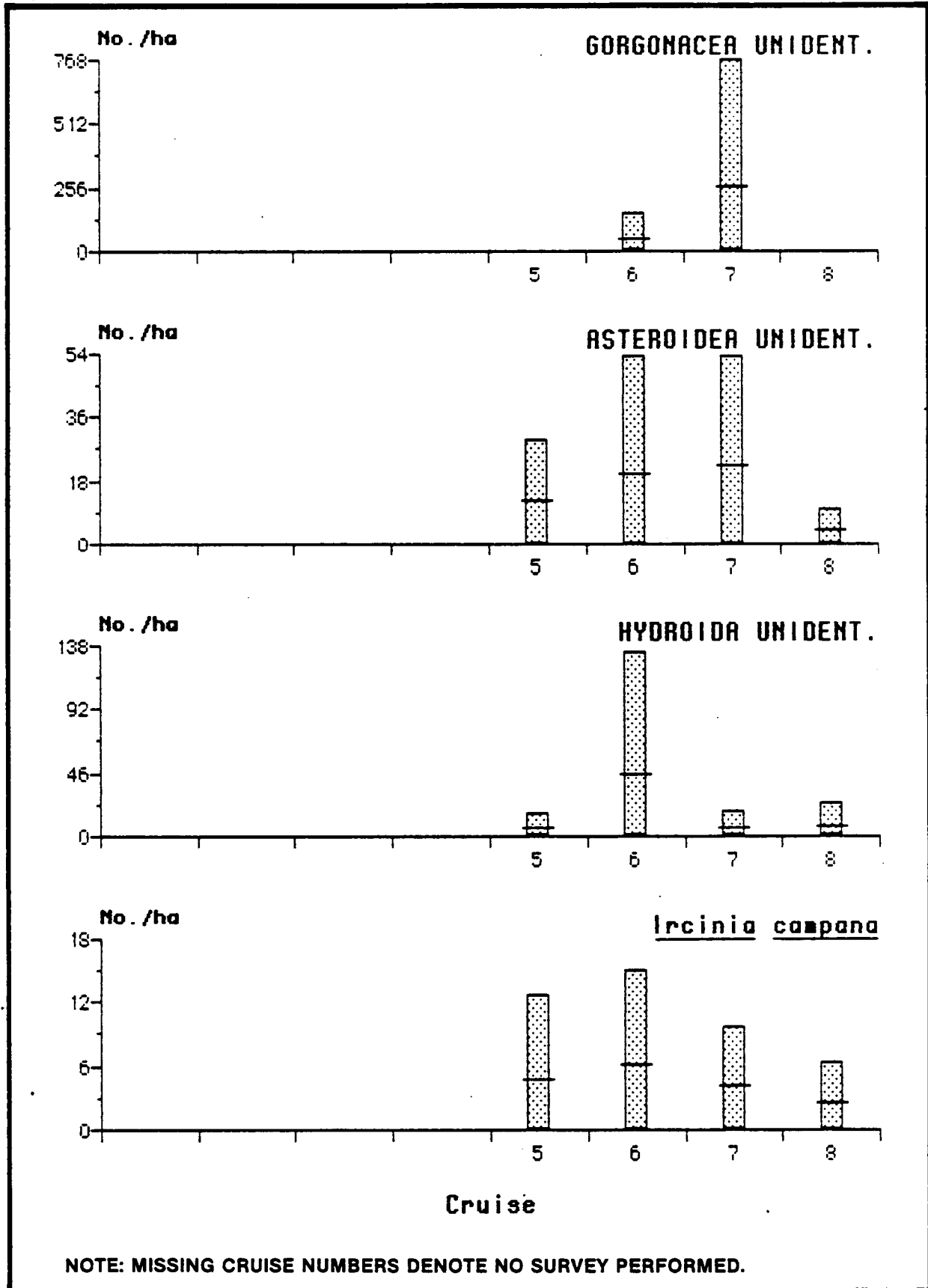


Figure G-23 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 7, BY CRUISE

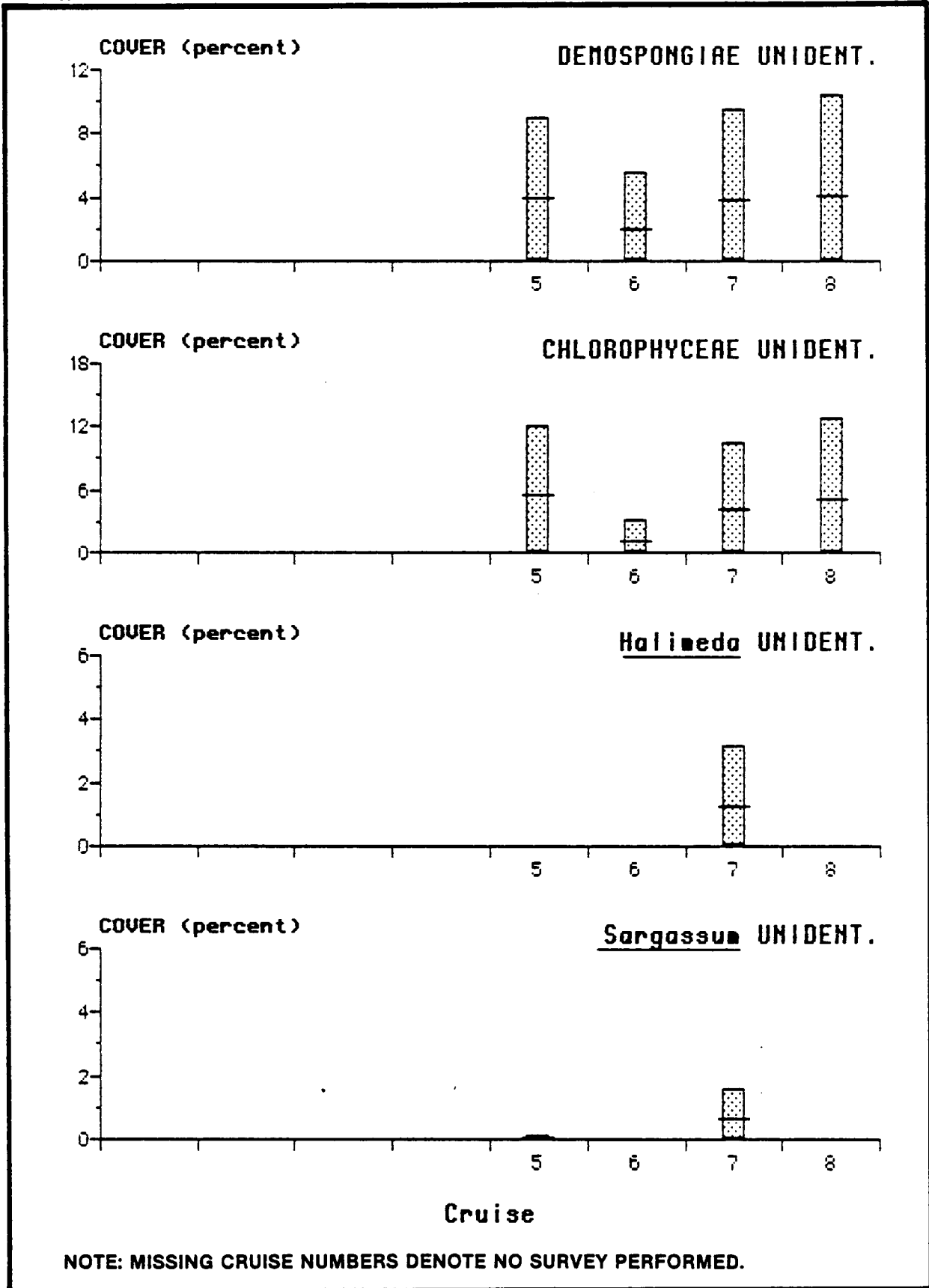


Figure G-24 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 7, BY CRUISE

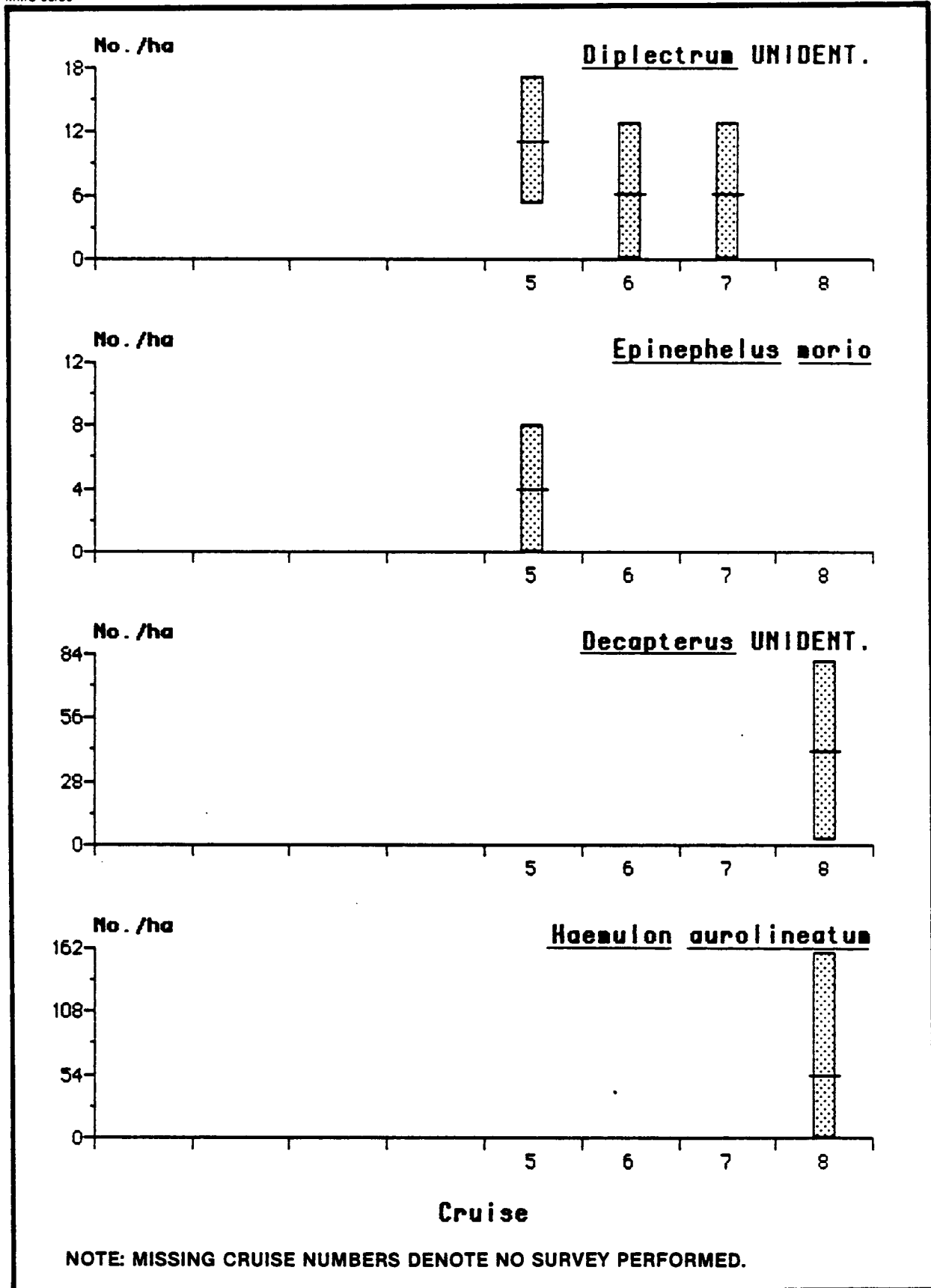


Figure G-25 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 7, BY CRUISE

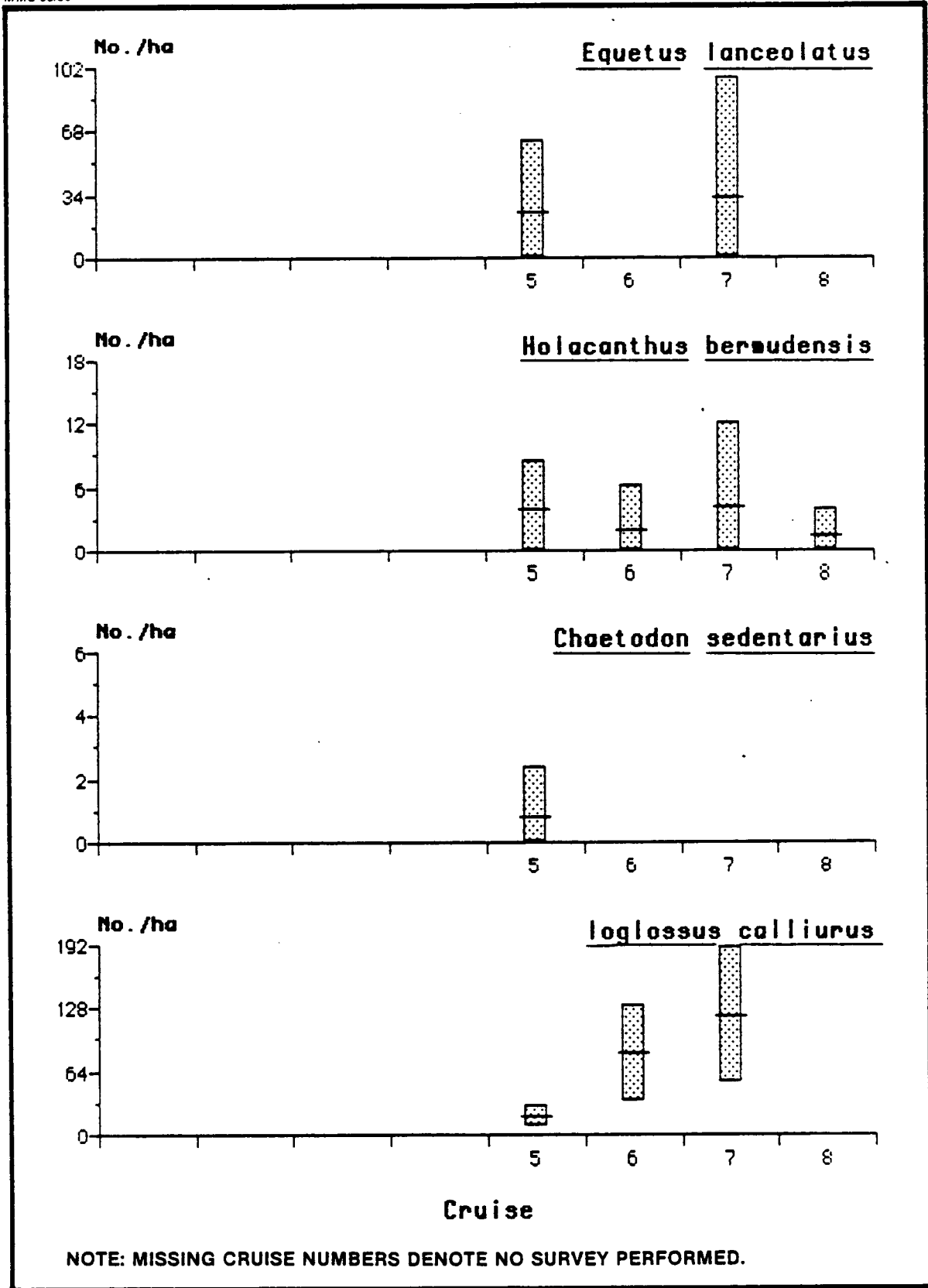


Figure G-25 (cont'd)

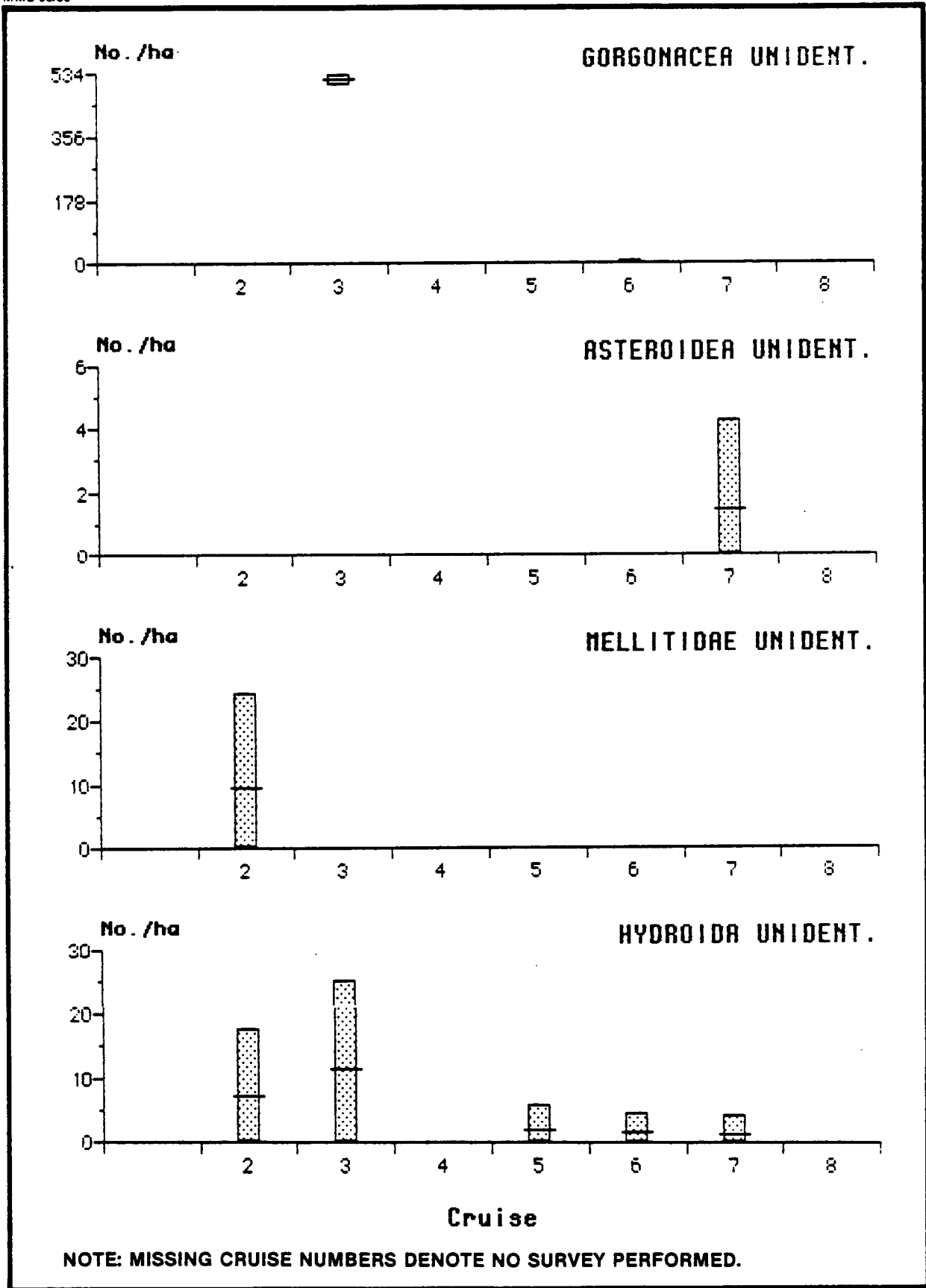


Figure G-26 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 21, BY CRUISE

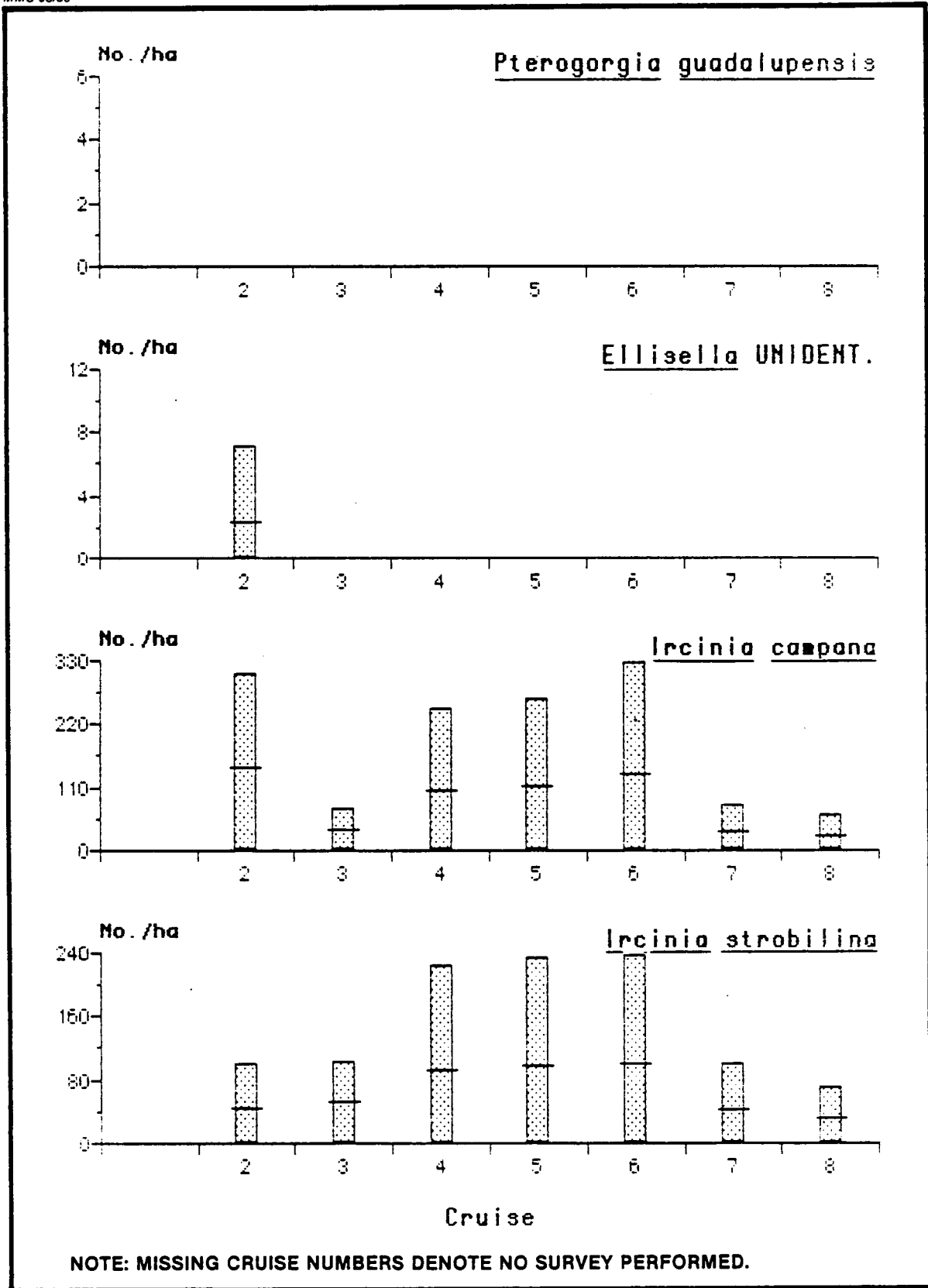
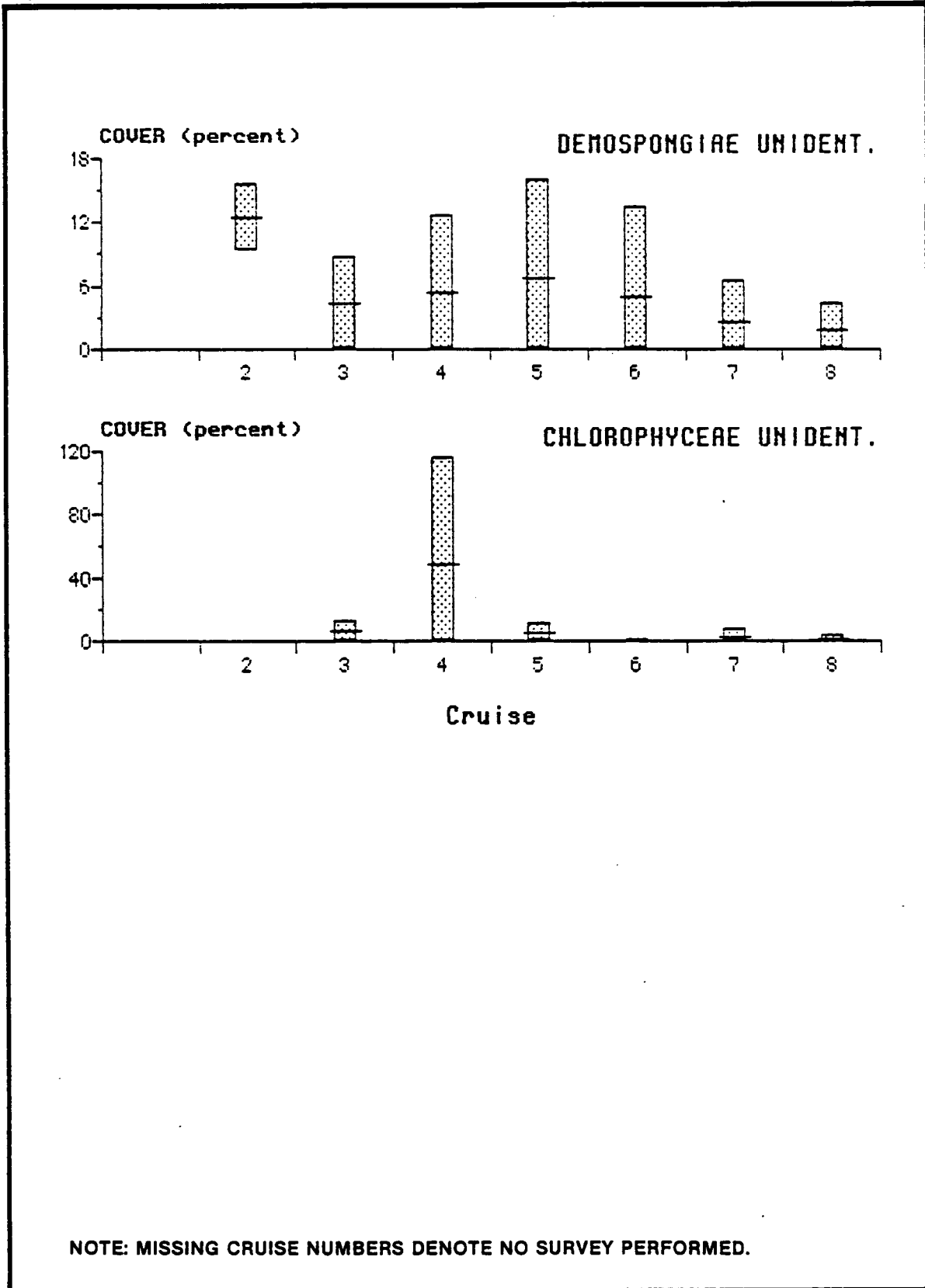
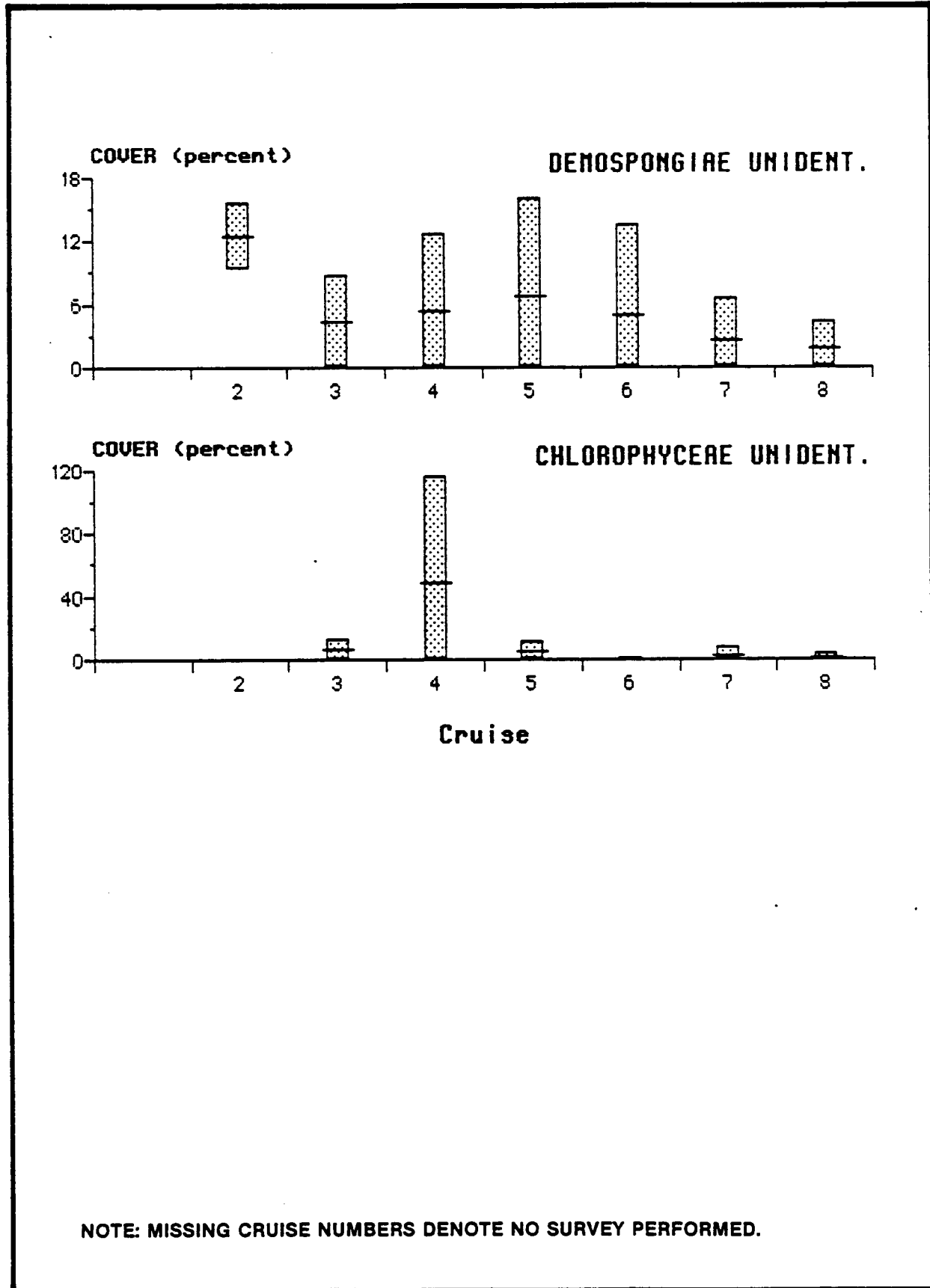


Figure G-26 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-26 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-27 MEAN COVER (± 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 21, BY CRUISE

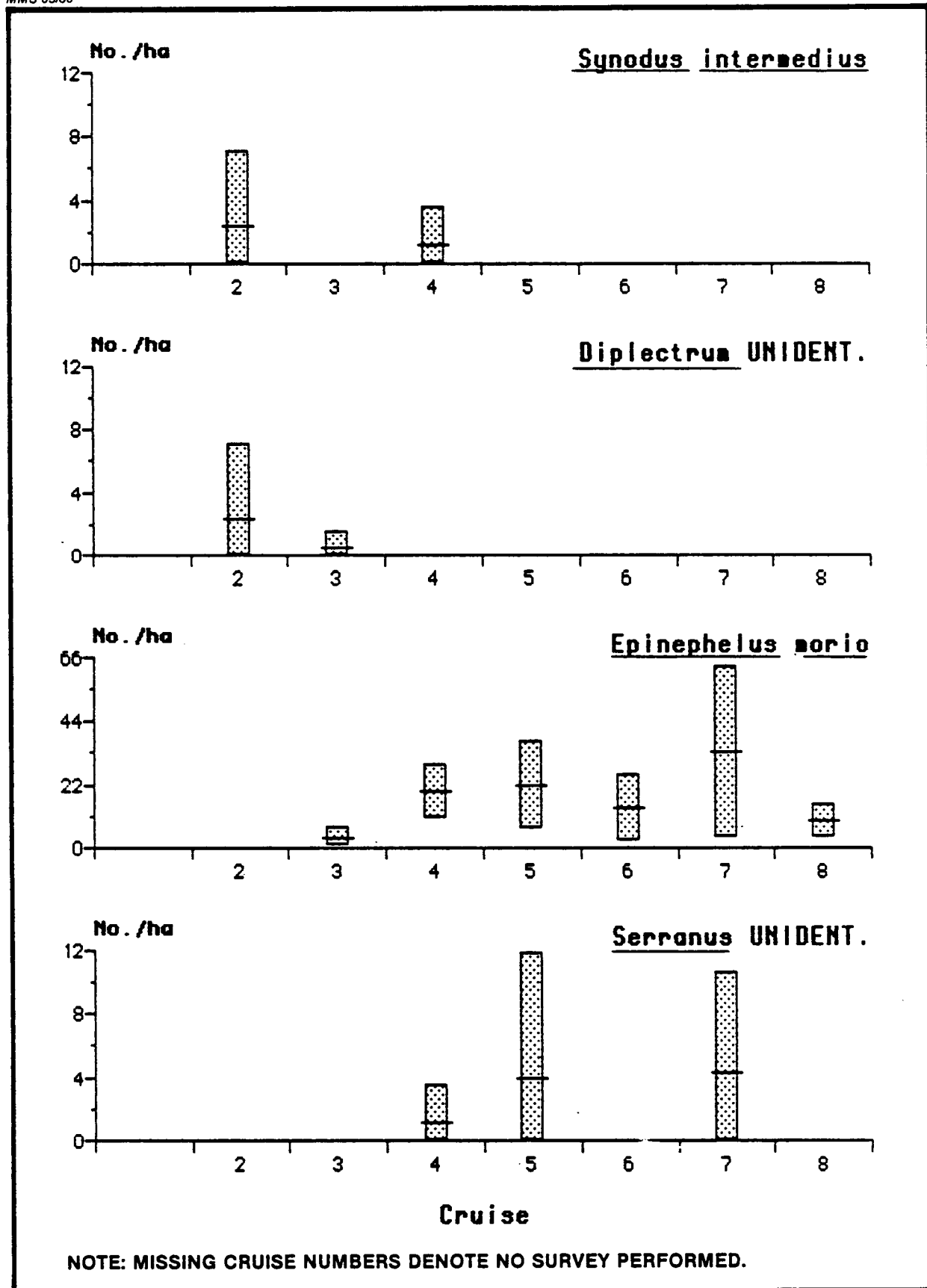


Figure G-28 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 21, BY CRUISE

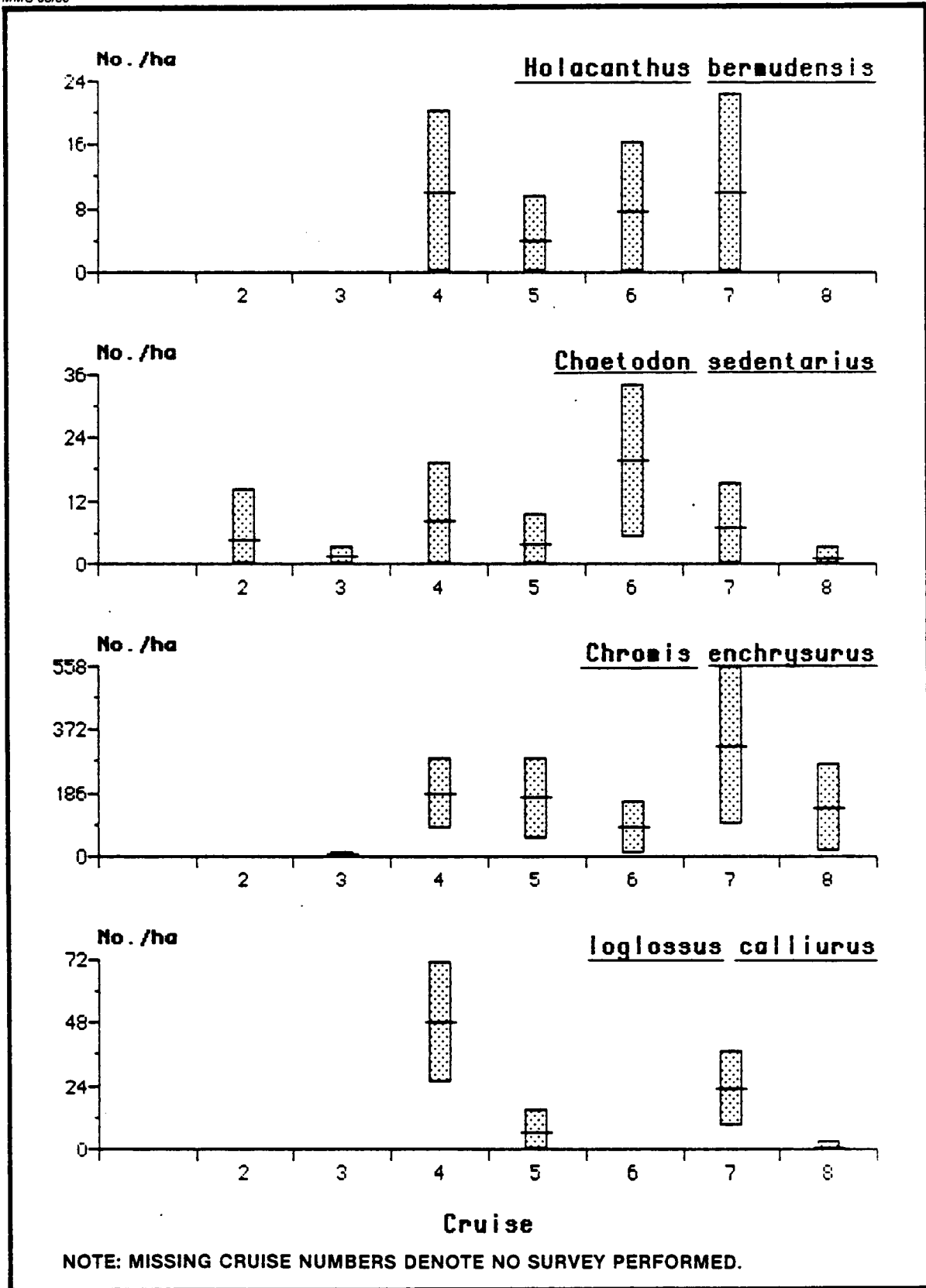


Figure G-28 (cont'd)

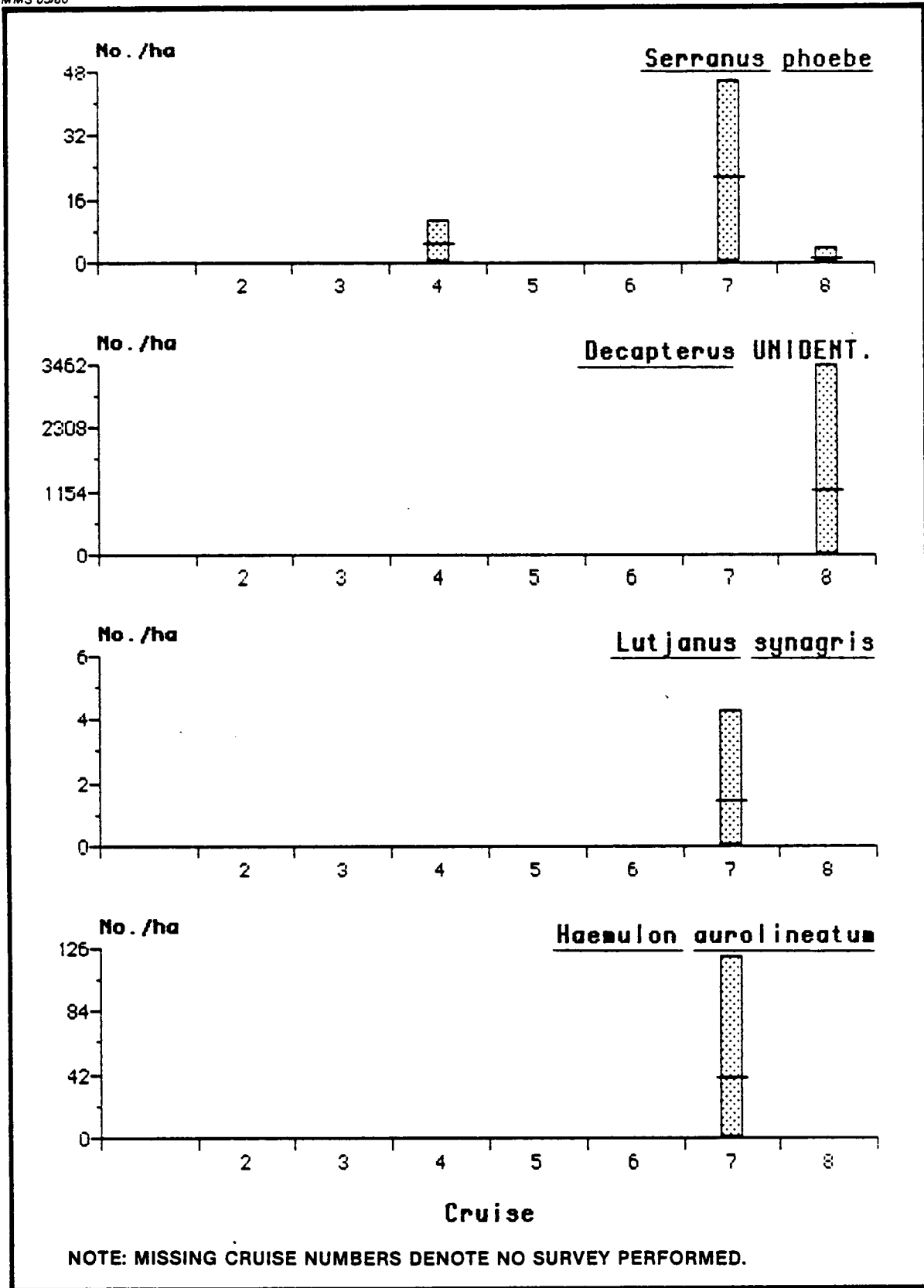


Figure G-28 (cont'd)

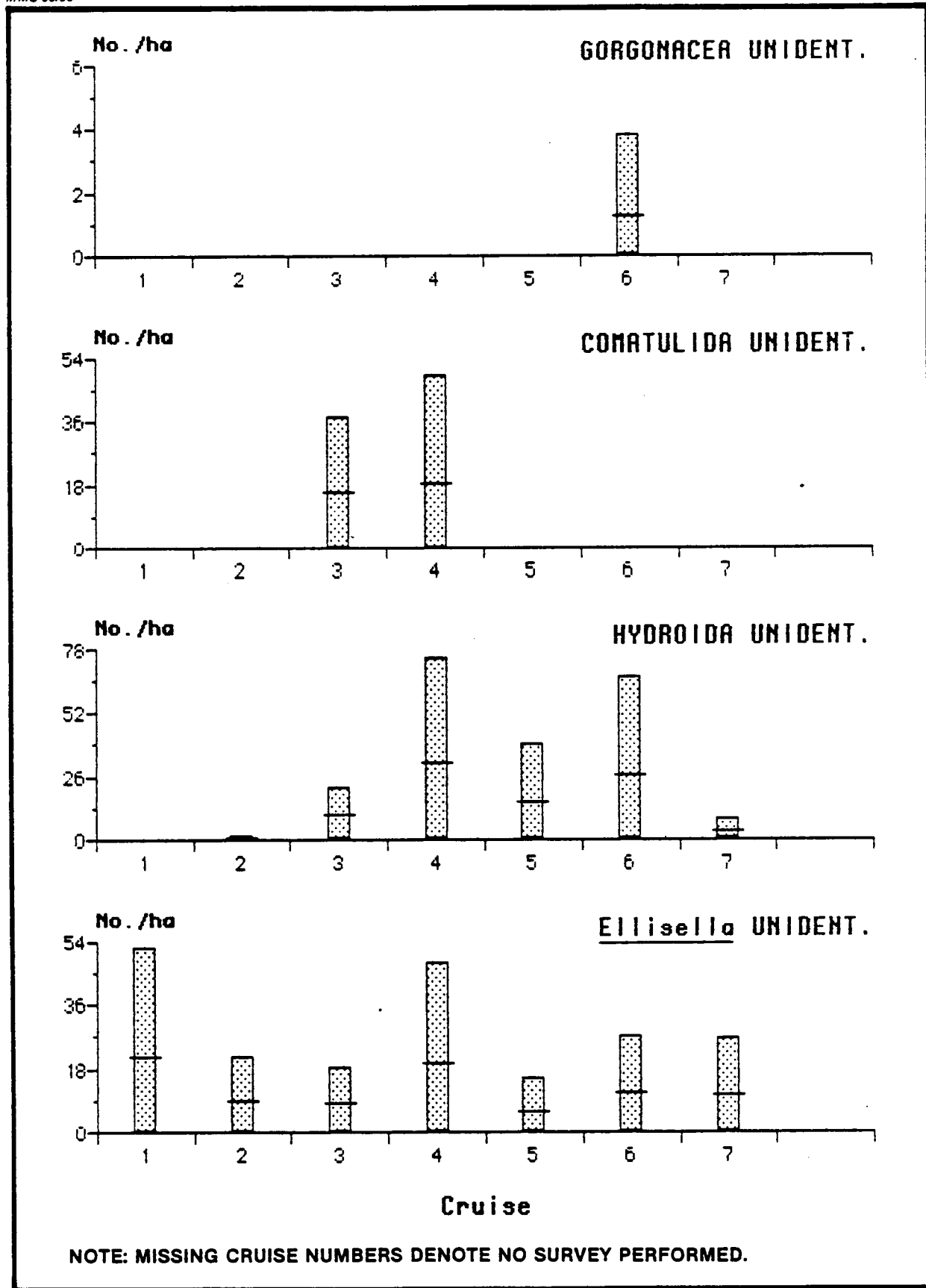


Figure G-29 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 29, BY CRUISE

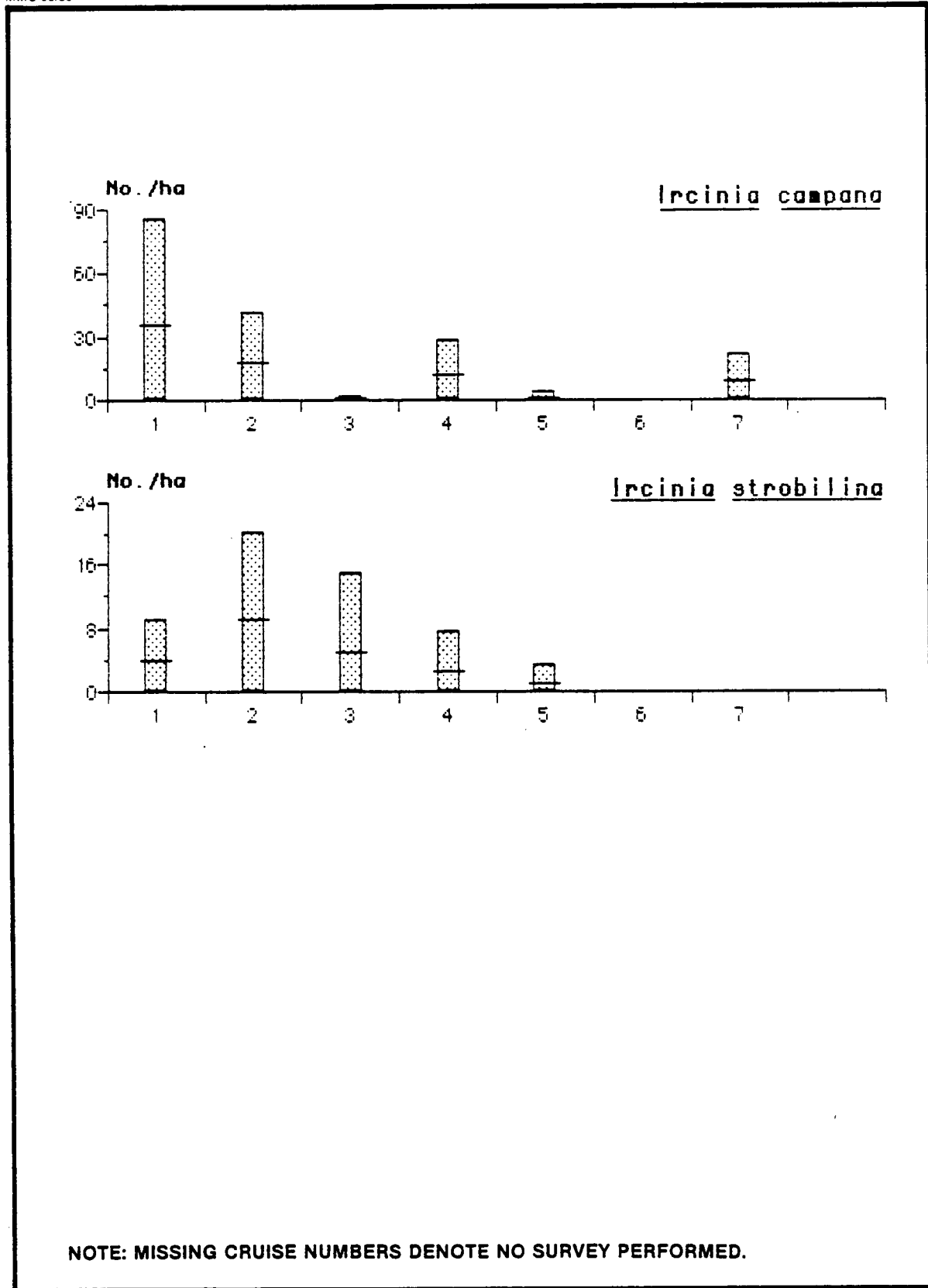


Figure G-29 (cont'd)

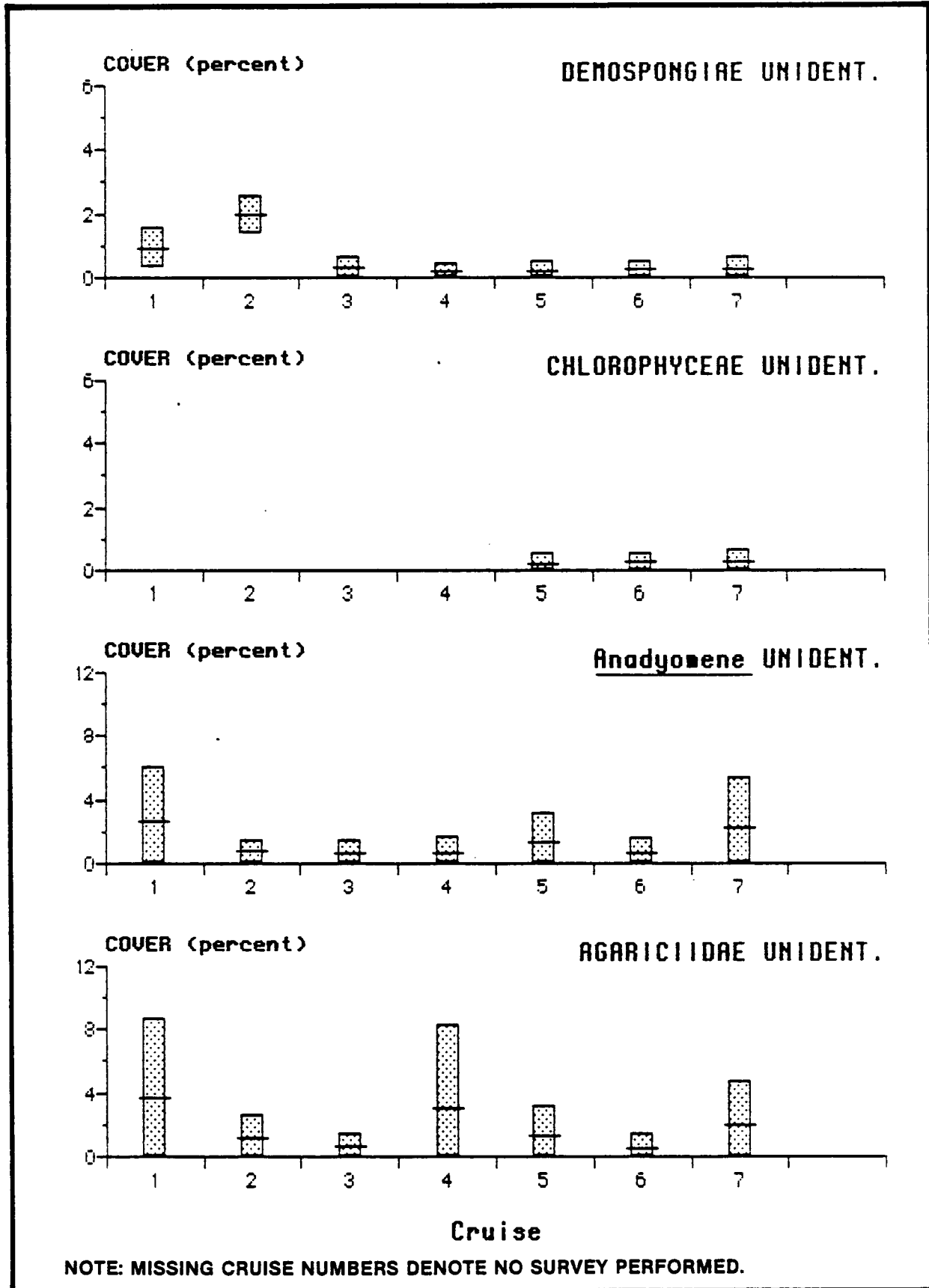


Figure G-30 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 29, BY CRUISE

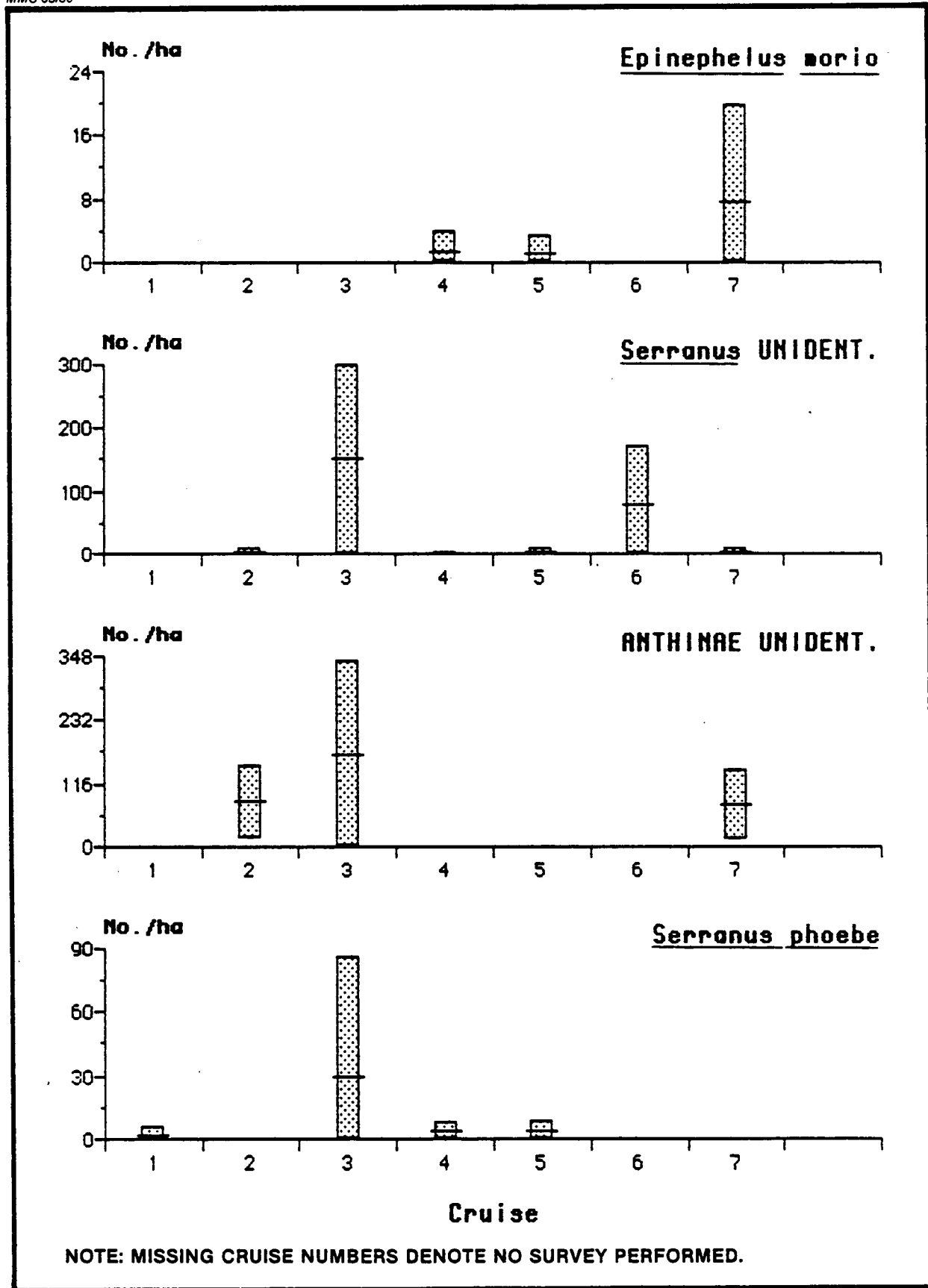


Figure G-31 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 29, BY CRUISE

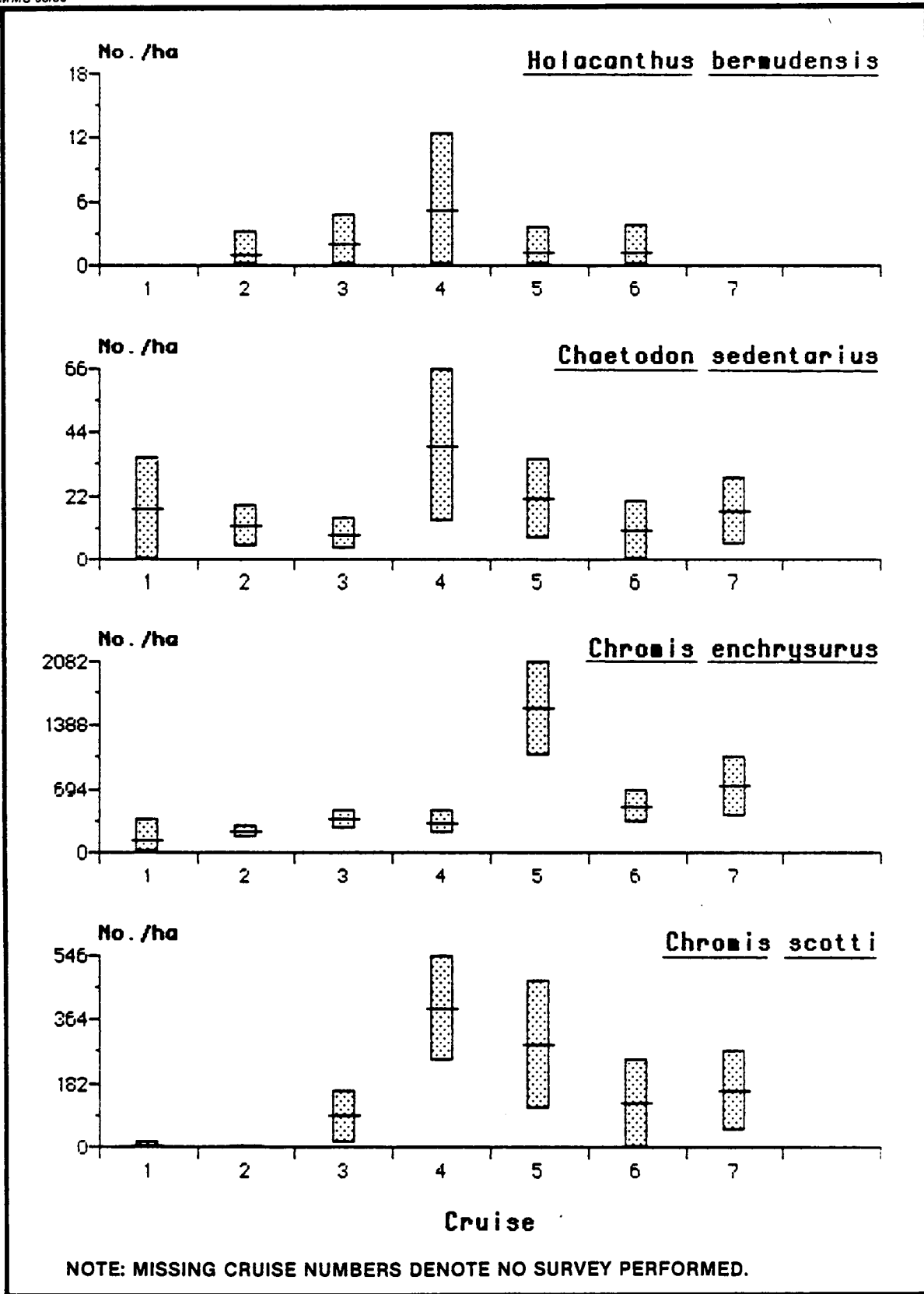
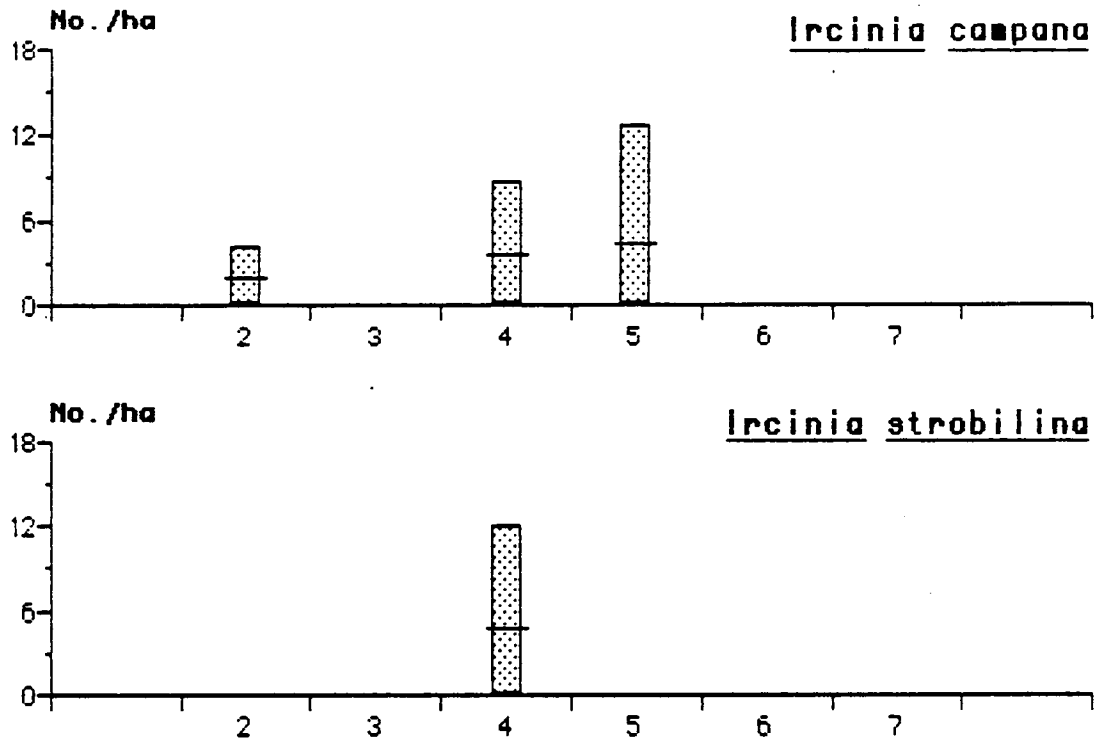
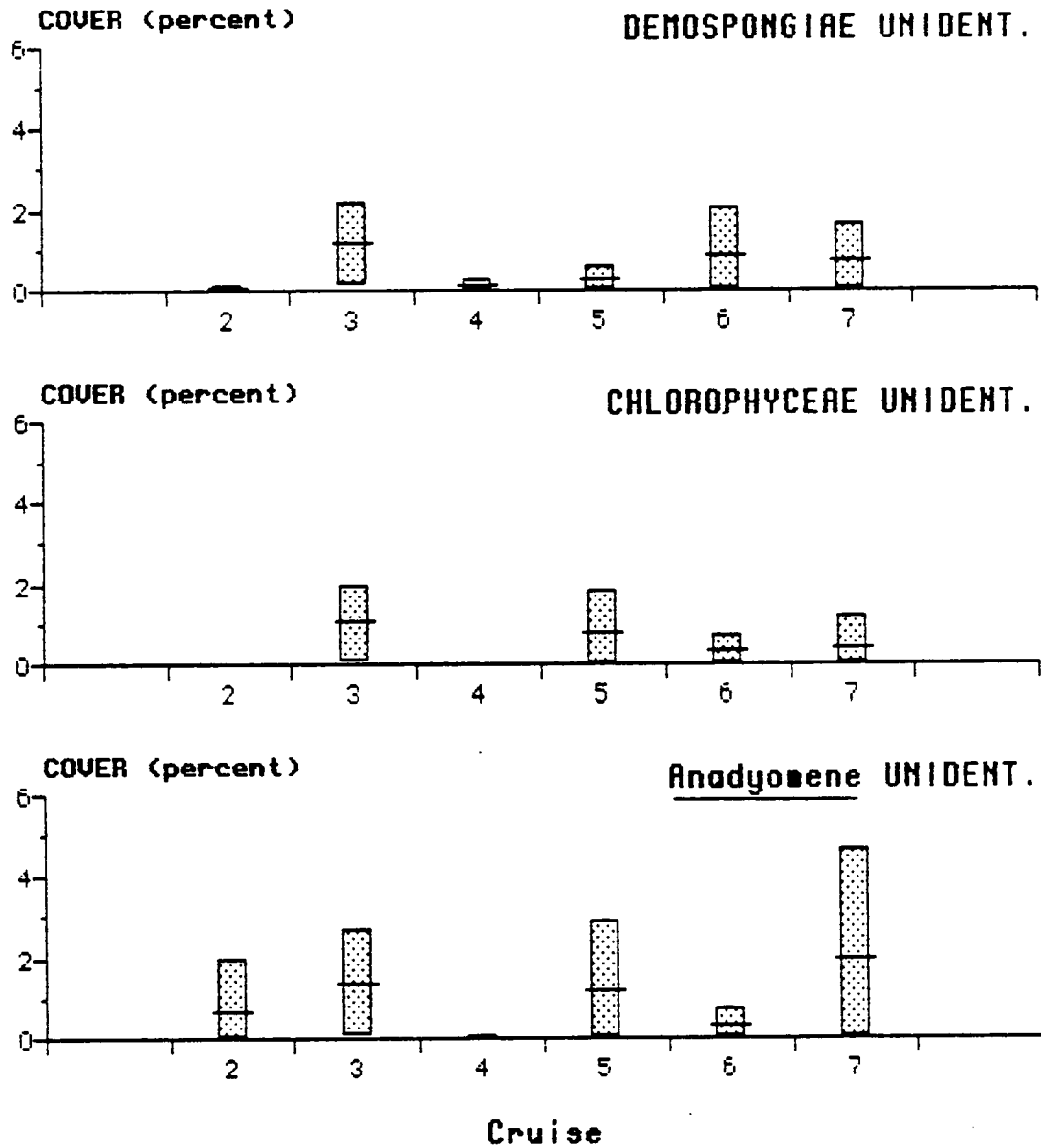


Figure G-31 (cont'd)



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-32 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 23, BY CRUISE



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-33 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 23, BY CRUISE

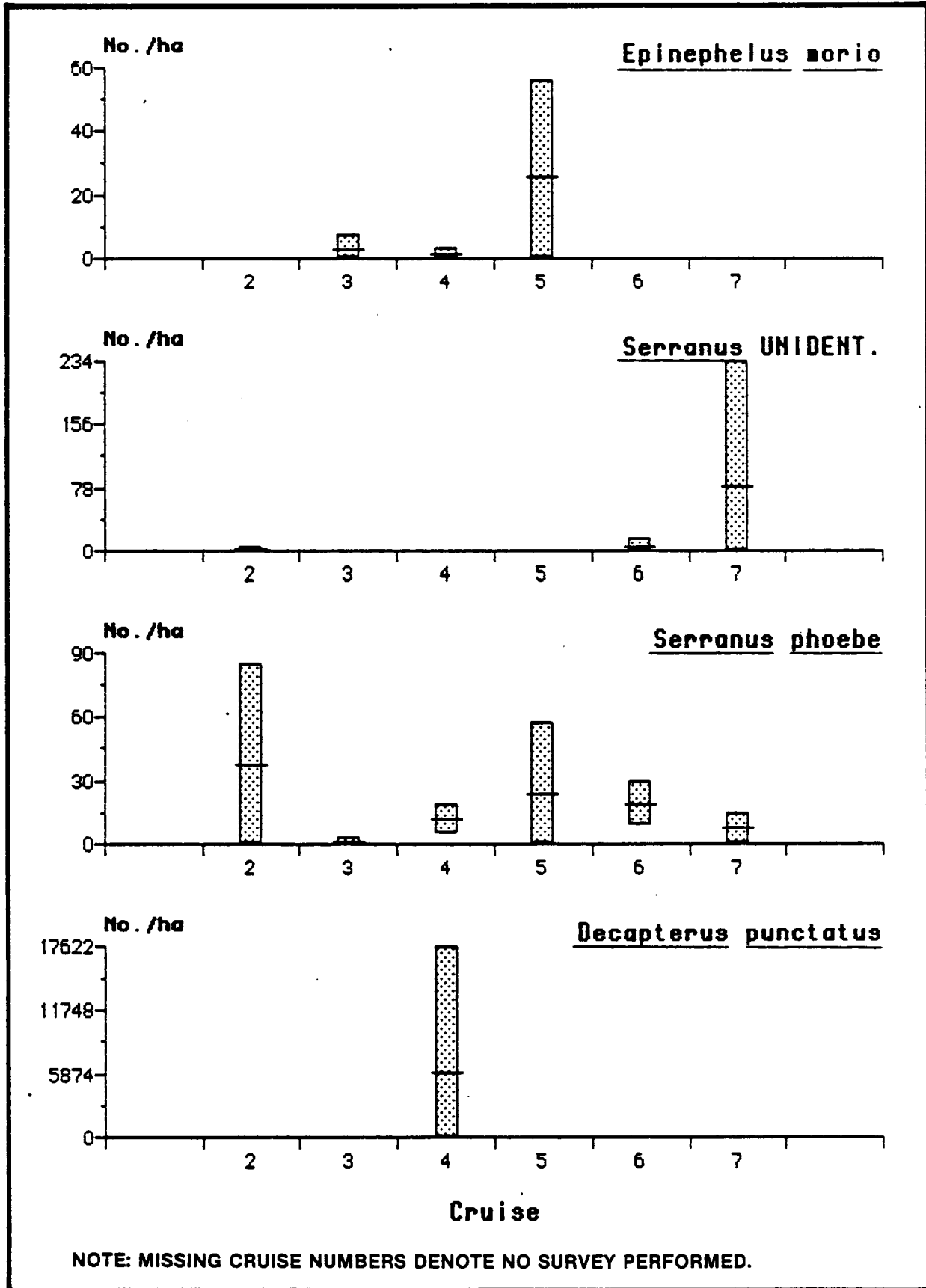


Figure G-34 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 23, BY CRUISE

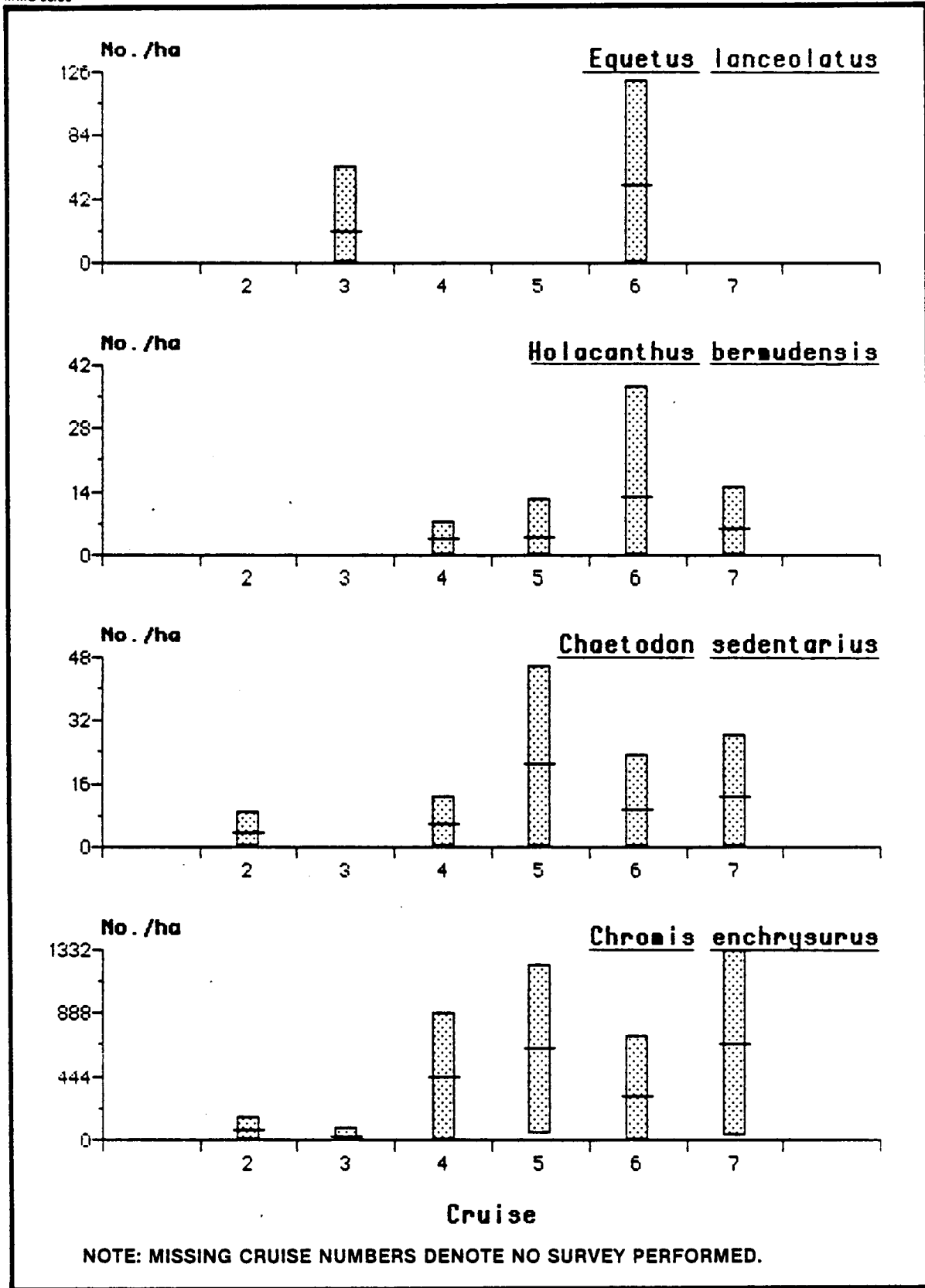


Figure G-34 (cont'd)

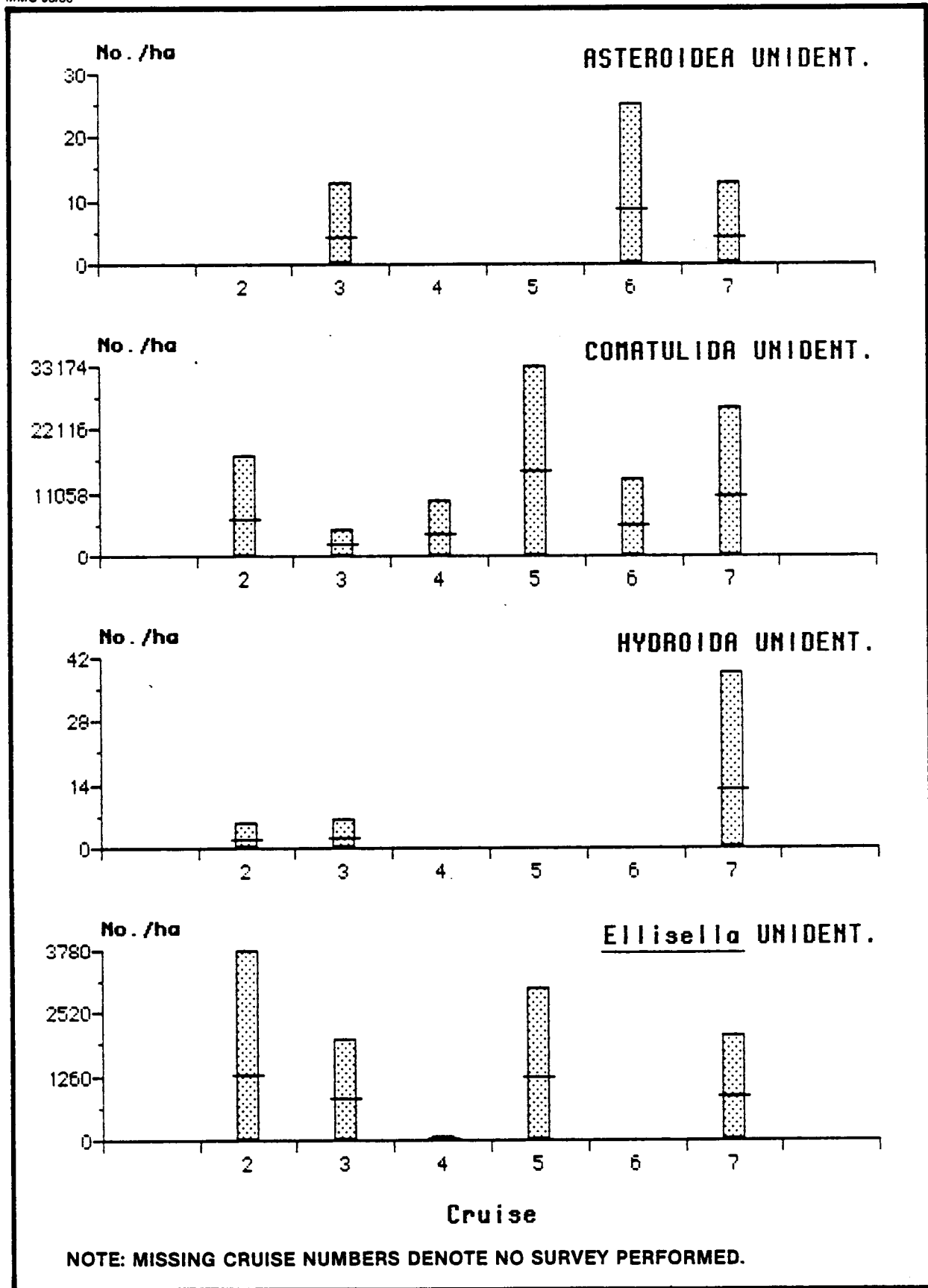
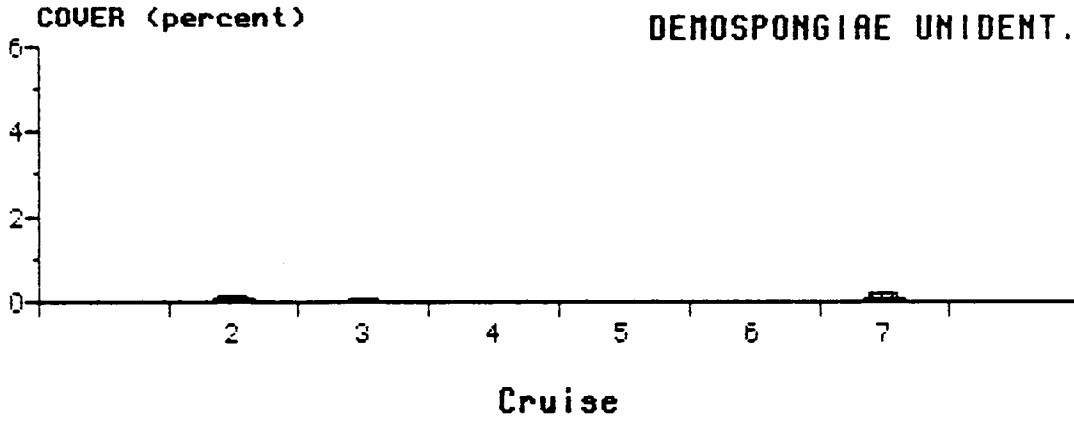


Figure G-35 MEAN DENSITY (± 2 S.E.) OF NUMERICALLY DOMINANT BENTHIC INVERTEBRATES CENSUSED WITH UTV AT STATION 36, BY CRUISE



NOTE: MISSING CRUISE NUMBERS DENOTE NO SURVEY PERFORMED.

Figure G-36 MEAN COVER (\pm 2 S.E.) OF THE MOST ABUNDANT BENTHIC ORGANISMS CENSUSED WITH UTV AT STATION 36. BY CRUISE

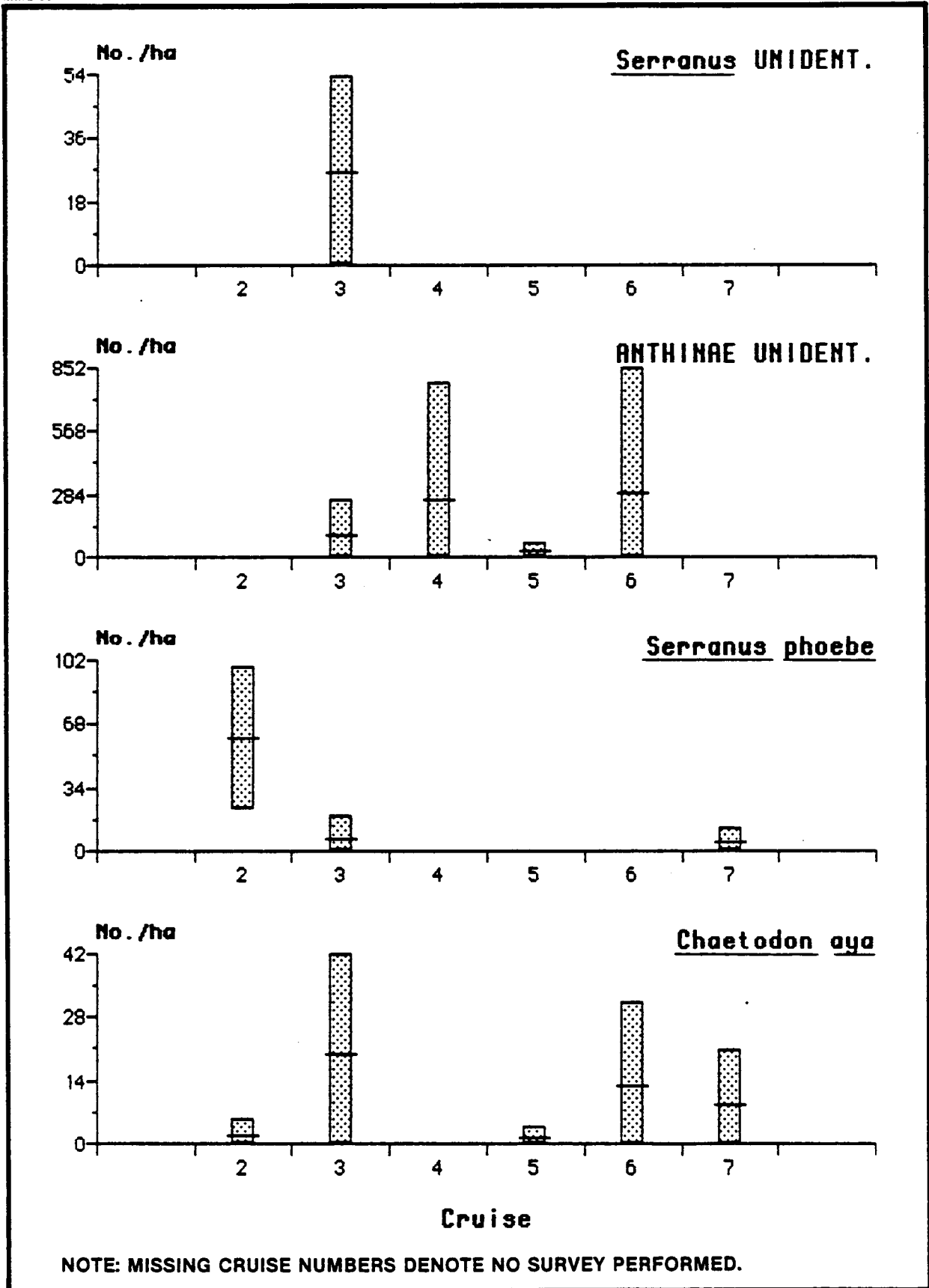


Figure G-37 MEAN DENSITY (\pm 2 S.E.) OF NUMERICALLY DOMINANT FISHES CENSUSED WITH UTV AT STATION 36, BY CRUISE

APPENDIX H

APPENDIX H

TORTUGAS SIDE SCAN SONAR/UNDERWATER TELEVISION TRANSECTS

Two new transects were surveyed with underwater television and side scan sonar during Year 5. Transect X-1 extended approximately 20 km to the southwest from the Tortugas Shoals; the depth along this transect varied from 30 to 108 m. Transect X-2 was approximately 25 km long and passed south to north directly through Station 55; the average depth was 25 m. The two transects were surveyed with underwater television in December 1984 and with side scan sonar in December 1985. The two surveys were not run concurrently because each instrument required a different towing speed to obtain the highest quality data.

The underwater television system was discussed in Section 2.0 of the Technical Discussion (Volume 2) of the Annual Report. The side scan sonar unit for these surveys was an EG & G Model 260 Dual Frequency (100 KHz and 500 KHz) Side Scan Sonar. Both transects were surveyed using the 100 KHz frequency. The 500 KHz frequency was found to be too noisy, primarily because of rough seas (approximately 2 to 3 m). The side scan sonar fish was "flown" approximately 10 m off of the bottom to provide the highest possible resolution and still maintain some range. The fish could not be kept within 10 m of the bottom at the southwest end of Transect X-1 because of the depth of water and insufficient side scan sonar cable. Additional cable would have required a slip-ring winch which did not fit into the budget constraints of this program.

The navigation data were converted to latitude and longitude and the positions of each fix were plotted. An interpretation of the video record of the underwater television and the side scan sonar chart were placed along side the track plot. These results are presented in Figures H-2 and H-3.

The results of this survey indicated that for resolution and even limited identification of benthic epifauna the underwater television remains the superior method. Side scan sonar is not sensitive enough to distinguish much more than the most gross features of the bottom (e.g., sand, sand waves, hard substrate, smooth, or rough). An object as large as an instrumented array (an open metal frame measuring 2 m on a side and 2 m high) was recorded by the side scan sonar as a very small and indistinct gray spot on the record. Nevertheless, several improvements could be made to increase the quality of the record. These include: 1) conducting the survey in calm waters, 2) using the 500 KHz frequency and sacrificing some of the range, 3) using sufficient cable (even though the use of an expensive and difficult to ship slip-ring winch will be required), and 4) conducting the survey at a single gain and recording the incoming signal on magnetic tape. This last point is particularly important. By recording the signal on magnetic tape and then rerecording the signal on a paper chart at different gain levels the optimum gain can be chosen to highlight those features that are most important.

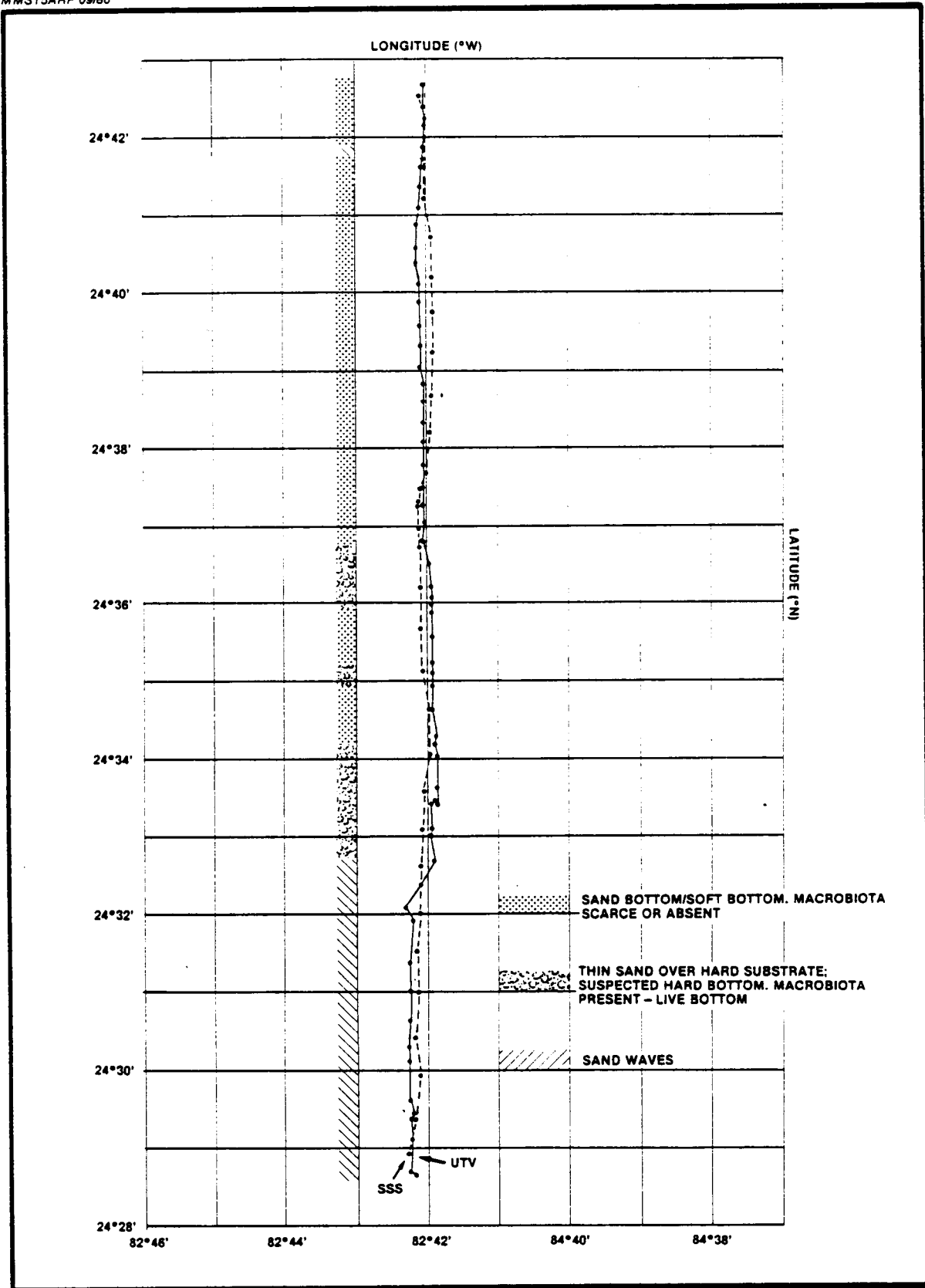


Figure H-3 **BOTTOM CHARACTERIZATION ALONG TRANSECT X-2 OBTAINED FROM SIDE SCAN SONAR AND UNDERWATER TELEVISION**

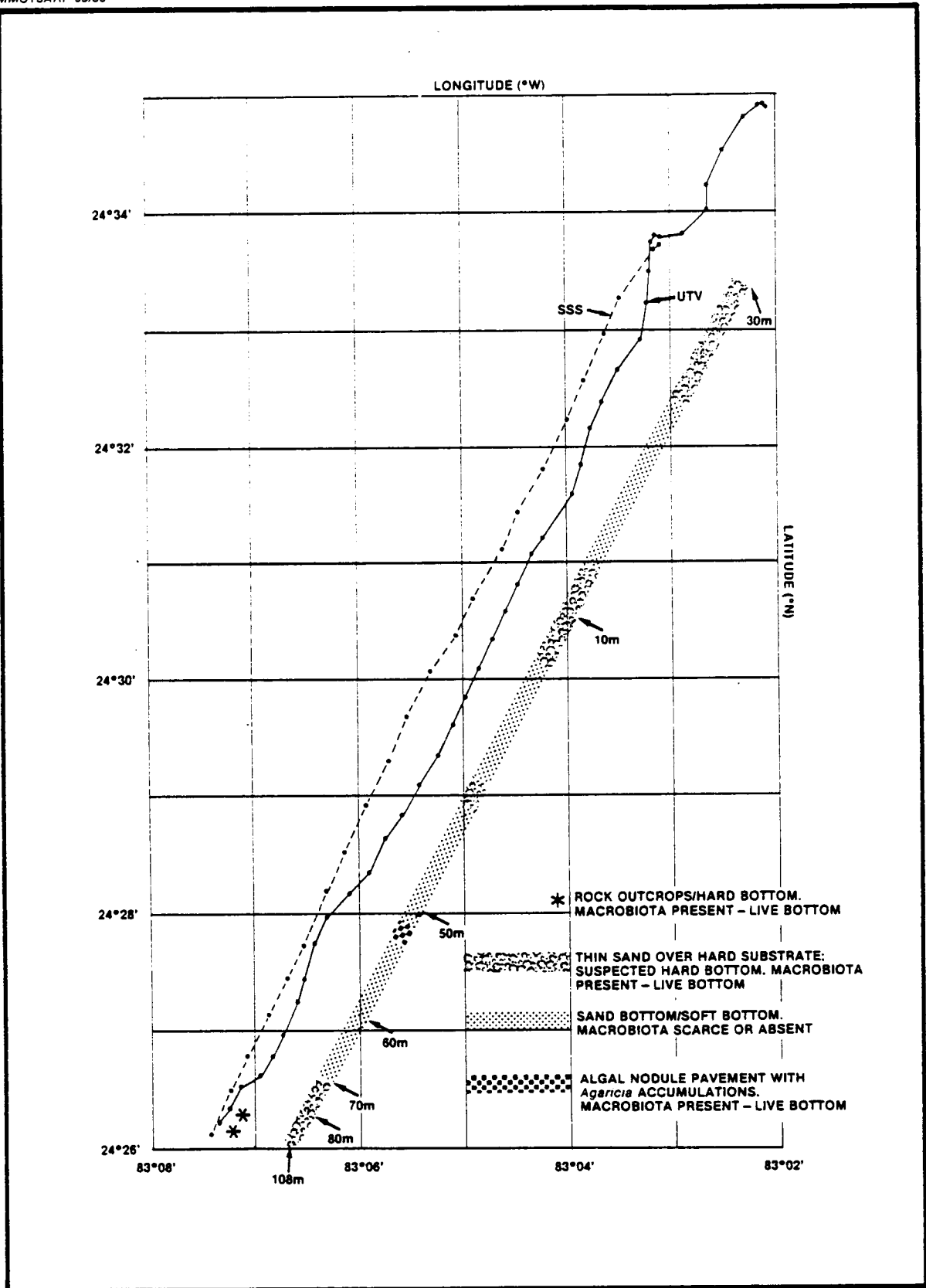


Figure H-2 **BOTTOM CHARACTERIZATION ALONG TRANSECT X-1 OBTAINED FROM SIDE SCAN SONAR AND UNDERWATER TELEVISION**

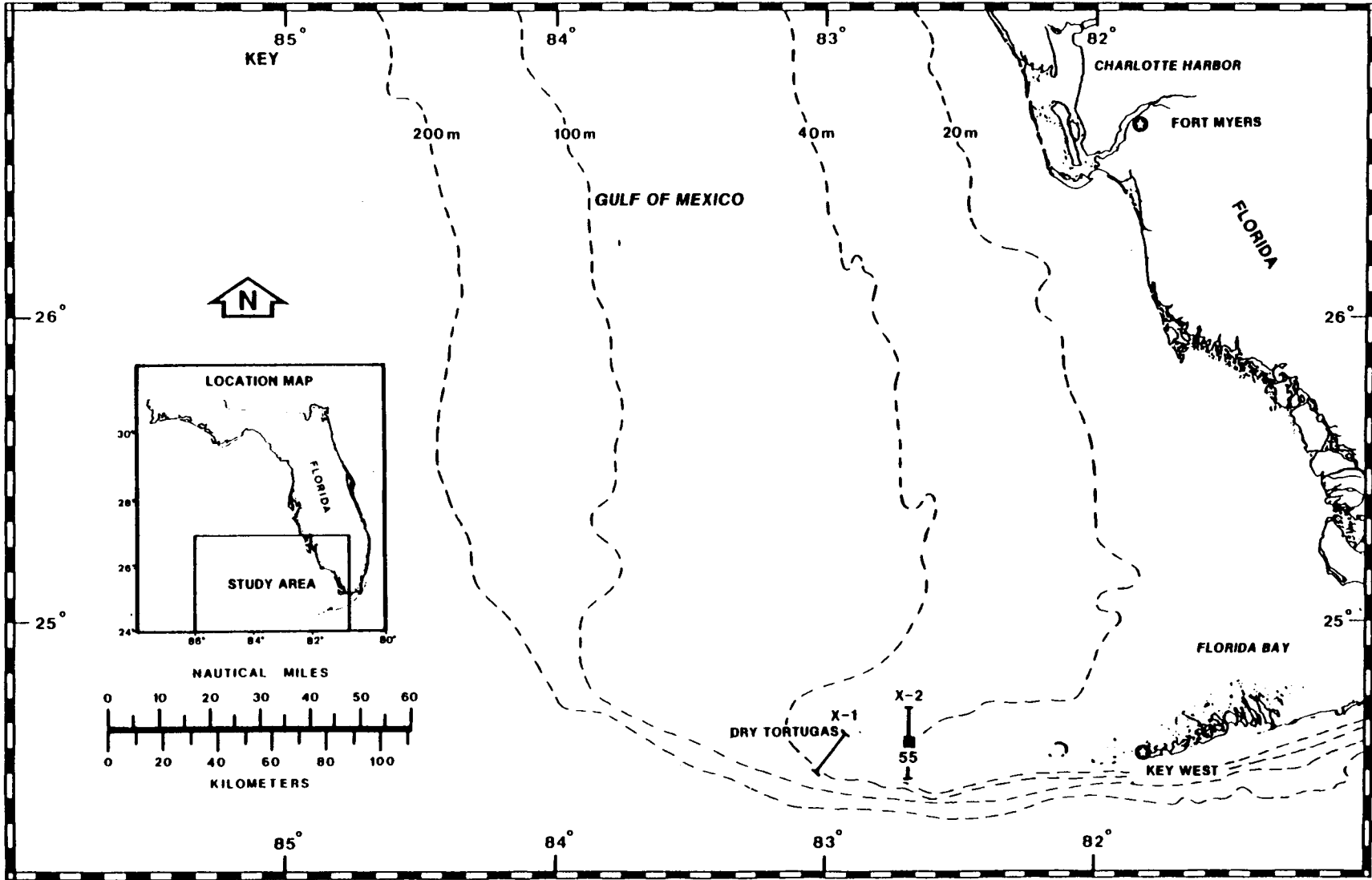


Figure H-1 SIDE SCAN SONAR/UNDERWATER TELEVISION
TRANSECT LOCATIONS FOR YEAR 5

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. The includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

