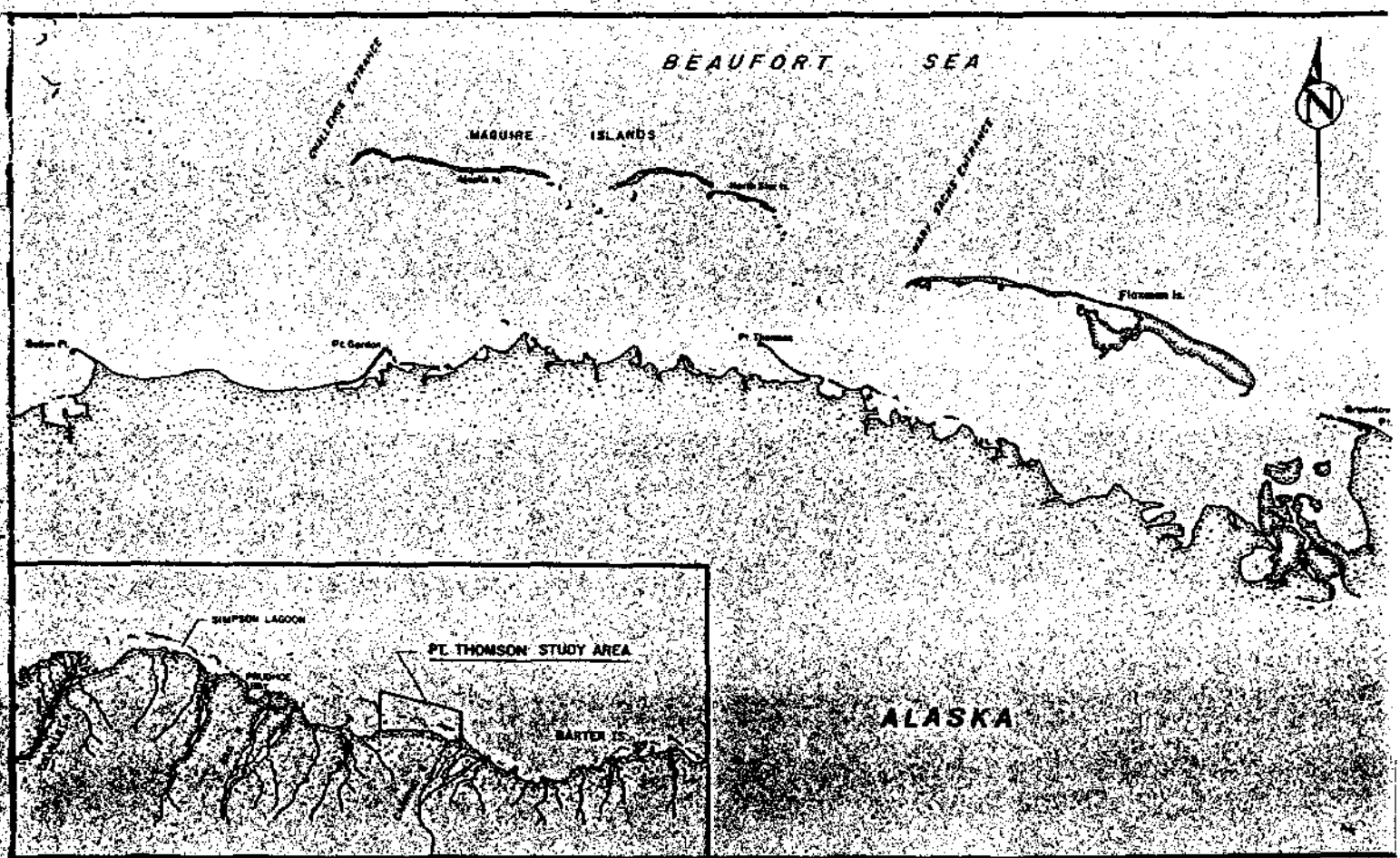
OCEANOGRAPHIC ENGINEERING SERVICES
POINT THOMSON DEVELOPMENT PROJECT
Agreement Number PTD-8204



VOLUME 2

PART 1

Prepared for:
Exxon Company U.S.A.
1800 Avenue of the Stars
Los Angeles, California

Prepared by:
Kinnetic Laboratories, Inc.
519 West Eighth Avenue
Anchorage, Alaska

31 January 1983

Appendix A: Meteorological Results

Appendix A: Meteorological Results

List of Figures

Appendix A: Meteorological Results

List of Figures

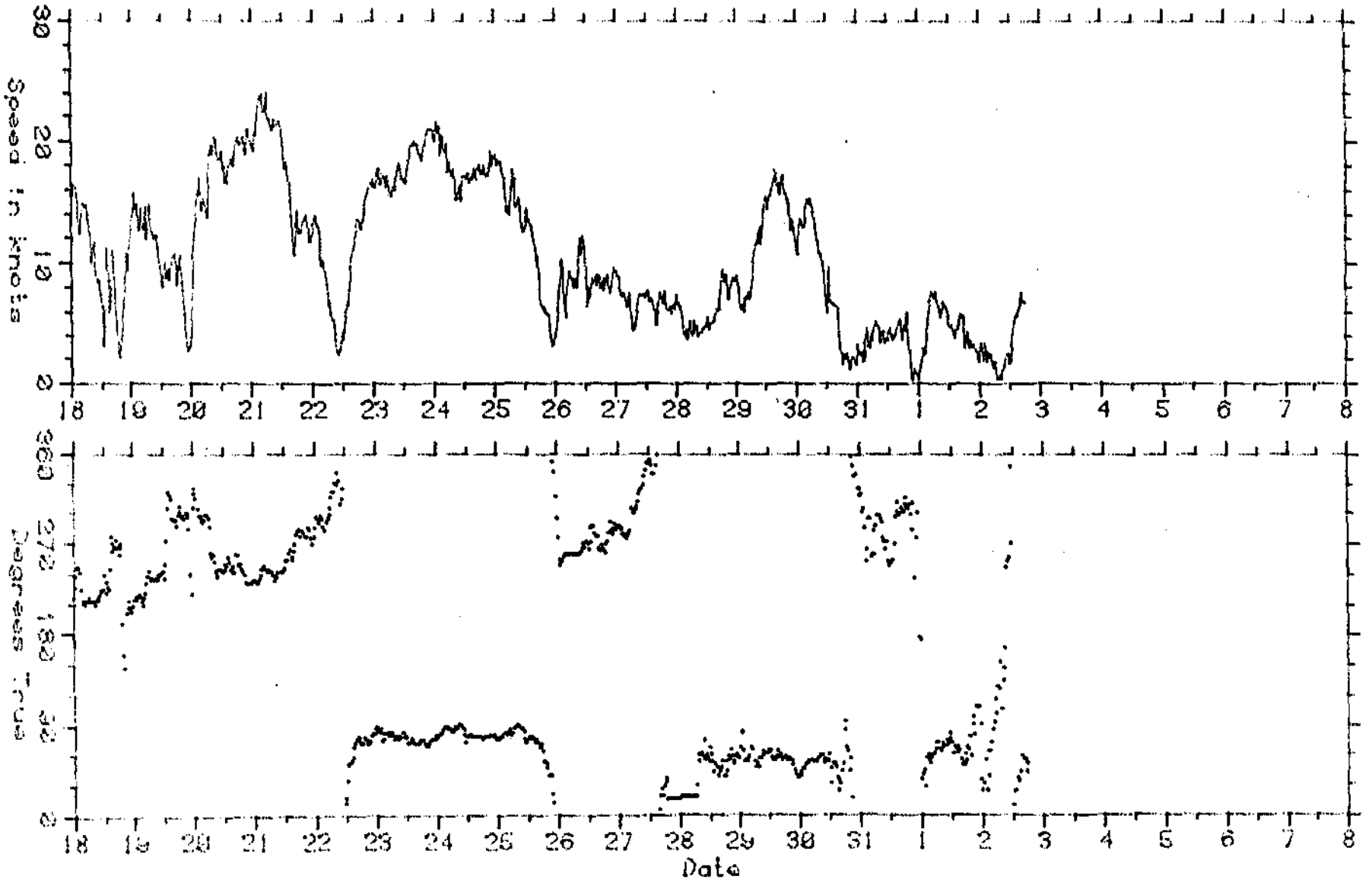


FIGURE A1 . SPEED AND DIRECTION DATA
CHALLENGE ISLAND WIND
0000, 18 AUGUST TO 1738, 2 SEPTEMBER, 1982

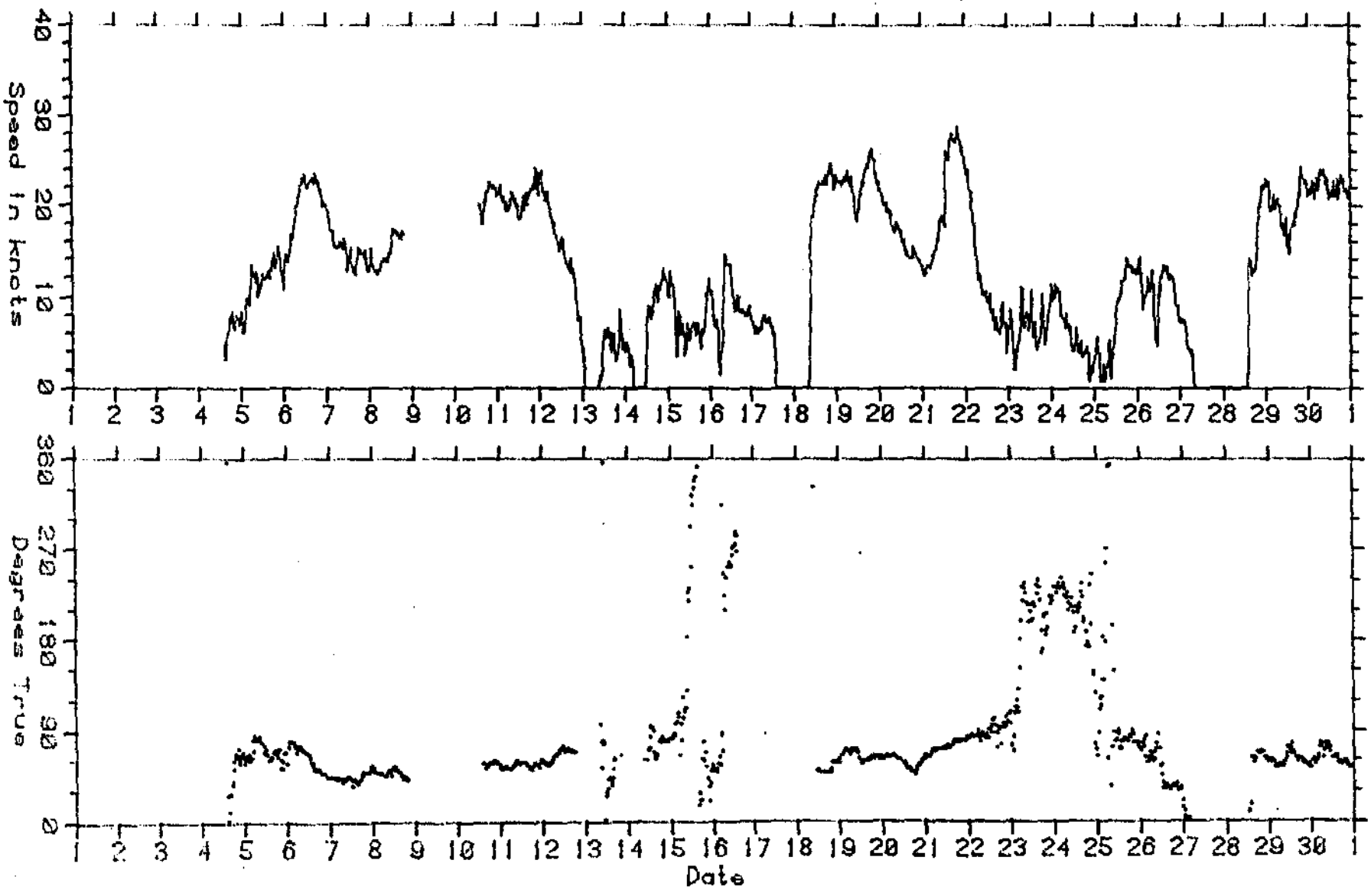


FIGURE A1 . SPEED AND DIRECTION DATA
CHALLENGE ISLAND WIND
1400, 4 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

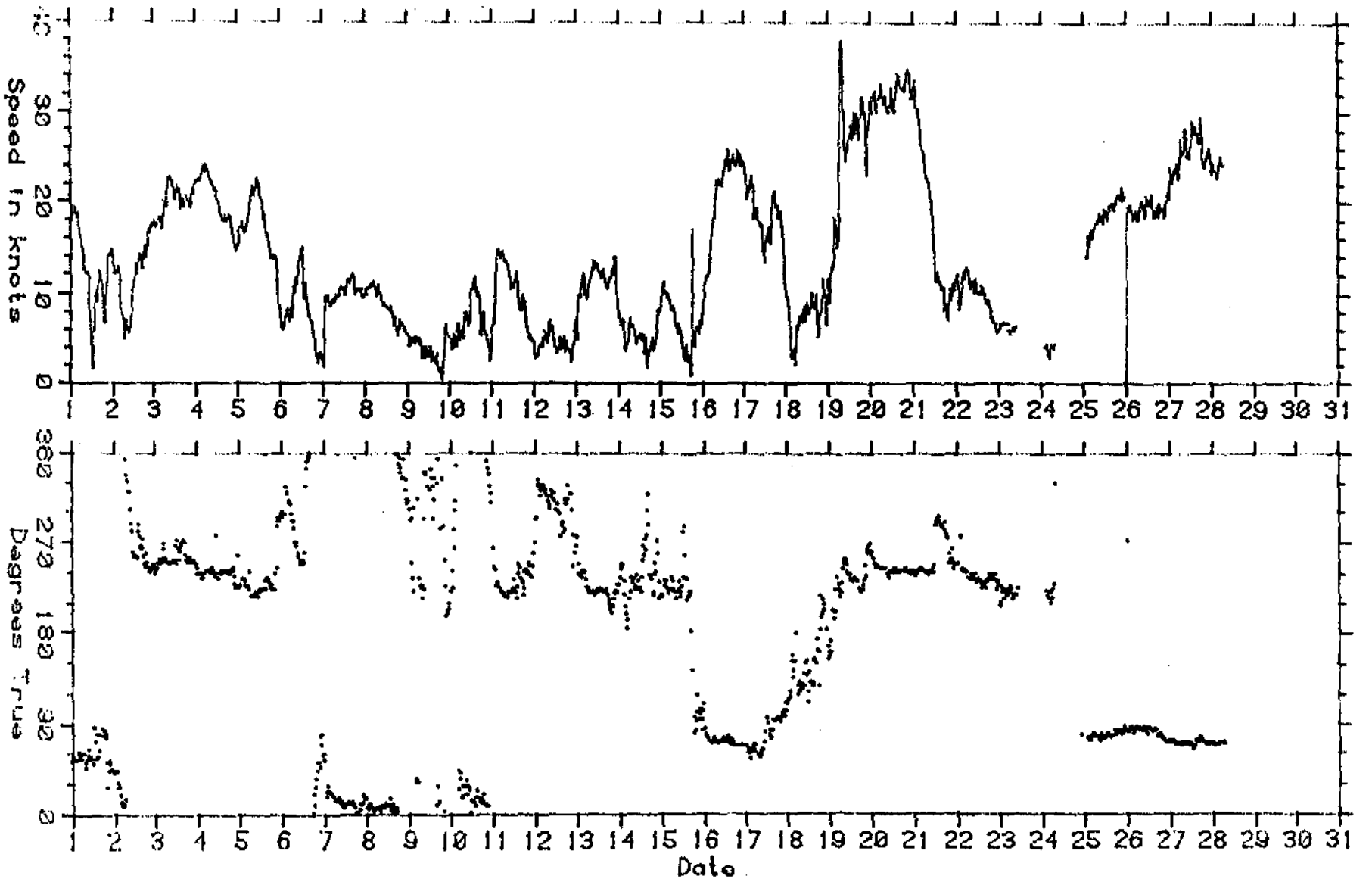


FIGURE A1 . SPEED AND DIRECTION DATA
CHALLENGE ISLAND WIND
0000, 1 OCTOBER TO 0700, 30 OCTOBER, 1982

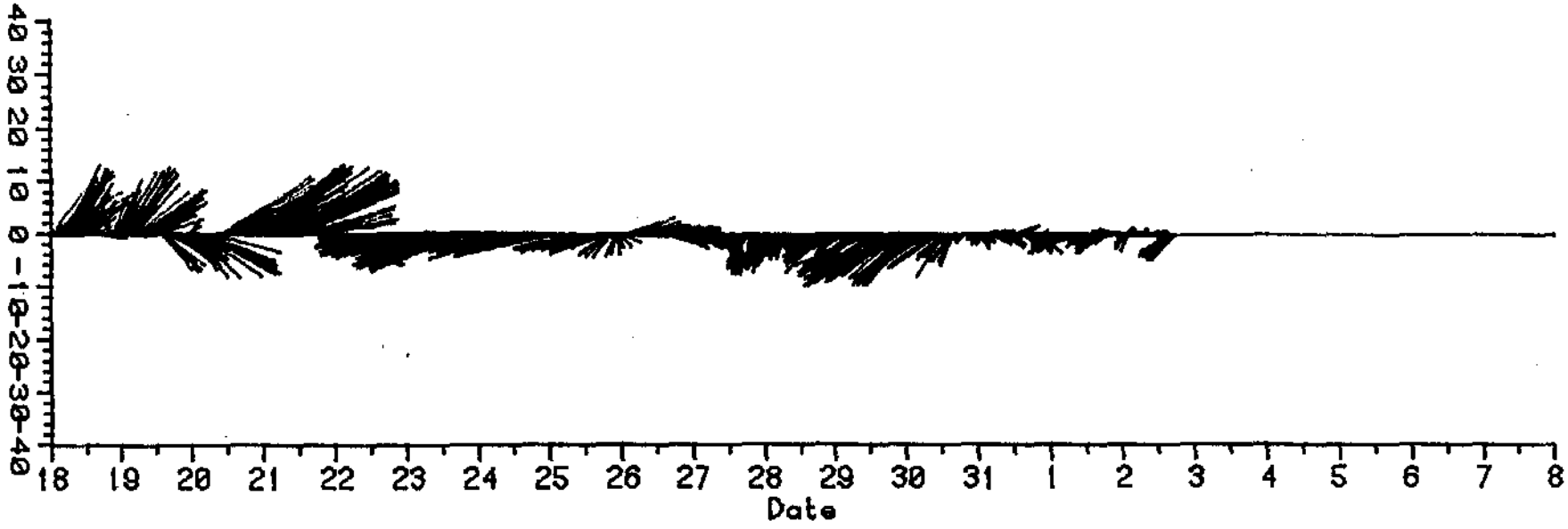


FIGURE A2. VECTOR STICK PLOT
CHALLENGE ISLAND WIND
0008, 18 AUGUST TO 1738, 2 SEPTEMBER, 1982

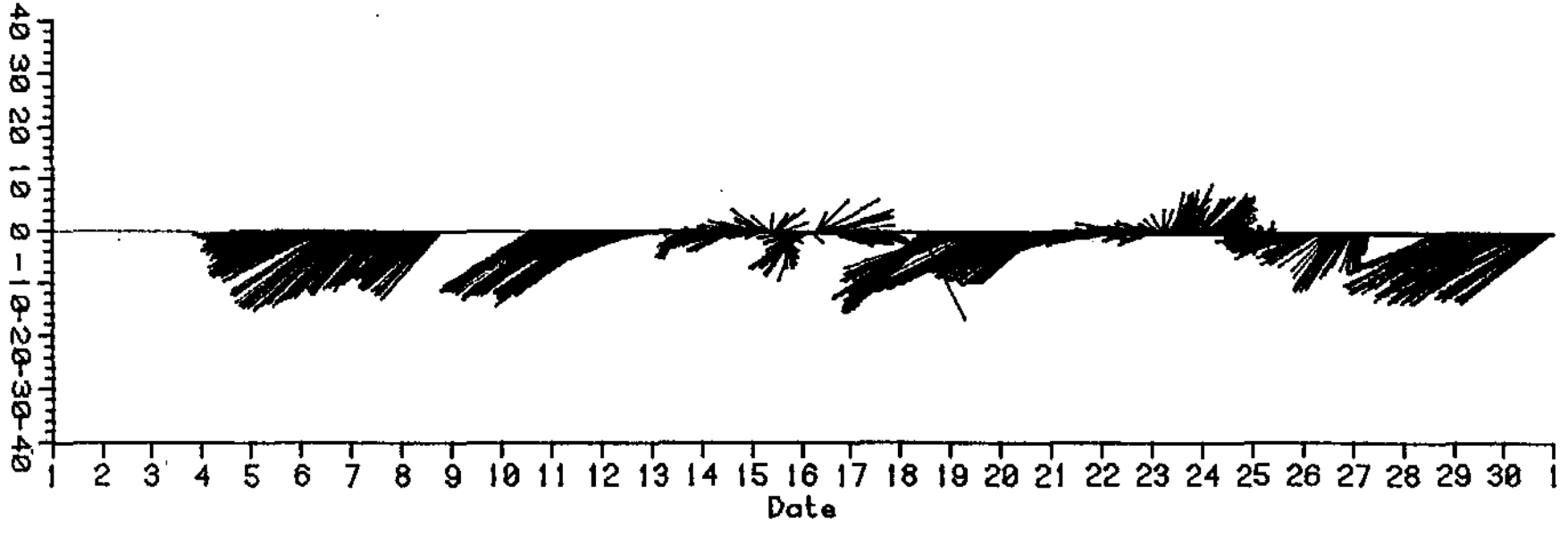
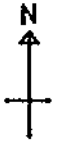


FIGURE A2 , VECTOR STICK PLOT
CHALLENGE ISLAND WIND
1400, 4 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982



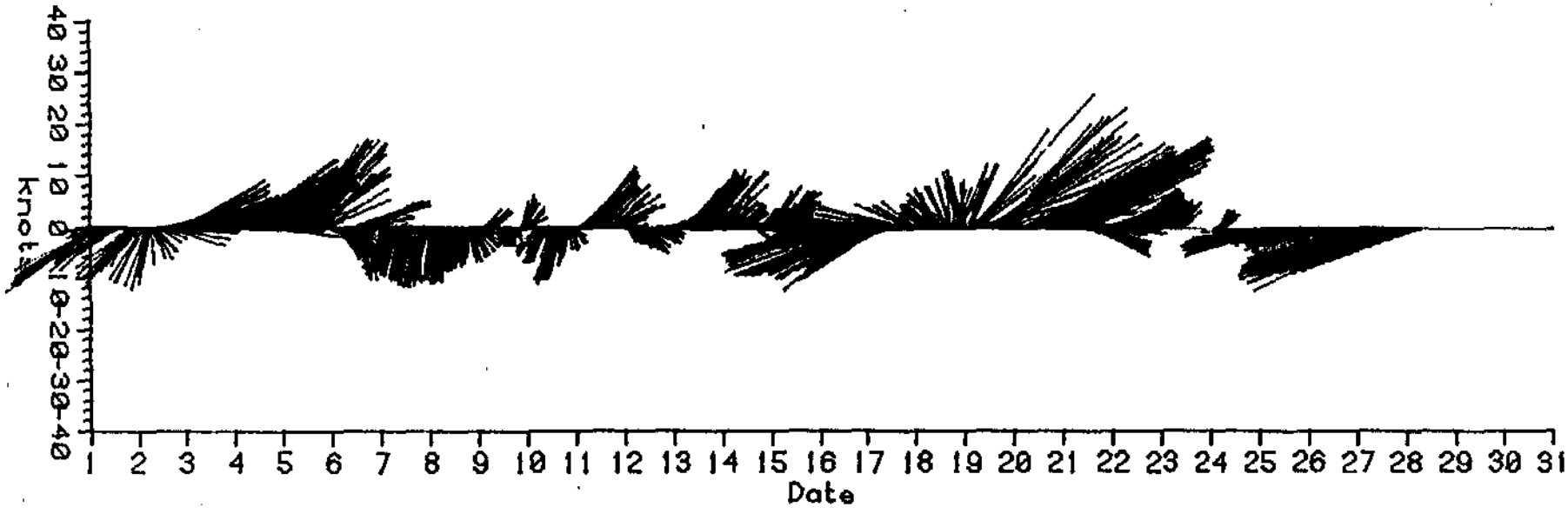


FIGURE A2, VECTOR STICK PLOT
CHALLENGE ISLAND WIND
0000, 1 OCTOBER TO 0700, 28 OCTOBER, 1982

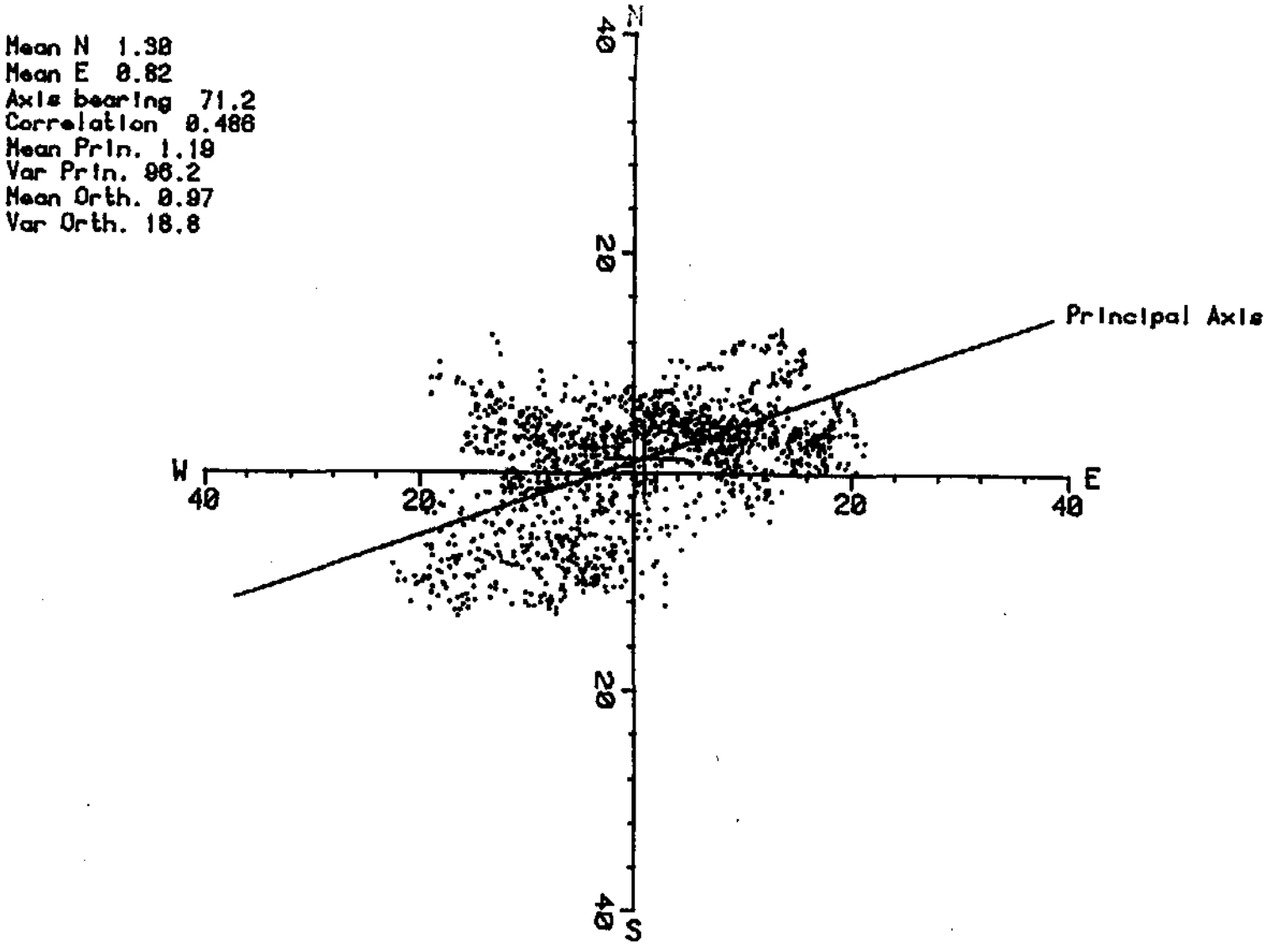


FIGURE A3 . POLAR PLOT - SPEED AND DIRECTION DATA
CHALLENGE ISLAND WIND
0008, 28 JULY TO 1738, 3 SEPTEMBER, 1982

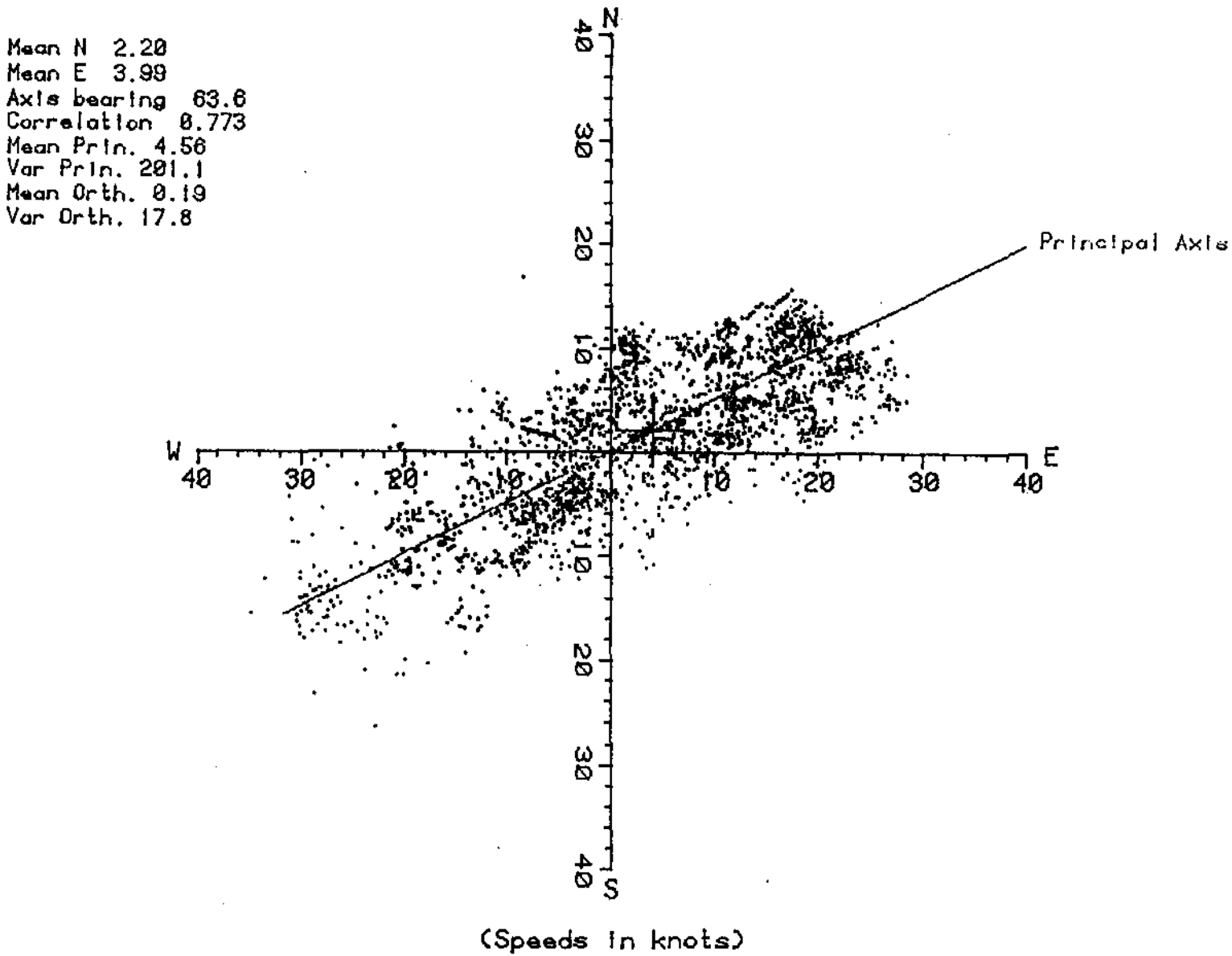


FIGURE A3 POLAR PLOT - SPEED AND DIRECTION DATA
CHALLENGE ISLAND WIND
1400, 4 SEPTEMBER TO 0700, 28 OCTOBER, 1982

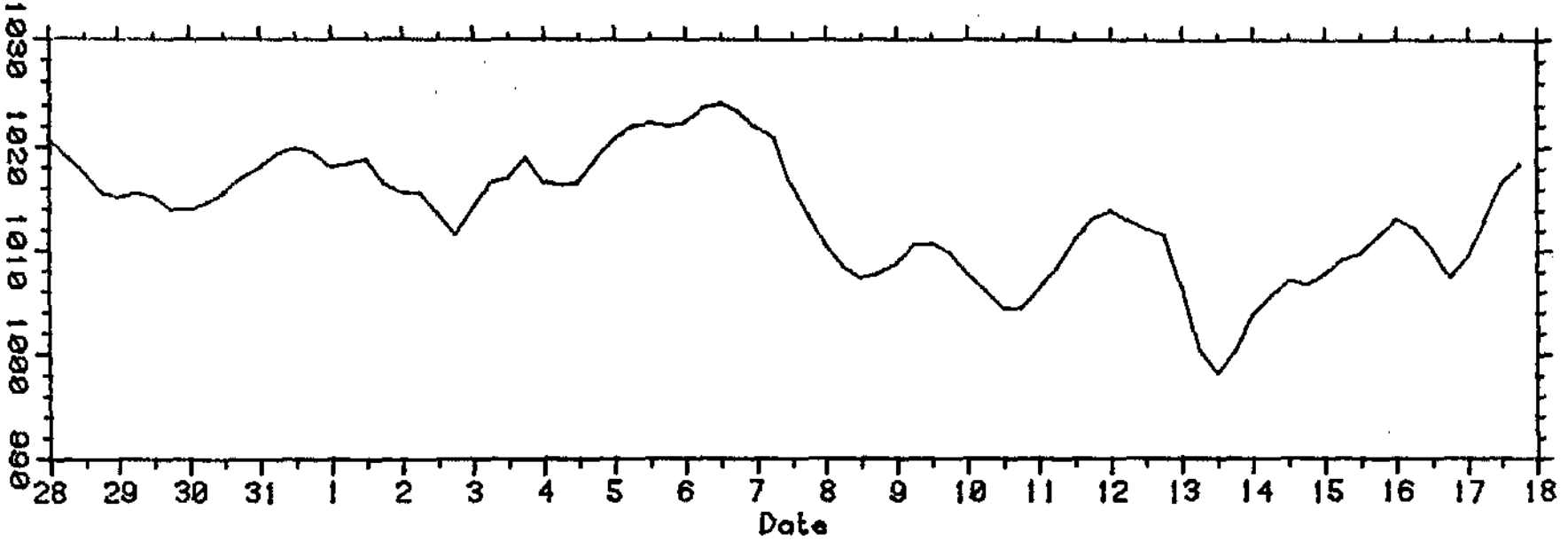


FIGURE A4. BAROMETRIC PRESSURE
CHALLENGE ISLAND BAROGRAPH
0000, 28 JULY TO 1800, 17 AUGUST, 1982

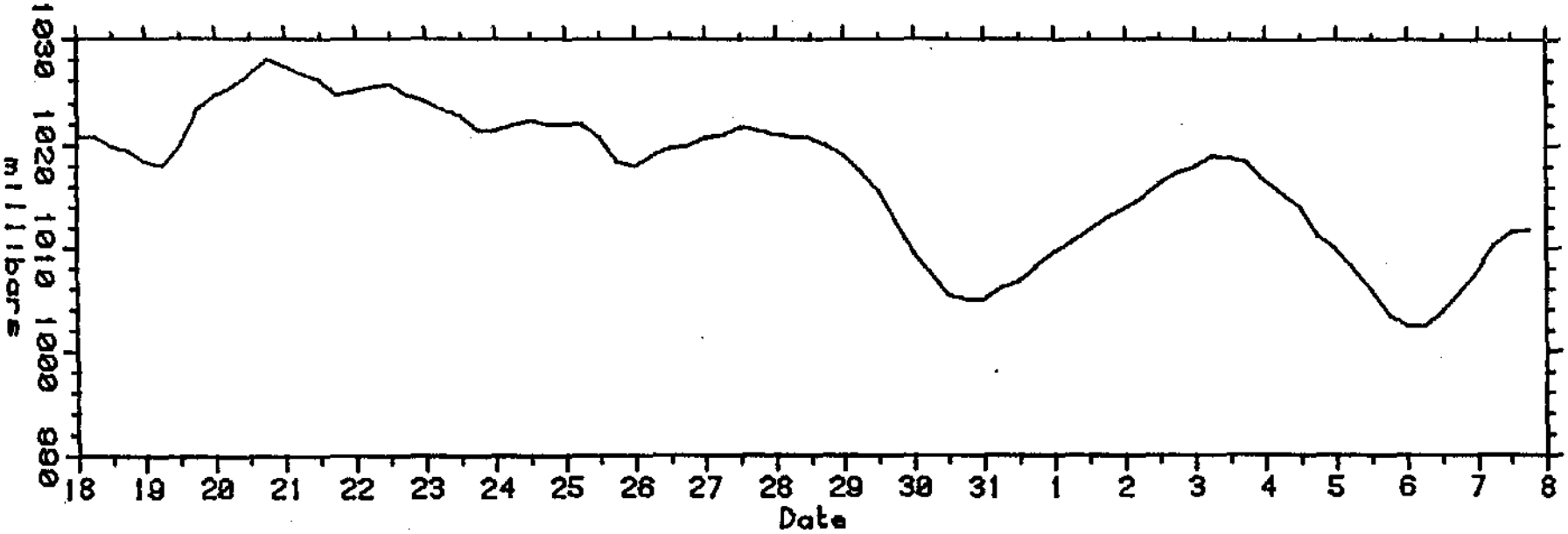


FIGURE A4, BAROMETRIC PRESSURE
CHALLENGE ISLAND BAROGRAPH
0000, 18 AUGUST TO 1800, 7 SEPTEMBER, 1982

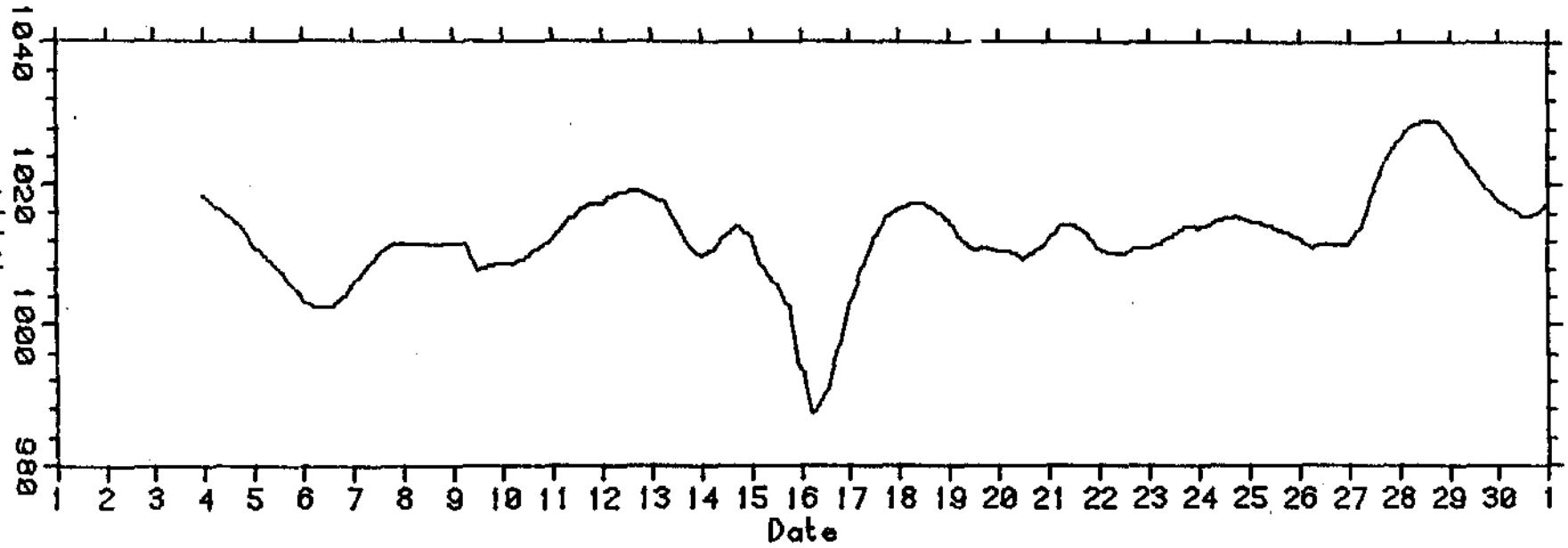


FIGURE A4. BAROMETRIC PRESSURE
CHALLENGE ISLAND WEATHER STATION
0000, 4 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

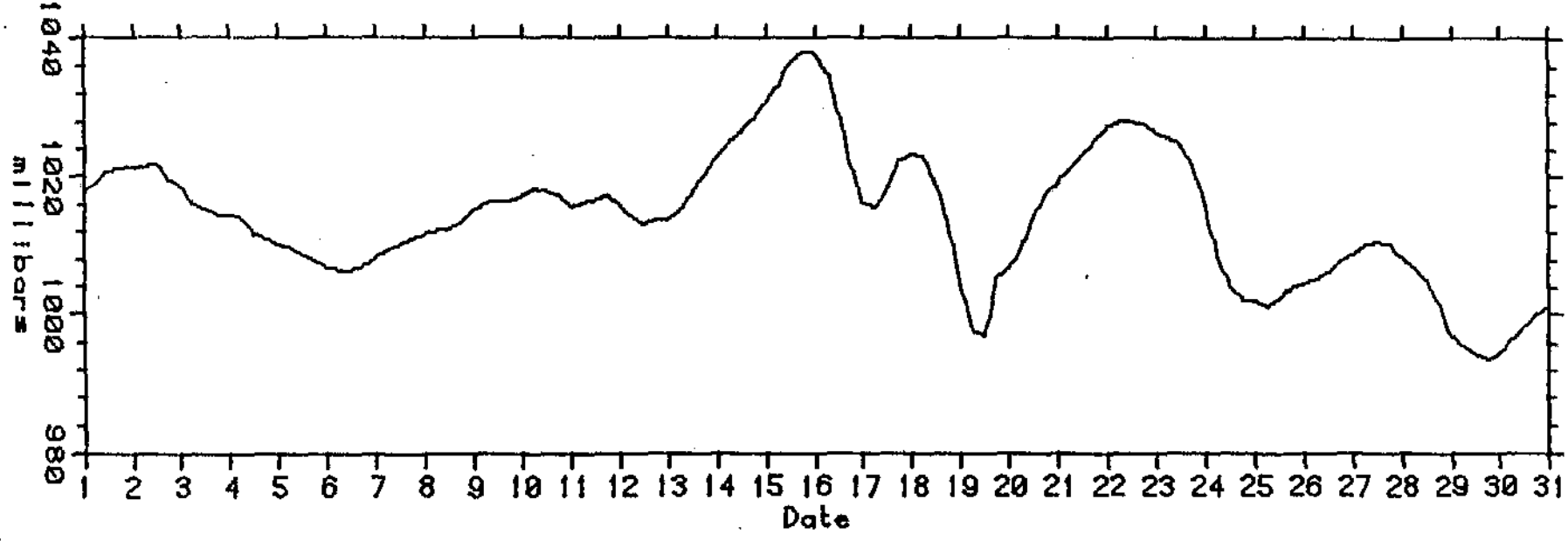


FIGURE A4. BAROMETRIC PRESSURE
CHALLENGE ISLAND WEATHER STATION
0000, 1 OCTOBER TO 2300, 30 OCTOBER, 1982

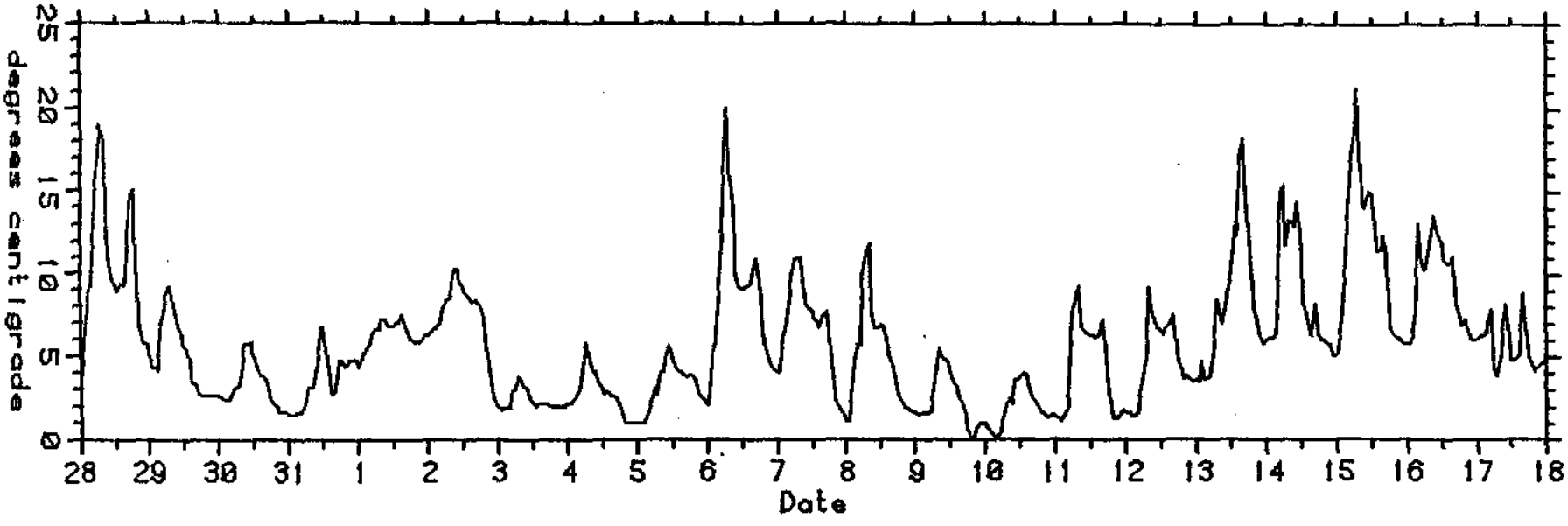


FIGURE A5. AIR TEMPERATURE
CHALLENGE ISLAND BAROGRAPH
0000, 28 JULY TO 2300, 17 AUGUST, 1982

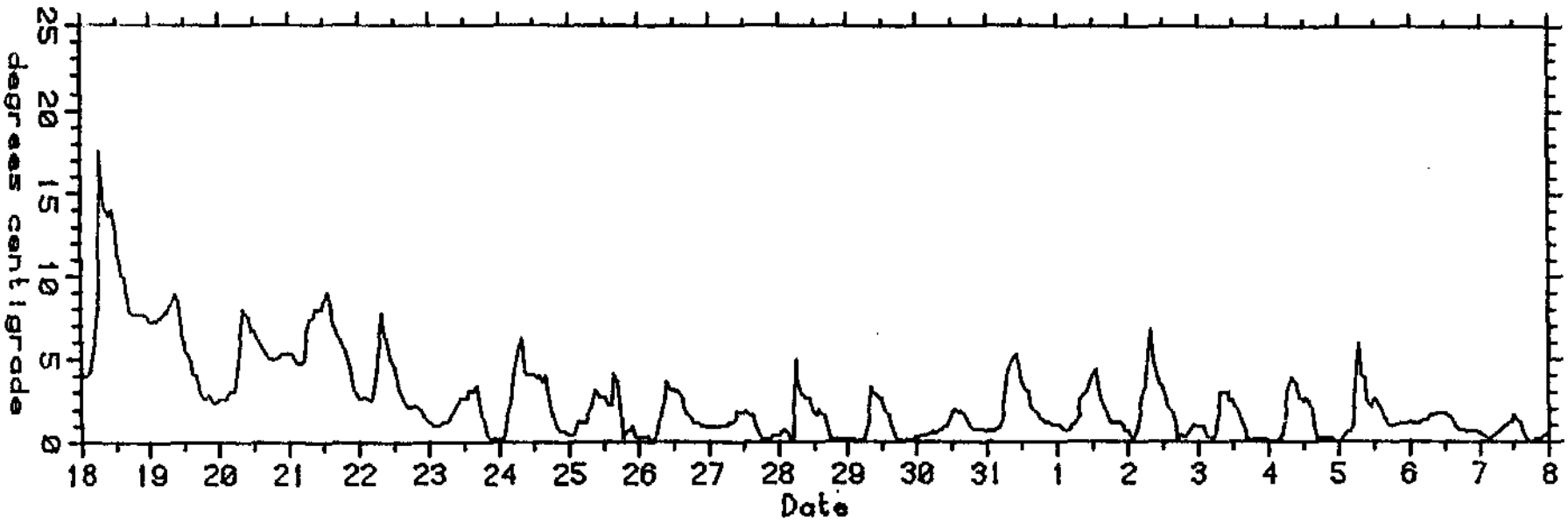


FIGURE A5. AIR TEMPERATURE
CHALLENGE ISLAND BAROGRAPH
0000, 18 AUGUST TO 2300, 7 SEPTEMBER, 1982

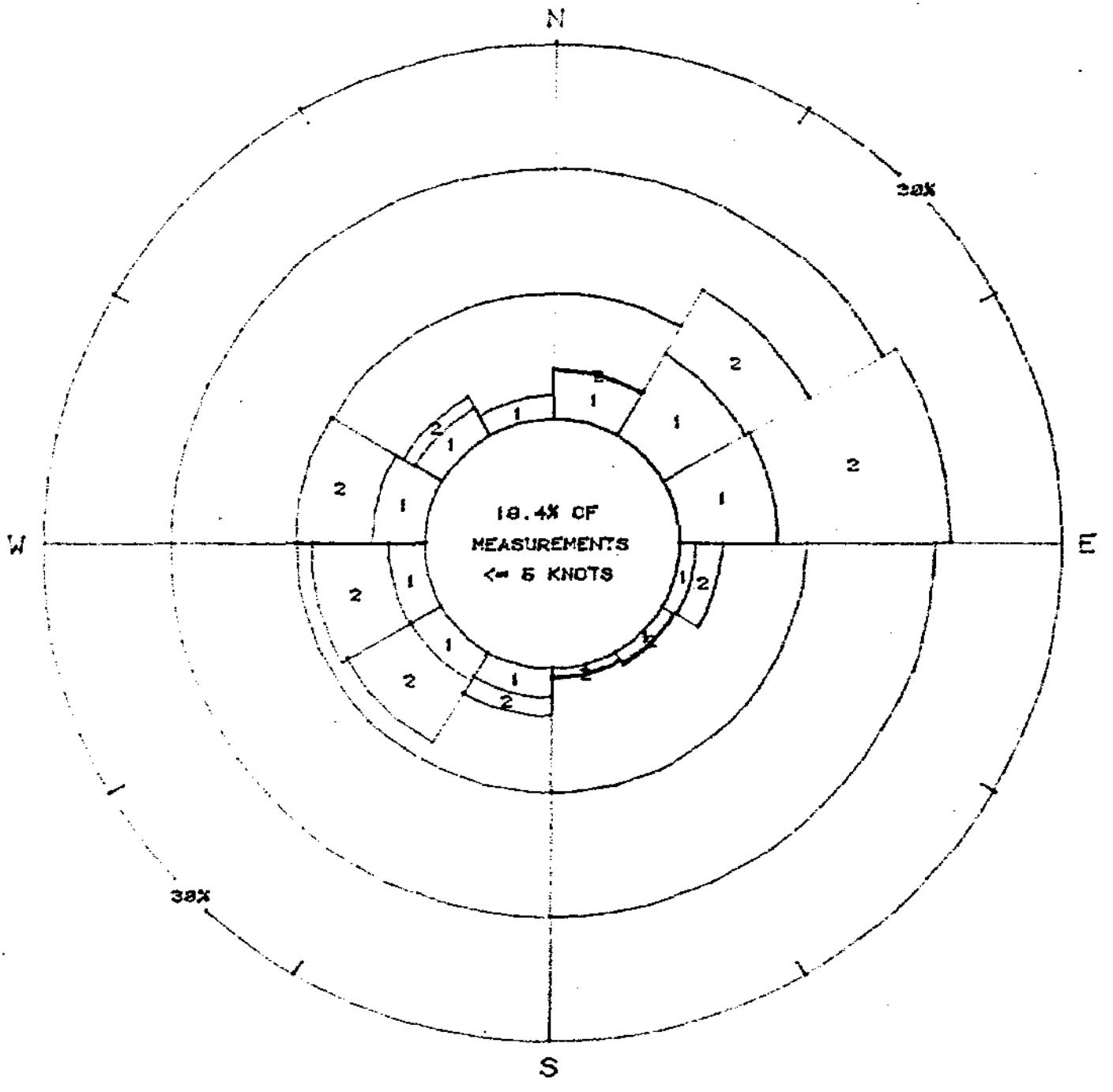


FIGURE A6. ROSE DIAGRAM
1/2 HR. AVERAGE WIND
CHALLENGE ISLAND
0008, 28 JULY TO 1738, 3 SEPTEMBER, 1982

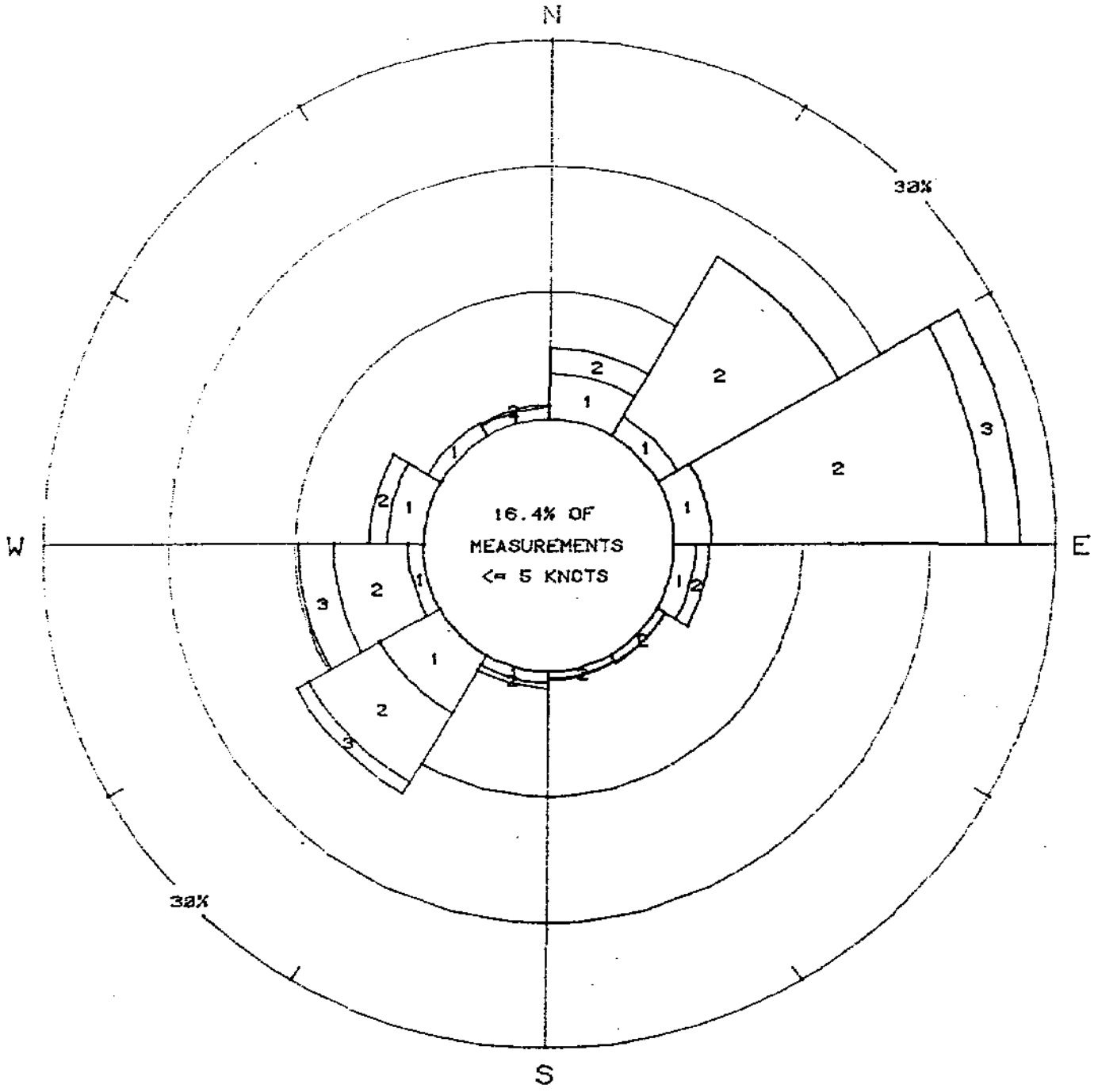


FIGURE A6. ROSE DIAGRAM
WIND
CHALLENGE ISLAND WEATHER STATION
1400, 4 SEPTEMBER TO 0700, 28 OCTOBER, 19

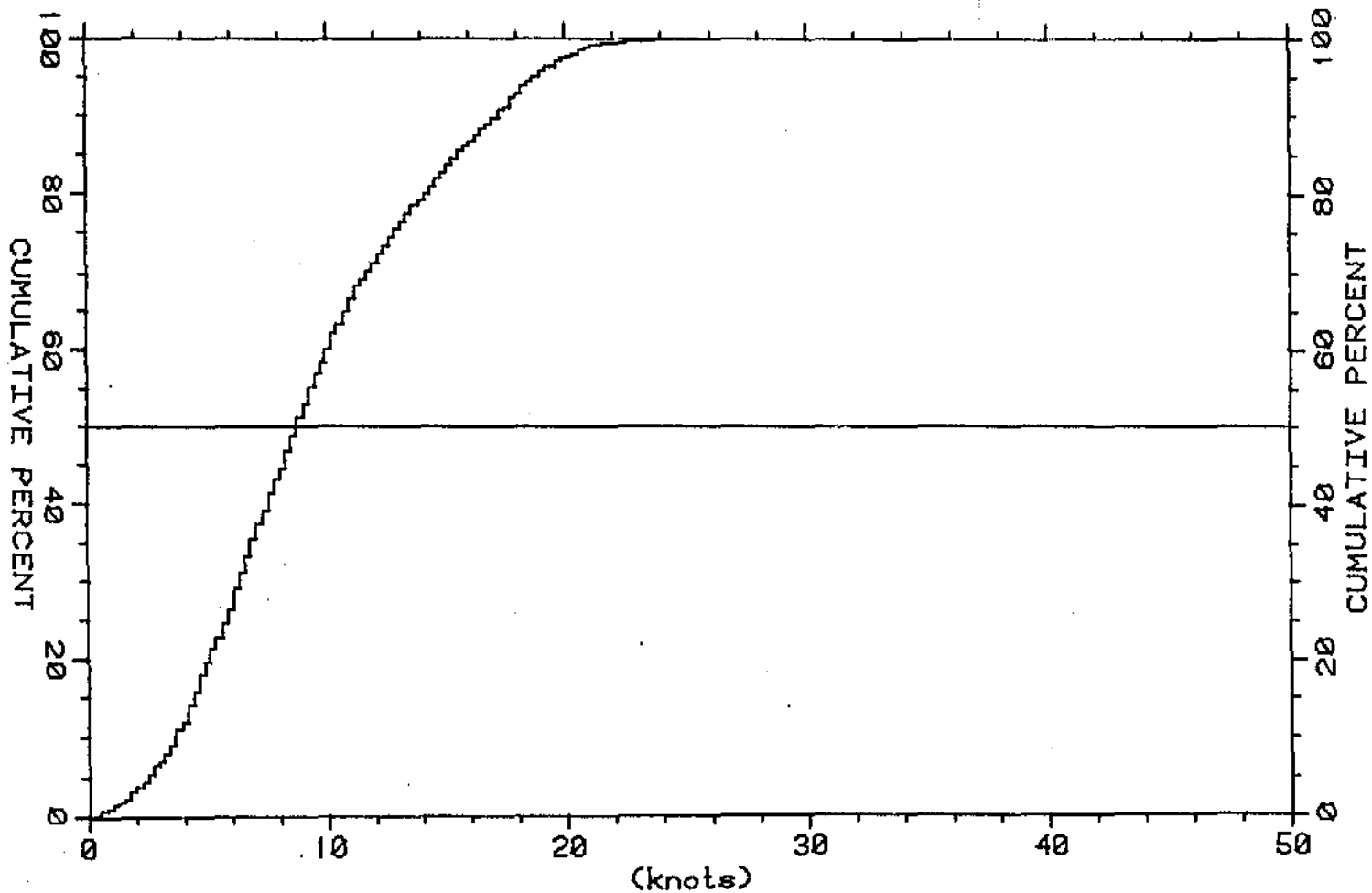


FIGURE A7. CUMULATIVE PROBABILITY PLOT
1/2 HR AVERAGE WIND
CHALLENGE ISLAND WEATHER STATION
0208, 24 JULY TO 1738, 2 SEPTEMBER, 1982
1967 DATA POINTS

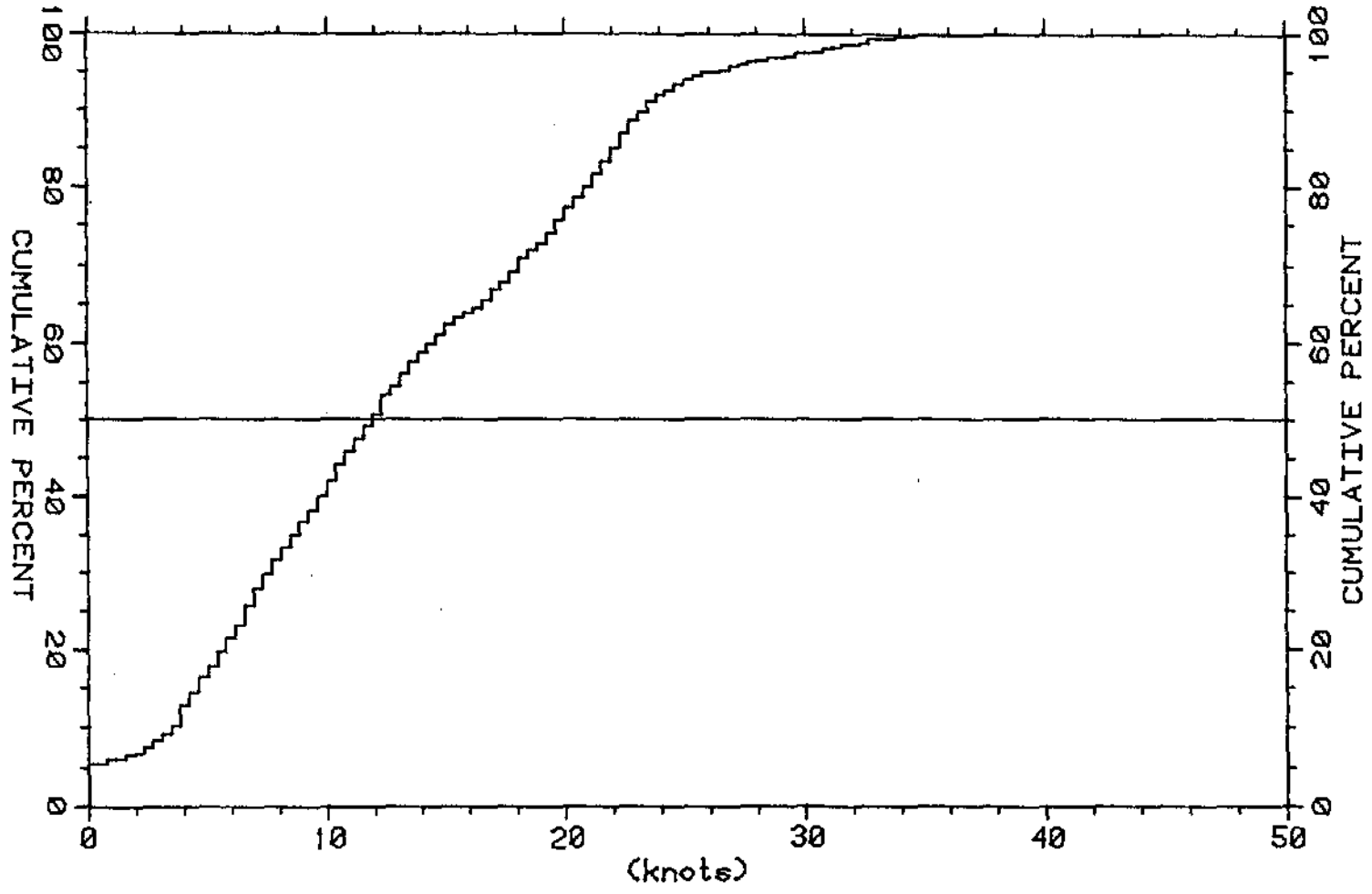


FIGURE A7 CUMULATIVE PROBABILITY PLOT
WIND
CHALLENGE ISLAND WEATHER STATION
1400, 4 SEPTEMBER TO 0700, 28 OCTOBER, 1982
2423 DATA POINTS

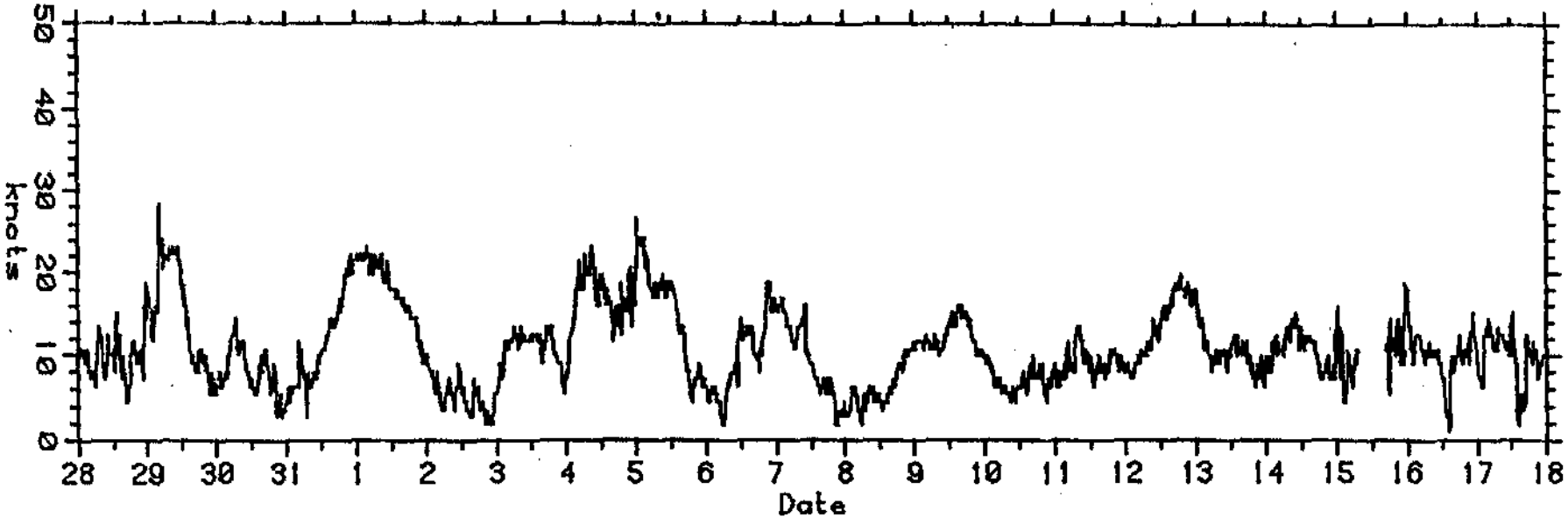


FIGURE A8. WIND GUST SPEED
CHALLENGE ISLAND WEATHER STATION
0000, 28 JULY TO 2300, 17 AUGUST, 1982

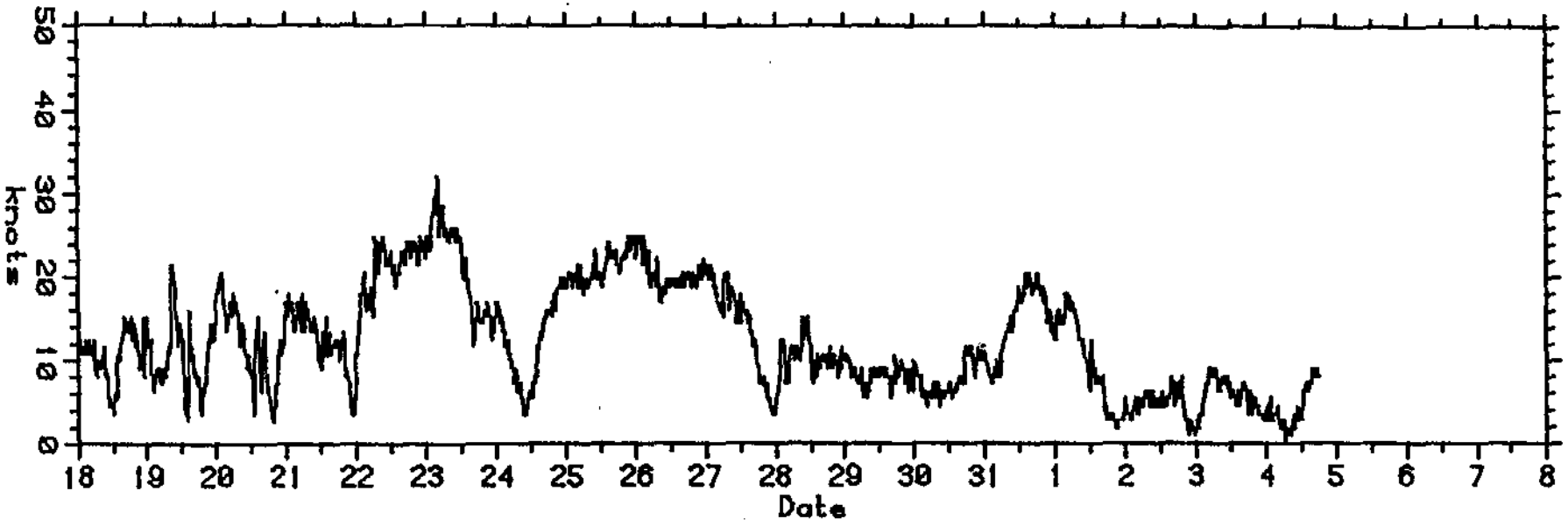


FIGURE A8. WIND GUST SPEED
CHALLENGE ISLAND WEATHER STATIONN
0000, 18 AUGUST TO 1800, 4 SEPTEMBER, 1982

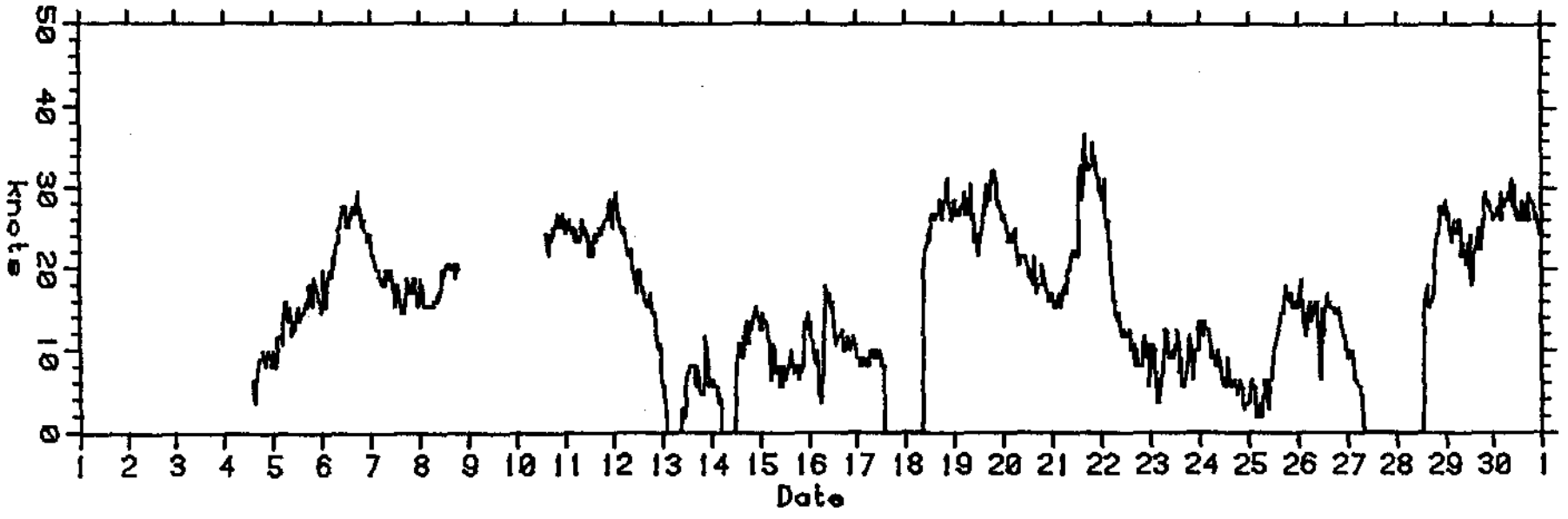


FIGURE A8. WIND GUST SPEED
CHALLENGE ISLAND WEATHER STATION
1400, 4 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

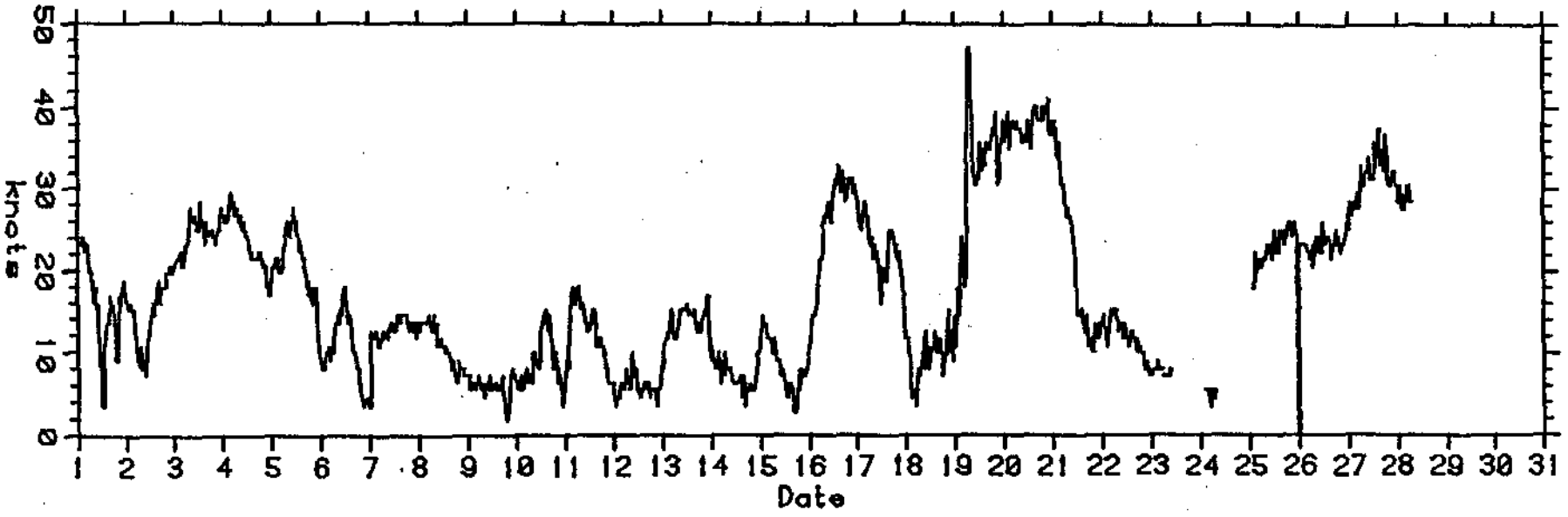


FIGURE A8. WIND GUST SPEED
CHALLENGE ISLAND WEATHER STATION
0000, 1 OCTOBER TO 0700, 28 OCTOBER, 1982

TABLE A1.

WIND SPEED PERSISTENCE - CHALLENGE ISLAND WEATHER STATION
0208, 24 JULY TO 1738, 2 SEPTEMBER, 1982

PERCENT DURATION

HOURS, DAYS DURATION

knots	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>5	83.9	72.3	53.4	39.7	29.1	16.6	8.8						1565
>10	72.0	58.8	42.5	33.5	26.1	14.2	7.3						805
>15	70.6	58.0	42.3	31.5	24.3	11.7	4.5						333
>20	45.3	22.6											53
>25													0
>30													0
>35													0
>40													0
>45													0
>50													0

largest screened value = 24.18 knots
total time period spanned (hours) = 975.5
sample interval (hours) = .5
total possible samples = 1952
actual samples = 1927

TABLE A1.

WIND SPEED PERSISTENCE - CHALLENGE ISLAND WEATHER STATION
1400, 4 SEPTEMBER TO 0700, 28 OCTOBER, 1982

PERCENT DURATION

HOURS, DAYS DURATION

knots	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>5	88.9	82.0	69.6	59.5	52.0	40.8	30.1	5.8					2025
>10	85.2	76.5	66.0	58.1	51.2	38.3	24.9	0.4					1455
>15	89.4	81.0	65.1	50.1	38.1	19.5	5.5						944
>20	77.6	63.4	40.6	25.6	16.0	6.3	1.7						591
>25	70.1	54.1	27.8	19.4	11.8								158
>30	40.7	20.3											59
>35													3
>40													0
>45													0
>50													0

largest screened value = 38.07 knots
total time period spanned (hours) = 1289
sample interval (hours) = .5
total possible samples = 2579
actual samples = 2423

TABLE A2.

Air Temperature Frequency Distribution
Challenge Island, 0000, 24 July to 2300, 31 August 1982

Degrees C	Total Samples
>-10	936
>- 5	936
> 0	936
> 5	431
> 10	104
> 15	19
> 20	2

TABLE A3

AIR TEMPERATURE PERSISTENCE - CHALLENGE ISLAND
0000, 24 JULY TO 2300, 31 AUGUST, 1982

PERCENT DURATION

HOURS,DAYS DURATION

deg C.	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>-10	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	936
>-5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	936
>0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	936
>5	84.0	72.9	54.1	41.7	34.5	24.0	16.8						431
>10	55.8	29.8	3.8										104
>15	5.3												19
>20													2

largest screened value = 21.2 deg C.
total time period spanned (hours) = 935
sample interval (hours) = 1
total possible samples = 936
actual samples = 936

TABLE A4.

BAROMETRIC PRESSURE PERSISTENCE - CHALLENGE ISLAND
0000, 4 SEPTEMBER, TO 0600, 1 NOVEMBER, 1982

PERCENT DURATION

HOURS, DAYS DURATION

mbar	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>990	99.8	99.6	99.1	98.7	98.2	97.3	96.4	92.6	88.5	84.0	79.1	73.9	1391
>1000	99.3	98.6	97.2	95.8	94.4	91.6	88.7	78.3	69.5	60.1	51.5	45.3	1316
>1010	97.3	94.5	89.0	84.1	79.2	71.1	64.1	43.7	34.4	24.5	15.3	6.8	996
>1013	96.2	92.4	85.0	78.5	73.2	63.0	54.0	31.9	18.4	7.3	0.6		713
>1020	93.9	87.8	75.6	63.4	52.8	34.6	19.9						246
>1025	93.2	86.4	72.7	59.1	45.5	21.2	7.6						132
>1030	92.1	84.2	68.4	52.6	36.8	5.3							38
>1035	85.7	71.4	42.9	14.3									21

largest screened value = 1037.93 mbar
total time period spanned (hours) = 1399
sample interval (hours) = 1
total possible samples = 1400
actual samples = 1399

TABLE A5.

CHALLENGE ISLAND WIND
0208, 24 JULY TO 1738, 2 SEPTEMBER, 1982

Frequencies:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	> 25.00	total
0 30	46	69	3	0	0	0	118
30- 60	37	139	58	50	0	0	284
60- 90	33	153	113	114	13	0	426
90-120	18	36	22	16	0	0	92
120-150	12	24	4	2	1	0	43
150-180	14	15	3	0	0	0	32
180-210	11	56	28	0	0	0	95
210-240	25	60	75	29	13	0	202
240-270	35	60	52	37	20	0	204
270-300	41	76	81	26	5	0	229
300-330	57	47	21	6	0	0	131
330-360	34	36	0	1	0	0	71
total	363	771	460	281	52	0	1927

Percentages:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	> 25.00	total
0 30	2.4	3.6	0.2	0.0	0.0	0.0	6.1
30- 60	1.9	7.2	3.0	2.6	0.0	0.0	14.7
60- 90	1.7	7.9	5.9	5.9	0.7	0.0	22.1
90-120	0.9	1.9	1.1	0.8	0.0	0.0	4.8
120-150	0.6	1.2	0.2	0.1	0.1	0.0	2.2
150-180	0.7	0.8	0.2	0.0	0.0	0.0	1.7
180-210	0.6	2.9	1.5	0.0	0.0	0.0	4.9
210-240	1.3	3.1	3.9	1.5	0.7	0.0	10.5
240-270	1.8	3.1	2.7	1.9	1.0	0.0	10.6
270-300	2.1	3.9	4.2	1.3	0.3	0.0	11.9
300-330	3.0	2.4	1.1	0.3	0.0	0.0	6.8
330-360	1.8	1.9	0.0	0.1	0.0	0.0	3.7
total	18.8	40.0	23.9	14.6	2.7	0.0	100.0

largest screened speed = 24.18 knots
total time period spanned (hours) = 975.5
sample interval (hours) = .5
total possible observations = 1952
actual observations = 1927

TABLE A5.

CHALLENGE ISLAND WIND
0208, 24 JULY TO 1738, 2 SEPTEMBER, 1982

Row Percents:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	> 25.00	total
0 30	39.0	58.5	2.5	0.0	0.0	0.0	100.0
30- 60	13.0	48.9	20.4	17.6	0.0	0.0	100.0
60- 90	7.7	35.9	26.5	26.8	3.1	0.0	100.0
90-120	19.6	39.1	23.9	17.4	0.0	0.0	100.0
120-150	27.9	55.8	9.3	4.7	2.3	0.0	100.0
150-180	43.8	46.9	9.4	0.0	0.0	0.0	100.0
180-210	11.6	58.9	29.5	0.0	0.0	0.0	100.0
210-240	12.4	29.7	37.1	14.4	6.4	0.0	100.0
240-270	17.2	29.4	25.5	18.1	9.8	0.0	100.0
270-300	17.9	33.2	35.4	11.4	2.2	0.0	100.0
300-330	43.5	35.9	16.0	4.6	0.0	0.0	100.0
330-360	47.9	50.7	0.0	1.4	0.0	0.0	100.0
total	18.8	40.0	23.9	14.6	2.7	0.0	100.0

Column Percents:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	> 25.00	total
0 30	12.7	8.9	0.7	0.0	0.0	0.0	6.1
30- 60	10.2	18.0	12.6	17.8	0.0	0.0	14.7
60- 90	9.1	19.8	24.6	40.6	25.0	0.0	22.1
90-120	5.0	4.7	4.8	5.7	0.0	0.0	4.8
120-150	3.3	3.1	0.9	0.7	1.9	0.0	2.2
150-180	3.9	1.9	0.7	0.0	0.0	0.0	1.7
180-210	3.0	7.3	6.1	0.0	0.0	0.0	4.9
210-240	6.9	7.8	16.3	10.3	25.0	0.0	10.5
240-270	9.6	7.8	11.3	13.2	38.5	0.0	10.6
270-300	11.3	9.9	17.6	9.3	9.6	0.0	11.9
300-330	15.7	6.1	4.6	2.1	0.0	0.0	6.8
330-360	9.4	4.7	0.0	0.4	0.0	0.0	3.7
total	100.0	100.0	100.0	100.0	100.0	0.0	100.0

largest screened speed = 24.18 knots
total time period spanned (hours) = 975.5
sample interval (hours) = .5
total possible observations = 1952
actual observations = 1927

TABLE A5.

CHALLENGE ISLAND WIND
1400, 4 SEPTEMBER TO 0700, 28 OCTOBER, 1982

Row Percents:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	> 40.00	total
0 30	36.7	40.4	22.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0
30- 60	9.2	9.2	23.3	21.8	36.6	0.0	0.0	0.0	0.0	100.0
60- 90	6.5	10.2	23.4	23.6	26.4	9.8	0.0	0.0	0.0	100.0
90-120	10.4	55.8	13.0	14.3	6.5	0.0	0.0	0.0	0.0	100.0
120-150	45.2	51.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0
150-180	38.5	50.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	100.0
180-210	35.2	42.6	22.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0
210-240	11.5	35.7	25.3	10.2	8.8	4.7	3.6	0.3	0.0	100.0
240-270	8.9	10.2	19.9	17.9	18.3	6.5	17.5	0.8	0.0	100.0
270-300	37.7	42.6	16.0	0.6	3.1	0.0	0.0	0.0	0.0	100.0
300-330	55.2	44.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
330-360	42.2	48.9	6.7	2.2	0.0	0.0	0.0	0.0	0.0	100.0
total	16.4	23.5	21.1	14.6	17.9	4.1	2.3	0.1	0.0	100.0

Column Percents:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	> 40.00	total
0 30	20.1	15.4	9.8	0.0	0.0	0.0	0.0	0.0	0.0	9.0
30- 60	10.6	7.4	20.9	28.3	38.8	0.0	0.0	0.0	0.0	18.9
60- 90	11.1	12.1	30.9	45.0	41.1	66.7	0.0	0.0	0.0	27.8
90-120	2.0	7.5	2.0	3.1	1.2	0.0	0.0	0.0	0.0	3.2
120-150	3.5	2.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3
150-180	2.5	2.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.1
180-210	4.8	4.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.2
210-240	10.6	22.8	18.0	10.5	7.4	17.2	23.2	33.3	0.0	15.0
240-270	5.5	4.4	9.6	12.5	10.4	16.2	76.8	66.7	0.0	10.2
270-300	15.3	12.1	5.1	0.3	1.2	0.0	0.0	0.0	0.0	6.7
300-330	9.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
330-360	4.8	3.9	0.6	0.3	0.0	0.0	0.0	0.0	0.0	1.9
total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0

largest screened speed = 38.07 knots
total time period spanned (hours) = 1289
sample interval (hours) = .5
total possible observations = 2579
actual observations = 2423

TABLE A5.

CHALLENGE ISLAND WIND
1400, 4 SEPTEMBER TO 0700, 28 OCTOBER, 1982

Frequencies:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	> 40.00	total
0 30	80	88	50	0	0	0	0	0	0	218
30- 60	42	42	107	100	168	0	0	0	0	459
60- 90	44	69	158	159	178	66	0	0	0	674
90-120	8	43	10	11	5	0	0	0	0	77
120-150	14	16	1	0	0	0	0	0	0	31
150-180	10	13	3	0	0	0	0	0	0	26
180-210	19	23	12	0	0	0	0	0	0	54
210-240	42	130	92	37	32	17	13	1	0	364
240-270	22	25	49	44	45	16	43	2	0	246
270-300	61	69	26	1	5	0	0	0	0	162
300-330	37	30	0	0	0	0	0	0	0	67
330-360	19	22	3	1	0	0	0	0	0	45
total	398	570	511	353	433	99	56	3	0	2423

Percentages:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	> 40.00	total
0 30	3.3	3.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	9.0
30- 60	1.7	1.7	4.4	4.1	6.9	0.0	0.0	0.0	0.0	18.9
60- 90	1.8	2.8	6.5	6.6	7.3	2.7	0.0	0.0	0.0	27.8
90-120	0.3	1.8	0.4	0.5	0.2	0.0	0.0	0.0	0.0	3.2
120-150	0.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
150-180	0.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1
180-210	0.8	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.2
210-240	1.7	5.4	3.8	1.5	1.3	0.7	0.5	0.0	0.0	15.0
240-270	0.9	1.0	2.0	1.8	1.9	0.7	1.8	0.1	0.0	10.2
270-300	2.5	2.8	1.1	0.0	0.2	0.0	0.0	0.0	0.0	6.7
300-330	1.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
330-360	0.8	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9
total	16.4	23.5	21.1	14.6	17.9	4.1	2.3	0.1	0.0	100.0

largest screened speed = 38.07 knots
total time period spanned (hours) = 1289
sample interval (hours) = .5
total possible observations = 2579
actual observations = 2423

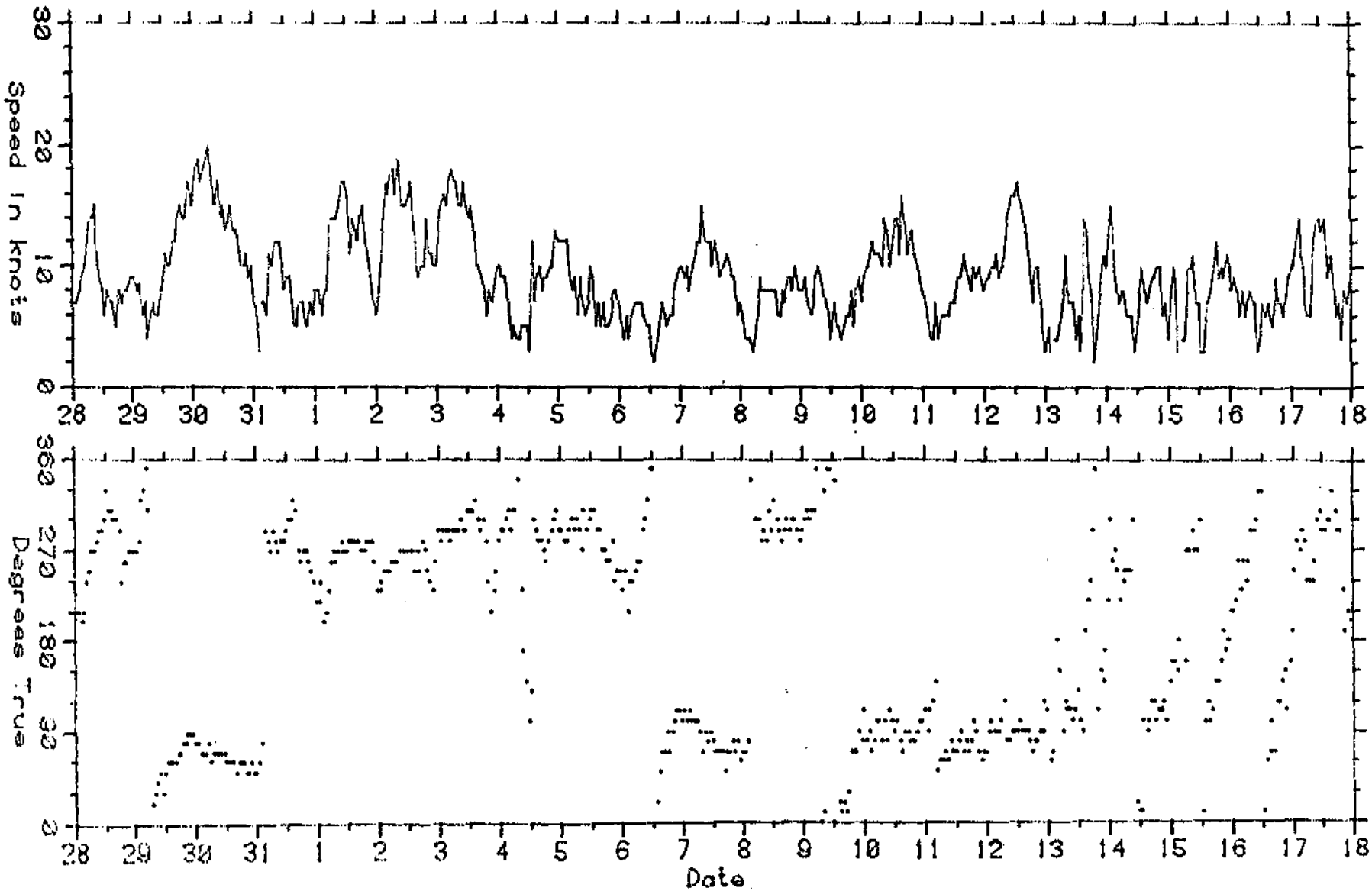


FIGURE A9 . SPEED AND DIRECTION DATA
BARTER ISLAND WIND
0000, 28 JULY TO 2300, 17 AUGUST, 1982

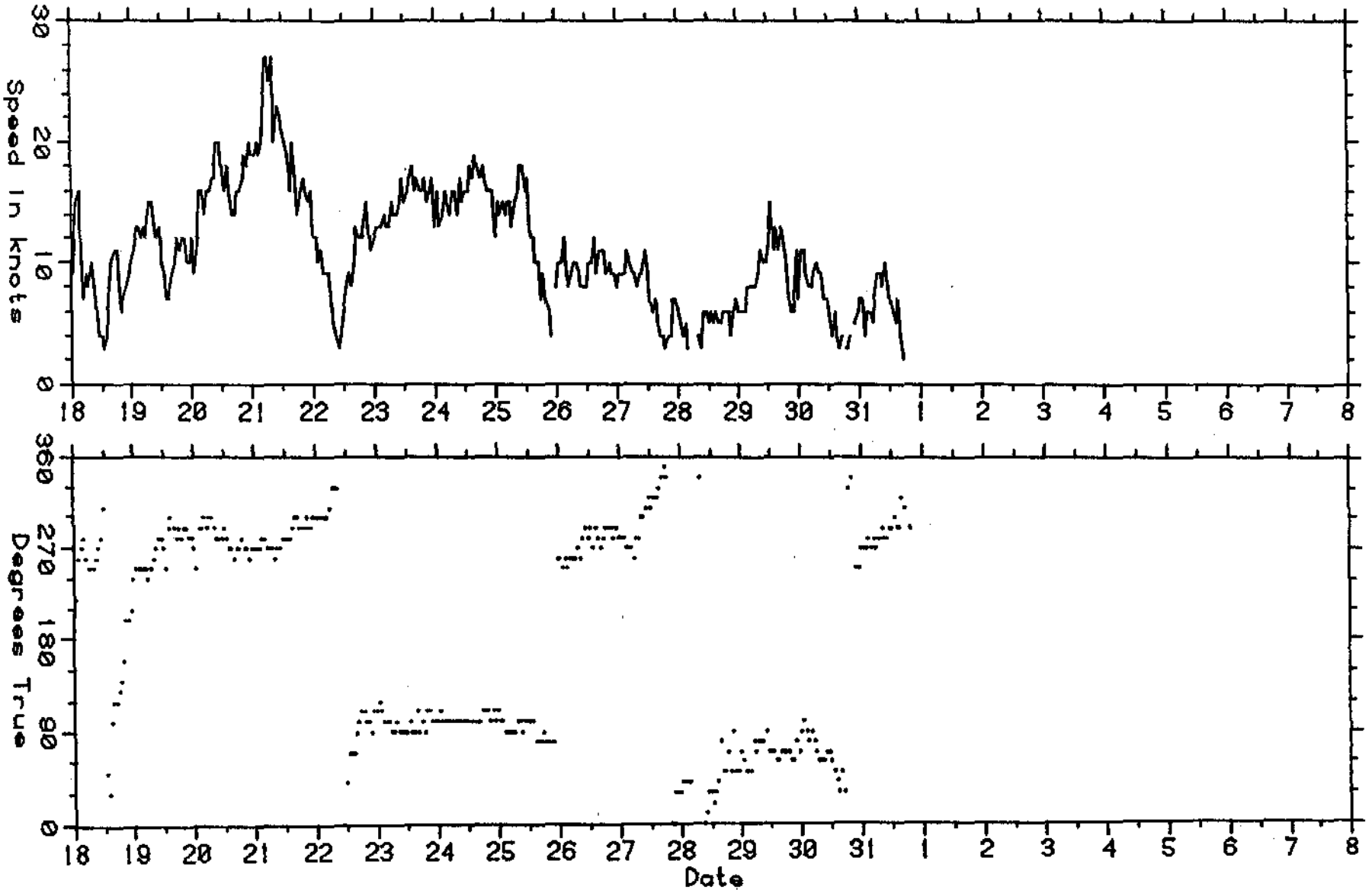


FIGURE A9. SPEED AND DIRECTION DATA
BARTER ISLAND WIND
0000, 18 AUGUST TO 2300, 31 AUGUST, 1982

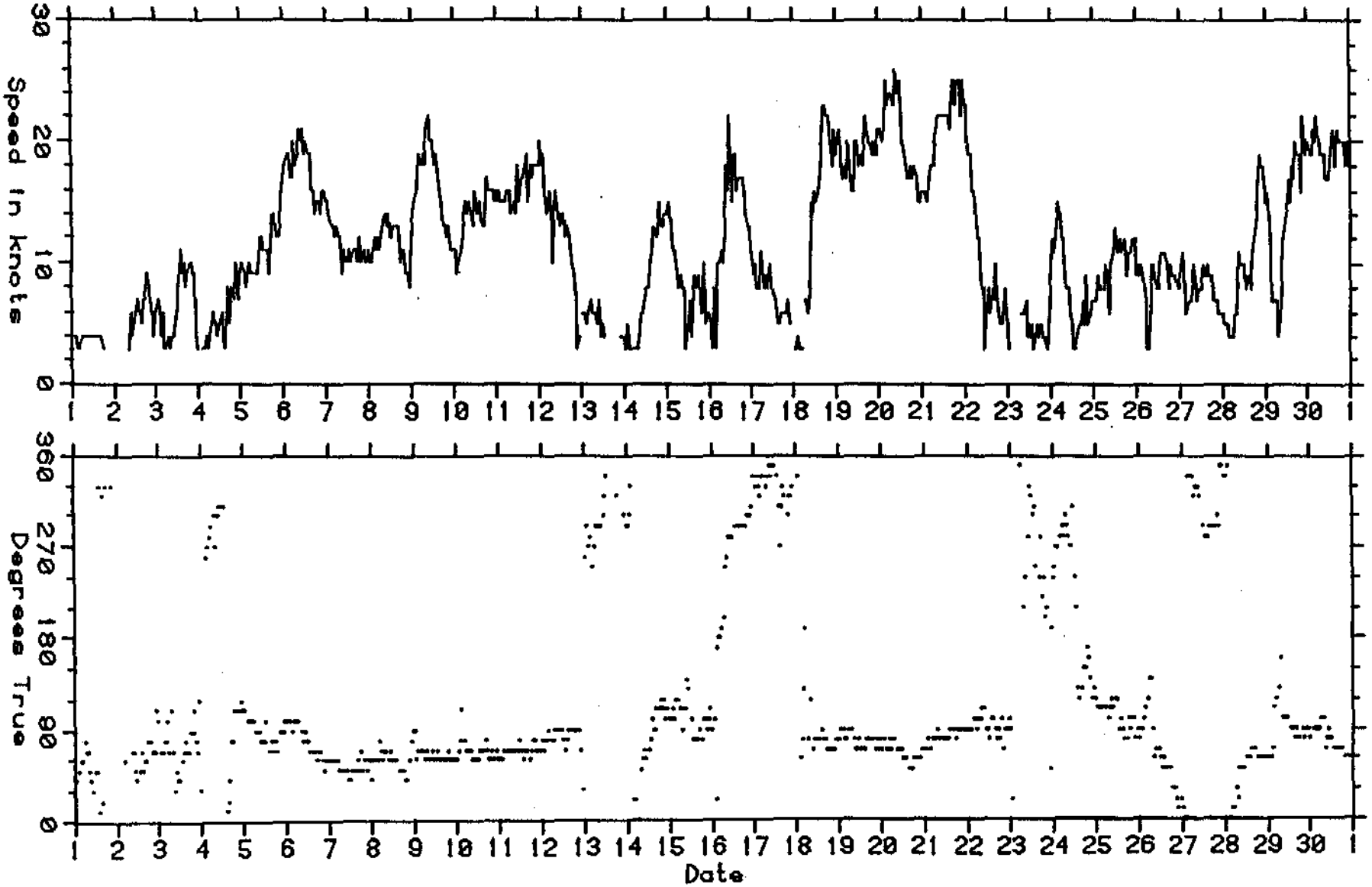


FIGURE A9. SPEED AND DIRECTION DATA
BARTER ISLAND WIND
0000, 1 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

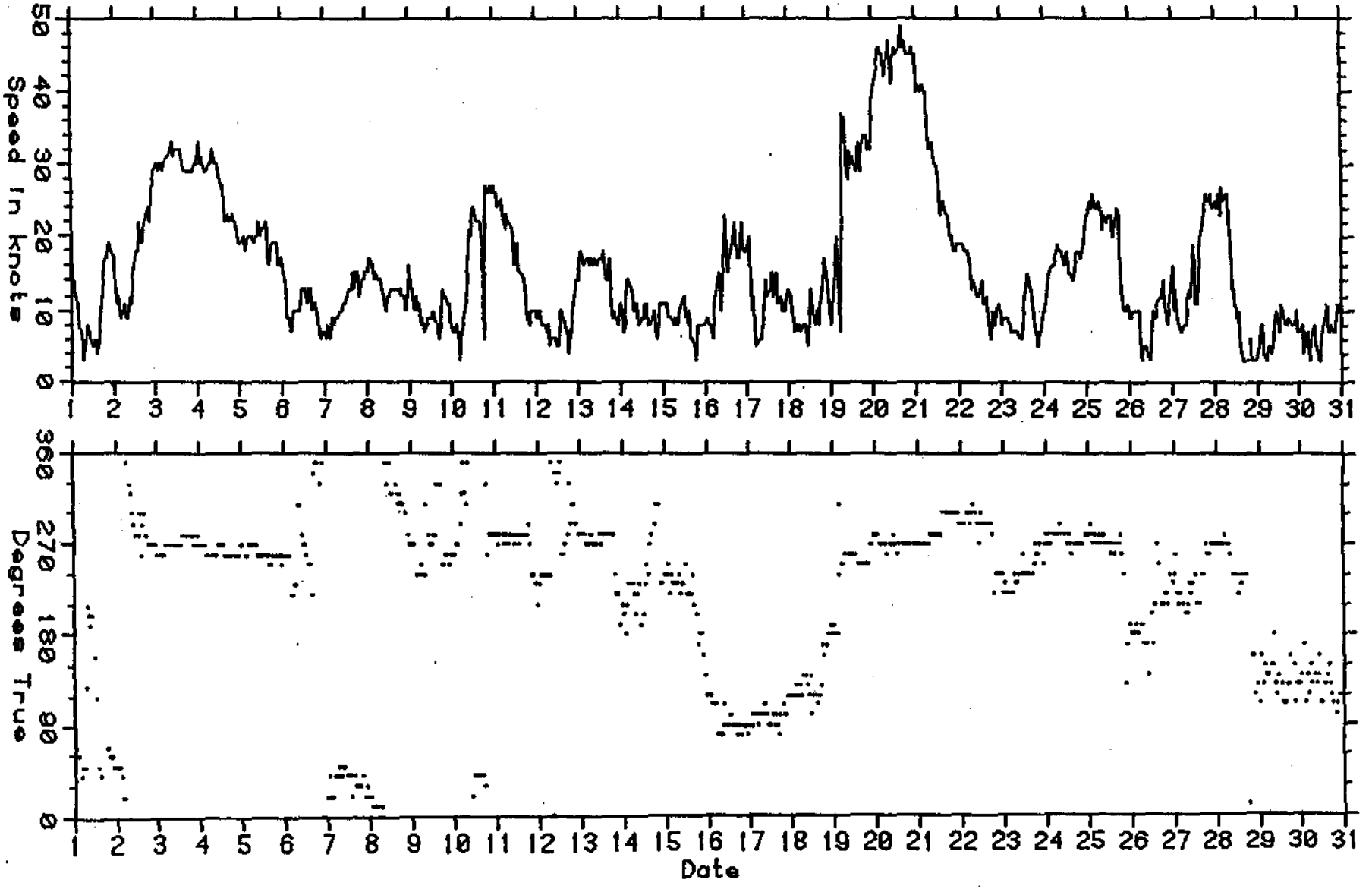


FIGURE A9. SPEED AND DIRECTION DATA
BARTER ISLAND WIND
0000, 1 OCTOBER TO 2300, 30 OCTOBER, 1982

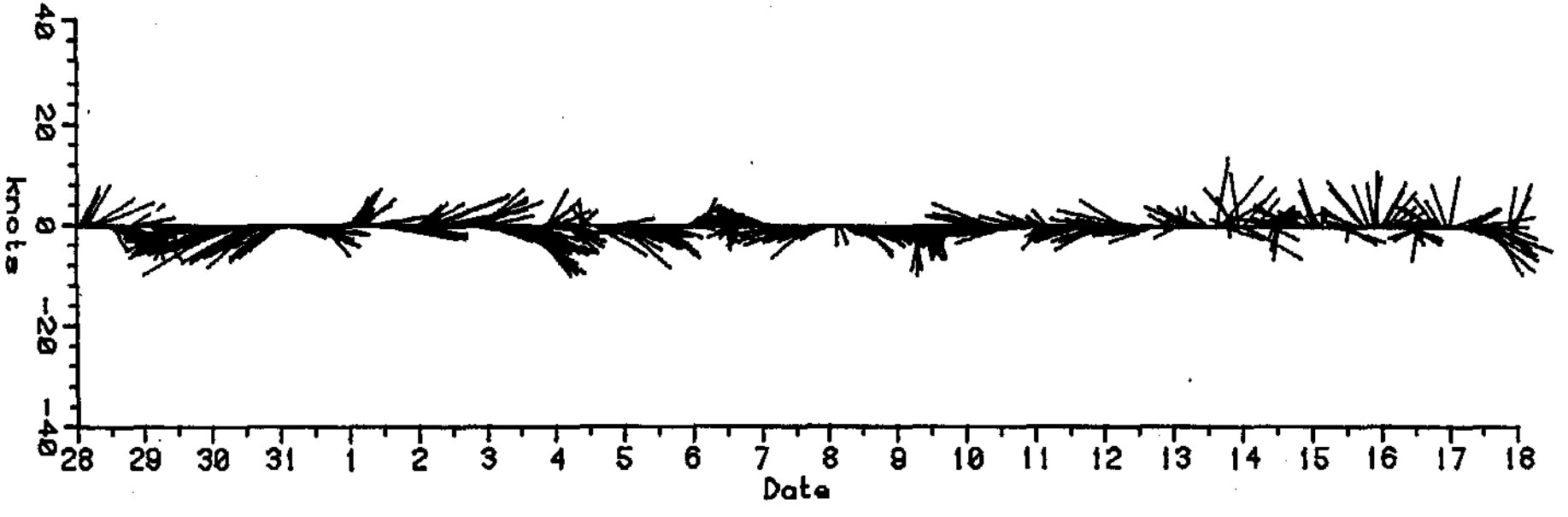


FIGURE A10. VECTOR STICK PLOT
BARTER ISLAND WIND
0000, 28 JULY TO 2300, 17 AUGUST, 1982

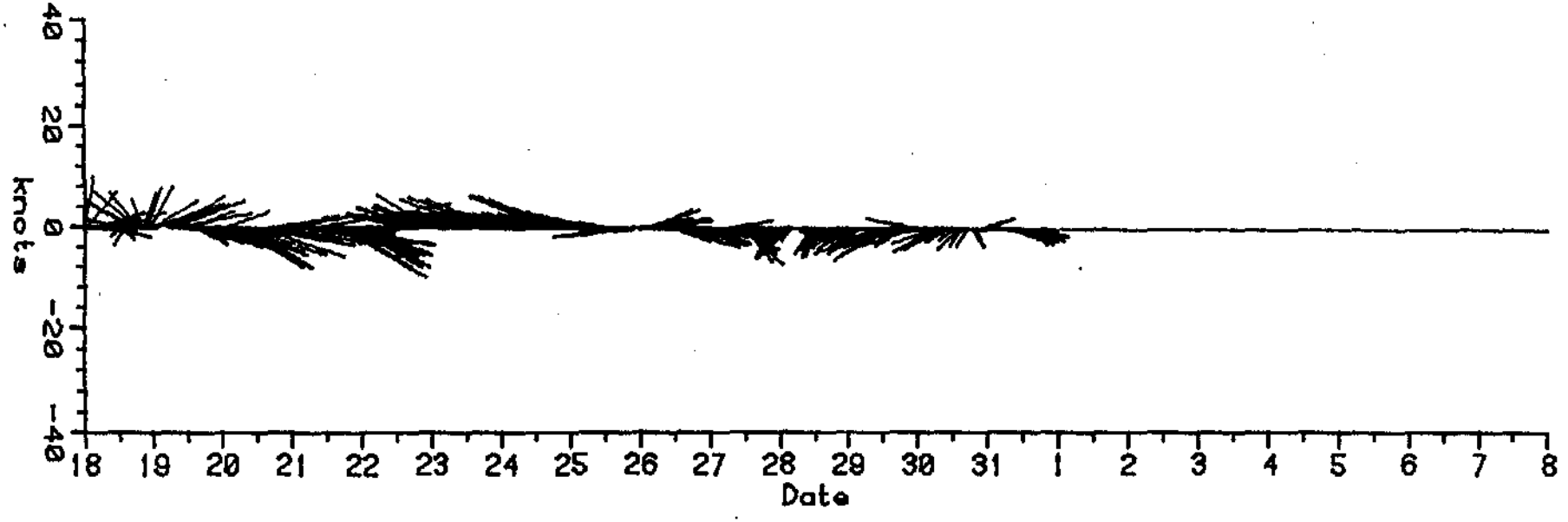


FIGURE A10. VECTOR STICK PLOT
BARTER ISLAND WIND
0000, 18 AUGUST TO 2300, 31 AUGUST, 1982

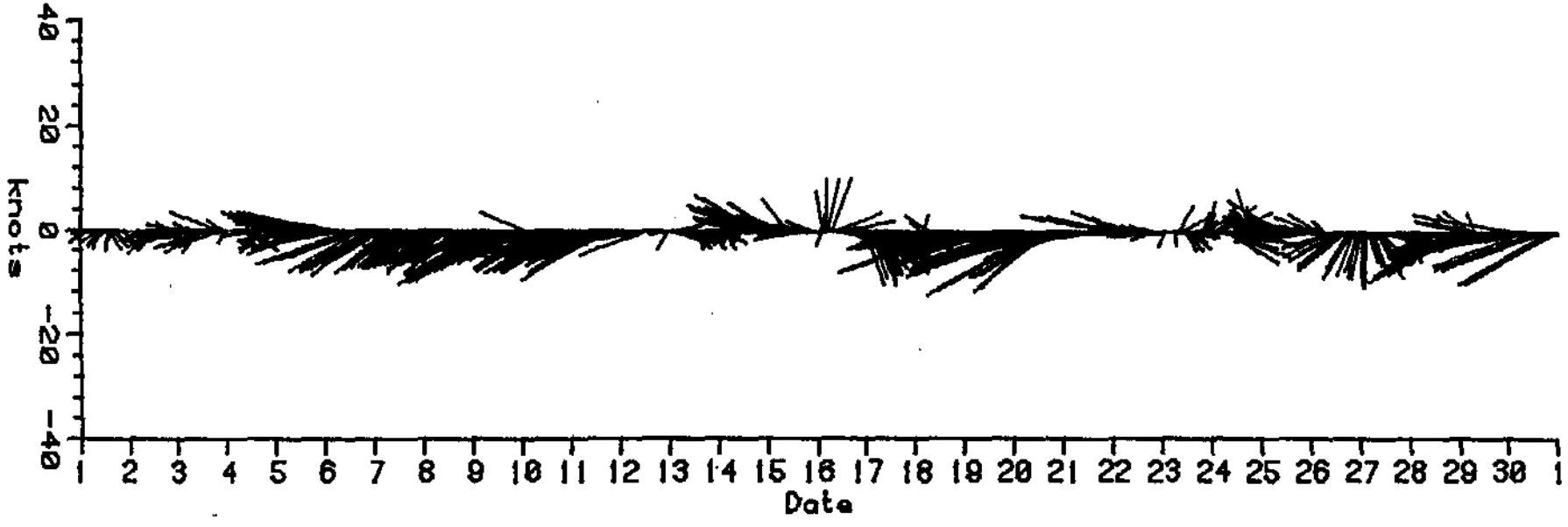


FIGURE A10. VECTOR STICK PLOT
BARTER ISLAND WIND
0000, 1 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

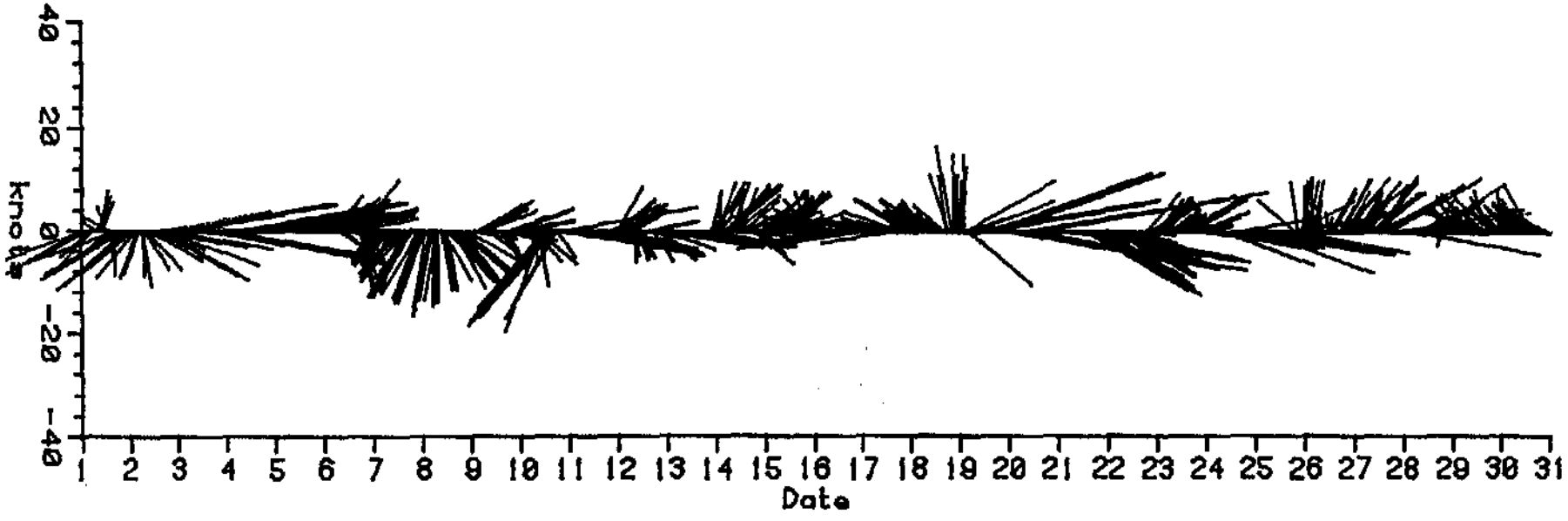


FIGURE A10 VECTOR STICK PLOT
BARTER ISLAND WIND
0000, 1 OCTOBER TO 2300, 30 OCTOBER, 1982

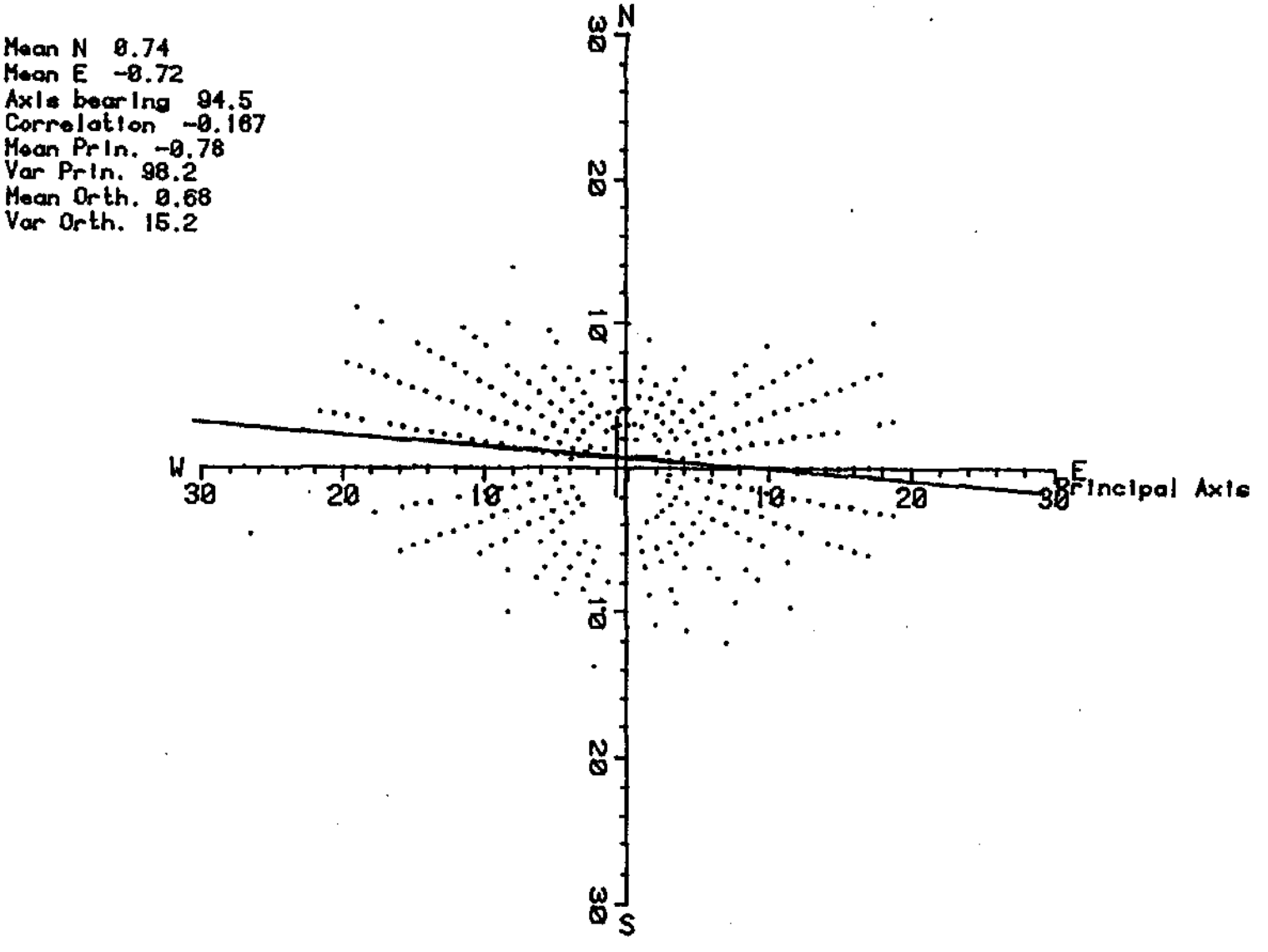


FIGURE A11. POLAR PLOT - SPEED AND DIRECTION DATA
BARTER ISLAND WIND
0000, 25 JULY TO 2300, 31 AUGUST, 1982

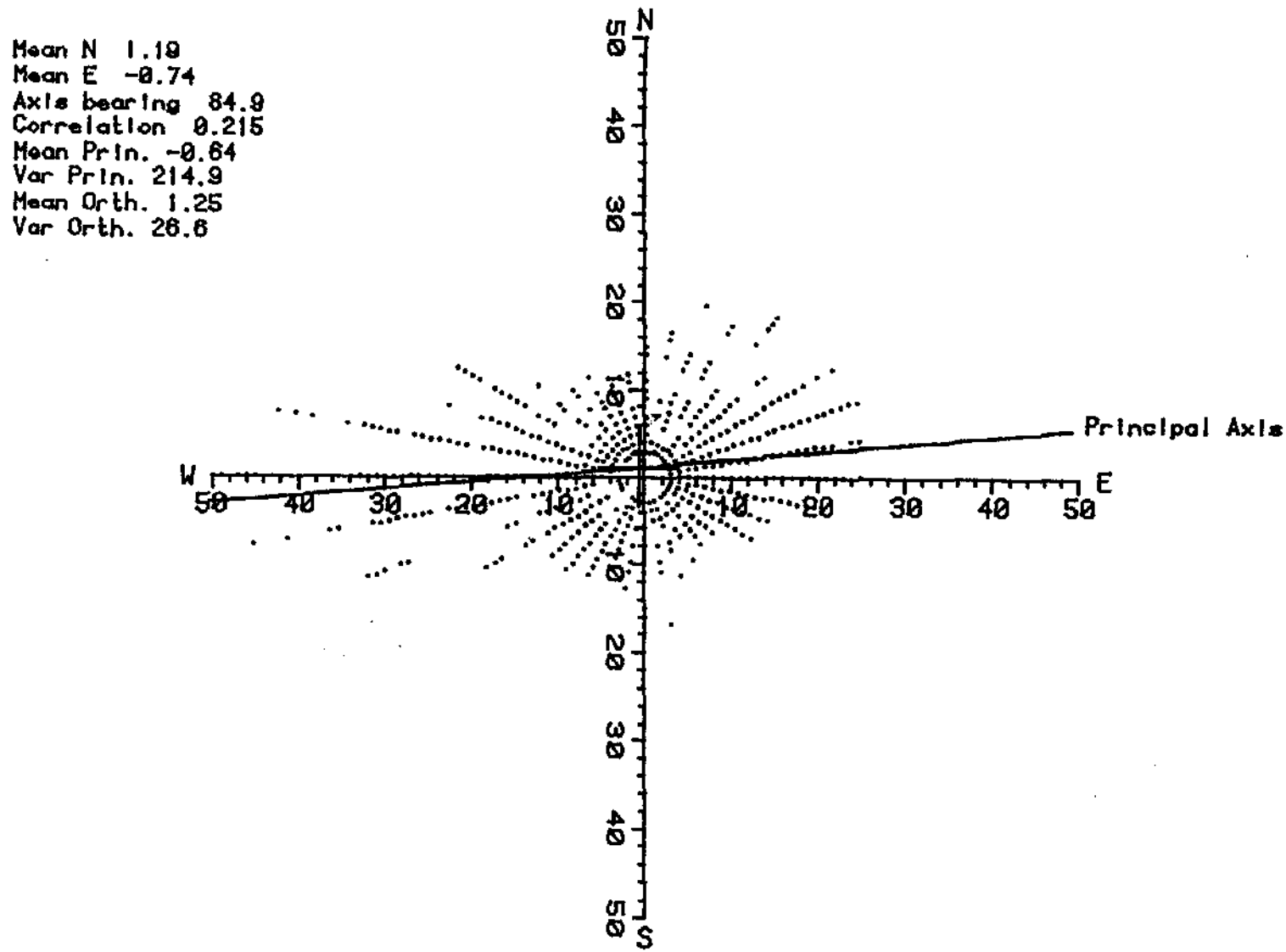


FIGURE A11. POLAR PLOT - SPEED AND DIRECTION DATA
BARTER ISLAND WIND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982

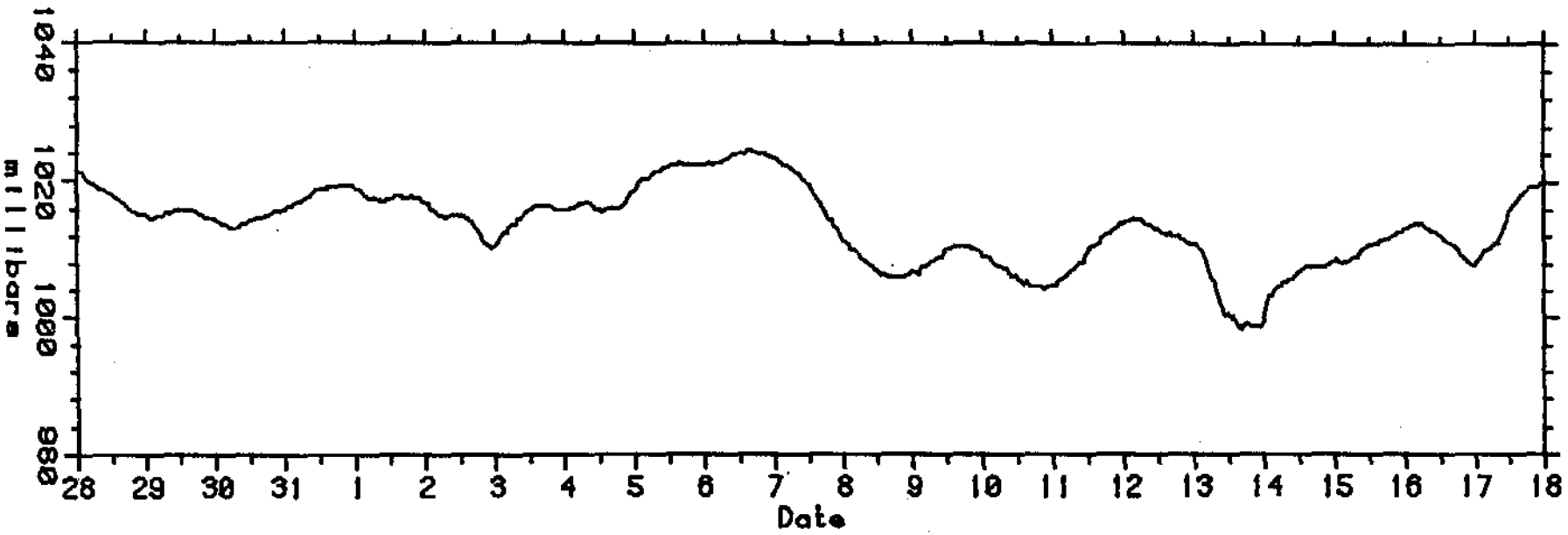


FIGURE A12. BAROMETRIC PRESSURE
BARTER ISLAND
0000, 28 JULY TO 2300, 17 AUGUST, 1982

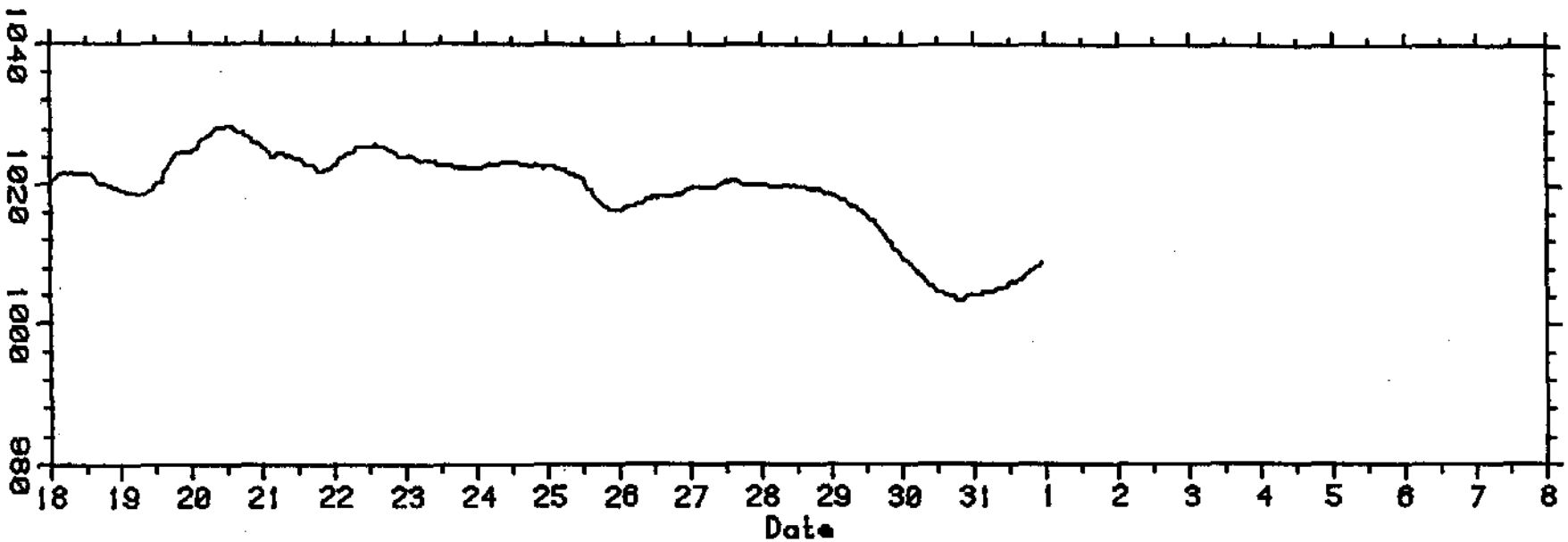


FIGURE A12. BAROMETRIC PRESSURE
BARTER ISLAND
0000, 18 AUGUST TO 2300, 31 AUGUST, 1982

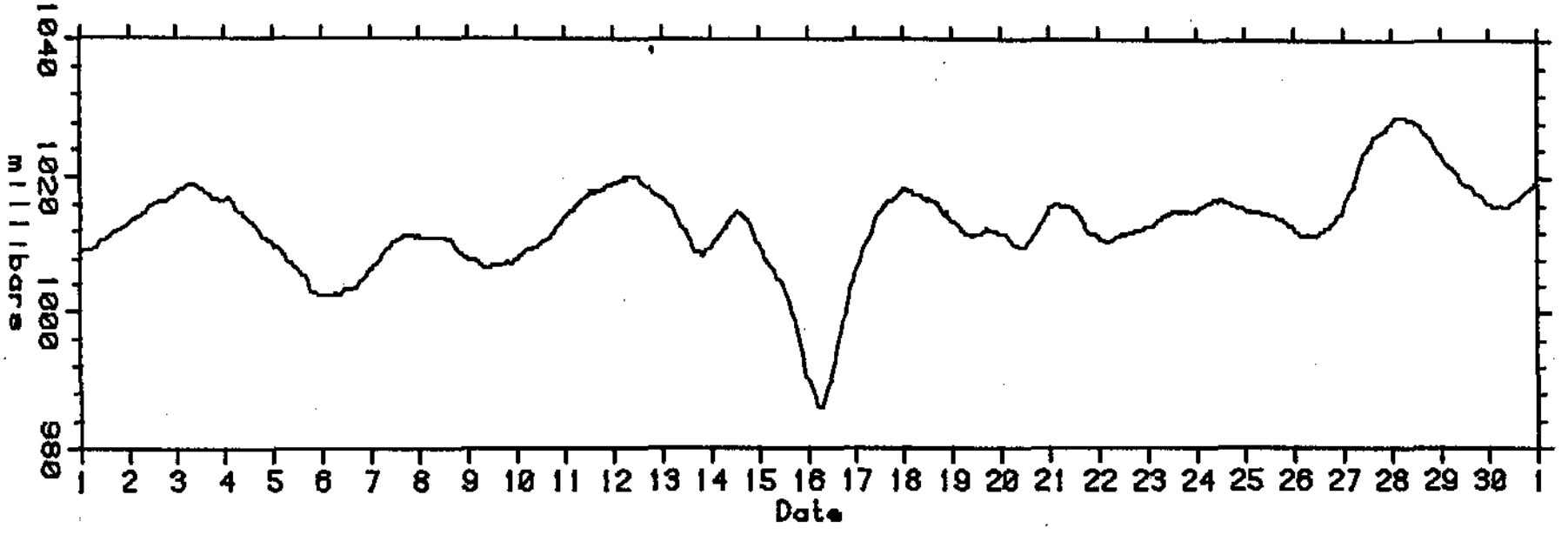


FIGURE A12. BAROMETRIC PRESSURE
BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

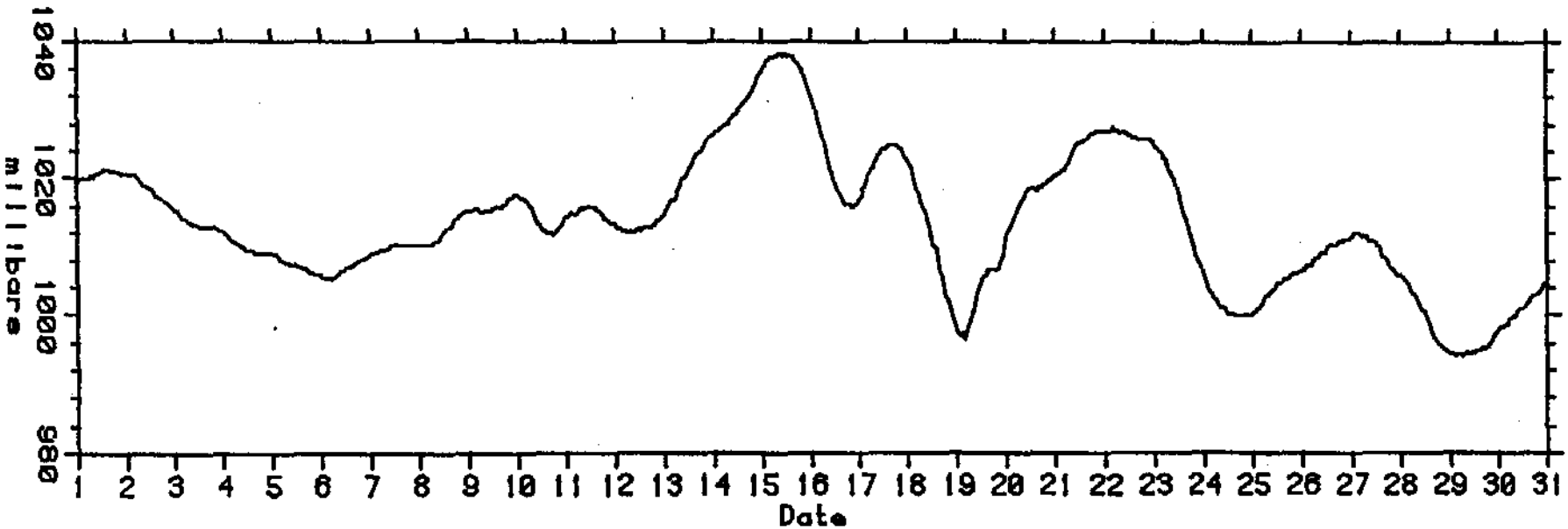


FIGURE A12. BAROMETRIC PRESSURE
BARTER ISLAND
0000, 1 OCTOBER TO 2300, 30 OCTOBER, 1982

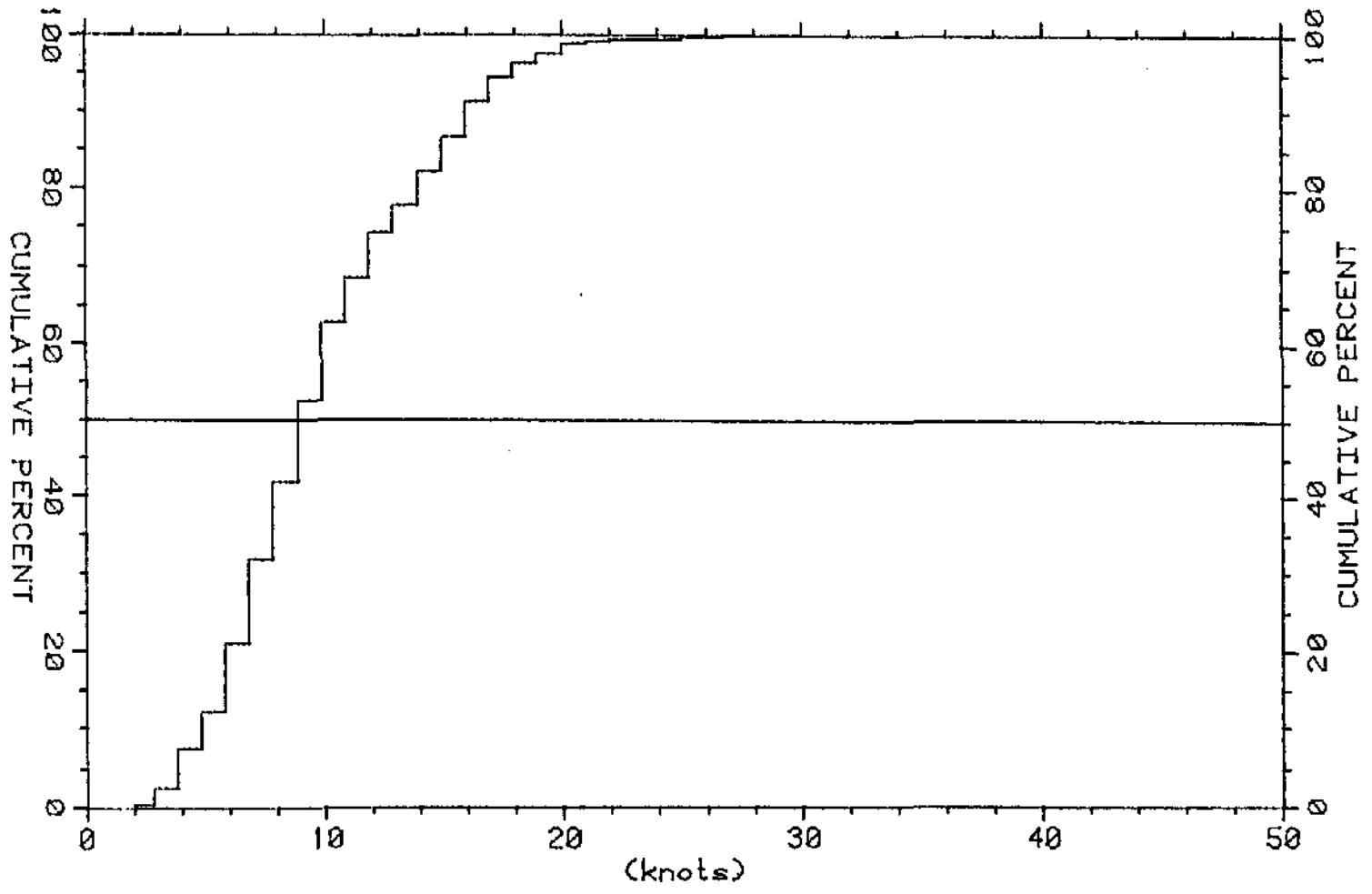


FIGURE A13. CUMULATIVE PROBABILITY PLOT
WIND SPEED
BARTER ISLAND
0000, 25 JULY TO 2300, 31 AUGUST, 1982
898 DATA POINTS

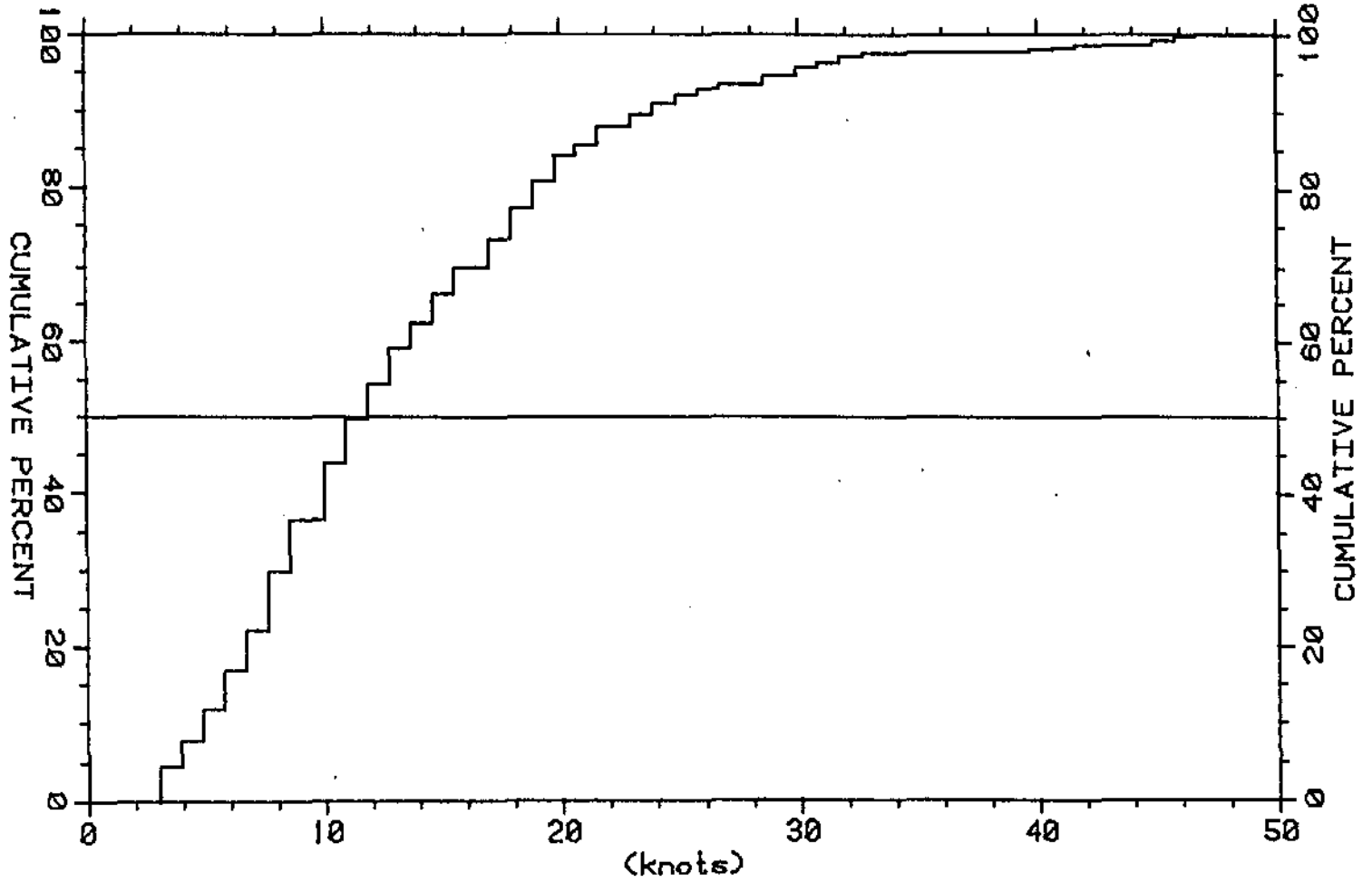


FIGURE A13. CUMULATIVE PROBABILITY PLOT
WIND
BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982
1430 DATA POINTS

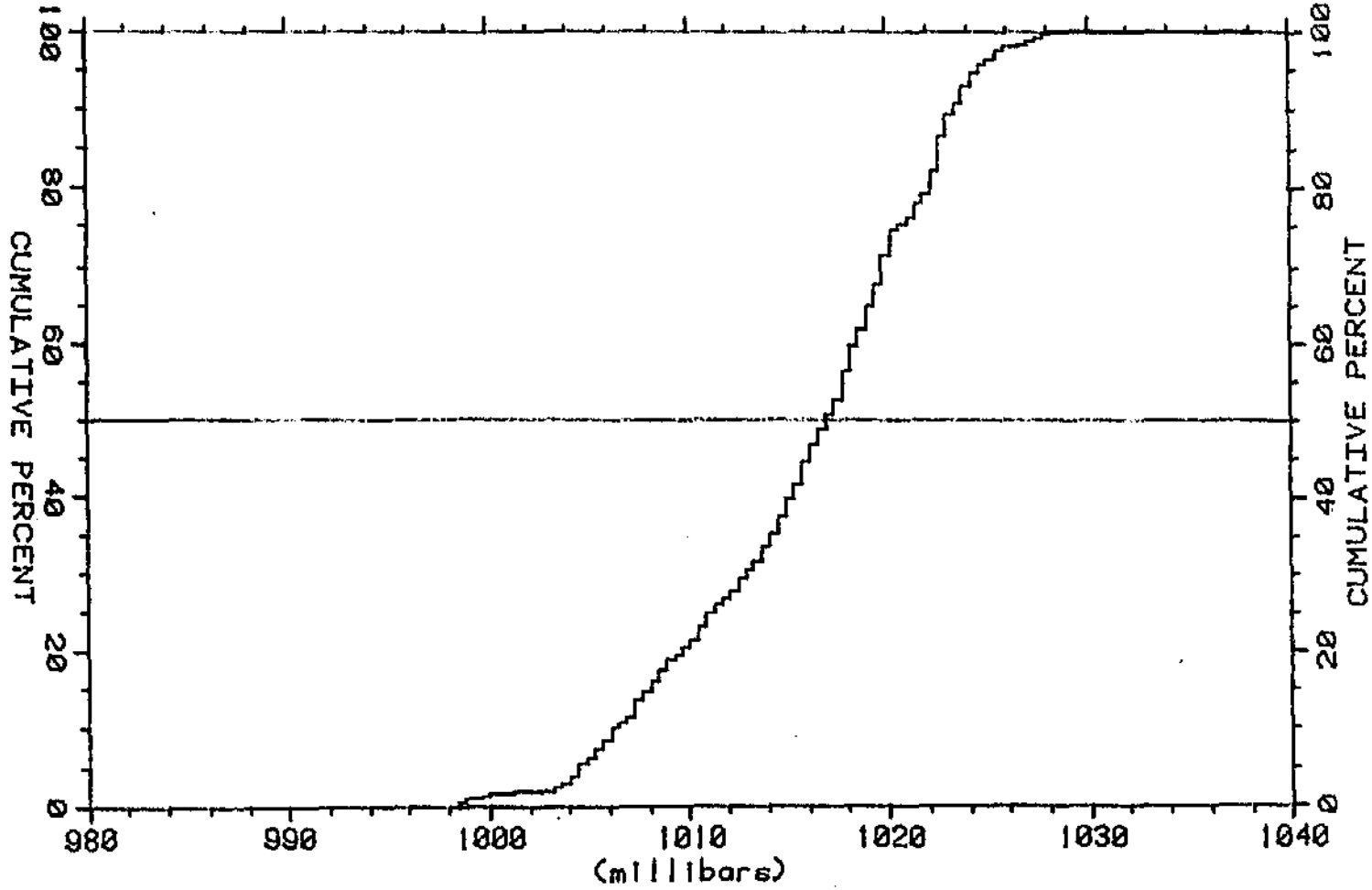


FIGURE A14. CUMULATIVE PROBABILITY PLOT
BAROMETRIC PRESSURE
BARTER ISLAND
0000, 25 JULY TO 2300, 31 AUGUST, 1982
912 DATA POINTS

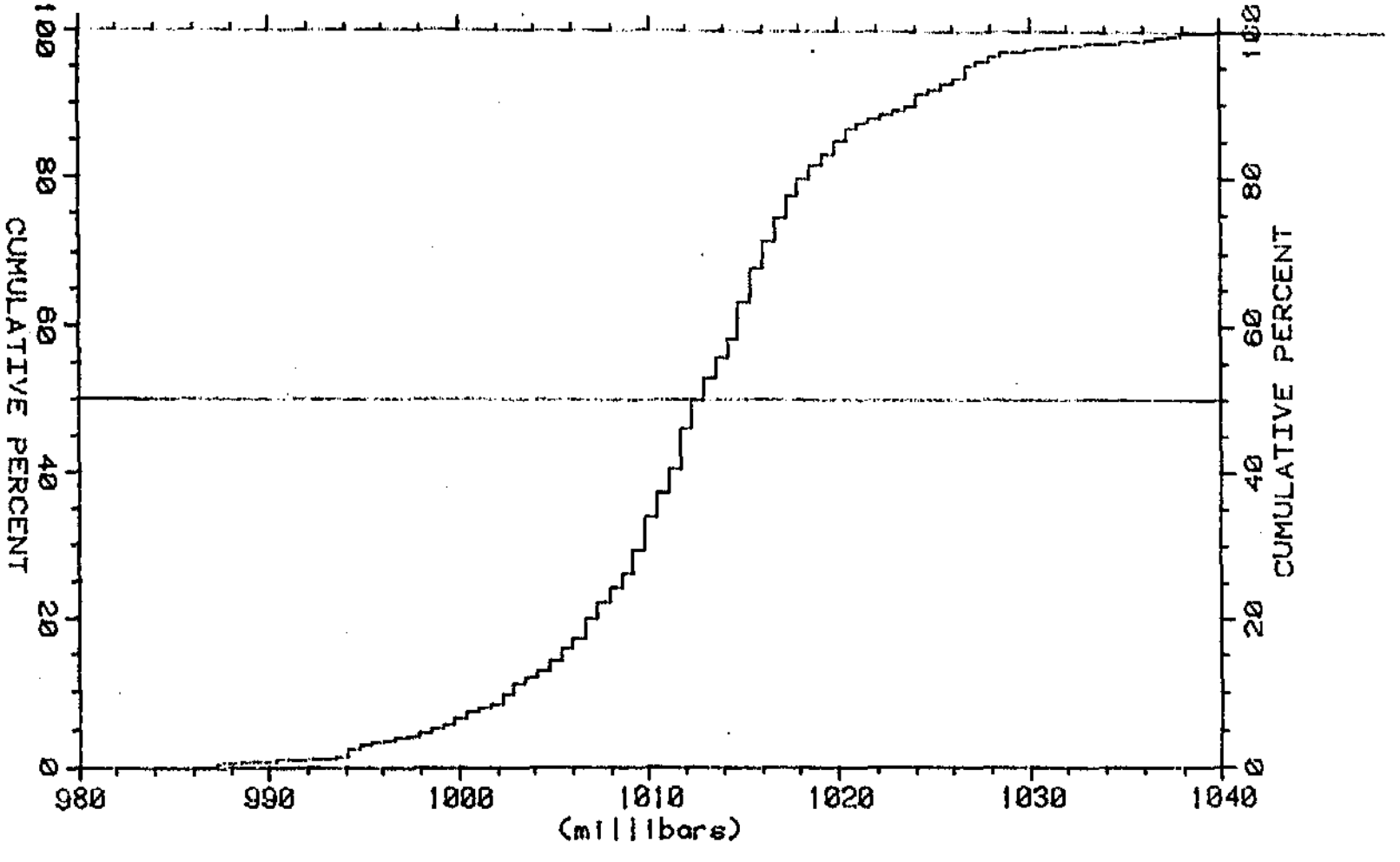


FIGURE A14. CUMULATIVE PROBABILITY PLOT
BAROMETRIC PRESSURE
BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982
1464 DATA POINTS

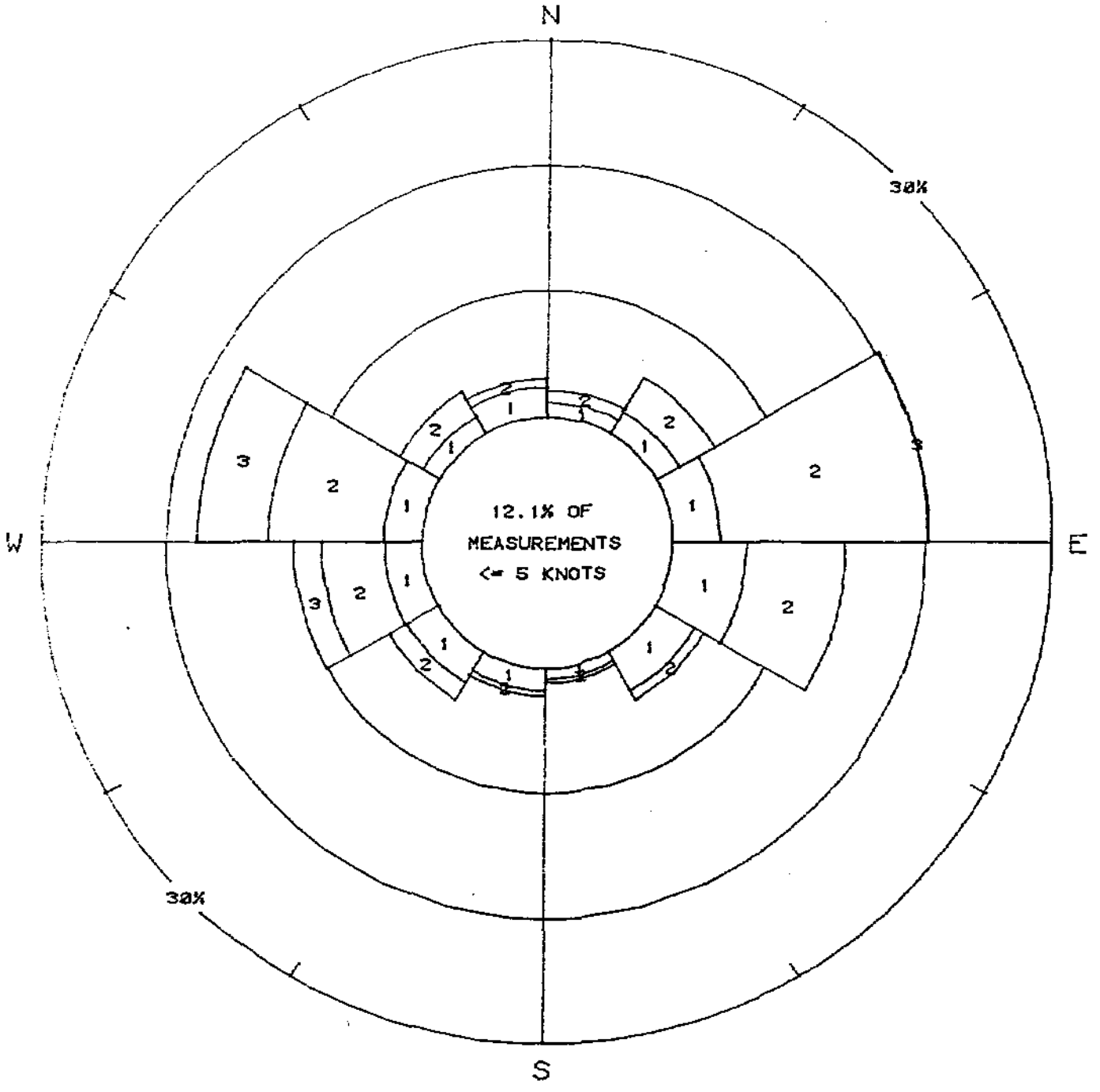


FIGURE A16. ROSE DIAGRAM
WIND
BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER 198

TABLE A6.

WIND SPEED PERSISTENCE - BARTER ISLAND
0000, 25 JULY TO 2300, 31 AUGUST, 1982

PERCENT DURATION

HOURS, DAYS DURATION

knots	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>5	88.7	80.1	65.8	54.7	44.5	25.9	17.8	0.3					829
>10	68.3	53.1	35.4	26.4	20.0	12.2	6.6						426
>15	59.1	38.4	10.7	3.8									159
>20	40.9	18.2											22
>25	25.0												4
>30													0
>35													0
>40													0
>45													0
>50													0

largest screened value = 27 knots
total time period spanned (hours) = 911
sample interval (hours) = 1
total possible samples = 912
actual samples = 898

TABLE A6.

WIND SPEED PERSISTENCE - BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982

PERCENT DURATION

HOURS,DAYS DURATION

knots	≥3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>5	91.8	86.6	77.3	70.6	64.8	55.1	46.8	29.7	18.5	6.8	1.0		1317
>10	81.7	71.2	56.8	46.0	36.9	24.6	15.6						906
>15	82.9	72.3	55.1	42.6	36.3	26.8	19.7						537
>20	72.8	59.9	43.4	30.1	25.0	16.2	7.4						272
>25	75.8	67.2	57.0	47.7	38.3	19.5	5.5						128
>30	70.7	54.7	40.0	32.0	24.0	8.0							75
>35	85.3	76.5	58.8	41.2	23.5								34
>40	90.0	80.0	60.0	40.0	20.0								30
>45	57.9	36.8	5.3										19
>50													0

largest screened value = 49 knots
total time period spanned (hours) = 1463
sample interval (hours) = 1
total possible samples = 1464
actual samples = 1430

TABLE A7.

AIR TEMPERATURE PERSISTENCE - BARTER ISLAND
0000, 25 JULY TO 2300, 31 AUGUST, 1982

PERCENT DURATION

HOURS, DAYS DURATION

deg C	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>-10	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	912
>-5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	912
>0	97.3	95.2	92.5	90.3	88.1	85.0	81.8	71.3	61.8	52.5	41.9	29.5	861
>5	82.3	72.0	57.0	46.0	38.0	26.3	18.3	1.7					300
>10	65.6	40.0	8.9										90
>15													9
>20													0

largest screened value = 18.33 deg C
total time period spanned (hours) = 912
sample interval (hours) = 1
total possible samples = 913
actual samples = 912

TABLE A7.

AIR TEMPERATURE PERSISTENCE - BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982

PERCENT DURATION

HOURS, DAYS DURATION

deg C	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>-10	98.6	97.4	95.2	93.4	91.8	89.4	87.0	81.8	77.0	72.1	67.3	62.6	998
>-5	97.9	96.4	94.7	93.3	91.8	89.3	87.9	82.0	76.1	70.2	64.3	58.5	816
>0	88.5	80.1	67.2	56.9	47.3	32.8	22.3	0.7					408
>5	50.0	8.3											12
>10													1
>15													0
>20													0

largest screened value = 10.56 deg C
total time period spanned (hours) = 1464
sample interval (hours) = 1
total possible samples = 1465
actual samples = 1464

TABLE A8.

BAROMETRIC PRESSURE PERSISTENCE - BARTER ISLAND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982

PERCENT DURATION

HOURS, DAYS DURATION

mbar	>3h	>6h	>12h	>18h	>24h	>36h	>2d	>4d	>6d	>8d	>10d	>12d	TOTAL SAMPLES
>990	99.8	99.6	99.2	98.7	98.3	97.5	96.6	92.9	89.0	84.8	80.2	75.3	1453
>1000	99.1	98.2	96.4	94.6	92.8	89.2	85.6	72.7	65.4	59.8	54.2	48.0	1376
>1010	97.4	94.7	89.3	84.0	78.6	70.7	63.6	40.2	31.4	21.7	12.5	4.8	1025
>1013	95.1	90.5	81.5	73.2	65.2	51.5	39.8	14.6	2.5				731
>1020	92.2	84.8	72.4	60.1	48.1	31.7	16.9						243
>1025	92.9	85.8	71.7	57.5	43.3	19.7	8.7						127
>1030	92.1	84.2	68.4	52.6	36.8	5.3							38
>1035	87.0	73.9	47.8	21.7									23

largest screened value = 1038.2 mbar
total time period spanned (hours) = 1463
sample interval (hours) = 1
total possible samples = 1464
actual samples = 1464

TABLE A9.
BARTER ISLAND WIND
0000, 25 JULY TO 2300, 30 AUGUST, 1982

Frequencies:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	> 30.00	total
0 30	20	14	0	0	0	0	0	34
30- 60	11	35	12	1	0	0	0	59
60- 90	11	76	58	20	0	0	0	165
90-120	6	52	39	28	0	0	0	125
120-150	6	12	6	0	0	0	0	24
150-180	4	12	4	0	0	0	0	20
180-210	0	19	1	0	0	0	0	20
210-240	5	30	4	0	0	0	0	39
240-270	11	66	36	22	2	3	0	140
270-300	10	106	47	38	5	0	0	206
300-330	16	26	8	1	0	0	0	51
330-360	10	5	0	0	0	0	0	15
total	110	453	215	110	7	3	0	898

Percentages:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	> 30.00	total
0 30	2.2	1.6	0.0	0.0	0.0	0.0	0.0	3.8
30- 60	1.2	3.9	1.3	0.1	0.0	0.0	0.0	6.6
60- 90	1.2	8.5	6.5	2.2	0.0	0.0	0.0	18.4
90-120	0.7	5.8	4.3	3.1	0.0	0.0	0.0	13.9
120-150	0.7	1.3	0.7	0.0	0.0	0.0	0.0	2.7
150-180	0.4	1.3	0.4	0.0	0.0	0.0	0.0	2.2
180-210	0.0	2.1	0.1	0.0	0.0	0.0	0.0	2.2
210-240	0.6	3.3	0.4	0.0	0.0	0.0	0.0	4.3
240-270	1.2	7.3	4.0	2.4	0.2	0.3	0.0	15.6
270-300	1.1	11.8	5.2	4.2	0.6	0.0	0.0	22.9
300-330	1.8	2.9	0.9	0.1	0.0	0.0	0.0	5.7
330-360	1.1	0.6	0.0	0.0	0.0	0.0	0.0	1.7
total	12.2	50.4	23.9	12.2	0.8	0.3	0.0	100.0

largest screened speed = 27 knots
total time period spanned (hours) = 911
sample interval (hours) = 1
total possible observations = 912
actual observations = 898

TABLE A9.

BARTER ISLAND WIND
0000, 25 JULY TO 2300, 30 AUGUST, 1982

Row Percents:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	> 30.00	total
0 30	58.8	41.2	0.0	0.0	0.0	0.0	0.0	100.0
30- 60	18.6	59.3	20.3	1.7	0.0	0.0	0.0	100.0
60- 90	6.7	46.1	35.2	12.1	0.0	0.0	0.0	100.0
90-120	4.8	41.6	31.2	22.4	0.0	0.0	0.0	100.0
120-150	25.0	50.0	25.0	0.0	0.0	0.0	0.0	100.0
150-180	20.0	60.0	20.0	0.0	0.0	0.0	0.0	100.0
180-210	0.0	95.0	5.0	0.0	0.0	0.0	0.0	100.0
210-240	12.8	76.9	10.3	0.0	0.0	0.0	0.0	100.0
240-270	7.9	47.1	25.7	15.7	1.4	2.1	0.0	100.0
270-300	4.9	51.5	22.8	18.4	2.4	0.0	0.0	100.0
300-330	31.4	51.0	15.7	2.0	0.0	0.0	0.0	100.0
330-360	66.7	33.3	0.0	0.0	0.0	0.0	0.0	100.0
total	12.2	50.4	23.9	12.2	0.8	0.3	0.0	100.0

Column Percents:

Bearing Range	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	> 30.00	total
0 30	18.2	3.1	0.0	0.0	0.0	0.0	0.0	3.8
30- 60	10.0	7.7	5.6	0.9	0.0	0.0	0.0	6.6
60- 90	10.0	16.8	27.0	18.2	0.0	0.0	0.0	18.4
90-120	5.5	11.5	18.1	25.5	0.0	0.0	0.0	13.9
120-150	5.5	2.6	2.8	0.0	0.0	0.0	0.0	2.7
150-180	3.6	2.6	1.9	0.0	0.0	0.0	0.0	2.2
180-210	0.0	4.2	0.5	0.0	0.0	0.0	0.0	2.2
210-240	4.5	6.6	1.9	0.0	0.0	0.0	0.0	4.3
240-270	10.0	14.6	16.7	20.0	28.6	100.0	0.0	15.6
270-300	9.1	23.4	21.9	34.5	71.4	0.0	0.0	22.9
300-330	14.5	5.7	3.7	0.9	0.0	0.0	0.0	5.7
330-360	9.1	1.1	0.0	0.0	0.0	0.0	0.0	1.7
total	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0

largest screened speed = 27 knots
total time period spanned (hours) = 911
sample interval (hours) = 1
total possible observations = 912
actual observations = 898

TABLE A9.

BARTER ISLAND WIND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982

quencies:

ring nge	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	40.00 45.00	45.00 50.00	> 50.00	total
30 !	20	20	16	4	1	0	0	0	0	0	0	61
- 60 !	19	39	64	42	8	0	0	0	0	0	0	172
- 90 !	16	61	78	105	47	1	0	0	0	0	0	308
-120 !	19	85	40	11	1	0	0	0	0	0	0	156
-150 !	19	33	1	0	0	0	0	0	0	0	0	53
-180 !	16	17	5	1	0	0	0	0	0	0	0	39
-210 !	9	26	9	0	0	0	0	0	0	0	0	44
-240 !	7	58	28	5	1	0	0	0	0	0	0	99
-270 !	6	28	31	40	37	36	19	6	14	10	0	227
-300 !	14	33	29	47	21	15	7	1	2	0	0	169
-330 !	18	35	11	1	0	0	0	0	0	0	0	65
-360 !	10	19	8	0	0	0	0	0	0	0	0	37
otal !	173	454	320	256	116	52	26	7	16	10	0	1430

centages:

ring nge	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	40.00 45.00	45.00 50.00	> 50.00	total
30 !	1.4	1.4	1.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	4.3
- 60 !	1.3	2.7	4.5	2.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	12.0
- 90 !	1.1	4.3	5.5	7.3	3.3	0.1	0.0	0.0	0.0	0.0	0.0	21.5
-120 !	1.3	5.9	2.8	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	10.9
-150 !	1.3	2.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
-180 !	1.1	1.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
-210 !	0.6	1.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
-240 !	0.5	4.1	2.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	6.9
-270 !	0.4	2.0	2.2	2.8	2.6	2.5	1.3	0.4	1.0	0.7	0.0	15.9
-300 !	1.0	2.3	2.0	3.3	1.5	1.0	0.5	0.1	0.1	0.0	0.0	11.8
-330 !	1.3	2.4	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
-360 !	0.7	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
otal !	12.1	31.7	22.4	17.9	8.1	3.6	1.8	0.5	1.1	0.7	0.0	100.0

qest screened speed = 49 knots
al time period spanned (hours) = 1463
ple interval (hours) = 1
al possible observations = 1464
ual observations = 1430

TABLE A9.

BARTER ISLAND WIND
0000, 1 SEPTEMBER TO 2300, 31 OCTOBER, 1982

r Percents:

aring ange	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	40.00 45.00	45.00 50.00	> 50.00	total
) 30	32.8	32.8	26.2	6.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)- 60	11.0	22.7	37.2	24.4	4.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)- 90	5.2	19.8	25.3	34.1	15.3	0.3	0.0	0.0	0.0	0.0	0.0	100.0
)-120	12.2	54.5	25.6	7.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)-150	35.8	62.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)-180	41.0	43.6	12.8	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)-210	20.5	59.1	20.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)-240	7.1	58.6	28.3	5.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)-270	2.6	12.3	13.7	17.6	16.3	15.9	8.4	2.6	6.2	4.4	0.0	100.0
)-300	8.3	19.5	17.2	27.8	12.4	8.9	4.1	0.6	1.2	0.0	0.0	100.0
)-330	27.7	53.8	16.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
)-360	27.0	51.4	21.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
otal	12.1	31.7	22.4	17.9	8.1	3.6	1.8	0.5	1.1	0.7	0.0	100.0

lumn Percents:

aring ange	Speed Range (knots) 0.00 5.00	5.00 10.00	10.00 15.00	15.00 20.00	20.00 25.00	25.00 30.00	30.00 35.00	35.00 40.00	40.00 45.00	45.00 50.00	> 50.00	total
) 30	11.6	4.4	5.0	1.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0	4.3
)- 60	11.0	8.6	20.0	16.4	6.9	0.0	0.0	0.0	0.0	0.0	0.0	12.0
)- 90	9.2	13.4	24.4	41.0	40.5	1.9	0.0	0.0	0.0	0.0	0.0	21.5
)-120	11.0	18.7	12.5	4.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	10.9
)-150	11.0	7.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
)-180	9.2	3.7	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
)-210	5.2	5.7	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
)-240	4.0	12.8	8.8	2.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	6.9
)-270	3.5	6.2	9.7	15.6	31.9	69.2	73.1	85.7	87.5	100.0	0.0	15.9
)-300	8.1	7.3	9.1	18.4	18.1	28.8	26.9	14.3	12.5	0.0	0.0	11.8
)-330	10.4	7.7	3.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
)-360	5.8	4.2	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
otal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0

qest screened speed = 49 knots
tal time period spanned (hours) = 1463
mple interval (hours) = 1
tal possible observations = 1464
tual observations = 1430

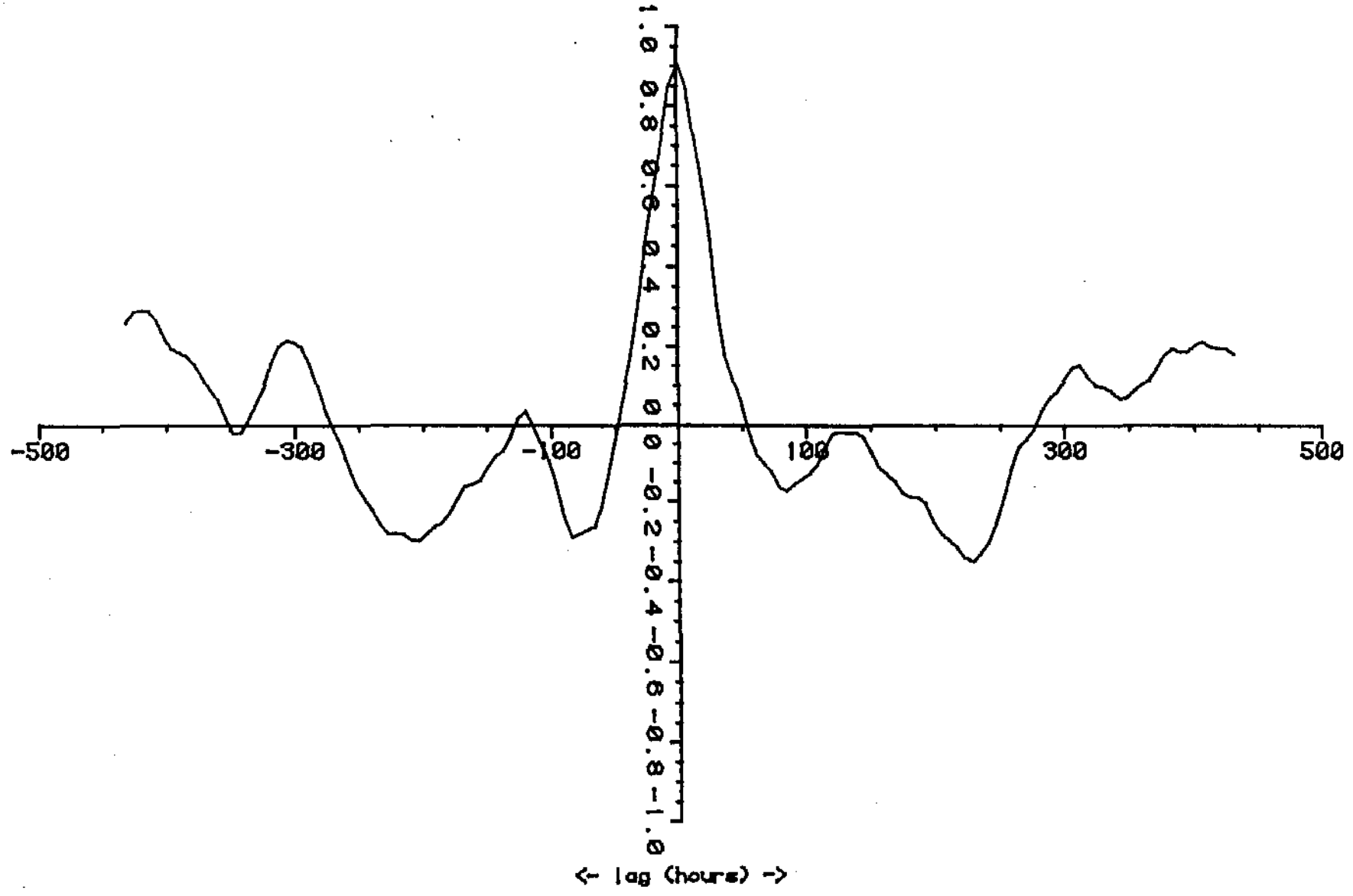


FIGURE A17. CROSS CORRELATIONS
BARTER ISLAND WIND (72 DEG. COMP.) VS. LAGGED CHALLENGE ISLAND WIND (72 DEG. COMP.) (ΔT=6 HR) (FILTERED DATA)
0004, 25 JULY TO 1804, 31 AUGUST, 1982

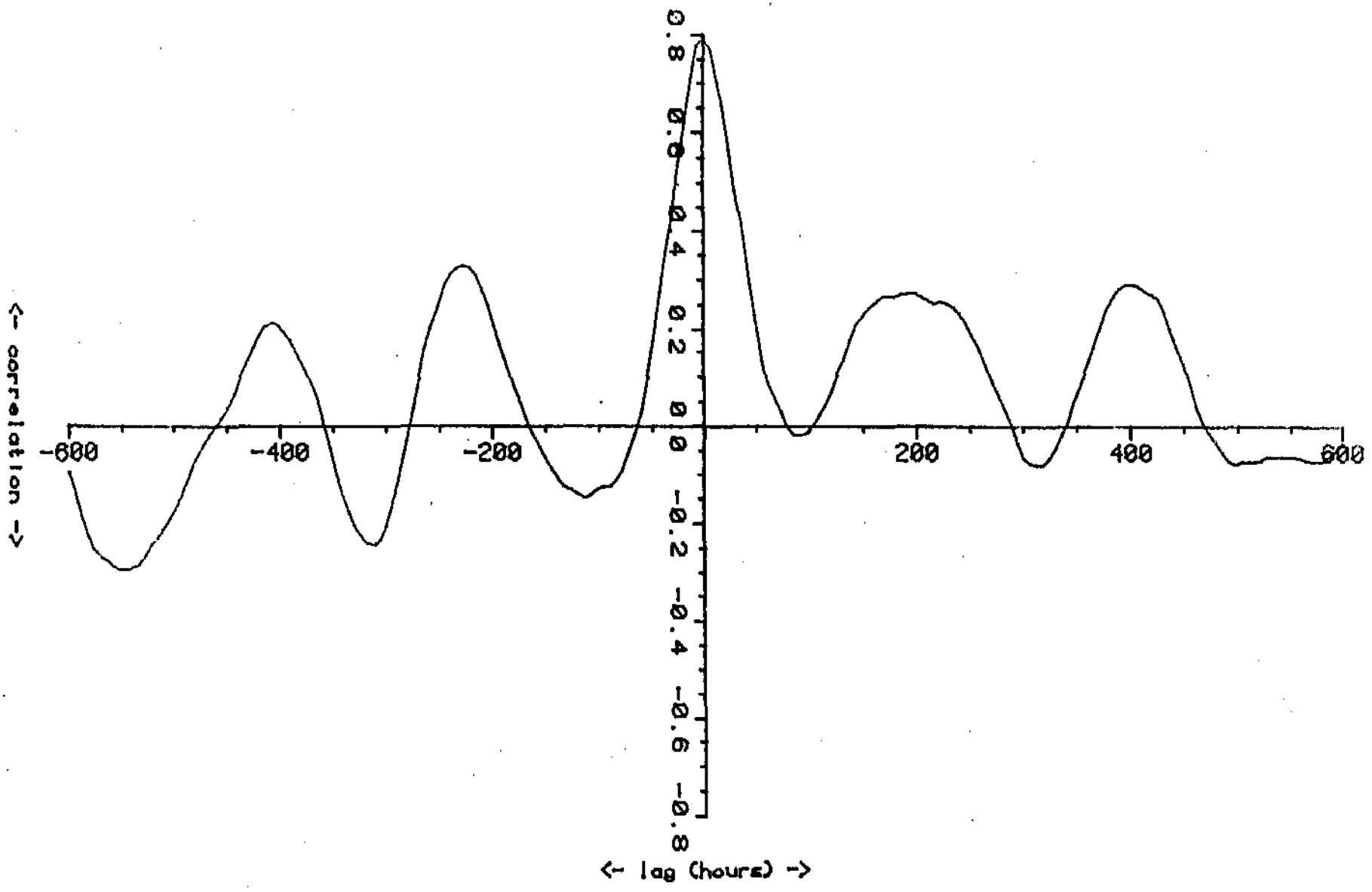


FIGURE A18. CROSS CORRELATIONS
BARTER ISLAND WIND (64 DEG. COMP.) VS. LAGGED CHALLENGE ISLAND WIND (64 DEG. COMP.) (ΔT=6 HR) (FILTERED DATA)
1400, 4 SEPTEMBER TO 0200, 28 OCTOBER, 1982

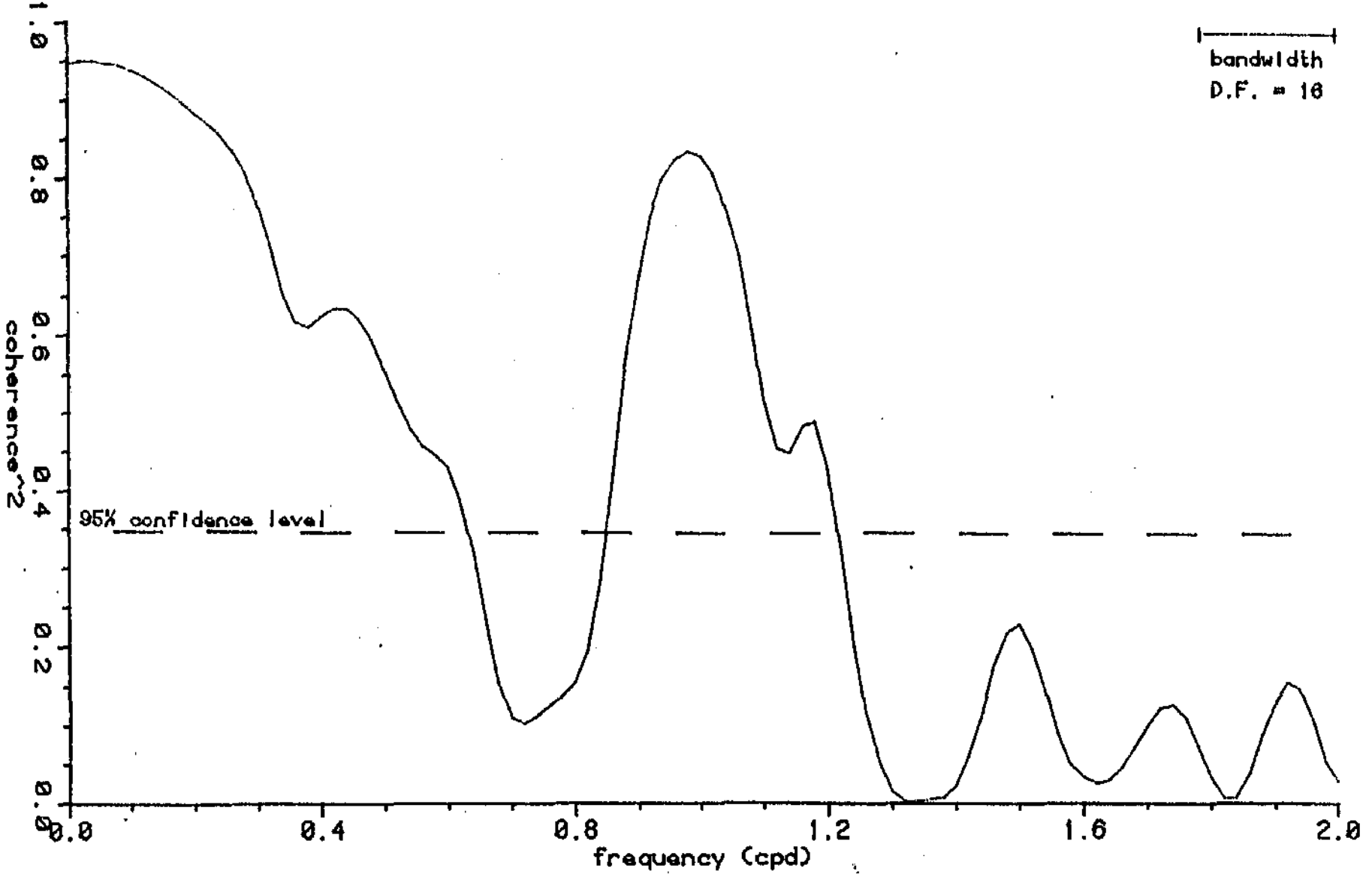


FIGURE A19. SQUARED COHERENCE SPECTRUM
BARTER ISLAND WIND (72 DEG. COMP.) VS. LAGGED CHALLENGE ISLAND WIND (72 DEG. COMP.) (ΔT=6 HR) (FILTERED DATA)
0004, 25 JULY TO 1804, 31 AUGUST, 1982

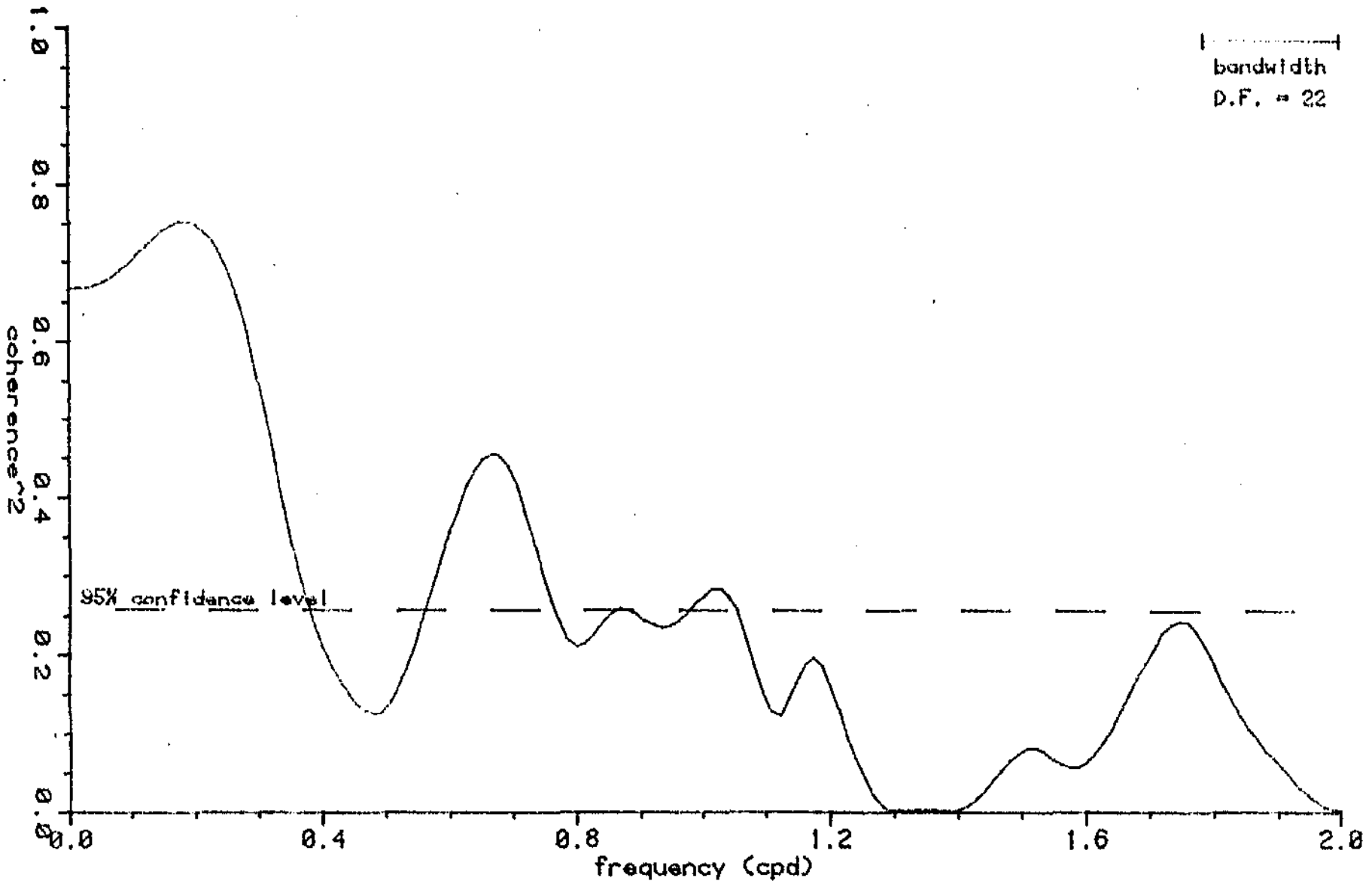


FIGURE A20. SQUARED COHERENCE SPECTRUM
BARTER ISLAND WIND (64 DEG. COMP.) VS. LAGGED CHALLENGE ISLAND WIND (64 DEG. COMP.) (ΔT=6 HR) (FILTERED DATA)
1400, 4 SEPTEMBER TO 0200, 28 OCTOBER, 1982

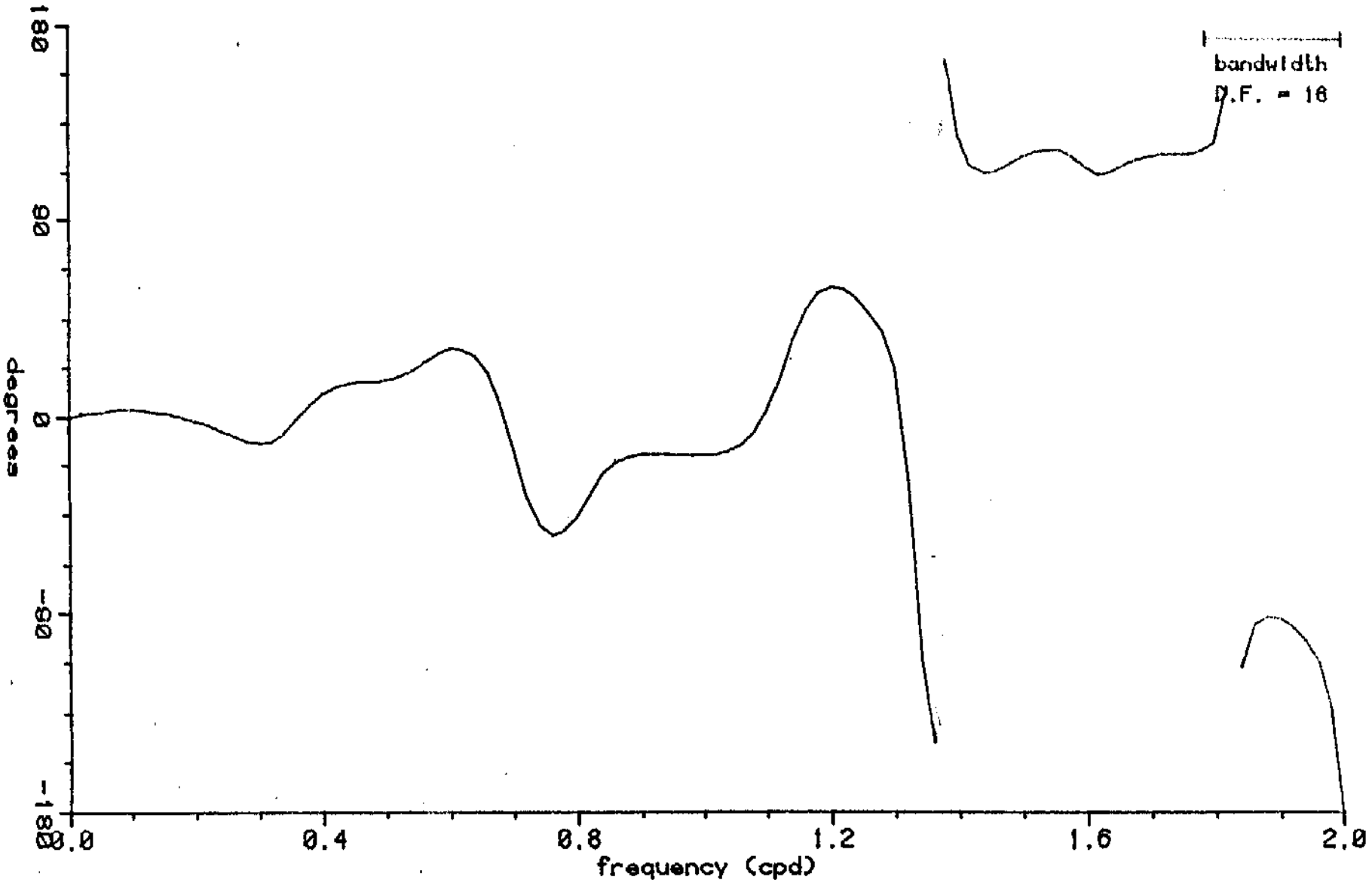


FIGURE A21. PHASE SPECTRUM
BARTER ISLAND WIND (72 DEG. COMP.) VS LAGGED CHALLENGE ISLAND WIND (72 DEG. COMP.) (ΔT=6 HR) (FILTERED DATA)
0004, 25 JULY TO 1804, 31 AUGUST, 1982

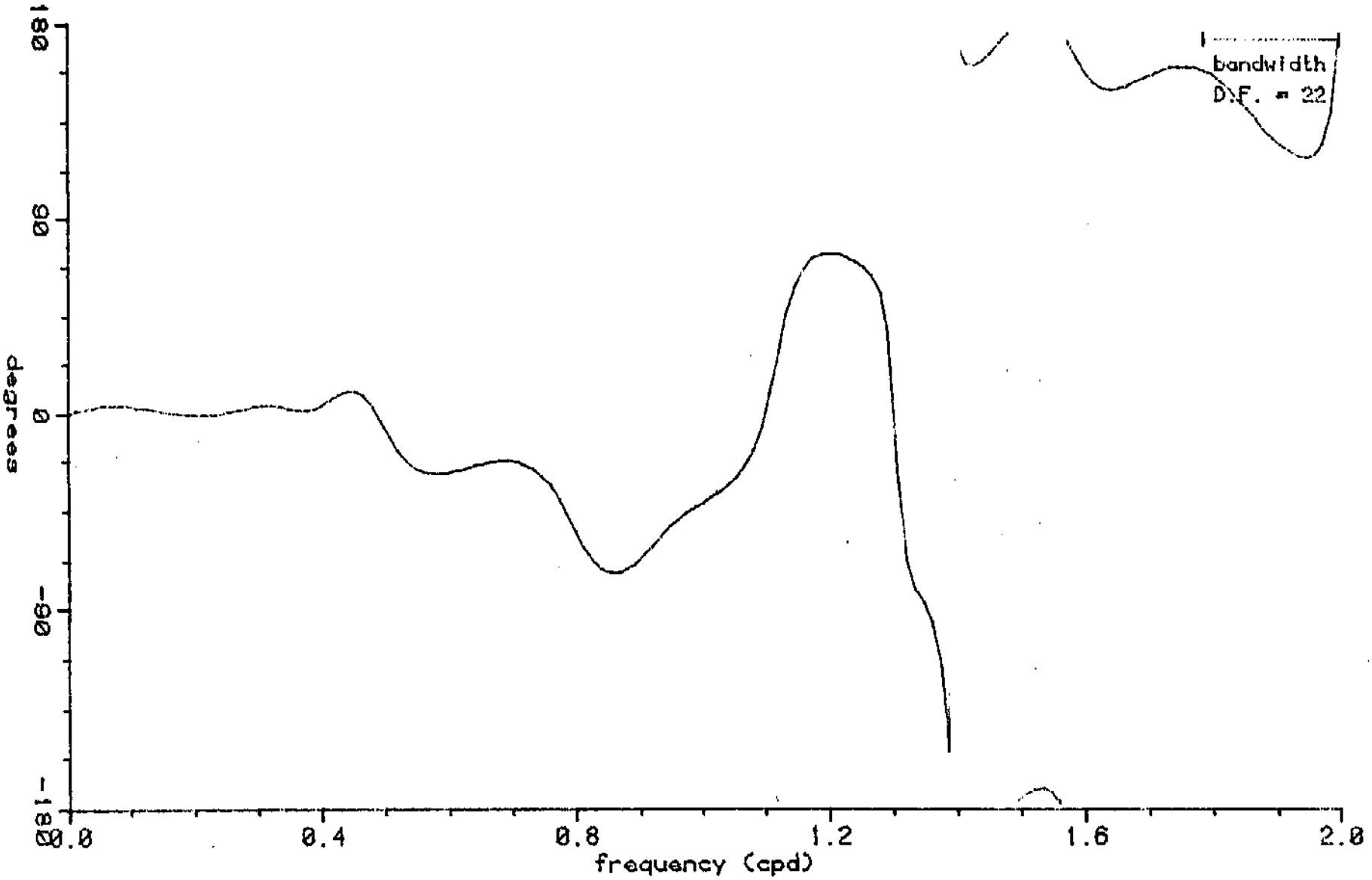


FIGURE A22. PHASE SPECTRUM
BARTER ISLAND WIND (64 DEG. COMP.) VS. LAGGED CHALLENGE ISLAND WIND (64 DEG. COMP.) (T=6 HR) (FILTERED DATA)
1400, 4 SEPTEMBER TO 0200, 28 OCTOBER, 1982

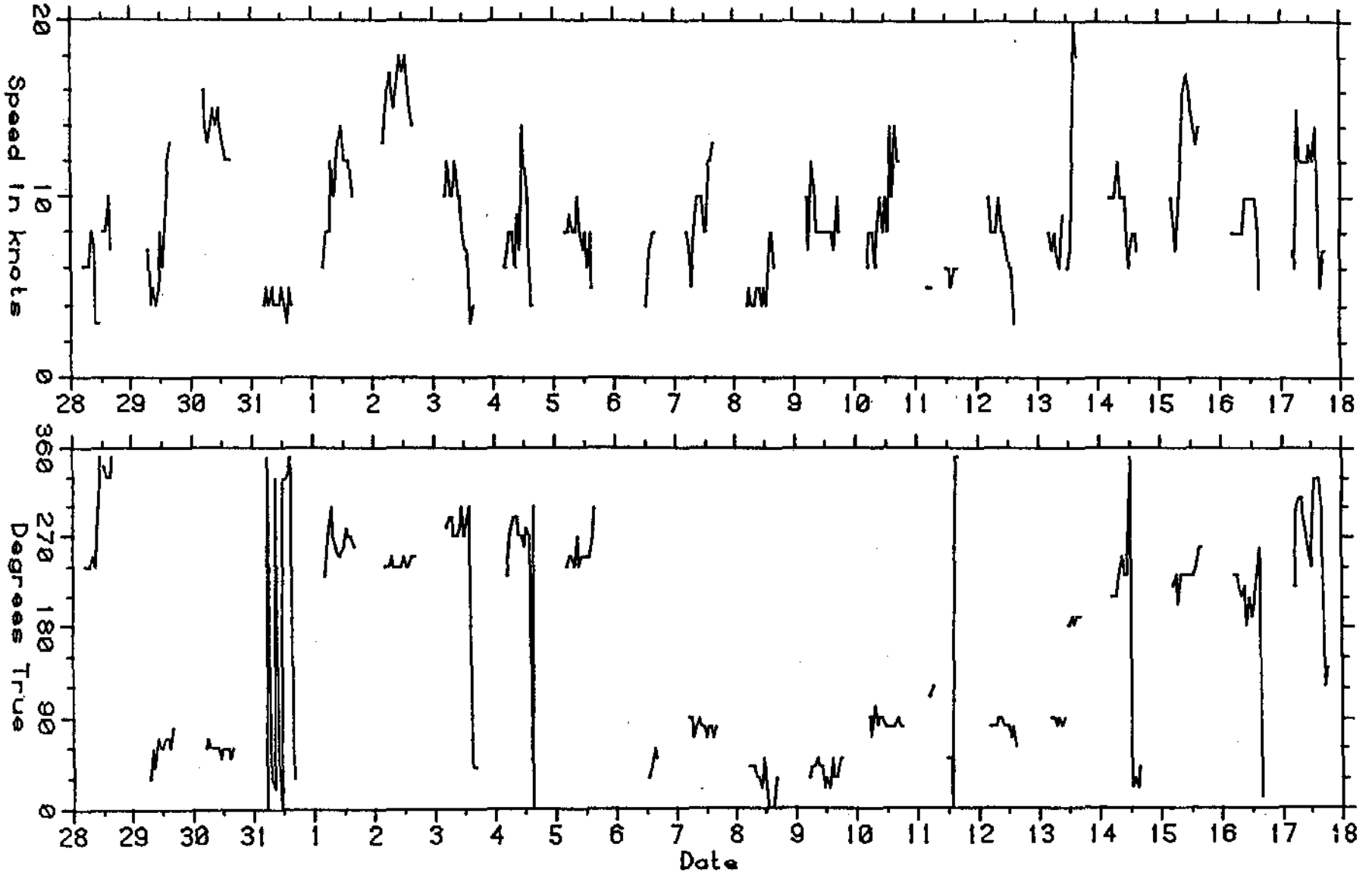


FIGURE A23. SPEED AND DIRECTION DATA
POINT BARROW WIND
0000, 28 JULY TO 2300, 17 AUGUST, 1982

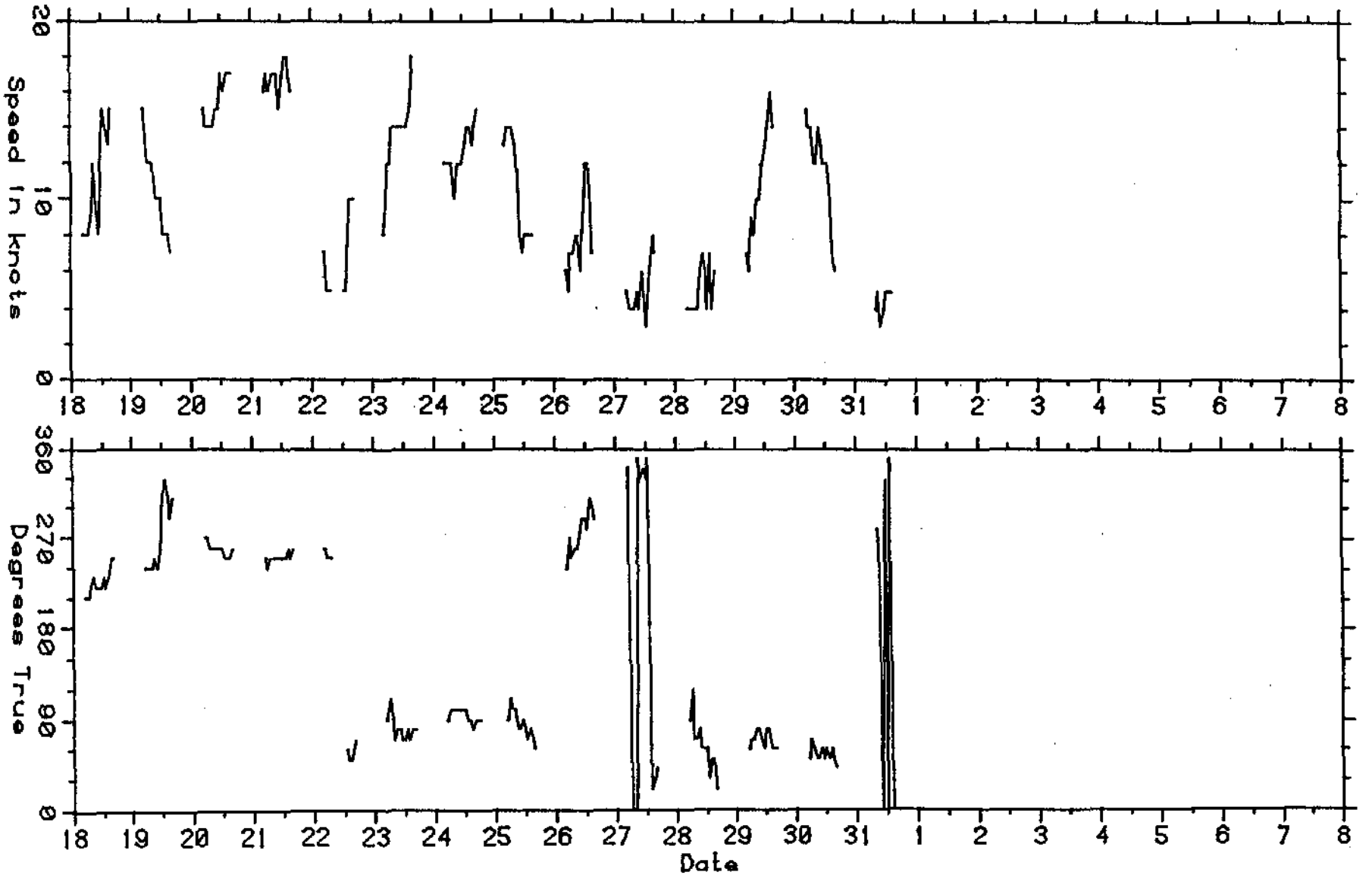


FIGURE A23. SPEED AND DIRECTION DATA
POINT BARROW WIND
0000, 18 AUGUST TO 1400, 31 AUGUST, 1982

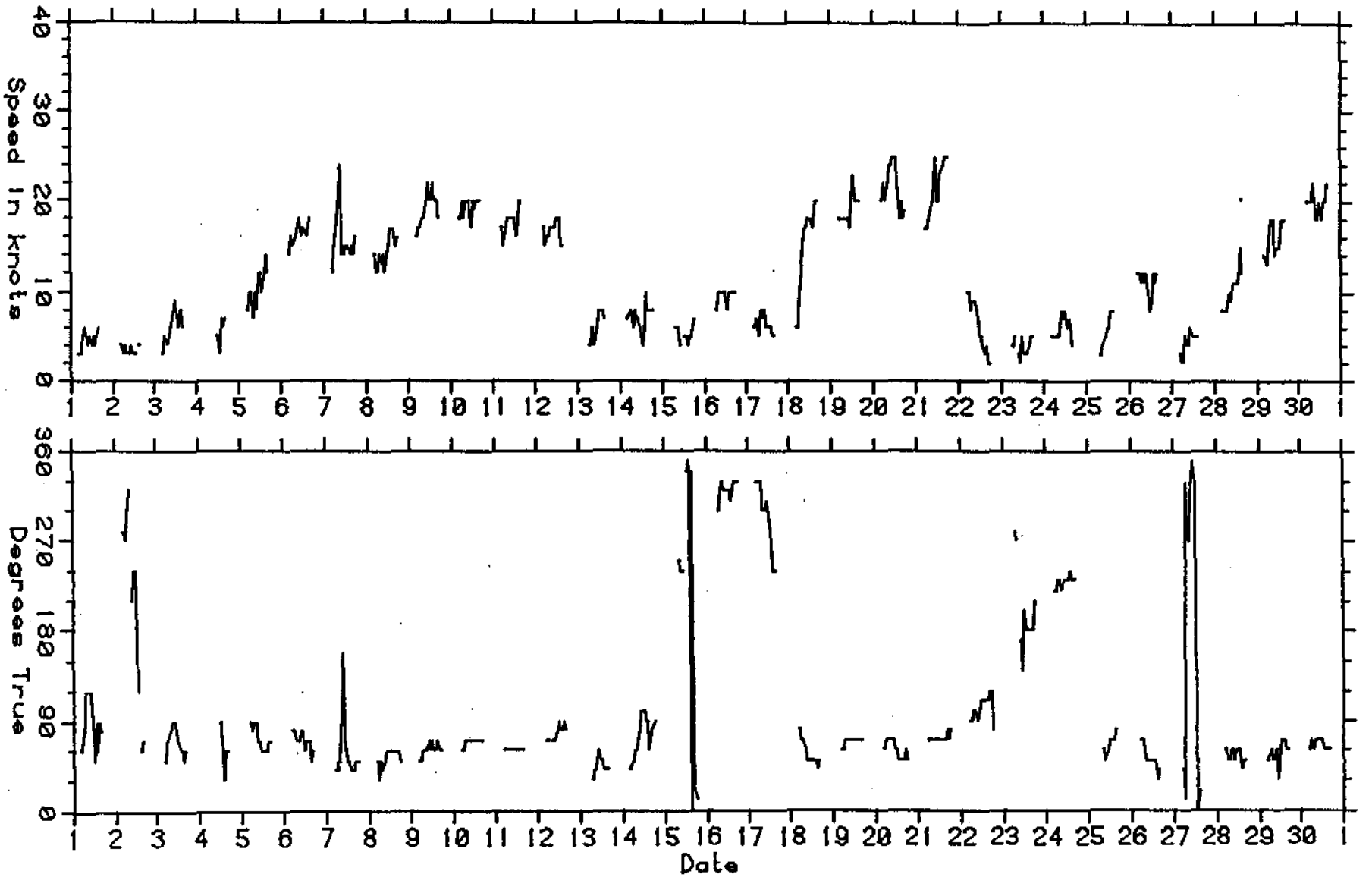


FIGURE A23. SPEED AND DIRECTION DATA
POINT BARROW WIND
0000, 1 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982

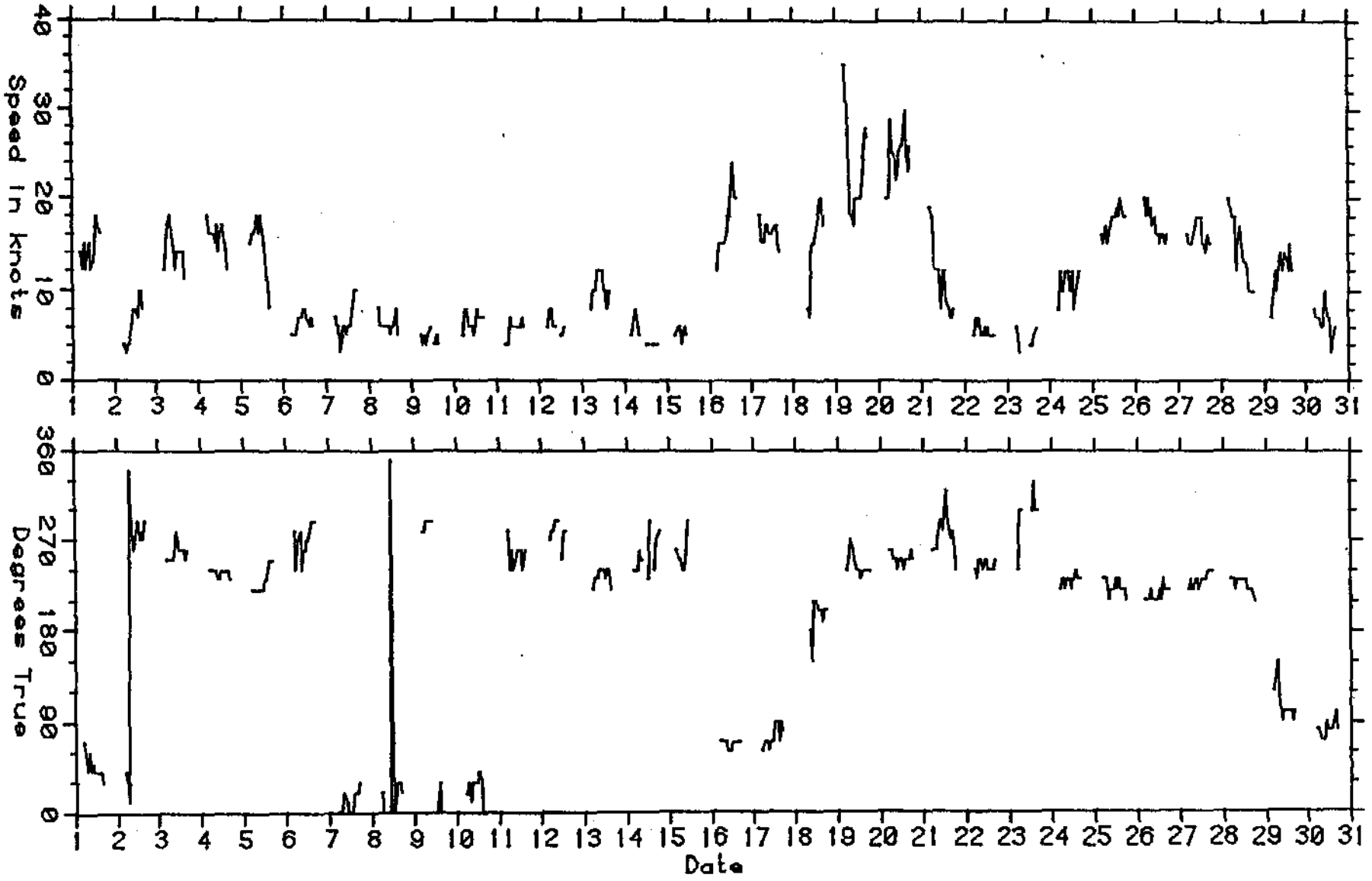


FIGURE A23. SPEED AND DIRECTION DATA
POINT BARROW WIND
0000, 1 OCTOBER TO 2300, 30 OCTOBER, 1982

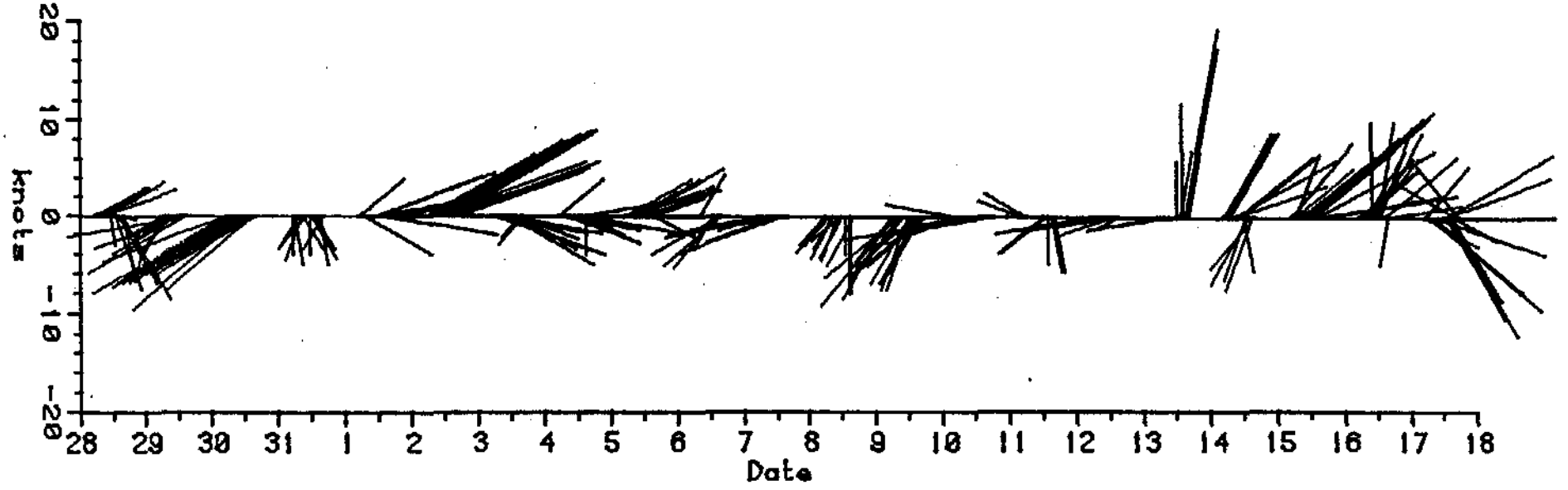


FIGURE A24. VECTOR STICK PLOT
POINT BARROW WIND
0000, 28 JULY TO 2300, 17 AUGUST, 1982

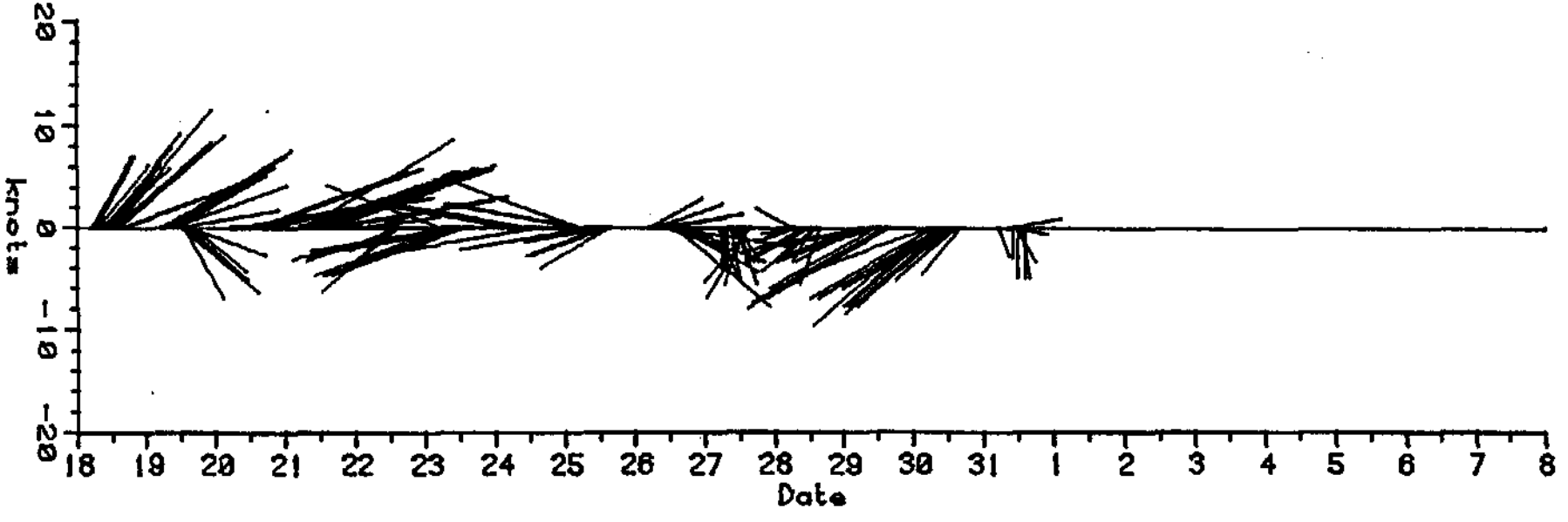


FIGURE A24. VECTOR STICK PLOT
POINT BARROW WIND
0000, 18 AUGUST TO 1400, 31 AUGUST, 1982

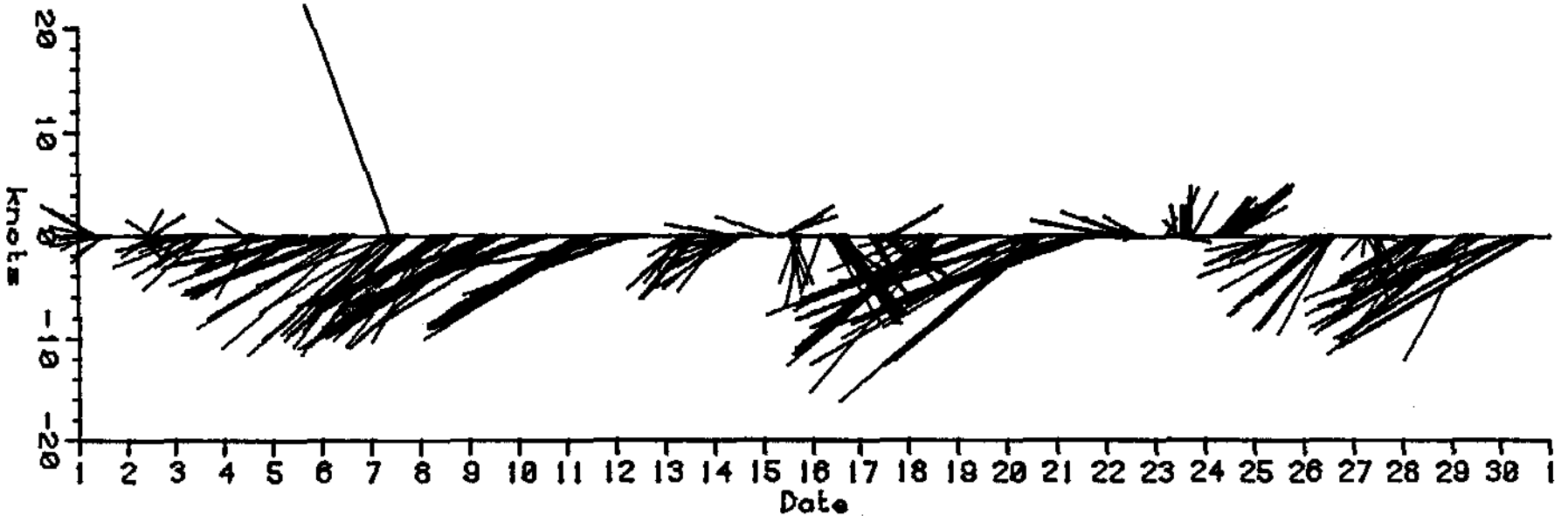
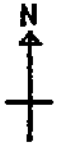


FIGURE A24. VECTOR STICK PLOT
POINT BARROW WIND
0500, 1 SEPTEMBER TO 2300, 30 SEPTEMBER, 1982



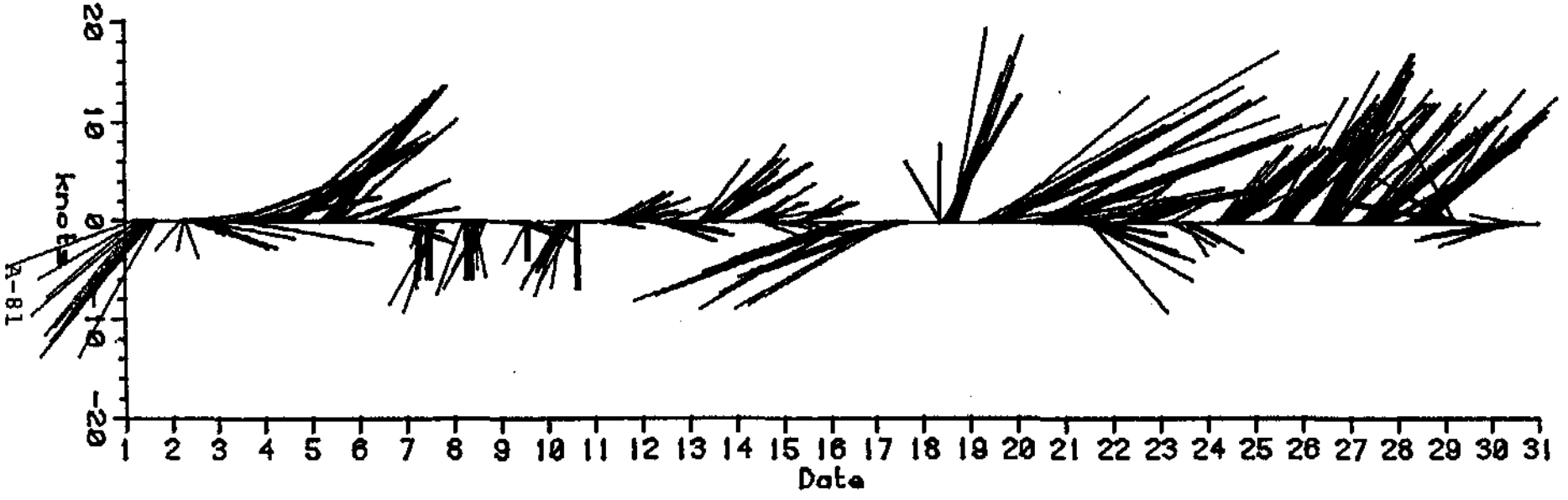


FIGURE A24. VECTOR STICK PLOT
POINT BARROW WIND
0000, 1 OCTOBER TO 2300, 30 OCTOBER, 1982

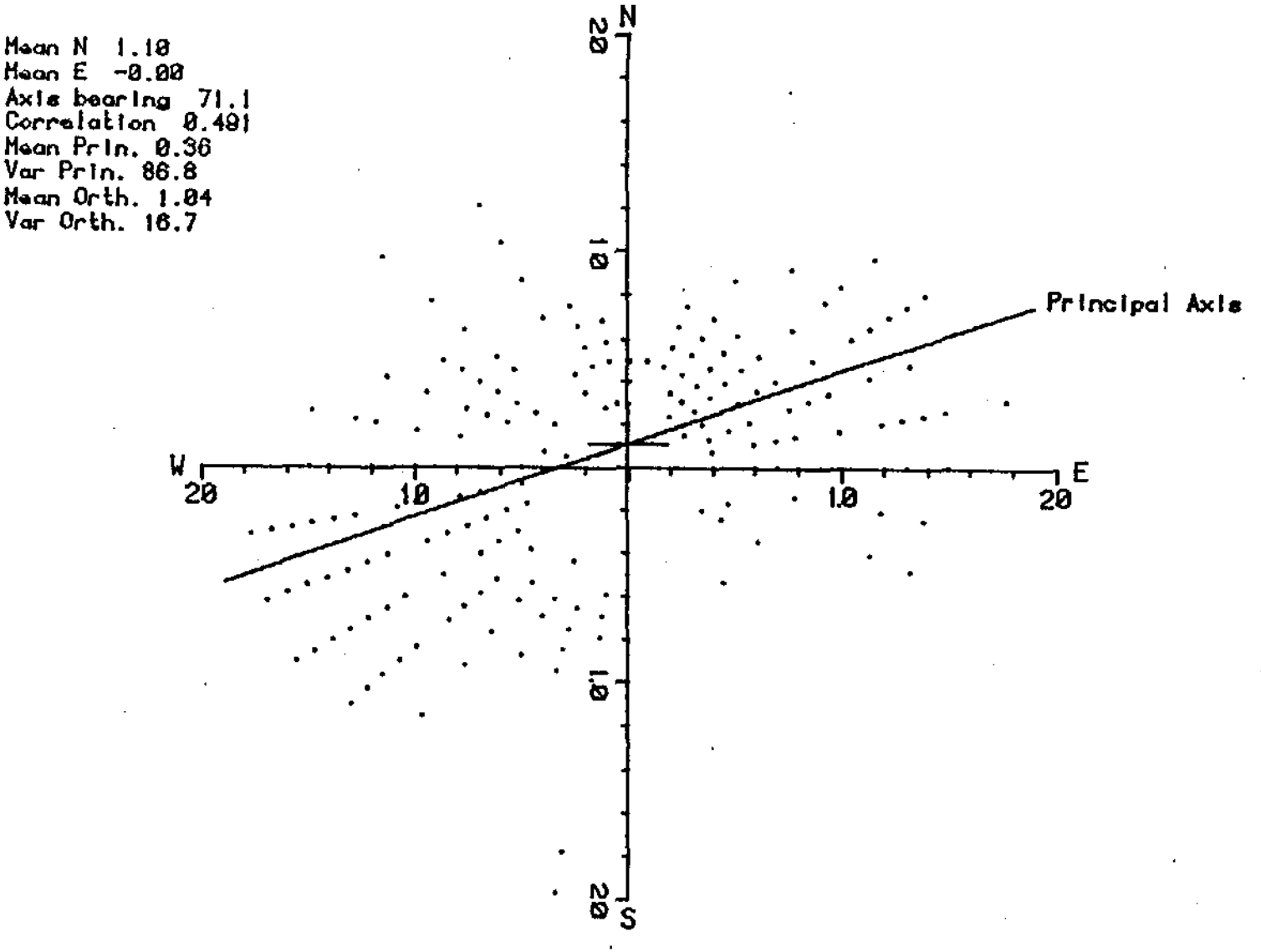


FIGURE A25. POLAR PLOT - SPEED AND DIRECTION DATA
POINT BARROW WIND
0500, 25 JULY TO 1400, 31 AUGUST, 1982

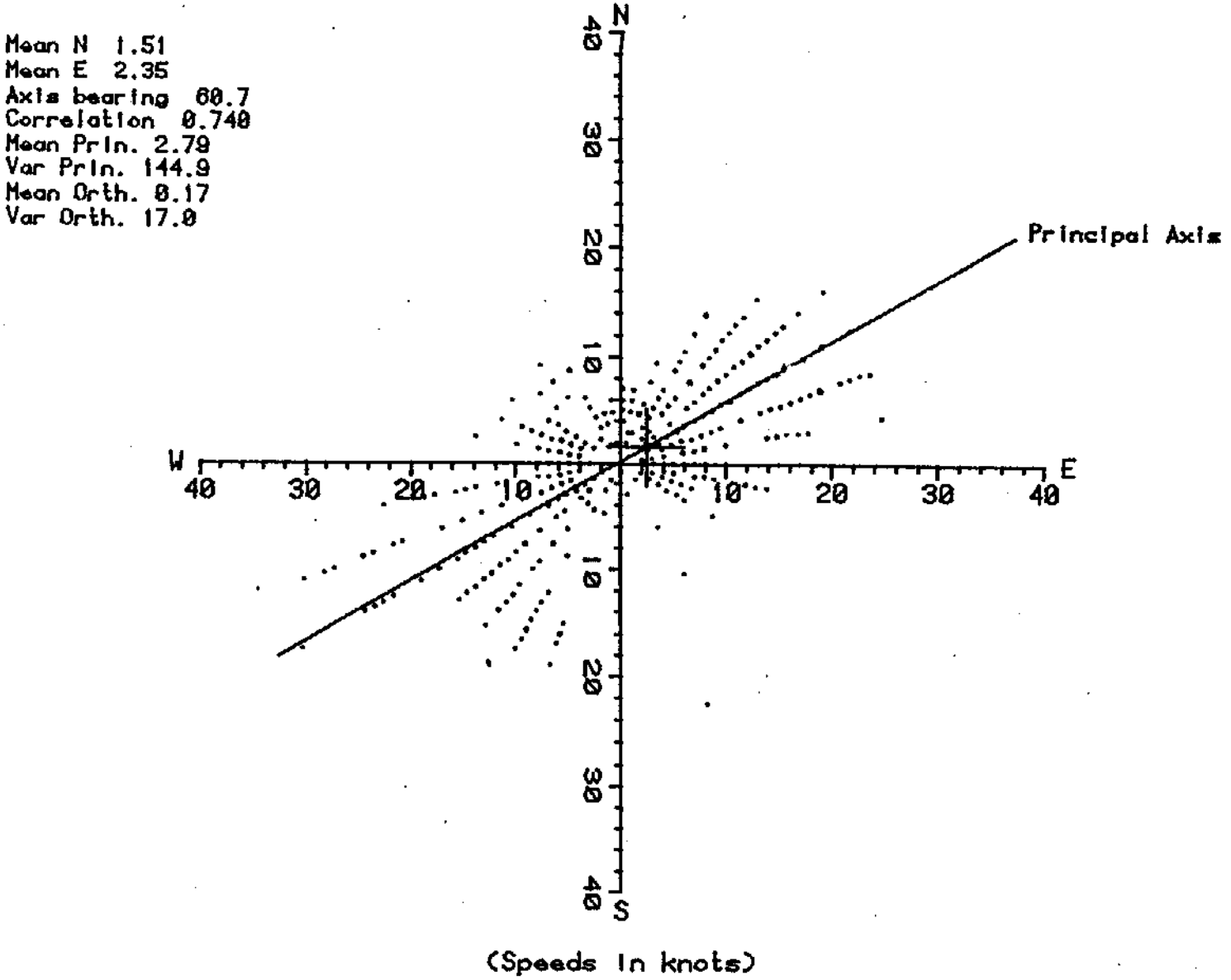
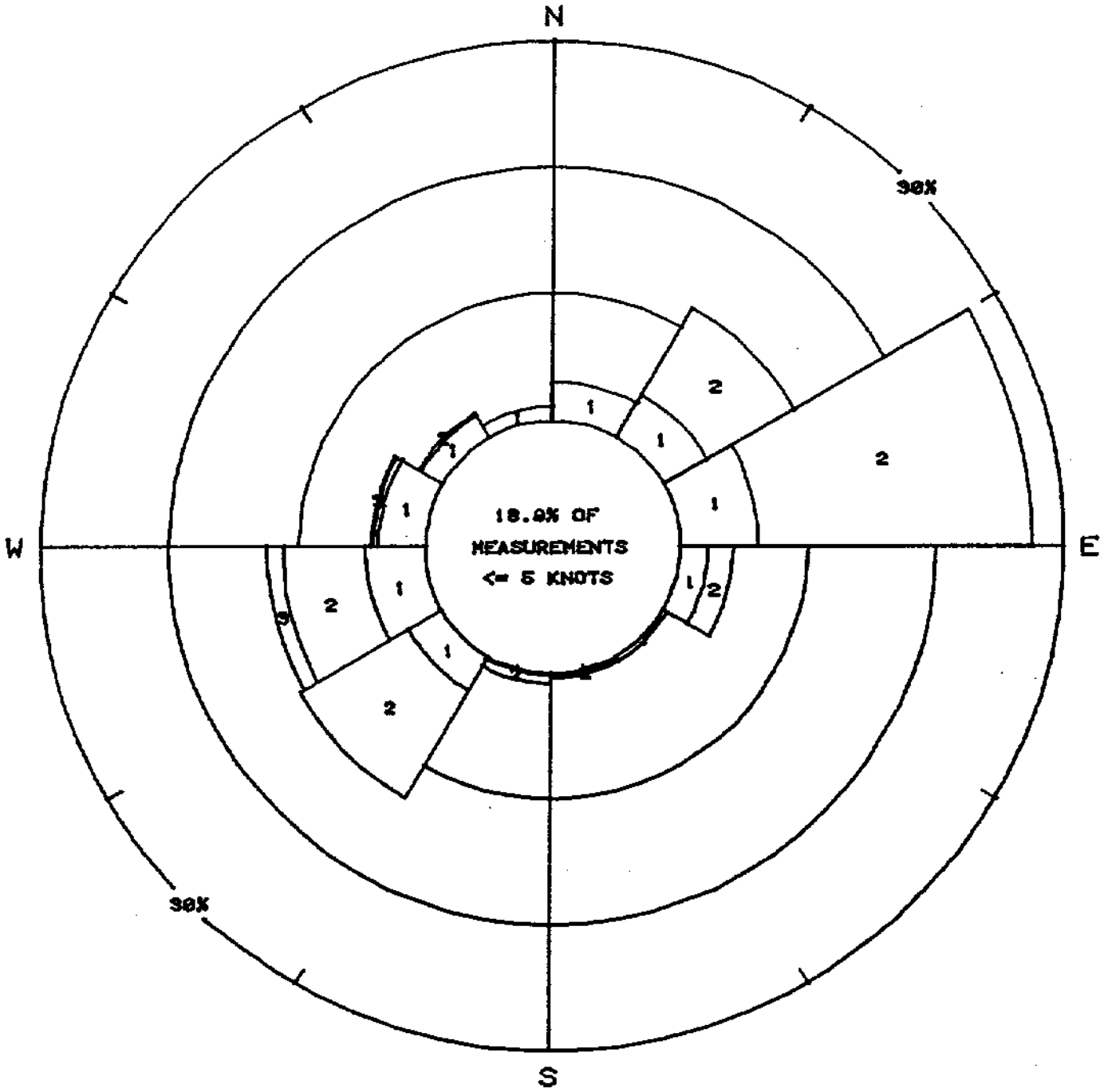


FIGURE A25. POLAR PLOT - SPEED AND DIRECTION DATA
POINT BARROW WIND
0500, 1 SEPTEMBER TO 1400, 31 OCTOBER, 1982



1 5 - 10 KNOTS

2 10 - 25 KNOTS

3 >= 25 KNOTS

FIGURE A26. ROSE DIAGRAM
WIND
POINT BARROW
500, 1 SEPTEMBER TO 1400, 31 OCTOBER 1982

Appendix B: Wave Climate

List of Figures

List of Figures

List of Figures

List of Figures

List of Figures

Appendix B: Wave Climate

List of Tables

List of Tables

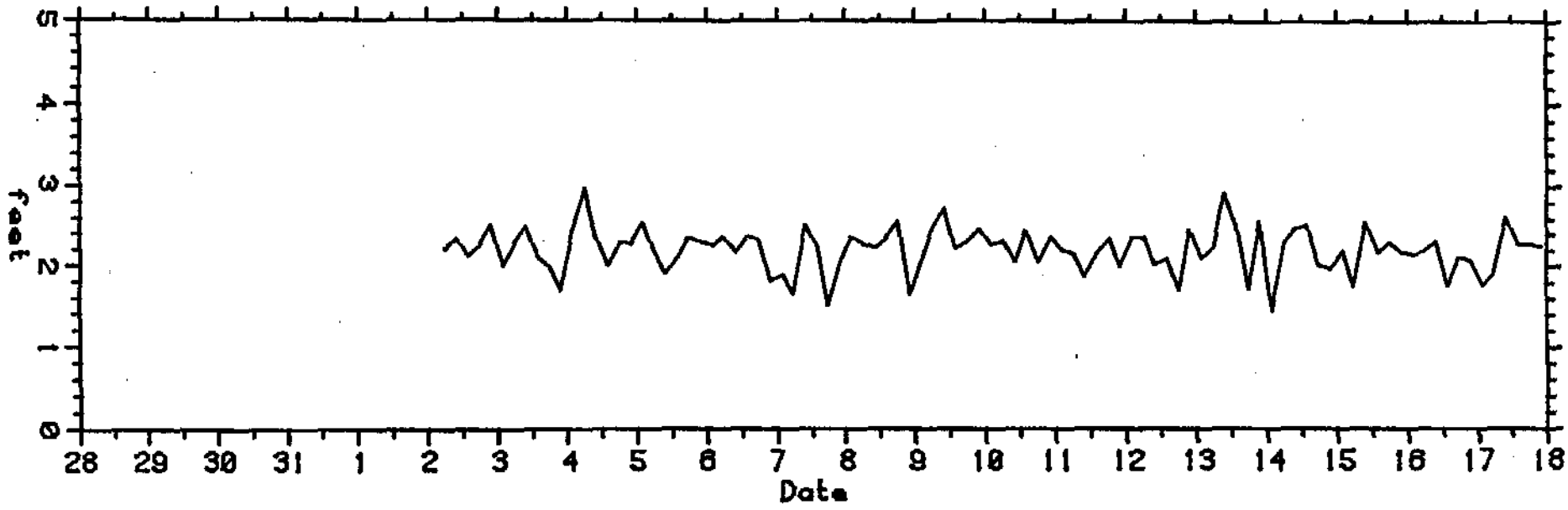


FIGURE B1 MAXIMUM WAVE HEIGHT
POINT THOMSON STATION Q
0550, 2 AUGUST TO 2150, 17 AUGUST, 1982

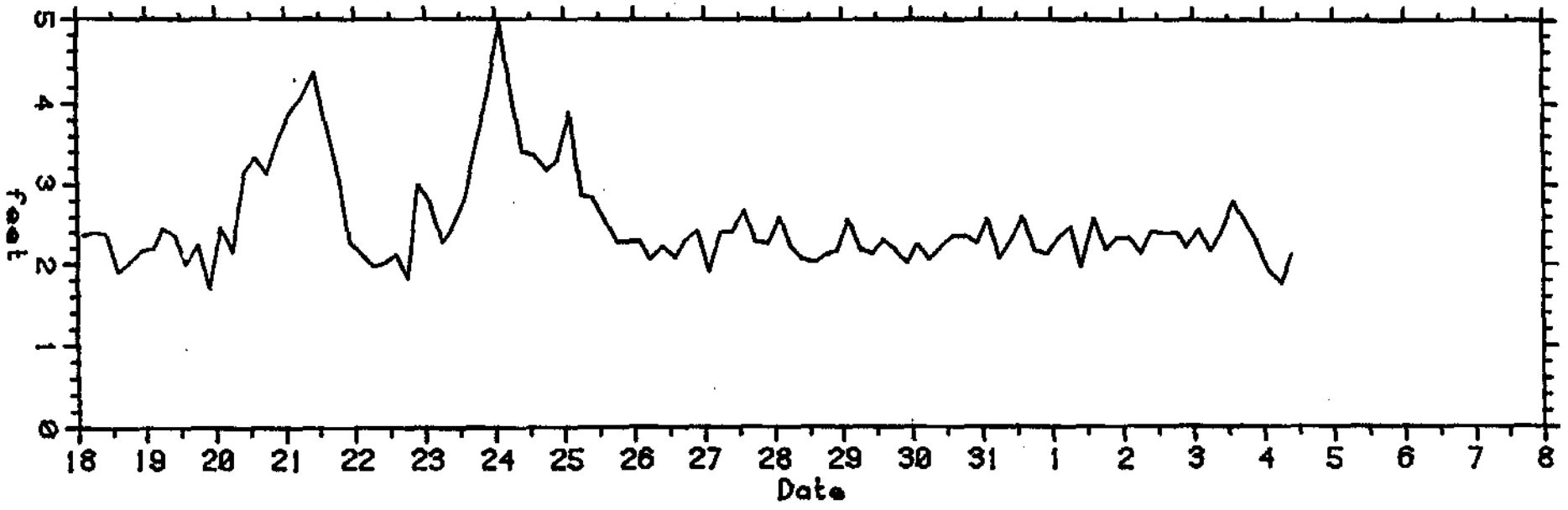


FIGURE B1. MAXIMUM WAVE HEIGHT
POINT THOMSON STATION Q
0150, 18 AUGUST TO 0950, 4 SEPTEMBER, 1982

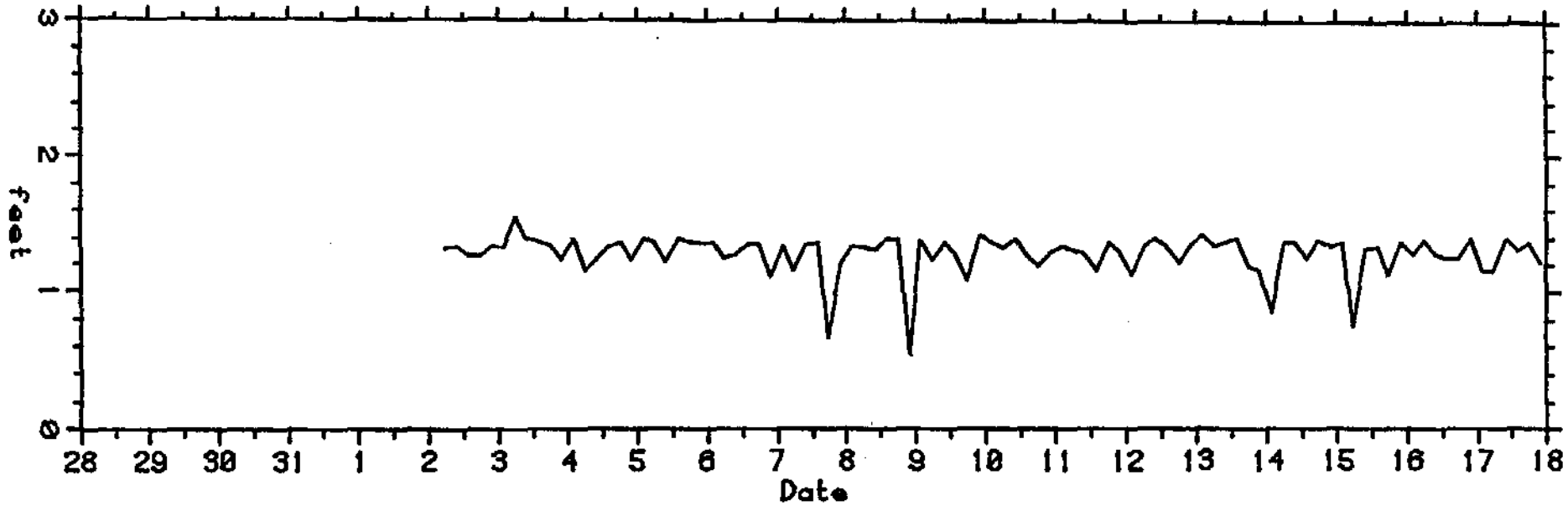


FIGURE B2 SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Q
0550, 2 AUGUST TO 2150, 17 AUGUST, 1982

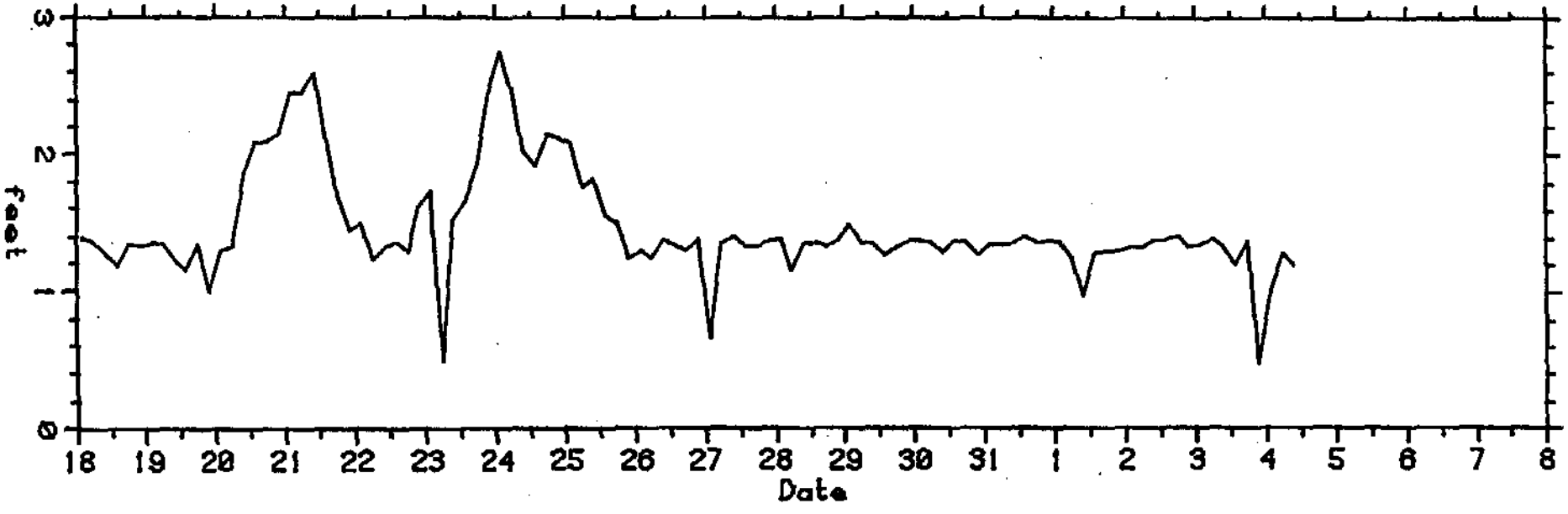


FIGURE B2 SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Q
0150, 18 AUGUST TO 0950, 4 SEPTEMBER, 1982

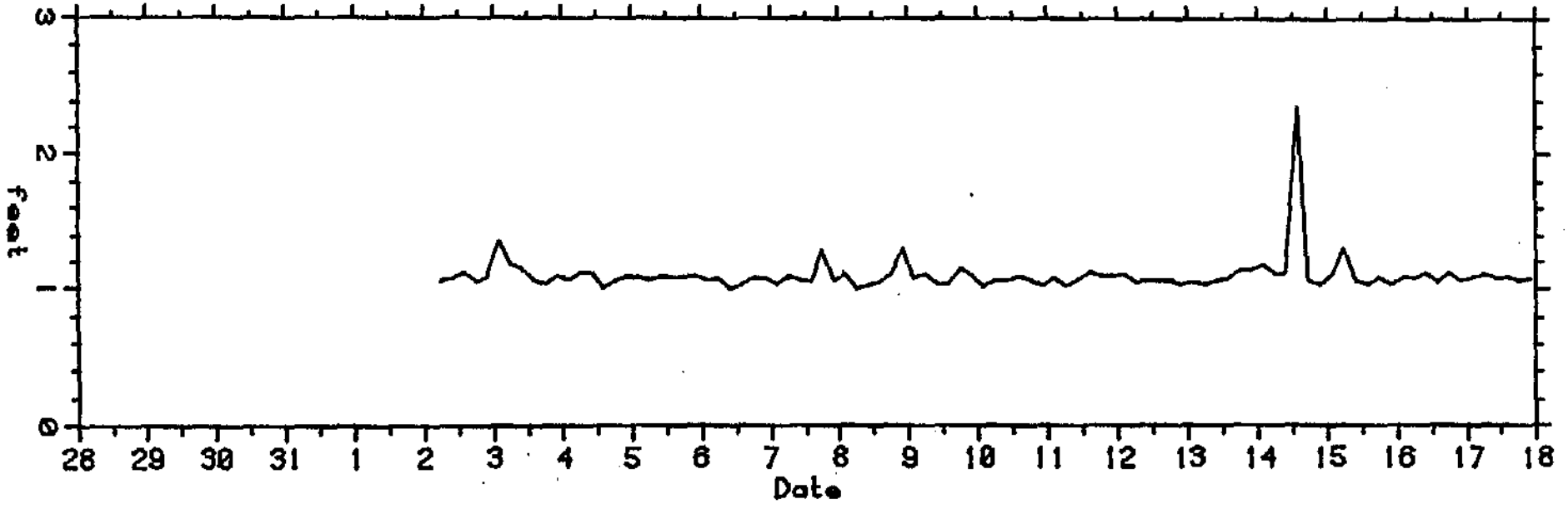


FIGURE B3 SPECTRAL SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Q
0550, 2 AUGUST TO 2150, 17 AUGUST, 1982

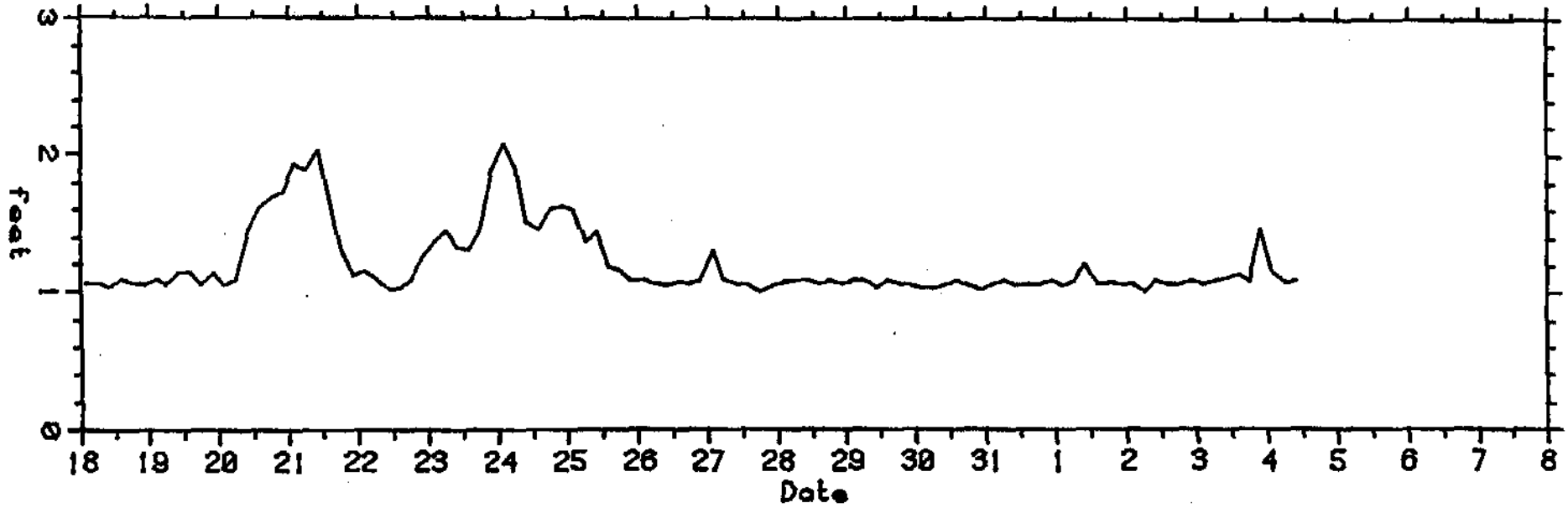


FIGURE B3 SPECTRAL SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Q
0150, 18 AUGUST TO 0950, 4 SEPTEMBER, 1982

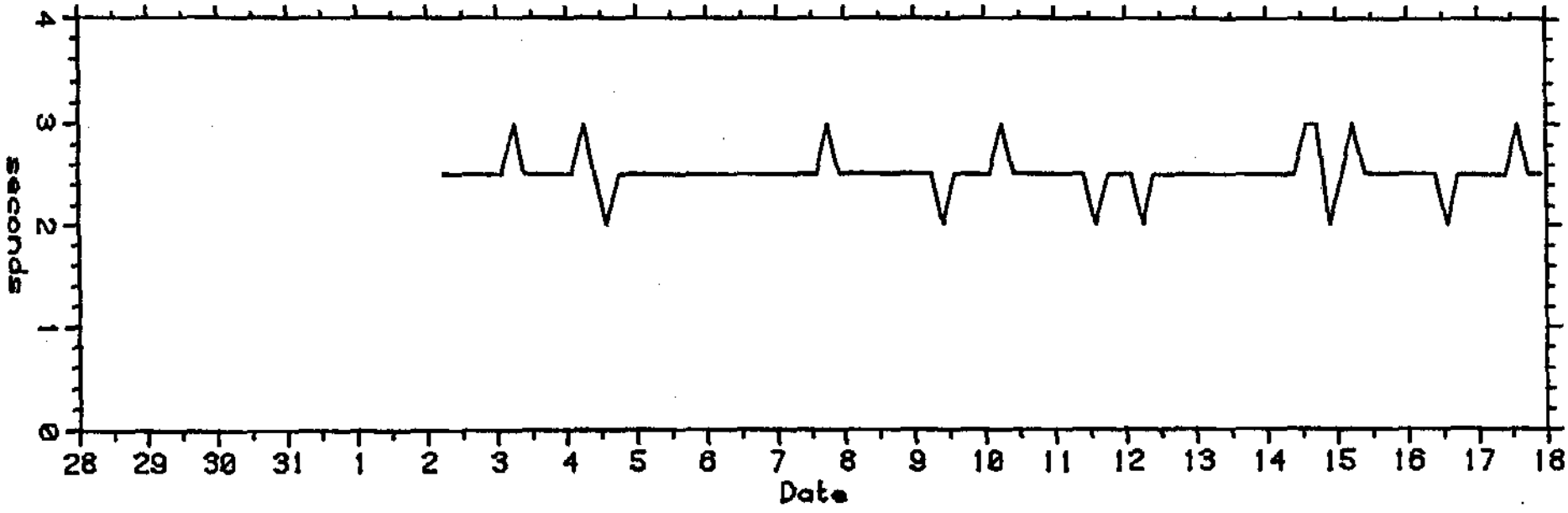


FIGURE B4. MAXIMUM WAVE PERIOD
POINT THOMSON STATION Q
0550, 2 AUGUST TO 2150, 17 AUGUST, 1982

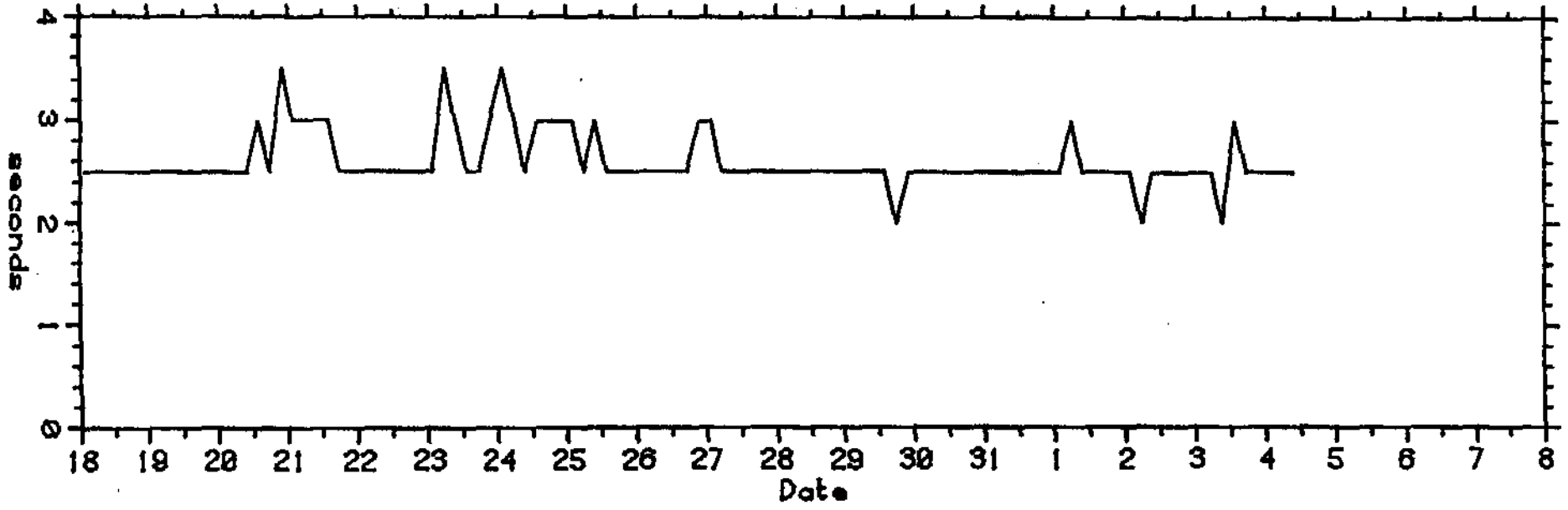


FIGURE B4 MAXIMUM WAVE PERIOD
POINT THOMSON STATION Q
0150, 18 AUGUST, TO 0950, 4 SEPTEMBER, 1982

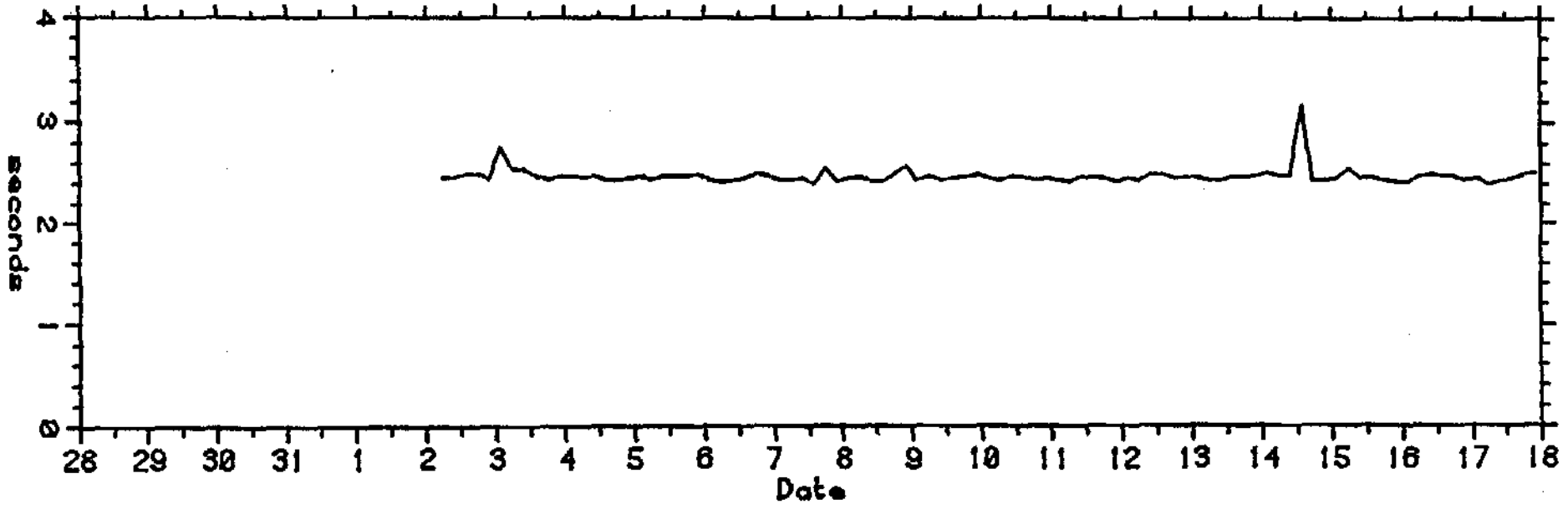


FIGURE B5. SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Q
0550, 2 AUGUST TO 2150, 17 AUGUST, 1982

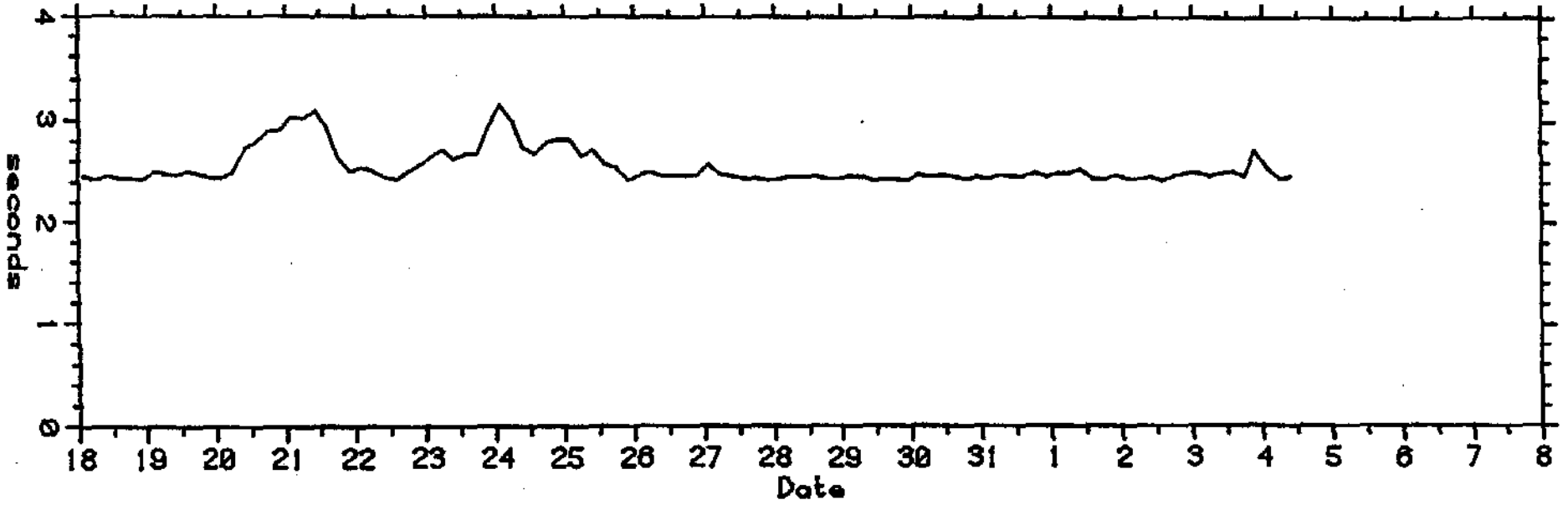


FIGURE B5 SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Q
0150, 18 AUGUST TO 0950, 4 SEPTEMBER, 1982

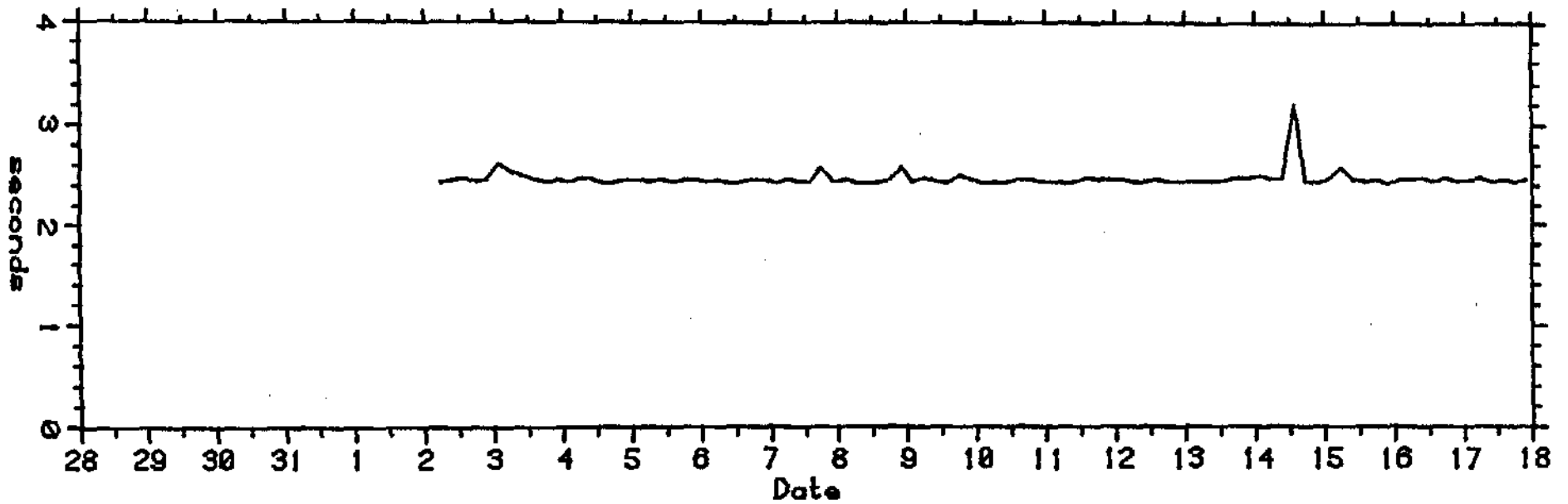


FIGURE B6. SPECTRAL SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Q
0550, 2 AUGUST TO 2150, 17 AUGUST, 1982

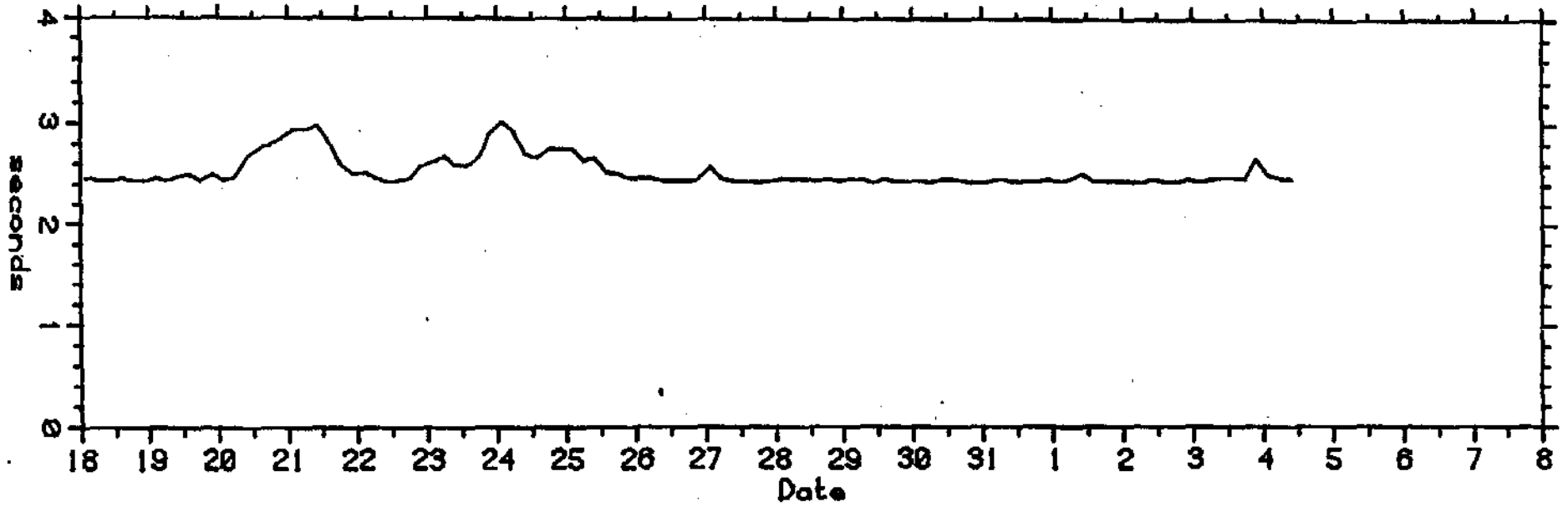


FIGURE B6. SPECTRAL SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Q
0150, 18 AUGUST TO 0950, 4 SEPTEMBER, 1982

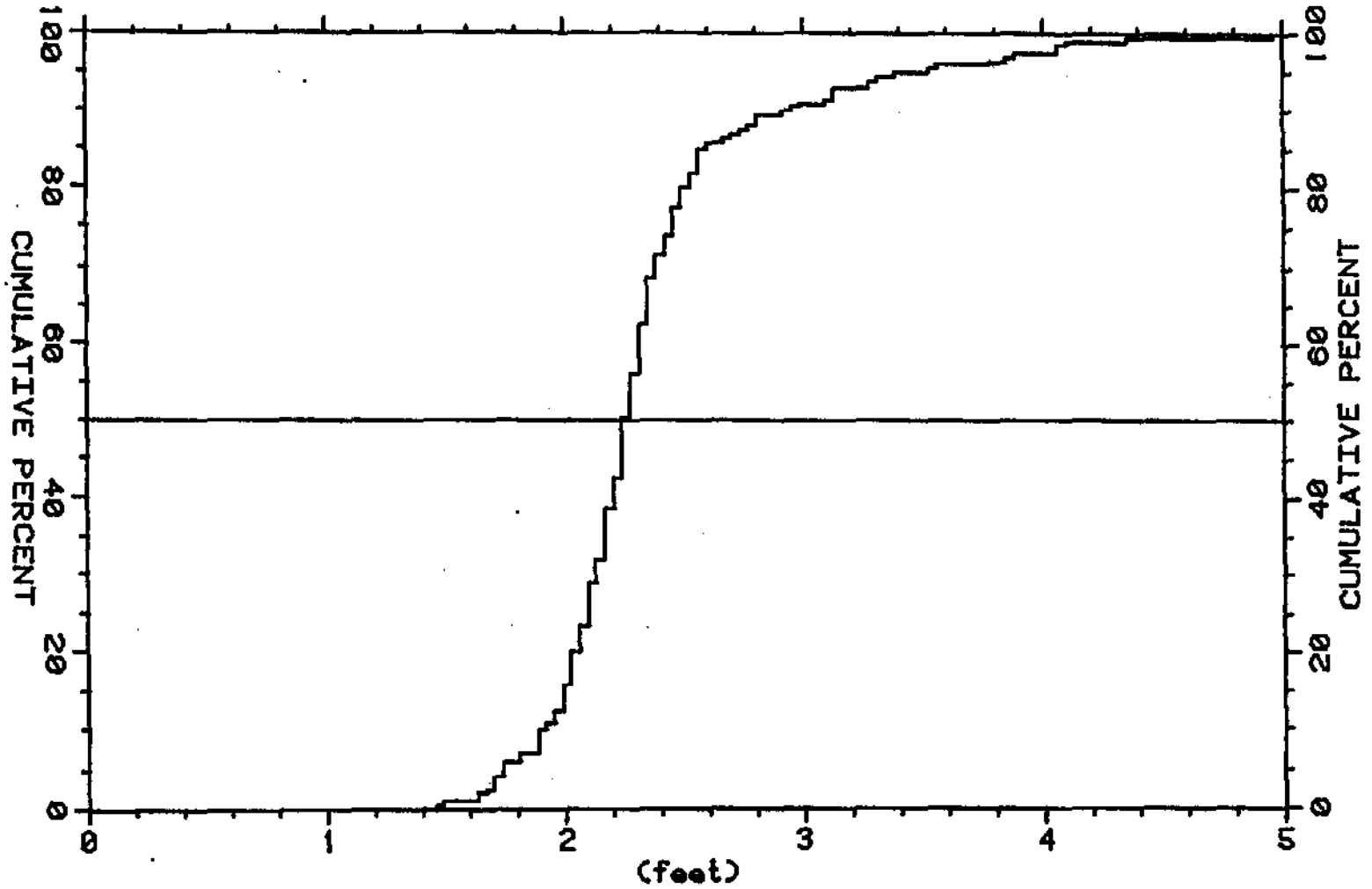


FIGURE B7. CUMULATIVE PROBABILITY PLOT
H(MAX)
PT. THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982
200 DATA POINTS

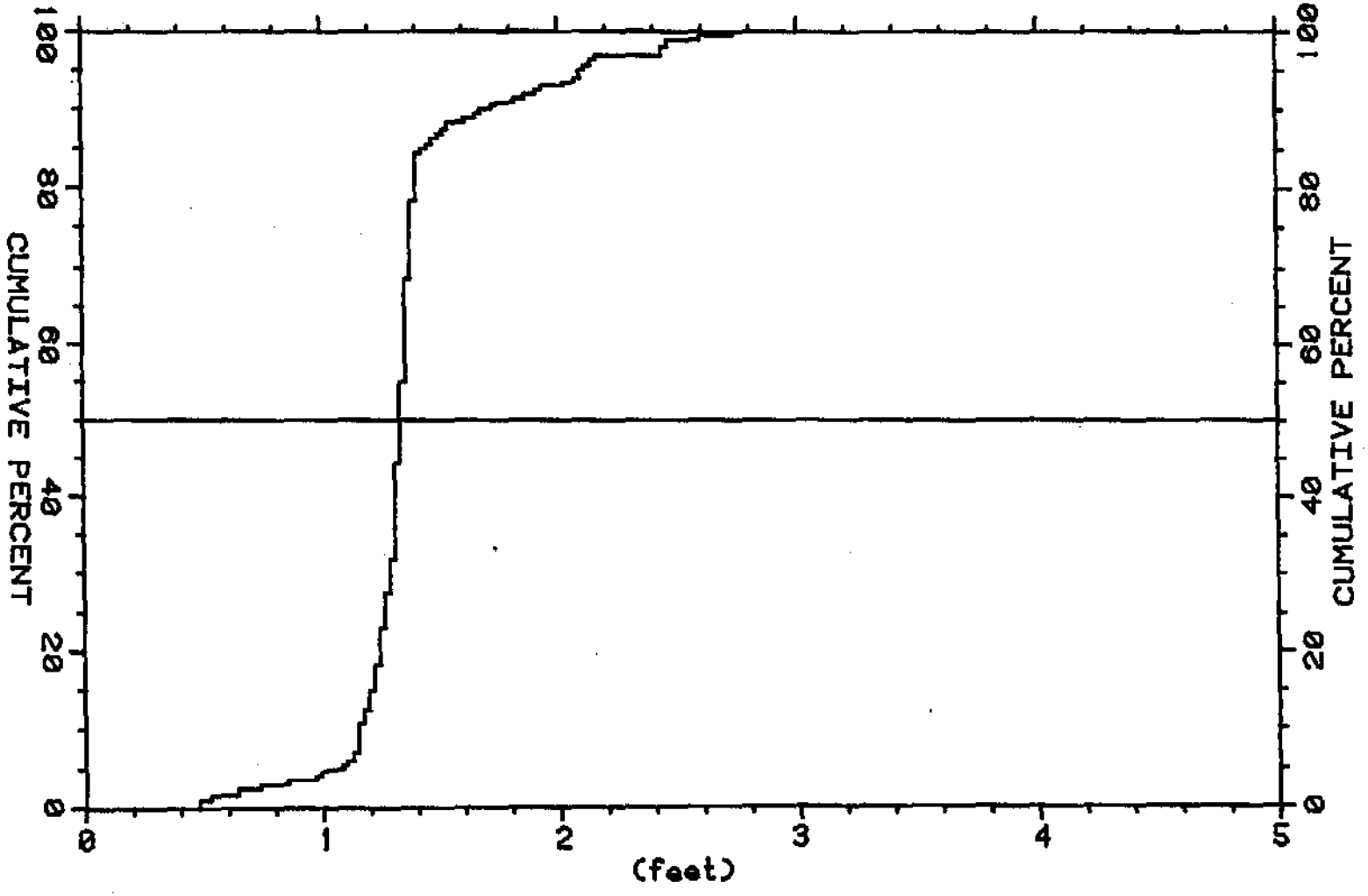


FIGURE B8 CUMULATIVE PROBABILITY PLOT
SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982
200 DATA POINTS

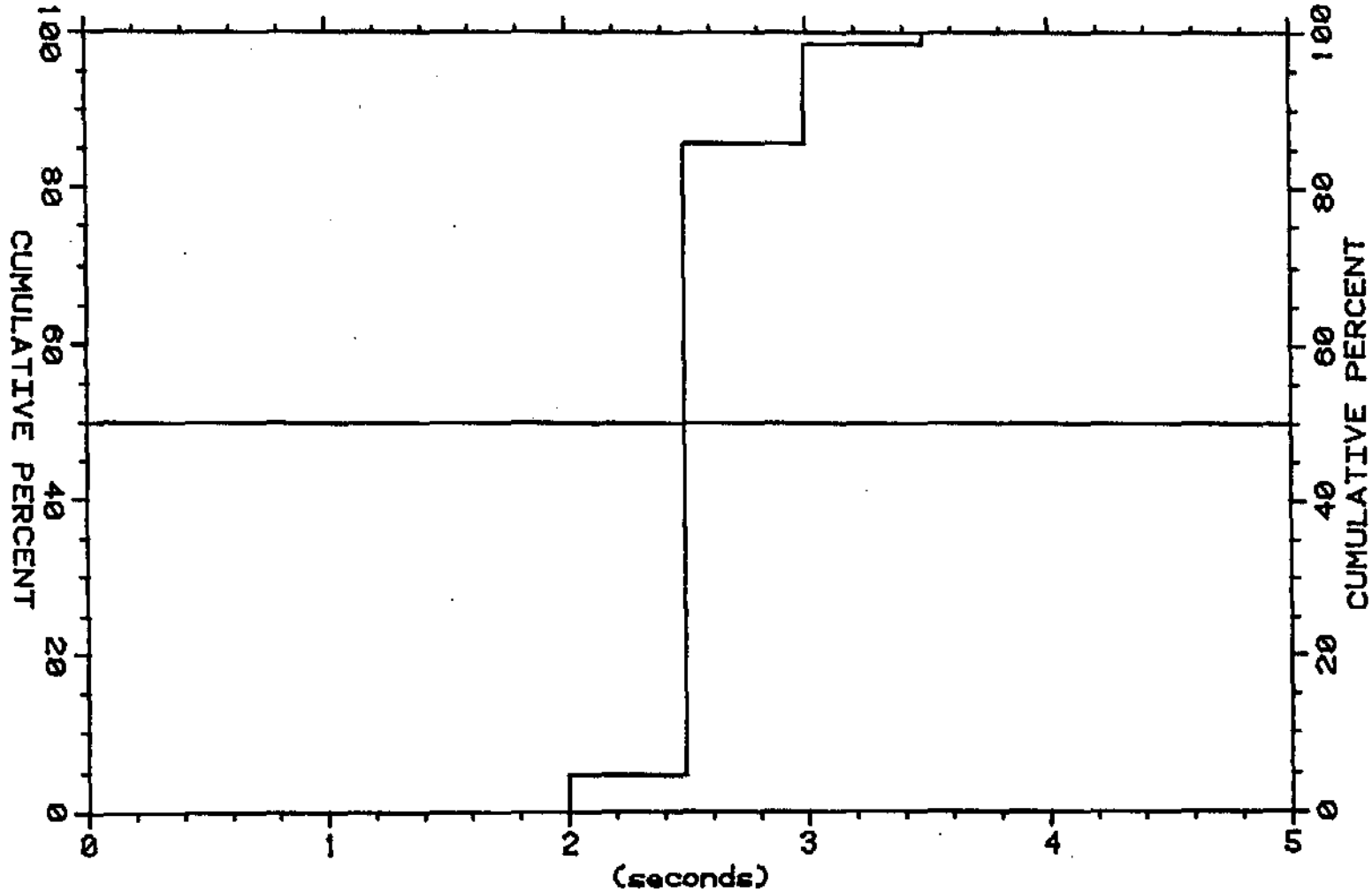


FIGURE B9. CUMULATIVE PROBABILITY PLOT
MAXIMUM WAVE PERIOD
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982
200 DATA POINTS

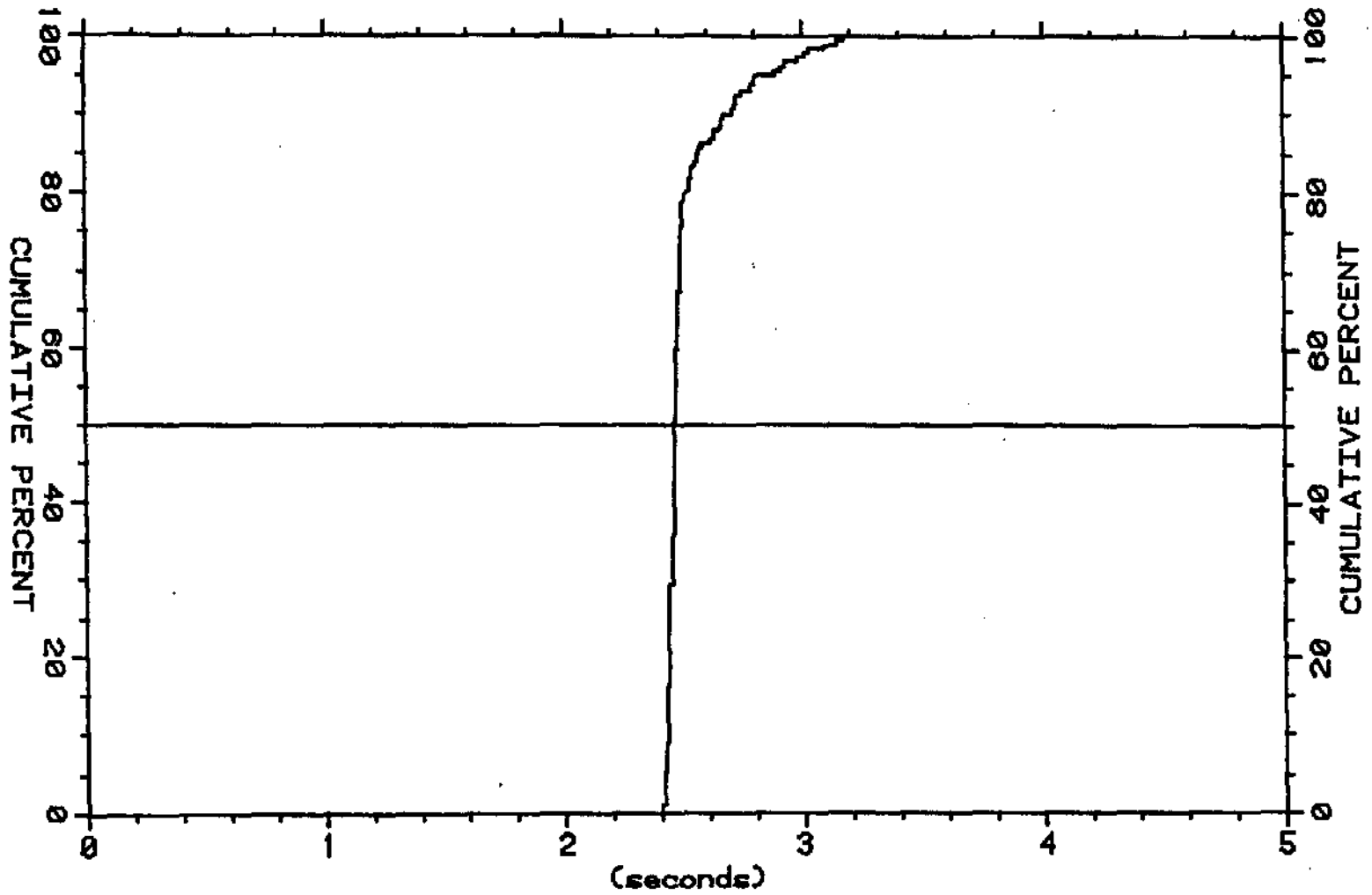
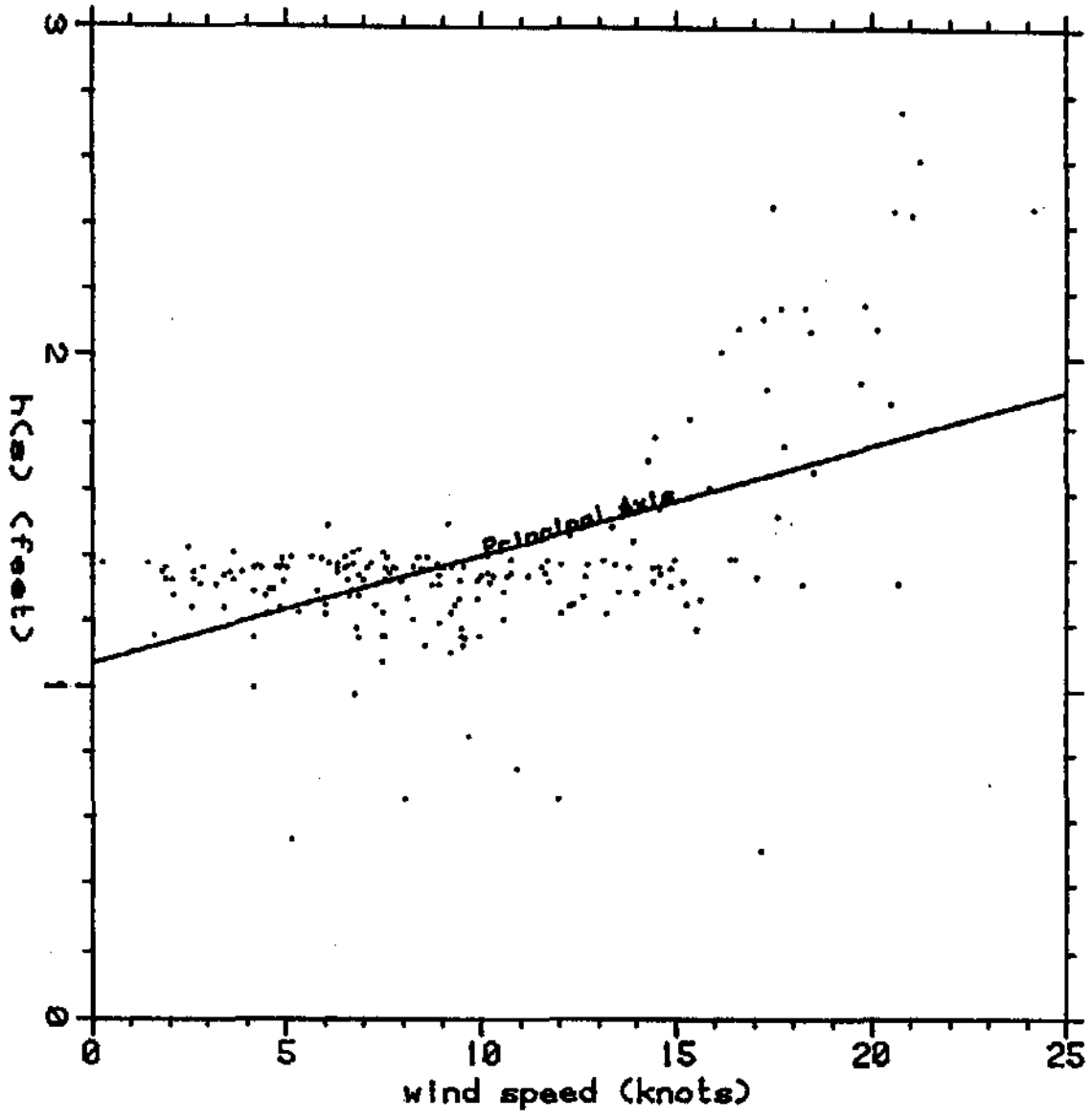
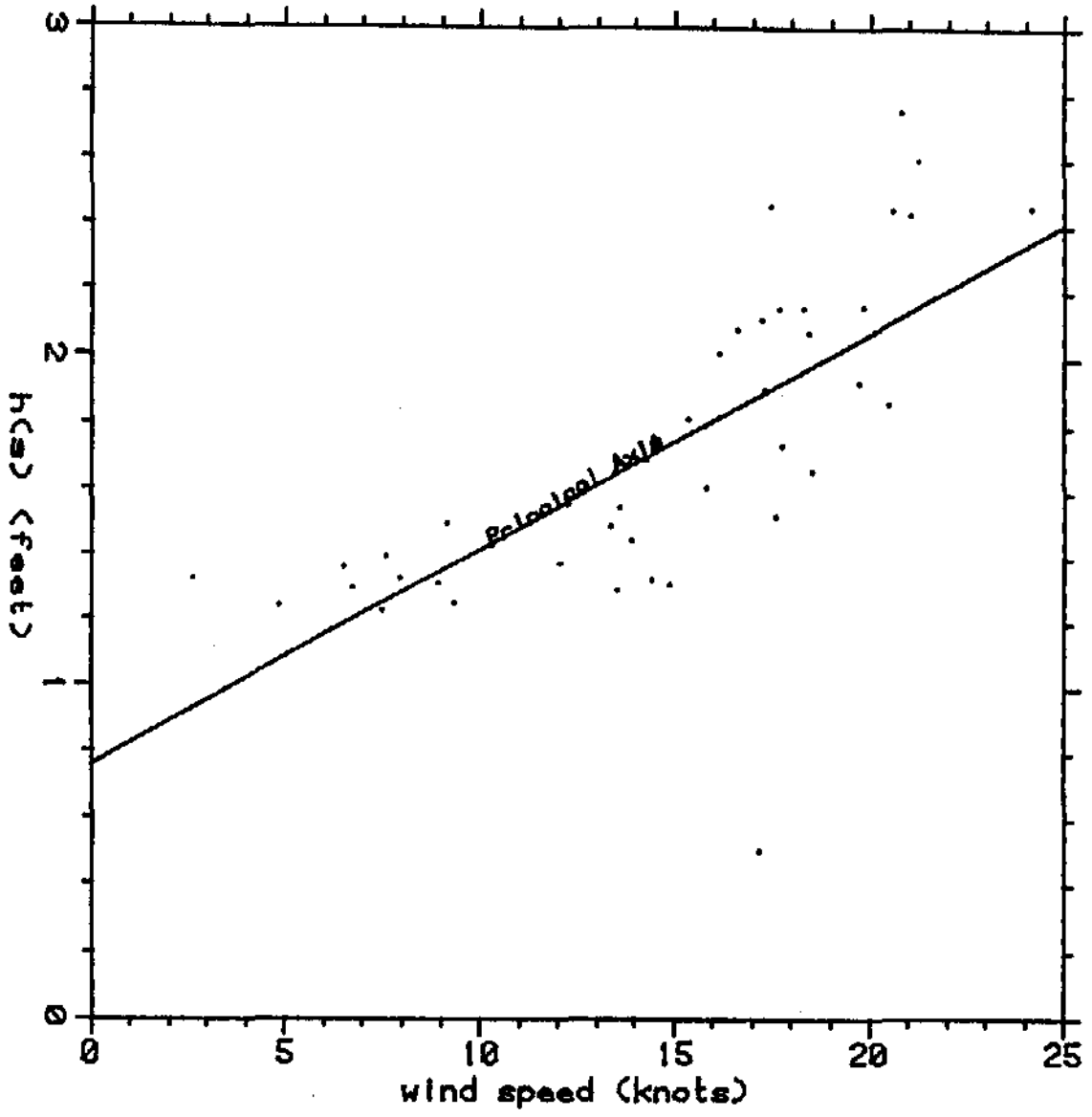


FIGURE B10. CUMULATIVE PROBABILITY PLOT
SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982
200 DATA POINTS



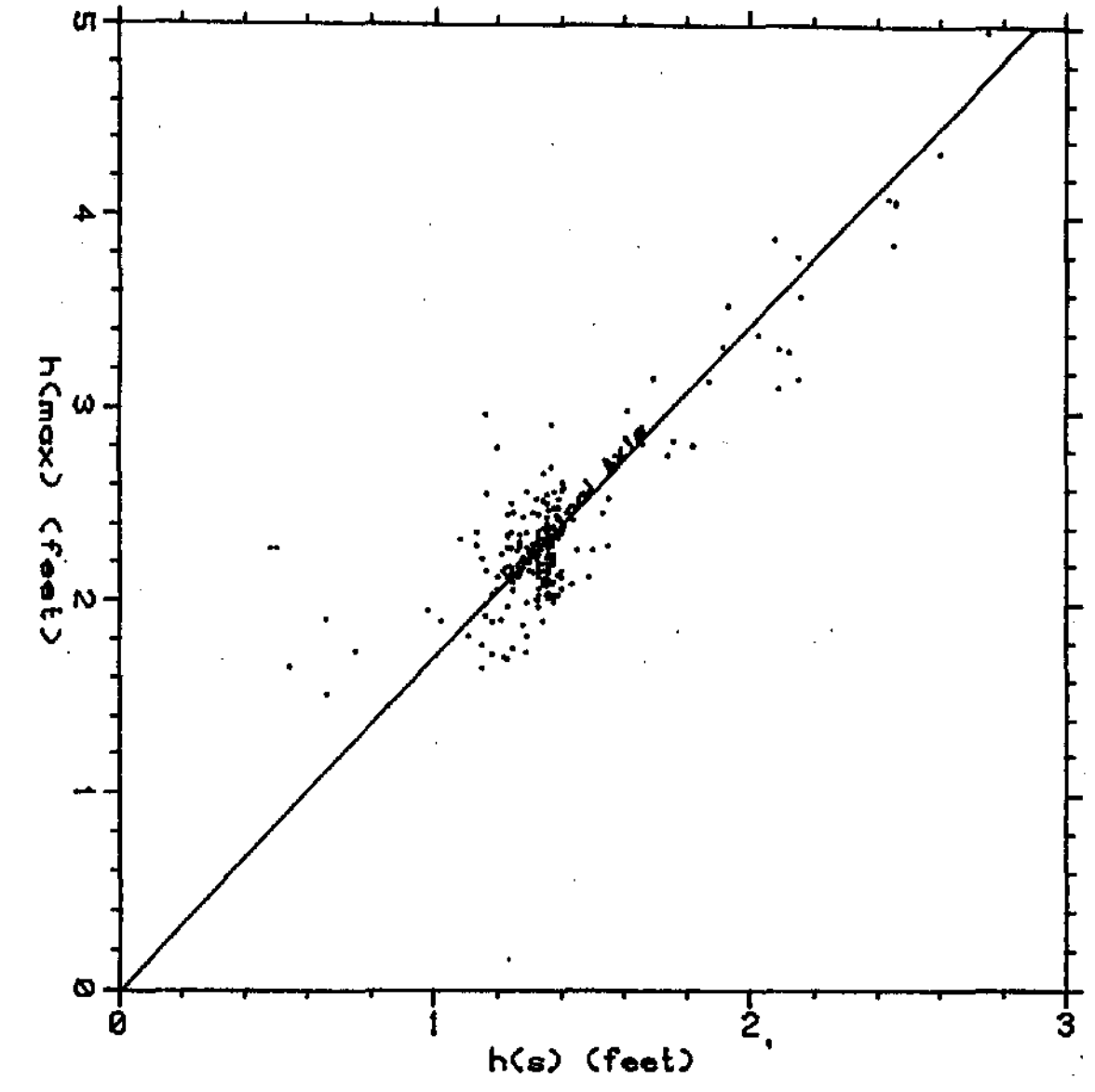
Statistics:
- 190 data points
- time interval = 4.000 hours
- Wind speed:
  - Mean = 9.58
  - Std. Dev. = 5.20
- H(s):
  - Mean = 1.39
  - Std. Dev. = 0.32
- Covariance = 0.90
- Correlation = 0.546
- Principal axis:
  - Slope = 0.033
  - Intercept = 1.073

FIGURE B11. SCATTER PLOT
WIND SPEED VS. H(S)
CHALLENGE ISLAND WEATHER STATION VS. PT. THOMSON STATION Q
0544, 2 AUGUST TO 1744, 2 SEPTEMBER, 1982



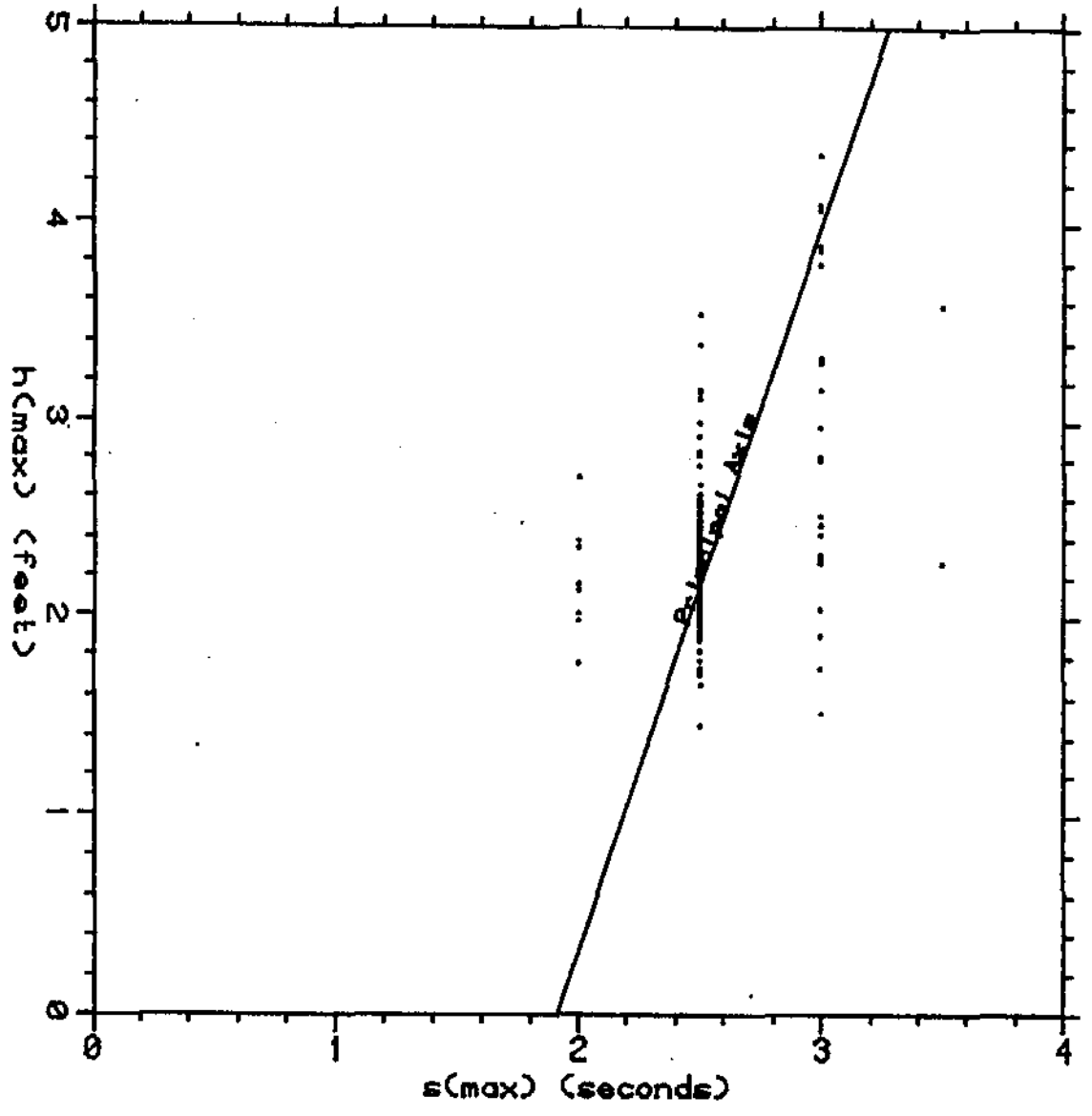
Statistics:
- 42 data points
- time interval = 4.000 hours
- Wind speed:
  - Mean = 14.87
  - Std. Dev. = 5.15
- H(s):
  - Mean = 1.74
  - Std. Dev. = 0.47
- Covariance = 1.74
- Correlation = 0.713
- Principal axis:
  - Slope = 0.066
  - Intercept = 0.759

FIGURE B12, SCATTER PLOT
WIND SPEED VS. H(S)
CHALLENGE ISLAND WEATHER STATION VS. PT. THOMSON STATION Q
0144, 20 AUGUST TO 2144, 26 AUGUST, 1982



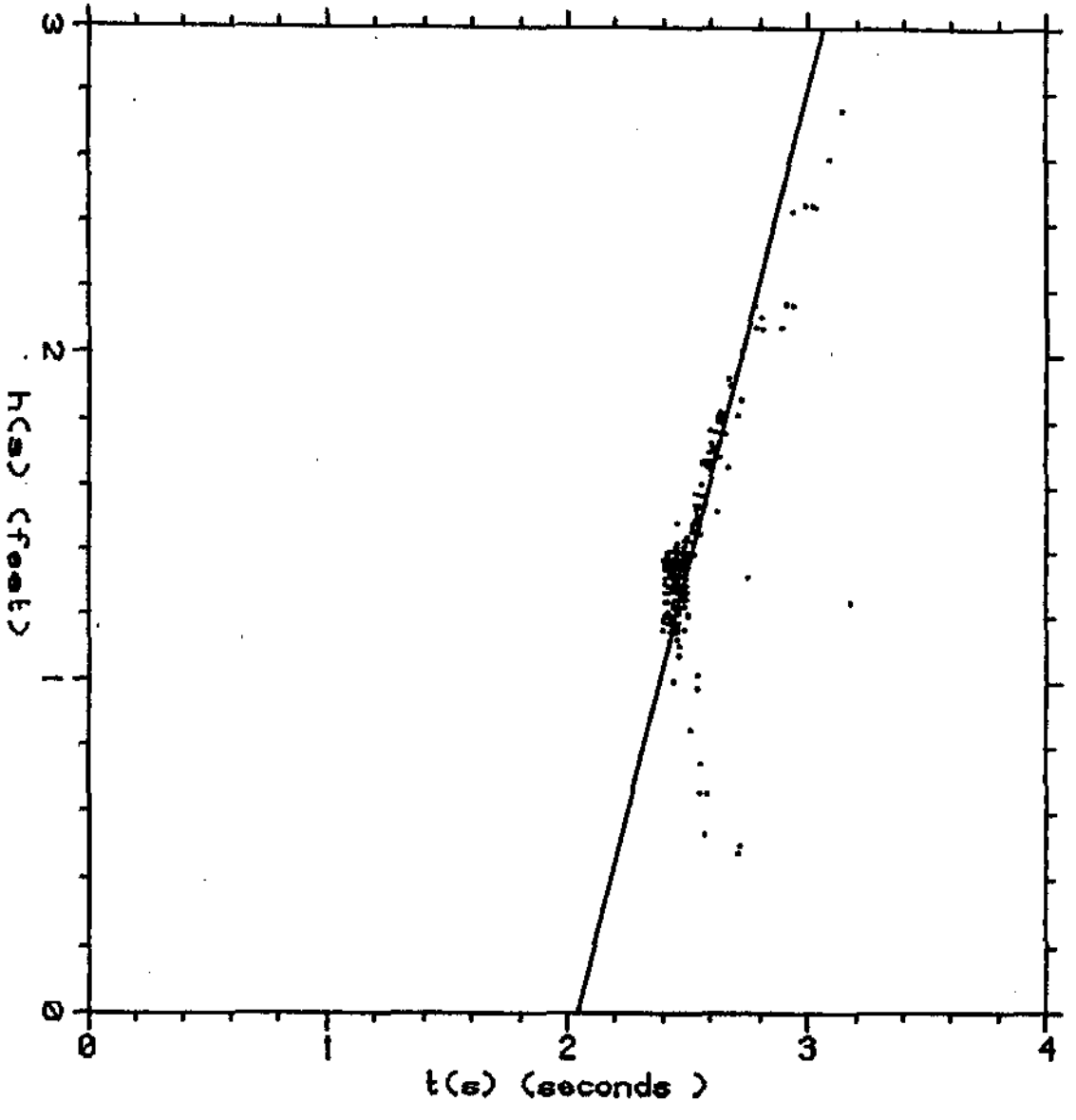
Statistics:
- 200 data points
- time interval = 4.000 hours
- H(s):
  - Mean = 1.38
  - Std. Dev. = 0.32
- H(max):
  - Mean = 2.37
  - Std. Dev. = 0.51
- Covariance = 0.14
- Correlation = 0.853
- Principal axis:
  - Slope = 1.726
  - Intercept = -0.015

FIGURE B13. SCATTER PLOT
H(S) VS. H(MAX)
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982



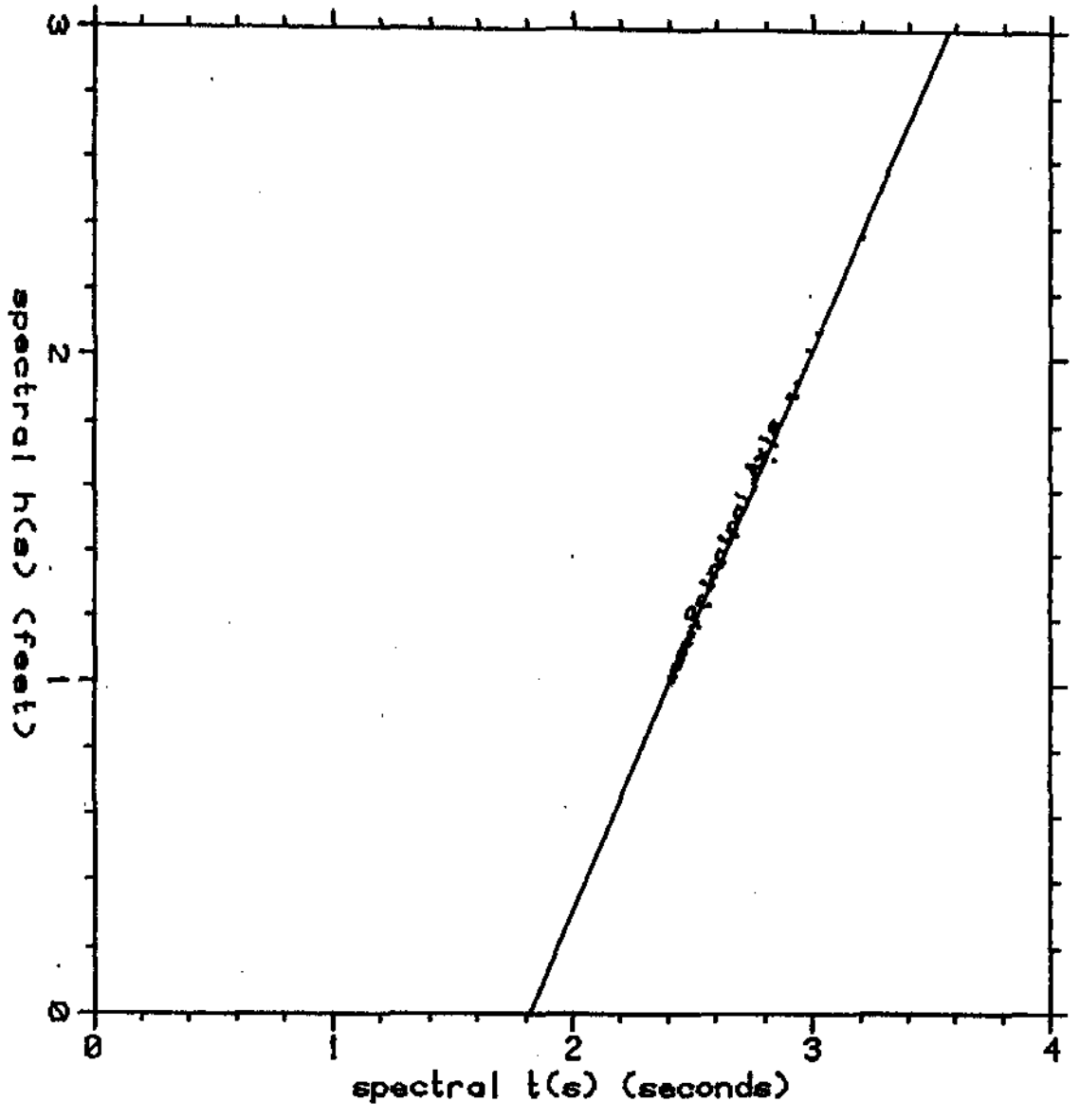
Statistics:
- 200 data points
- time interval = 4.000 hours
- S(max):
  - Mean = 2.56
  - Std. Dev. = 0.23
- H(max):
  - Mean = 2.37
  - Std. Dev. = 0.51
- Covariance = 0.06
- Correlation = 0.503
- Principal axis:
  - Slope = 3.658
  - Intercept = -6.976

FIGURE B14. SCATTER PLOT
T(S) VS. H(MAX)
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982



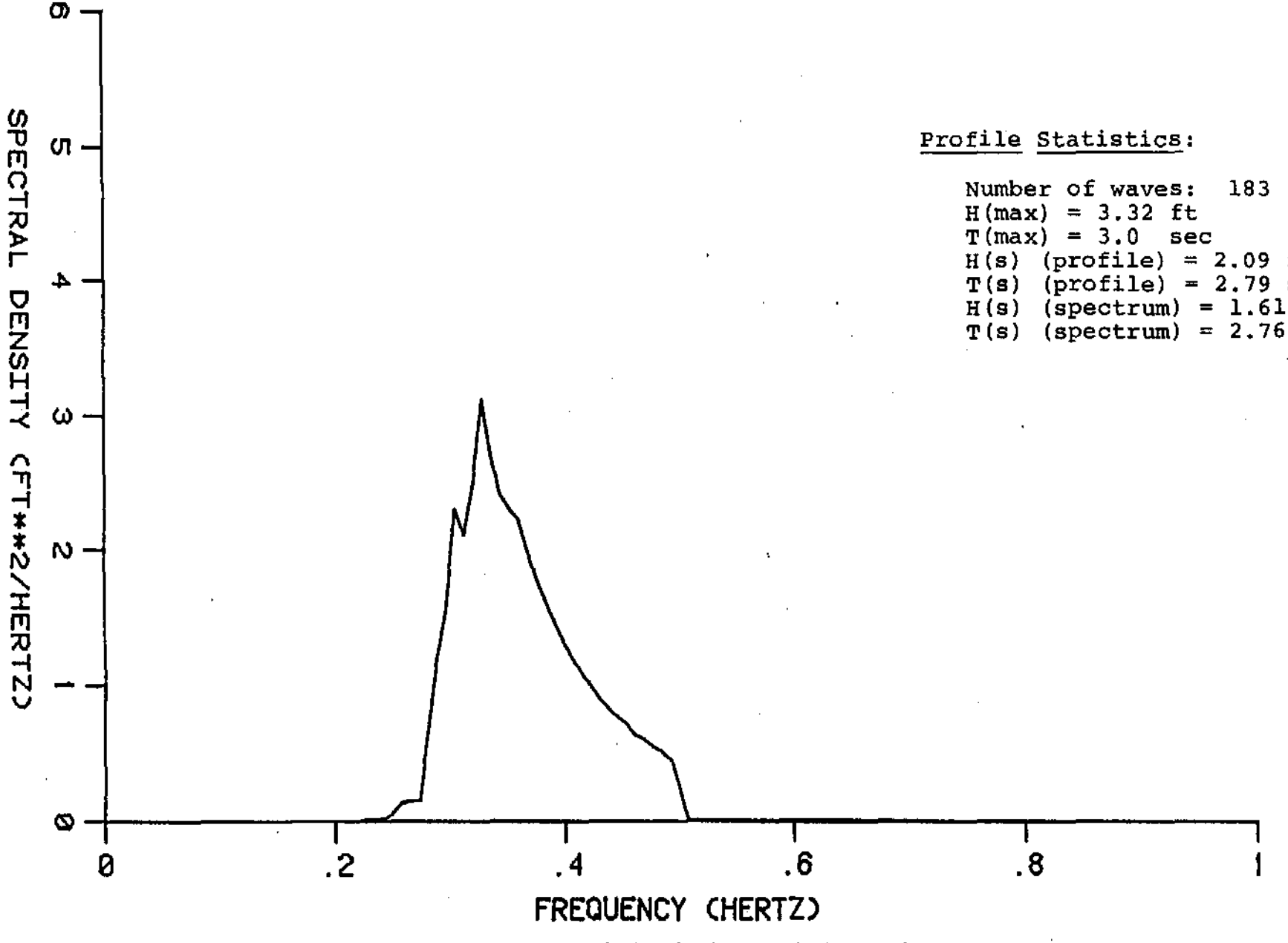
Statistics:
- 200 data points
- time interval = 4.000 hours
- T(s):
  - Mean = 2.51
  - Std. Dev. = 0.14
- H(s):
  - Mean = 1.38
  - Std. Dev. = 0.32
- Covariance = 0.03
- Correlation = 0.684
- Principal axis:
  - Slope = 2.937
  - Intercept = -5.997

FIGURE B15. SCATTER PLOT
T(S) VS. H(S)
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982



Statistics:
- 200 data points
- time interval = 4.000 hours
- Spectral t(s):
  - Mean = 2.49
  - Std. Dev. = 0.13
- Spectral h(s):
  - Mean = 1.16
  - Std. Dev. = 0.22
- Covariance = 0.03
- Correlation = 0.998
- Principal axis:
  - Slope = 1.727
  - Intercept = -3.149

FIGURE B16. SCATTER PLOT
SPECTRAL T(S) VS. SPECTRAL H(S)
POINT THOMSON STATION Q
0550, 2 AUGUST TO 0950, 4 SEPTEMBER, 1982



Profile Statistics:

Number of waves: 183
H(max) = 3.32 ft
T(max) = 3.0 sec
H(s) (profile) = 2.09 ft
T(s) (profile) = 2.79 sec
H(s) (spectrum) = 1.61 ft
T(s) (spectrum) = 2.76 sec

FIGURE B17.

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
1350, 20 AUGUST, 1982

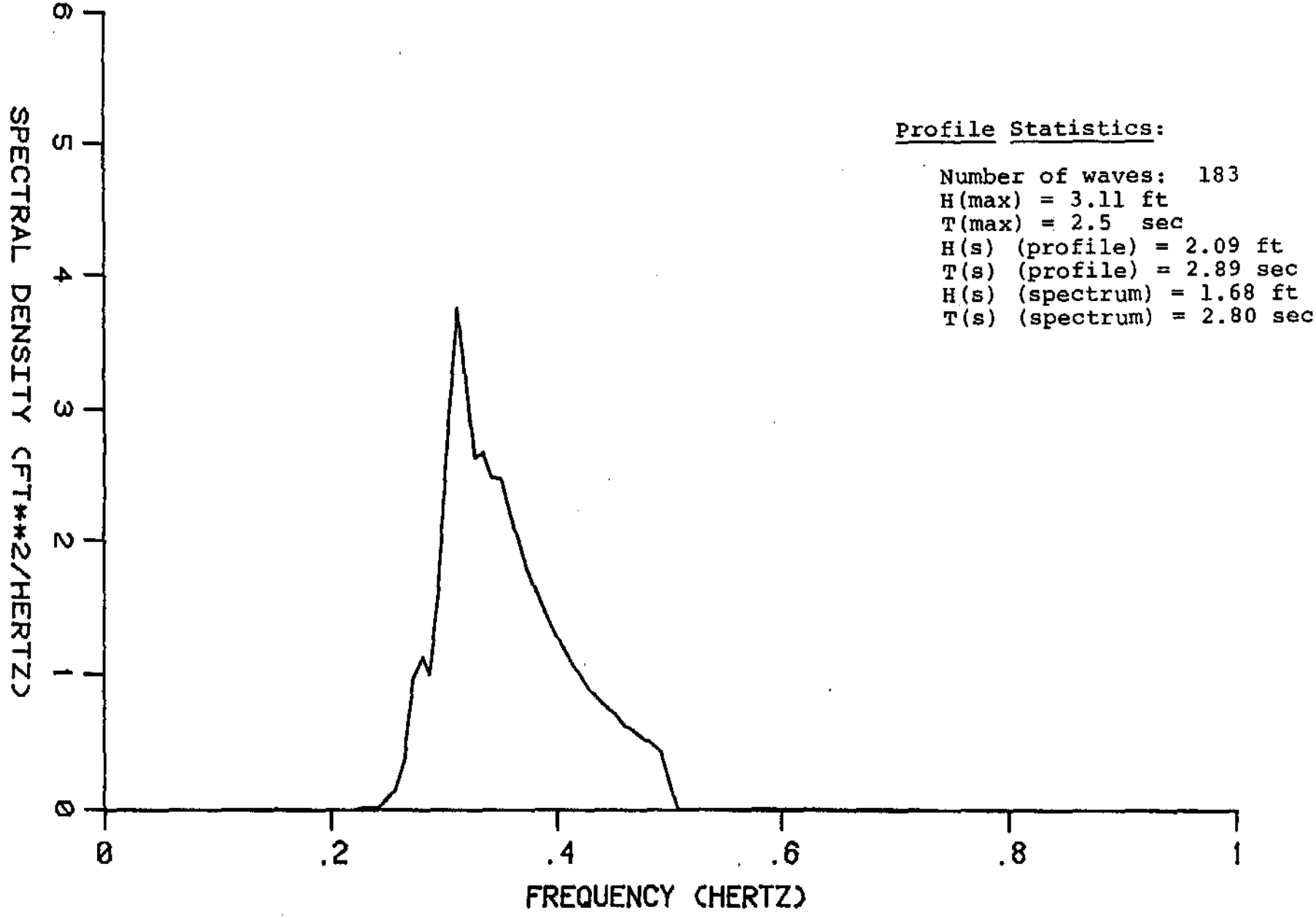


FIGURE B18. SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
1750, 20 AUGUST, 1982

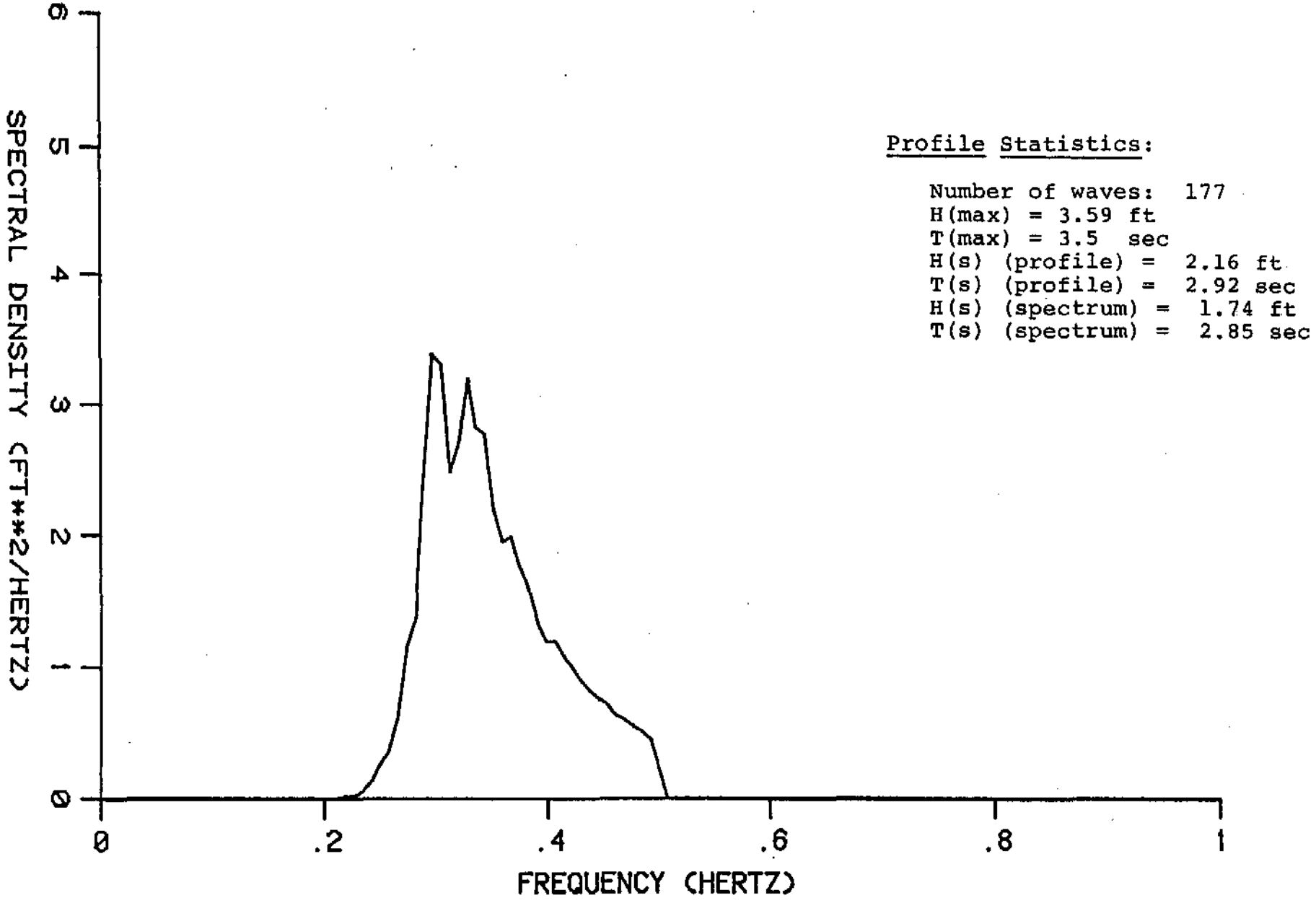
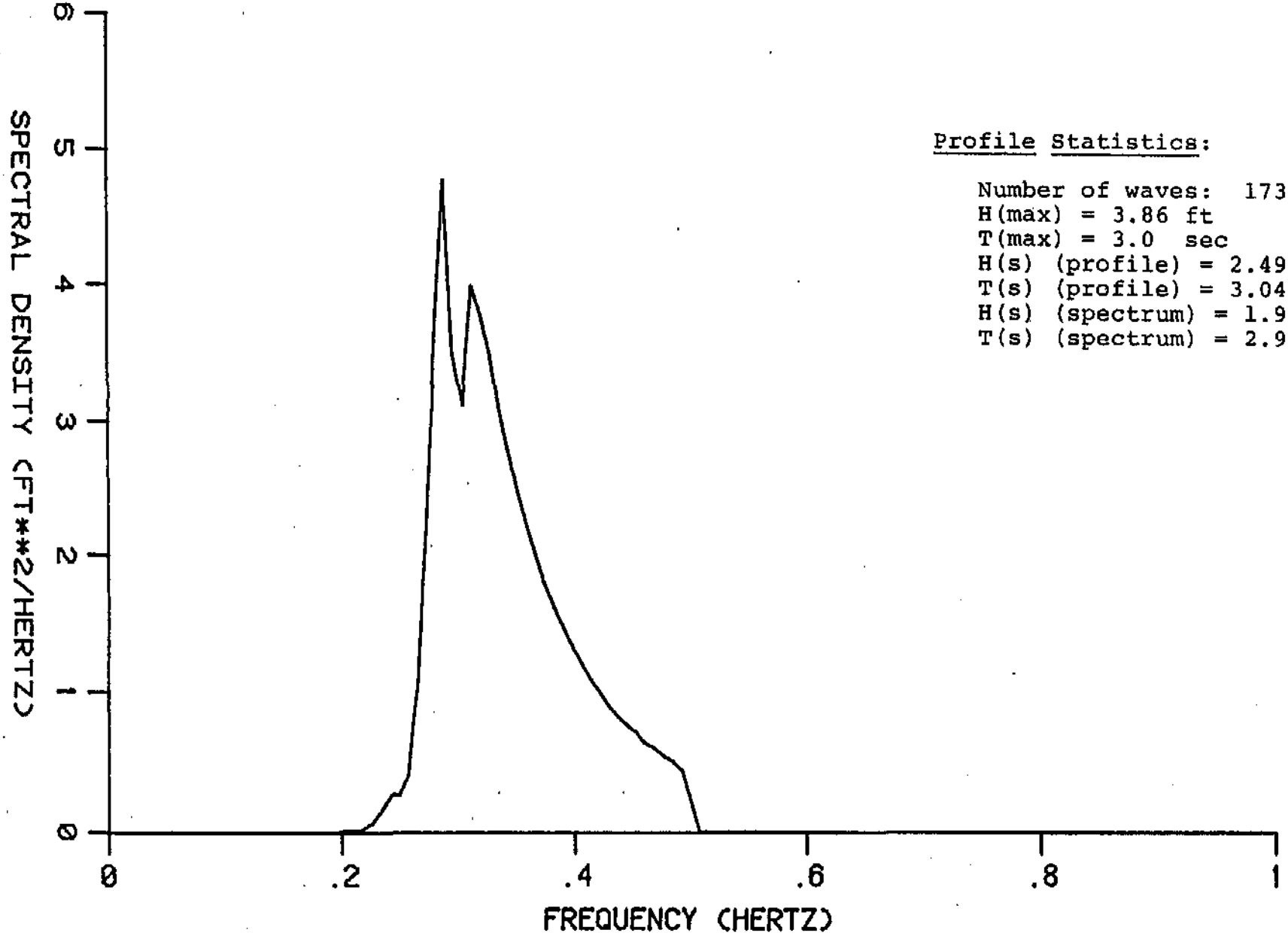


FIGURE B19. SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
2150, 20 AUGUST, 1982



Profile Statistics:

Number of waves: 173
H(max) = 3.86 ft
T(max) = 3.0 sec
H(s) (profile) = 2.49 ft
T(s) (profile) = 3.04 sec
H(s) (spectrum) = 1.93 ft
T(s) (spectrum) = 2.93 sec

FIGURE B20 .

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
0150, 21 AUGUST, 1982

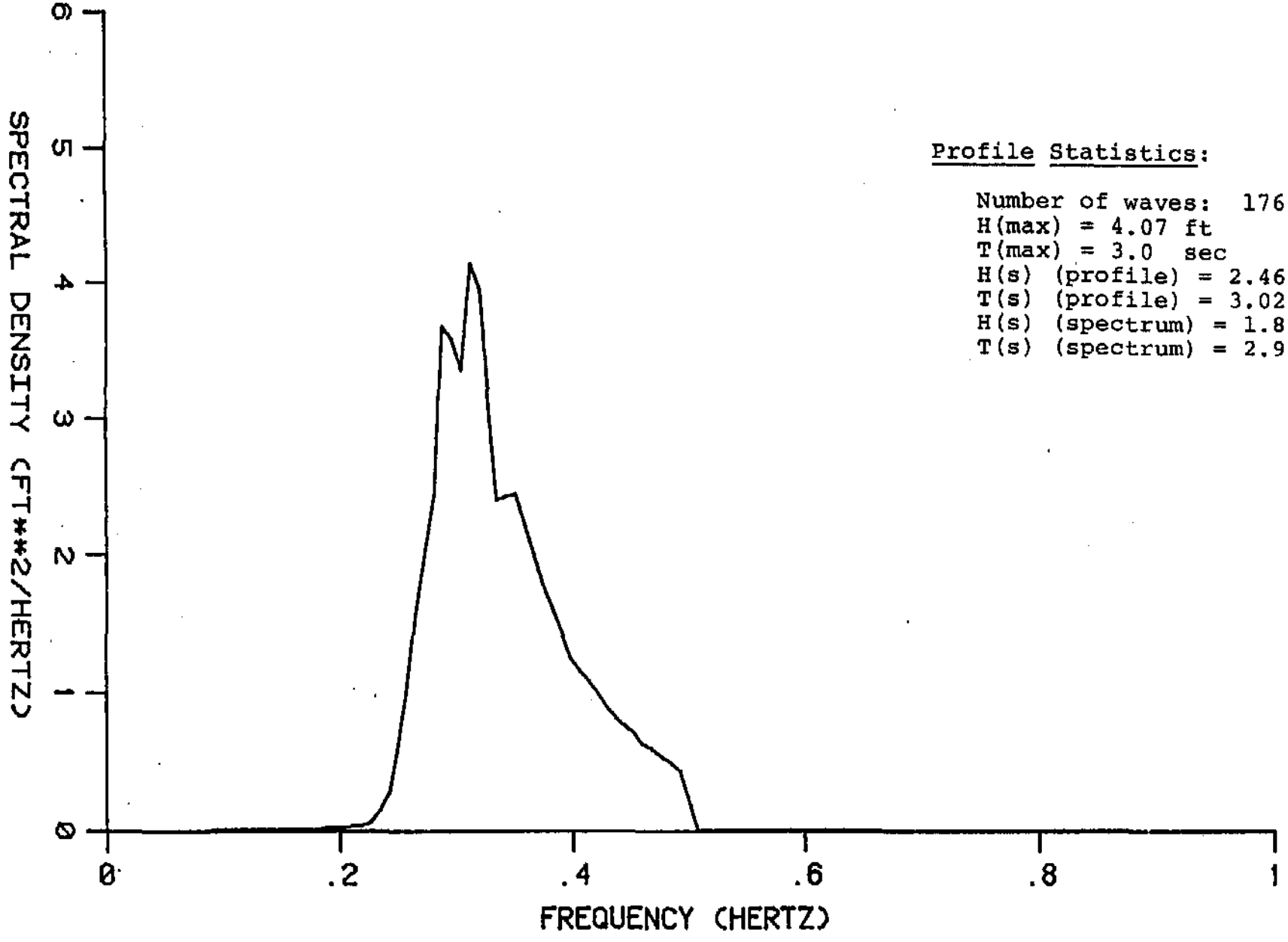


FIGURE B21. SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
0550, 21 AUGUST, 1982

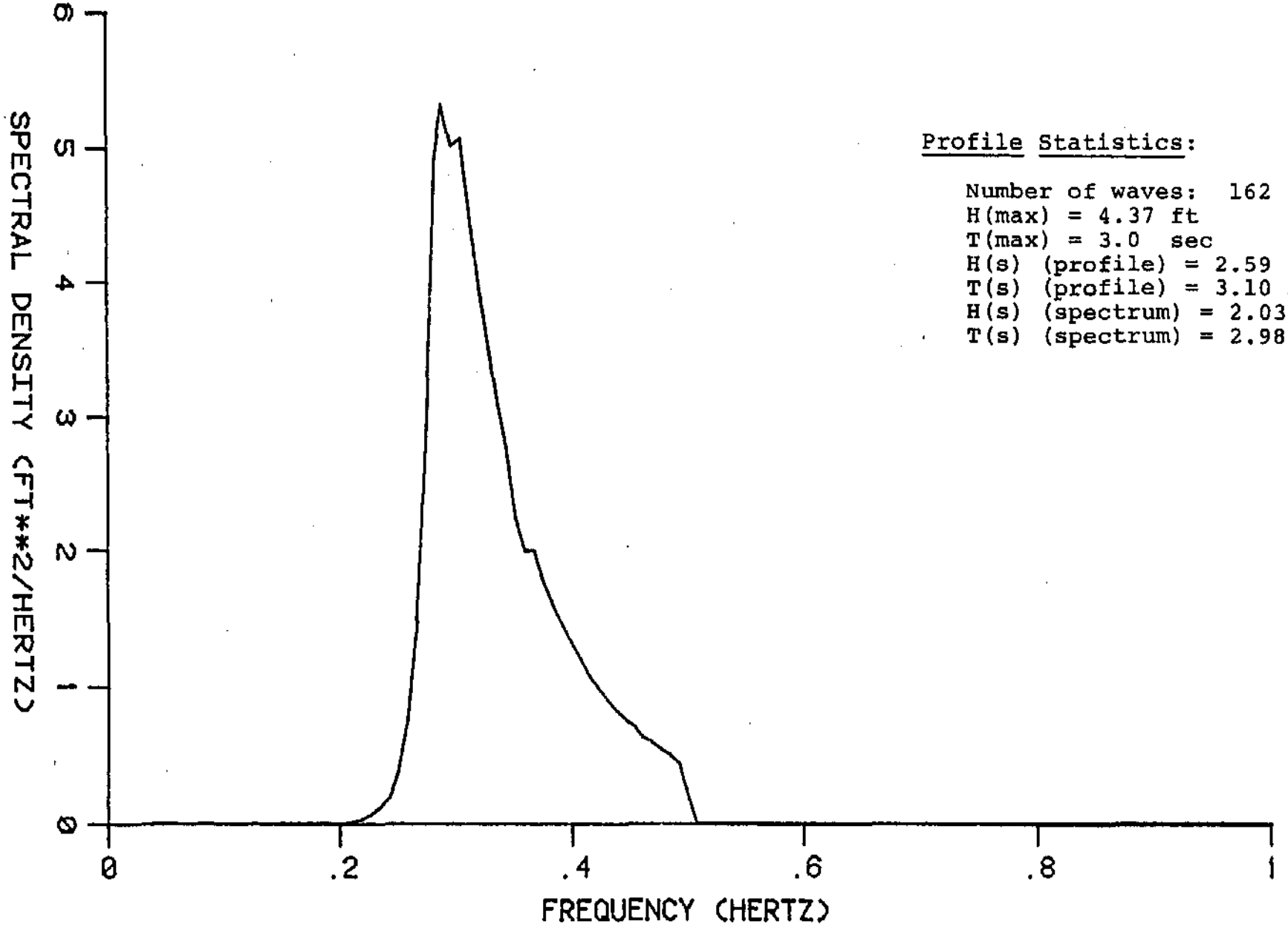
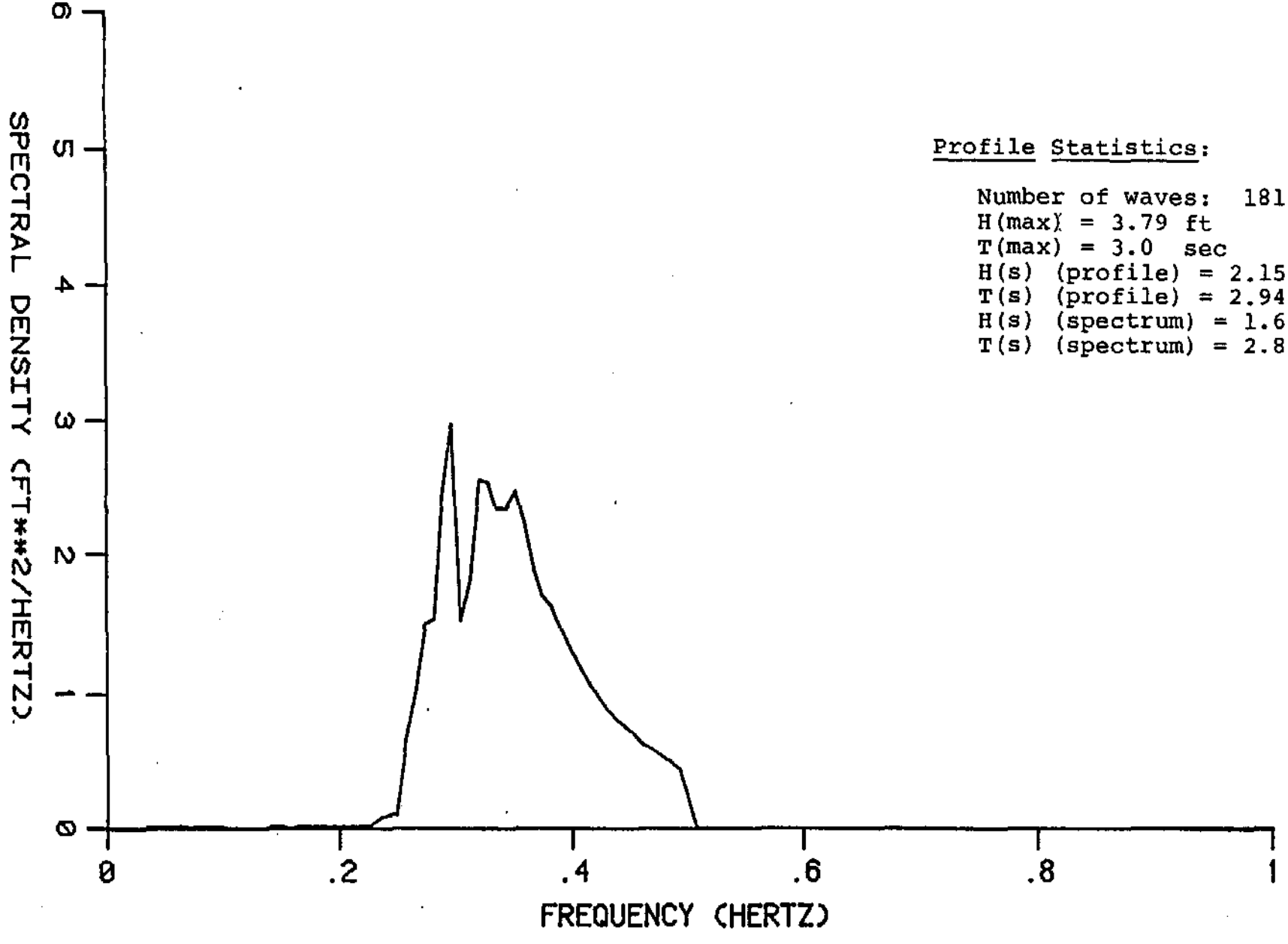


FIGURE B22 .

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
0950, 21 AUGUST, 1982



Profile Statistics:

Number of waves: 181
H(max) = 3.79 ft
T(max) = 3.0 sec
H(s) (profile) = 2.15 ft
T(s) (profile) = 2.94 sec
H(s) (spectrum) = 1.69 ft
T(s) (spectrum) = 2.84 sec

FIGURE B23.

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
1350, 21 AUGUST, 1982

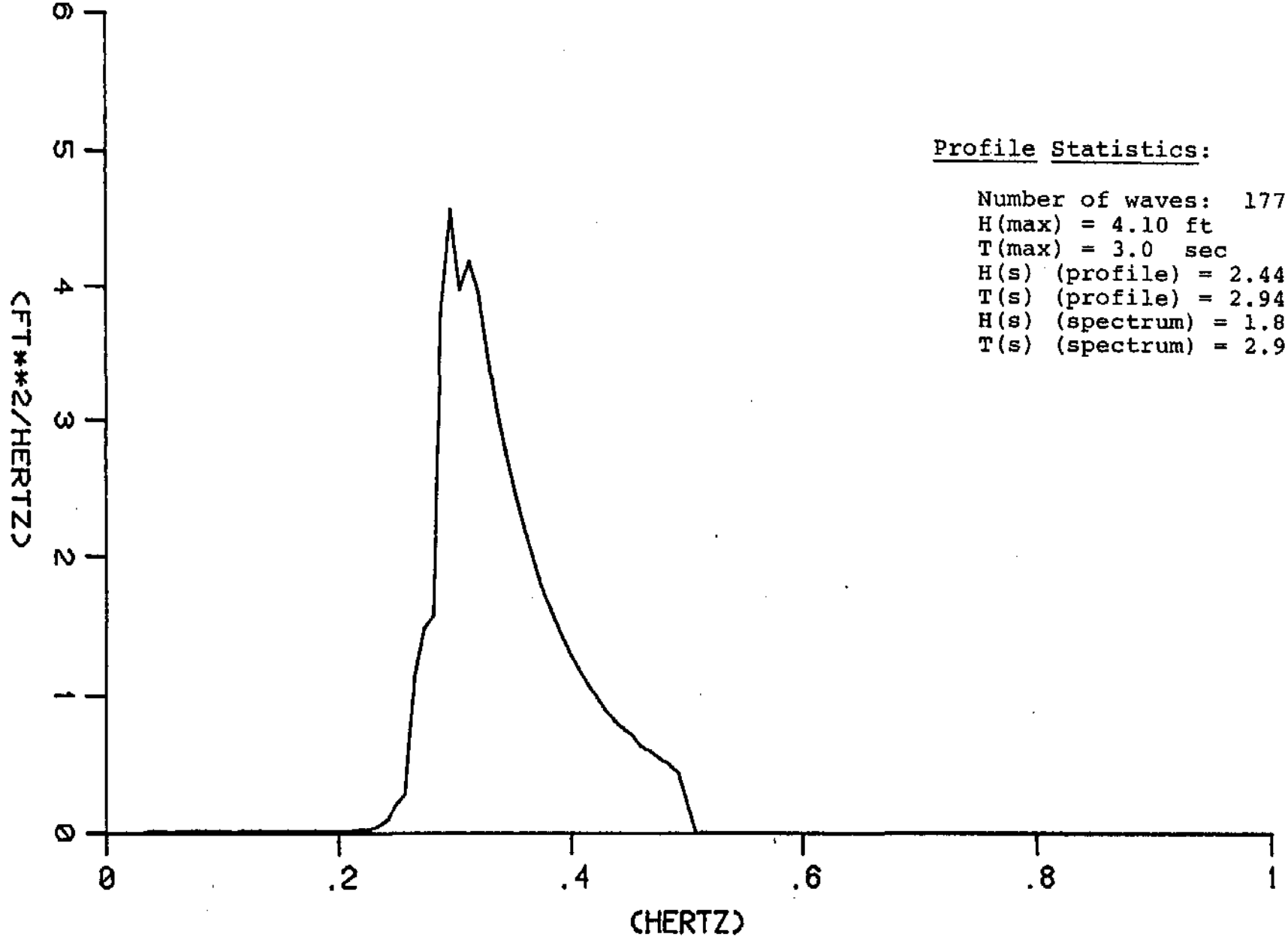
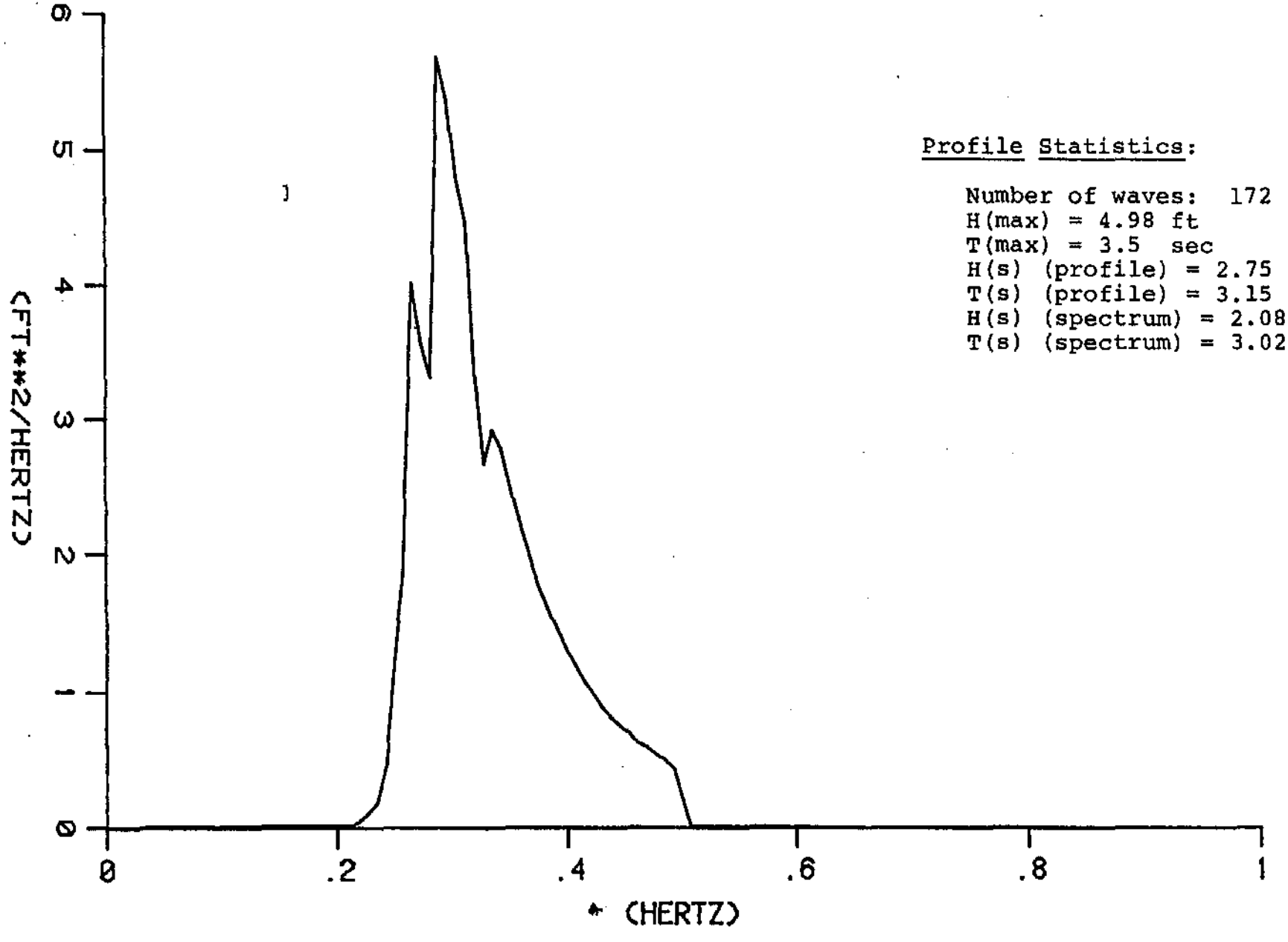


FIGURE B24. SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
(2150, 23 AUGUST, 1982)



Profile Statistics:

Number of waves: 172
H(max) = 4.98 ft
T(max) = 3.5 sec
H(s) (profile) = 2.75 ft
T(s) (profile) = 3.15 sec
H(s) (spectrum) = 2.08 ft
T(s) (spectrum) = 3.02 sec

FIGURE B25.

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
(0150, 24 AUGUST, 1982)

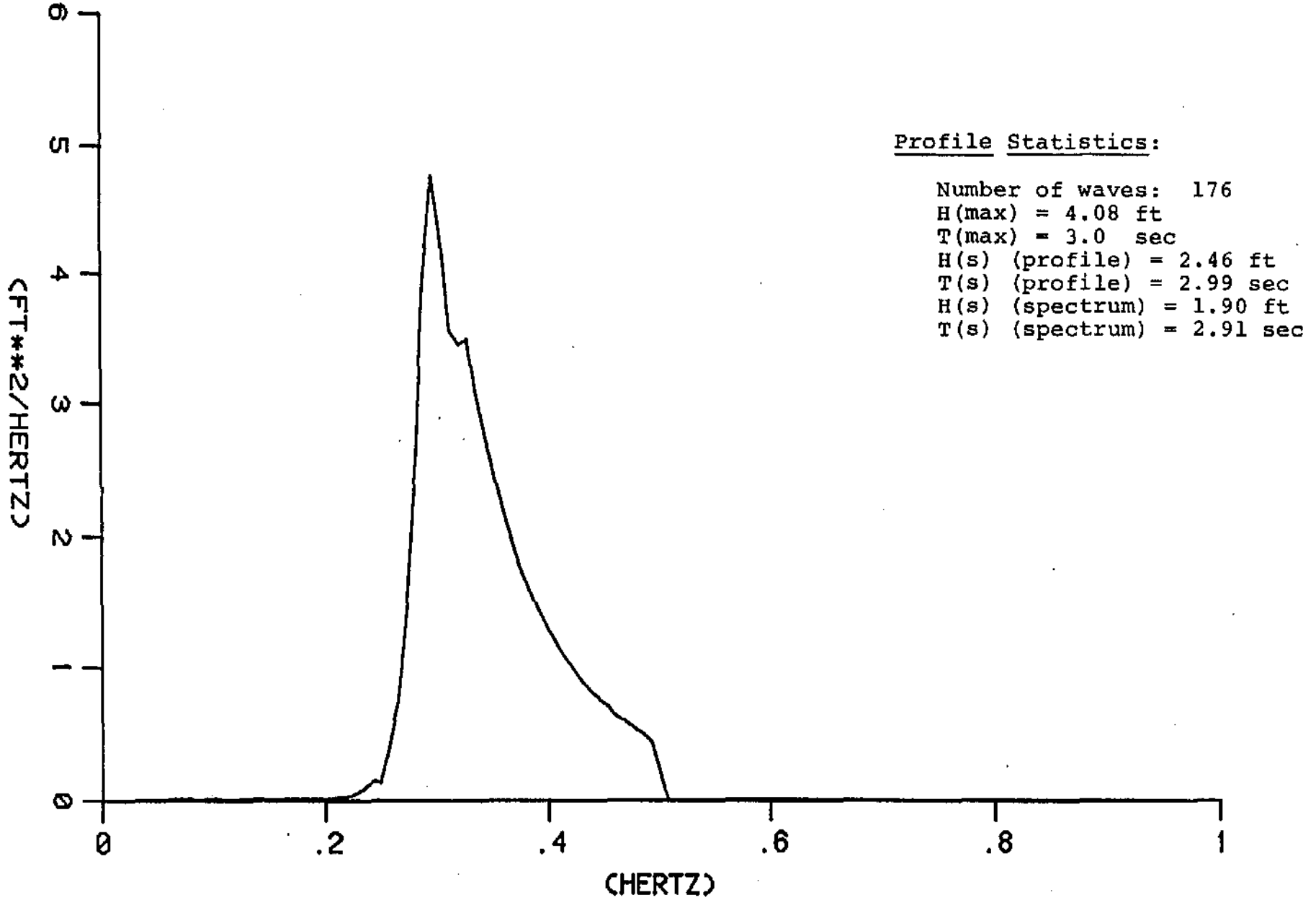


FIGURE B26.

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
(0550, 24 AUGUST, 1982)

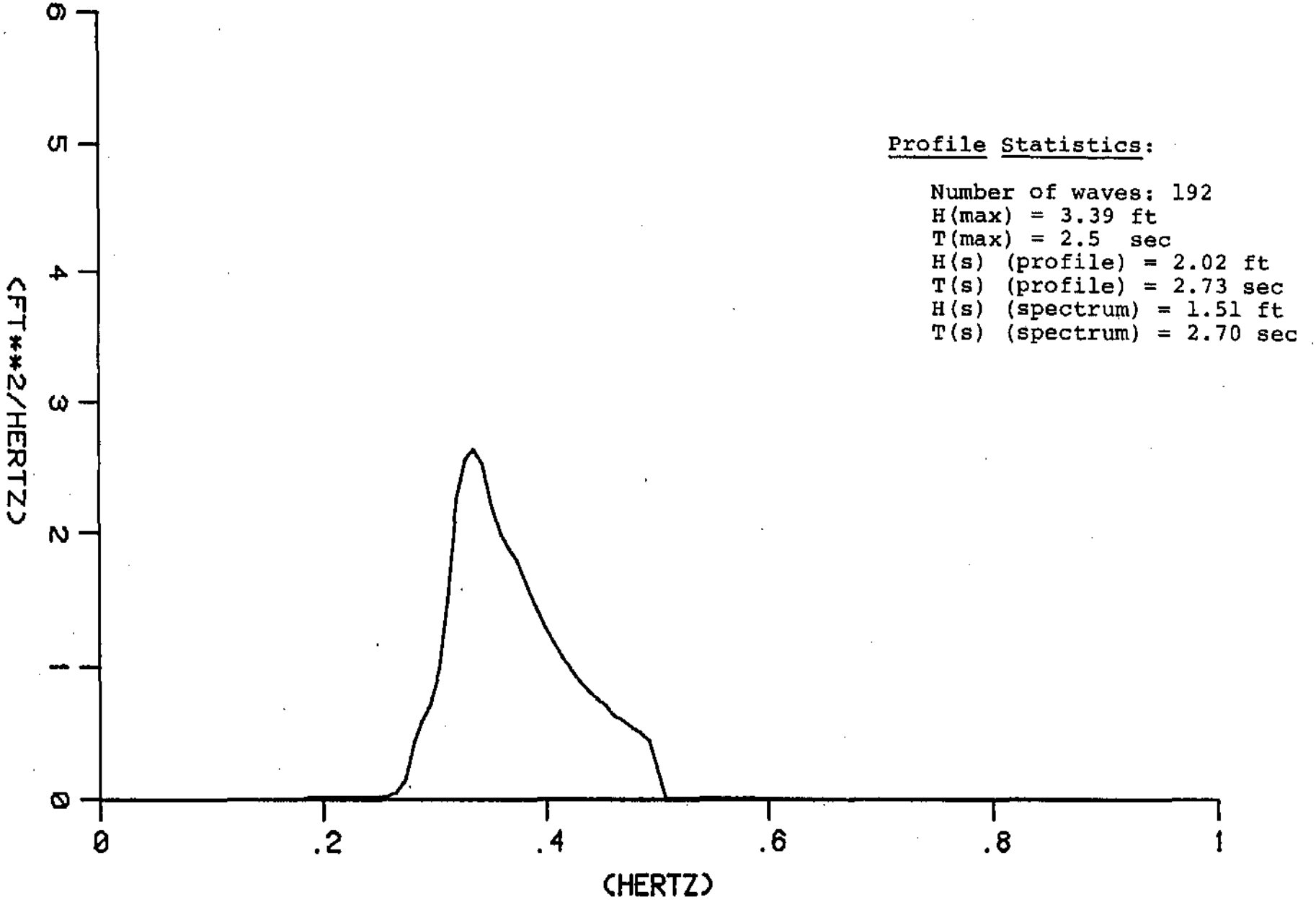


FIGURE B27. SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
(0950, 24 AUGUST, 1982)

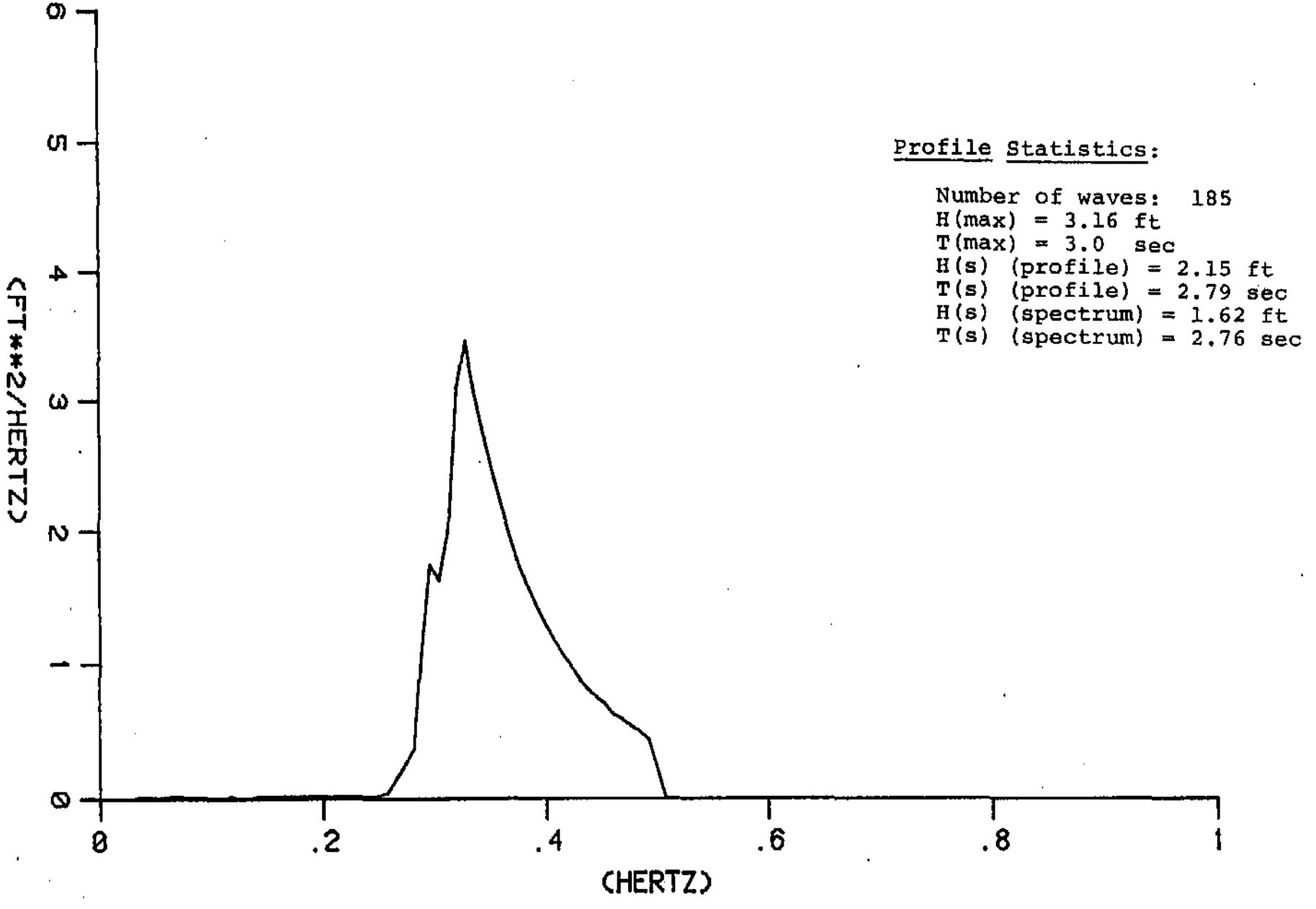
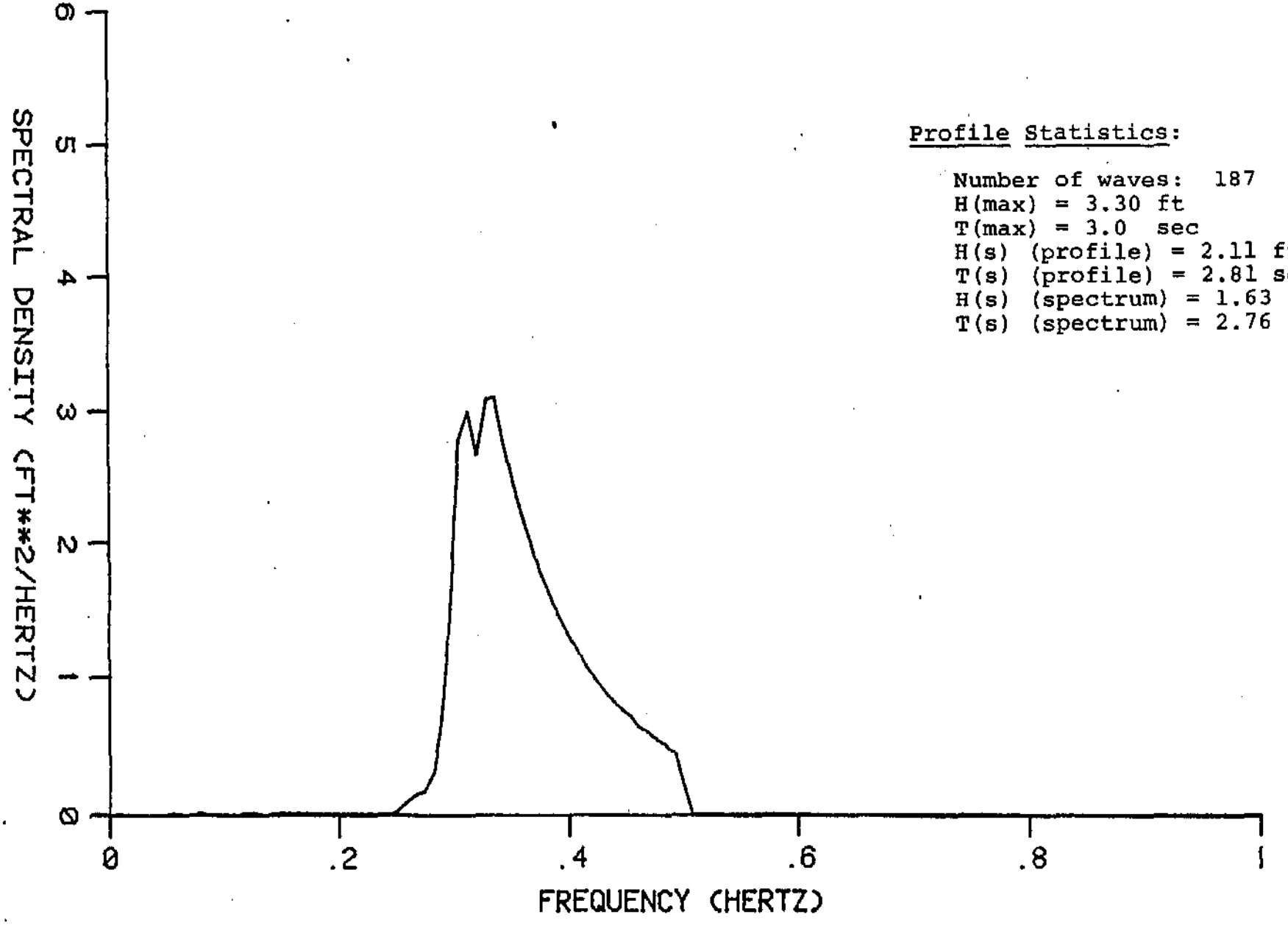


FIGURE B23. SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
(1750, 24 AUGUST, 1982)



Profile Statistics:

Number of waves: 187
H(max) = 3.30 ft
T(max) = 3.0 sec
H(s) (profile) = 2.11 ft
T(s) (profile) = 2.81 sec
H(s) (spectrum) = 1.63 ft
T(s) (spectrum) = 2.76 sec

FIGURE B29.

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
2150, 24 AUGUST, 1982

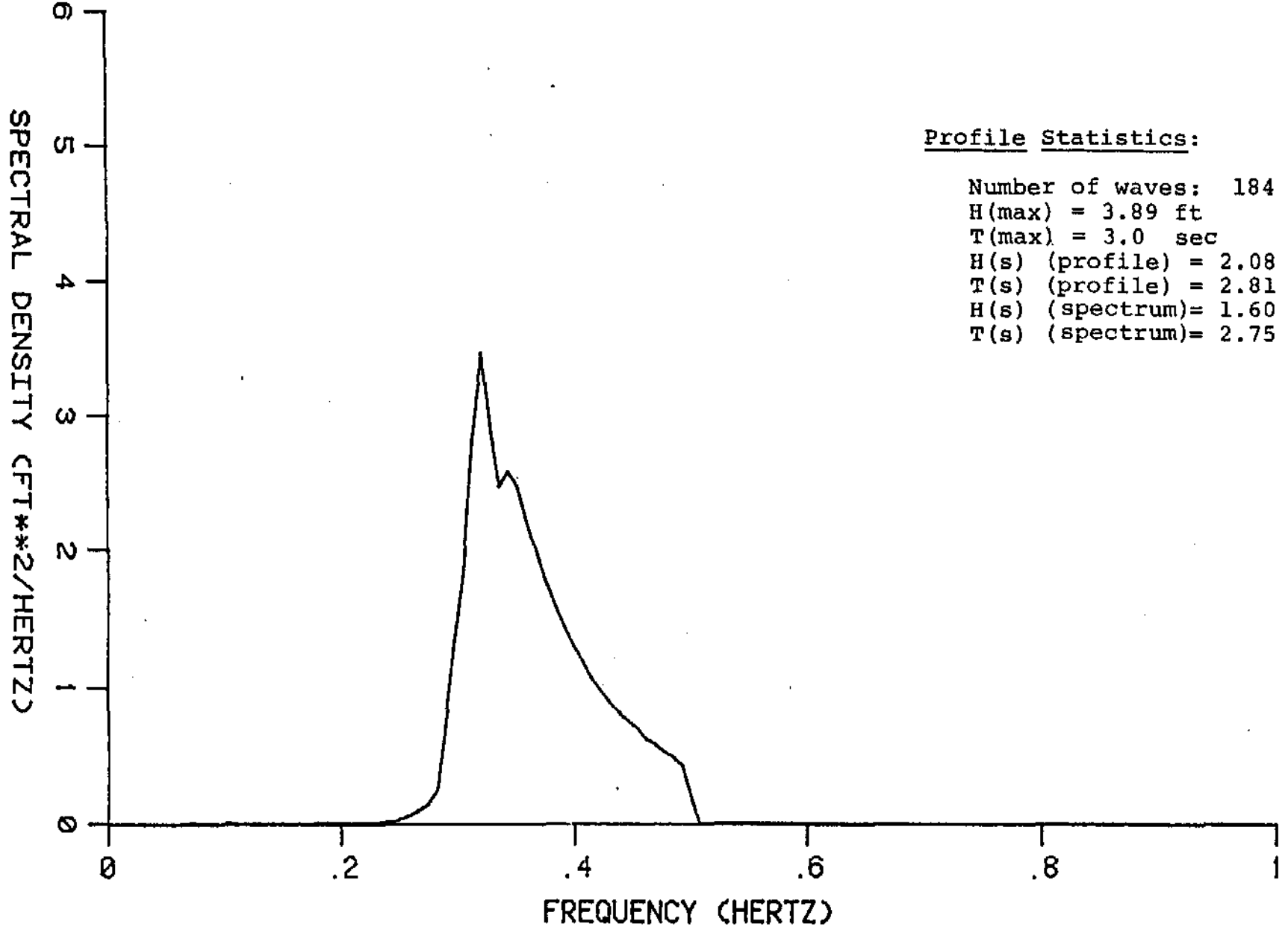


FIGURE B30 .

SURFACE WAVE SPECTRUM
PT. THOMSON STATION Q
0150, 25 AUGUST, 1982

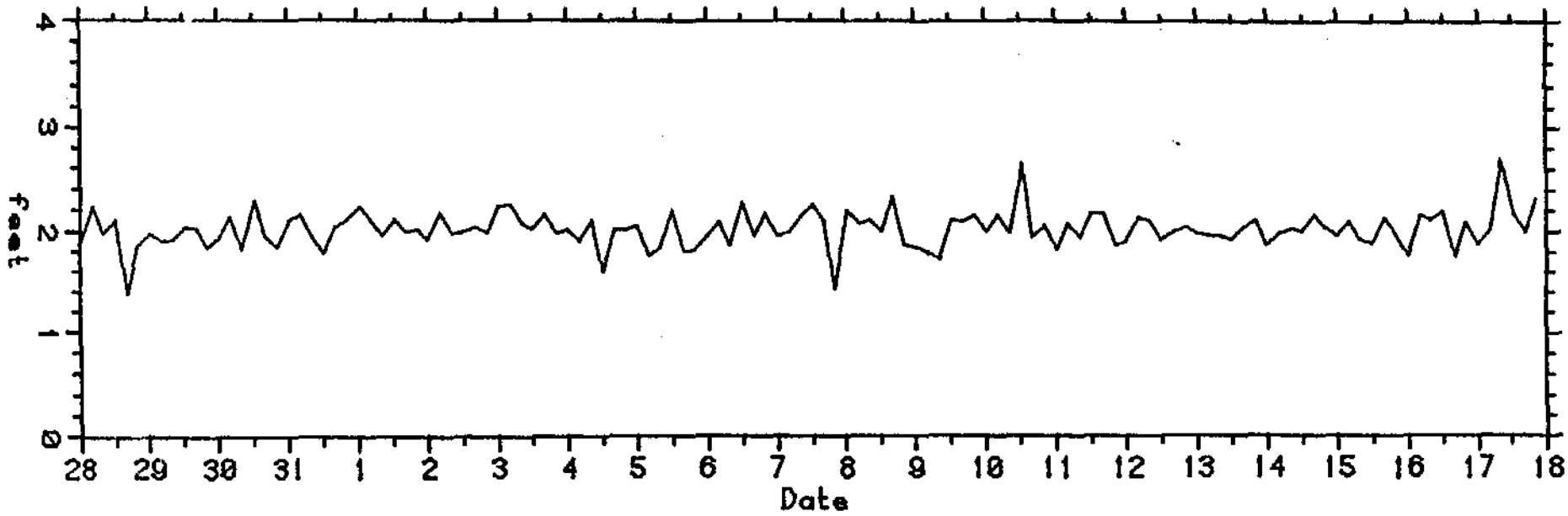


FIGURE B31 MAXIMUM WAVE HEIGHT
POINT THOMSON STATION Y
0015, 28 JULY TO 2015, 17 AUGUST, 1982

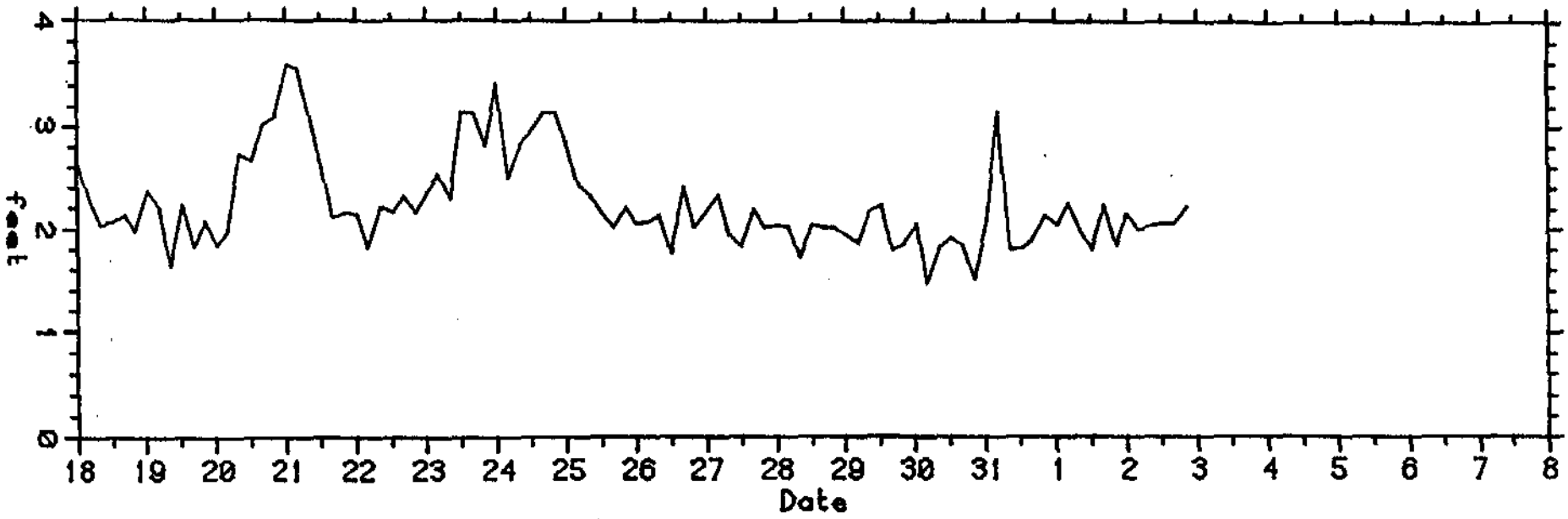


FIGURE B31. MAXIMUM WAVE HEIGHT
POINT THOMSON STATION Y
0015, 18 AUGUST TO 2015, 2 SEPTEMBER, 1982

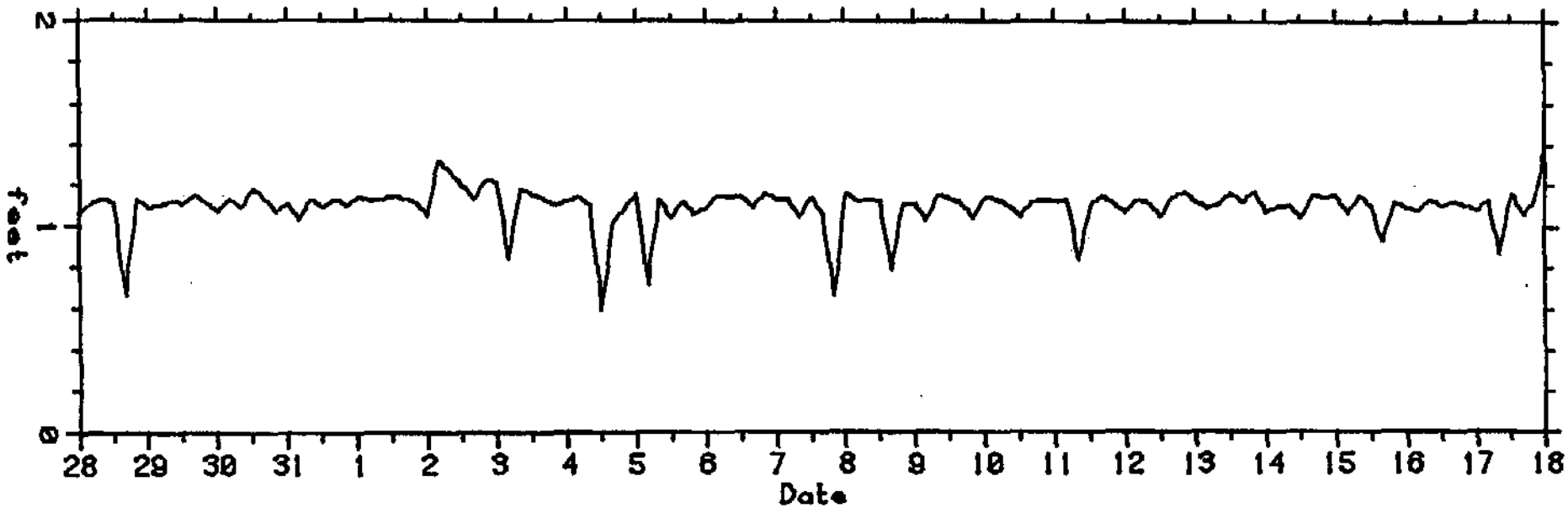


FIGURE B32. SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Y
0015, 28 JULY TO 2315, 17 AUGUST, 1982

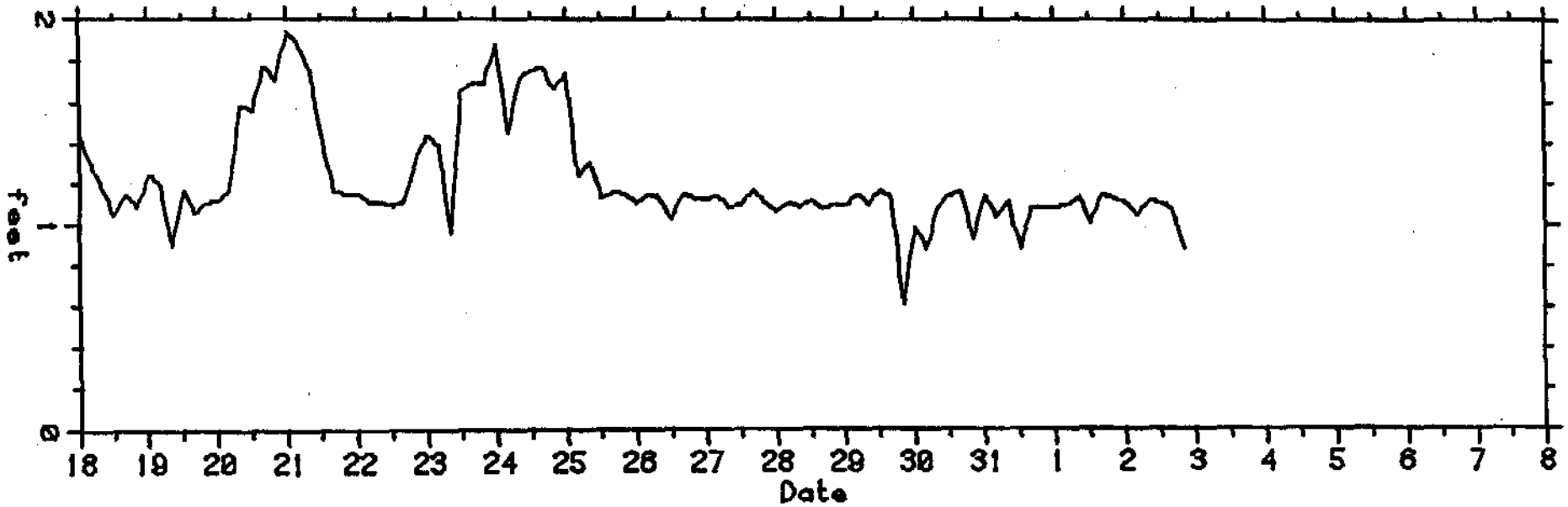


FIGURE B32. SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Y
0015, 18 AUGUST TO 2015, 2 SEPTEMBER, 1982

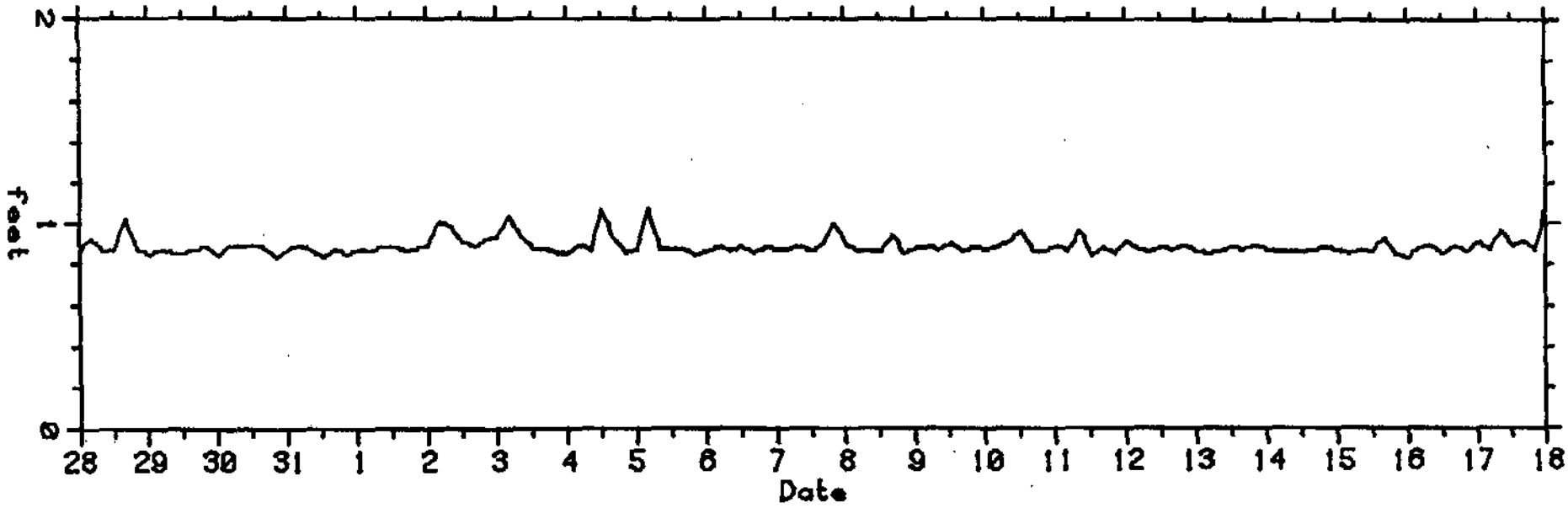


FIGURE B33. SPECTRAL SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Y
0015, 28 JULY TO 2315, 17 AUGUST, 1982

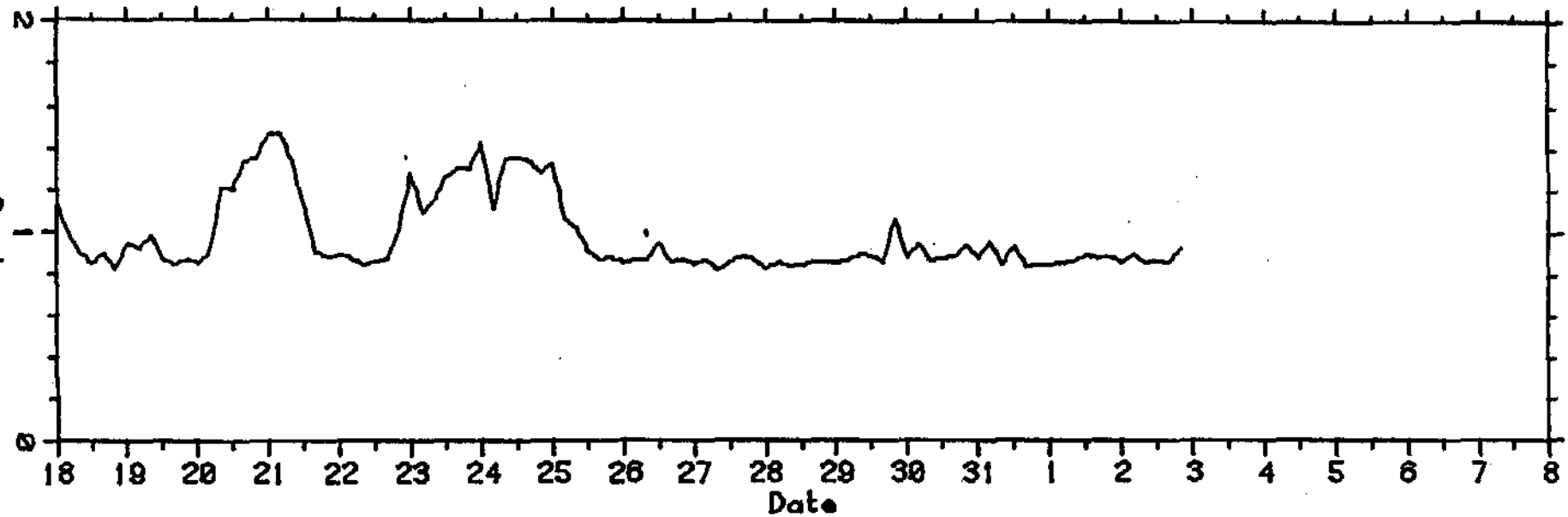


FIGURE B33. SPECTRAL SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Y
0015, 18 AUGUST TO 2015, 2 SEPTEMBER, 1982

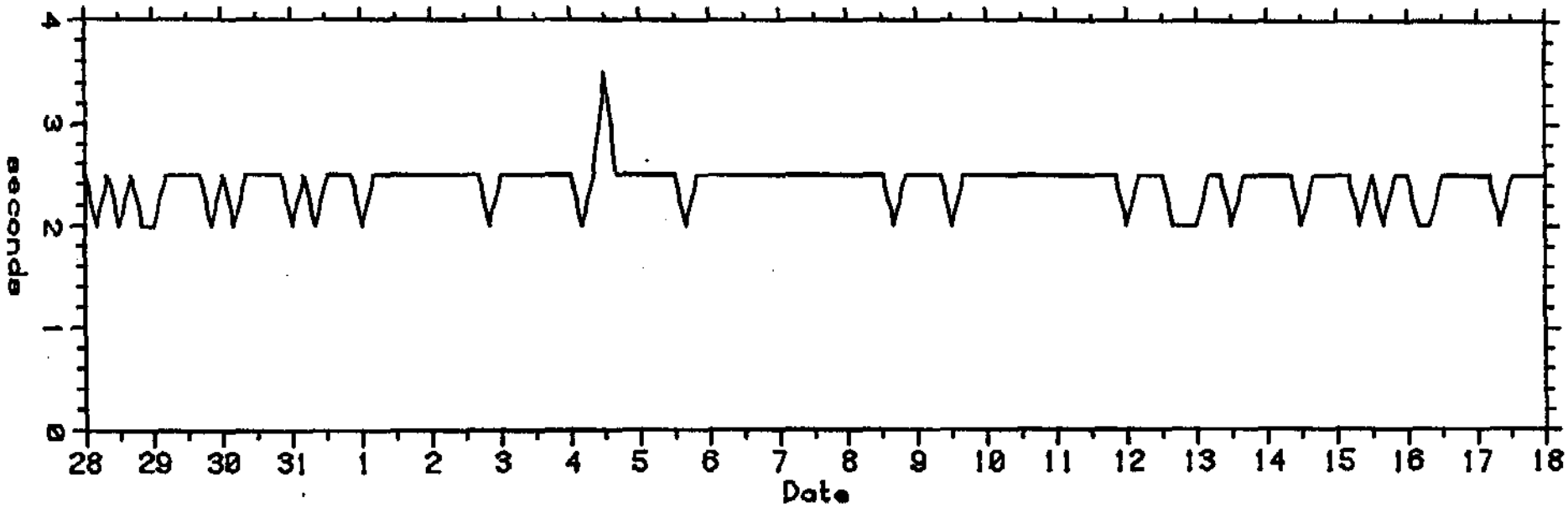


FIGURE B34. MAXIMUM WAVE PERIOD
POINT THOMSON STATION Y
0015, 28 JULY TO 2315, 17 AUGUST, 1982

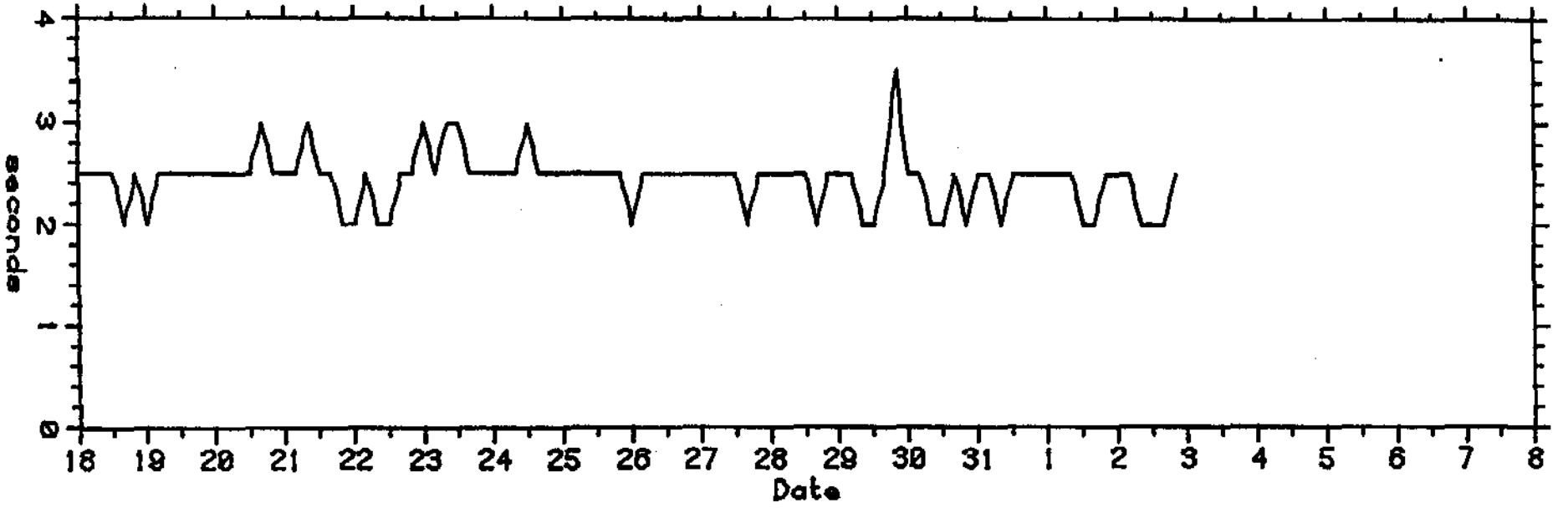


FIGURE B34. MAXIMUM WAVE PERIOD
POINT THOMSON STATION Y
0015, 18 AUGUST TO 2015, 2 SEPTEMBER, 1982

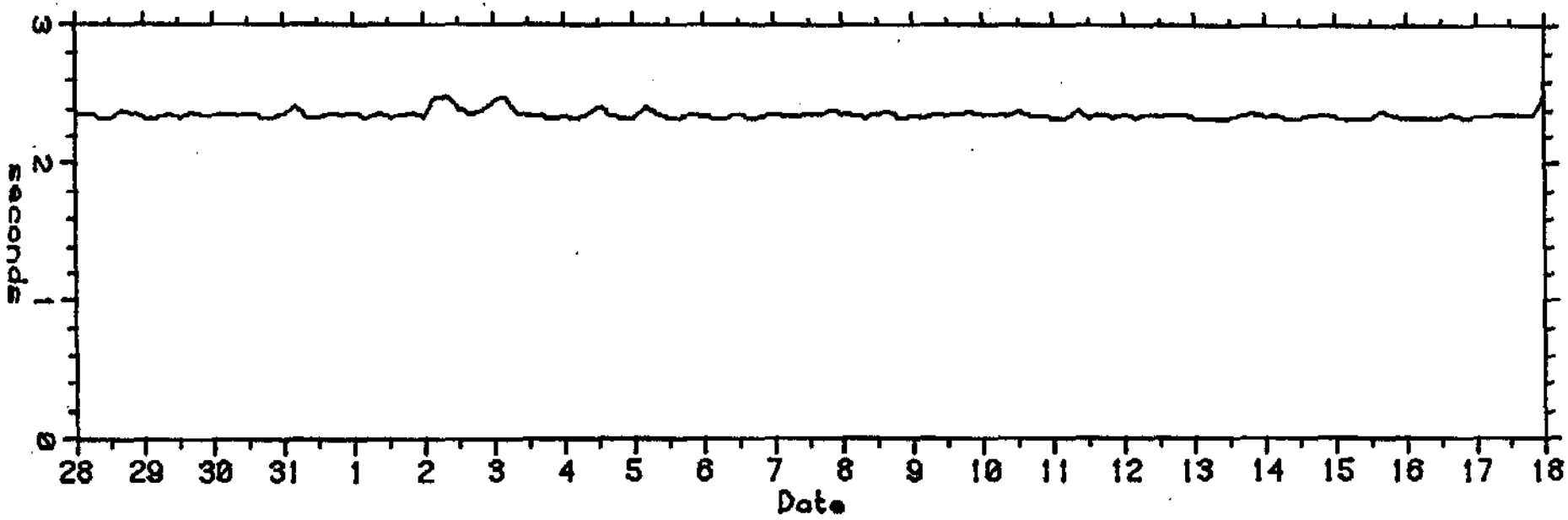


FIGURE B35. SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Y
0015, 28 JULY TO 2315, 17 AUGUST, 1982

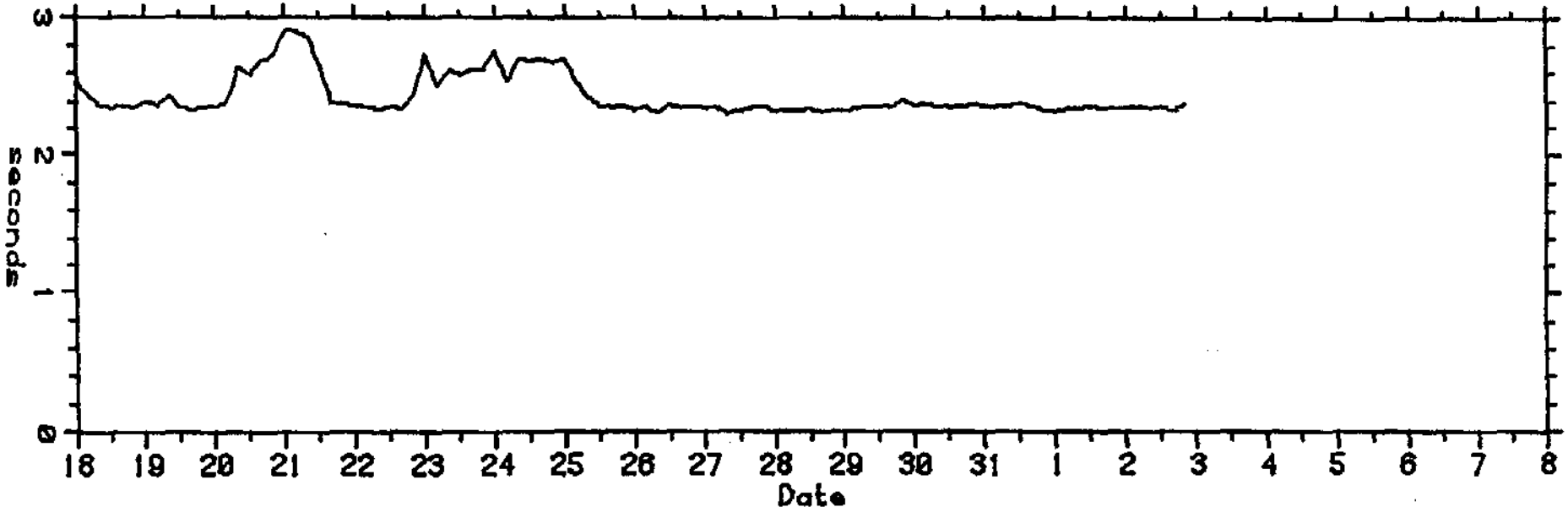


FIGURE B35. SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Y
0015, 18 AUGUST TO 2015, 2 SEPTEMBER, 1982

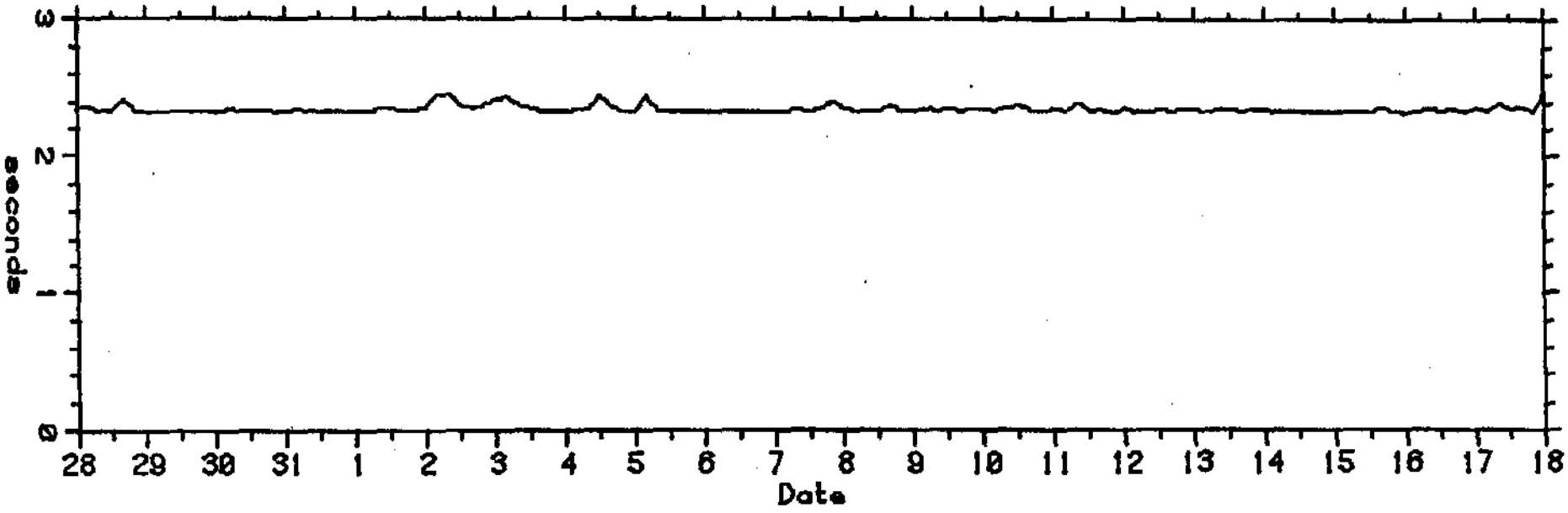


FIGURE B36. SPECTRAL SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Y
0015, 28 JULY TO 2315, 17 AUGUST, 1982

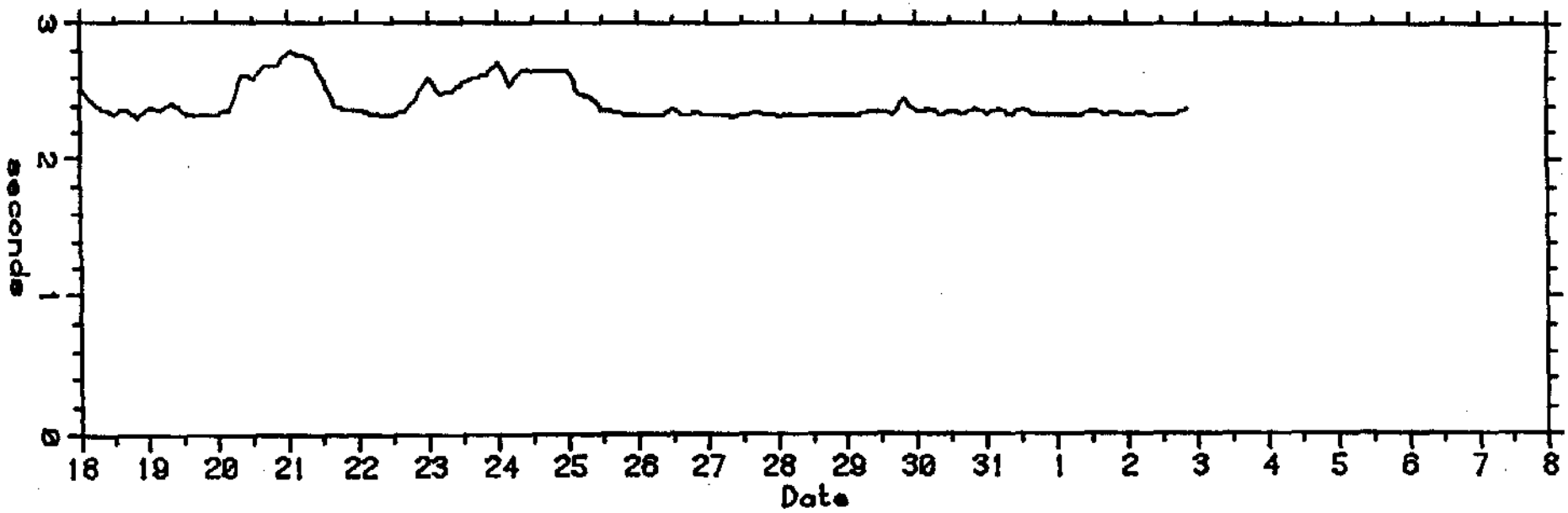


FIGURE B36 SPECTRAL SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION Y
0015, 18 AUGUST TO 2015, 2 SEPTEMBER, 1982

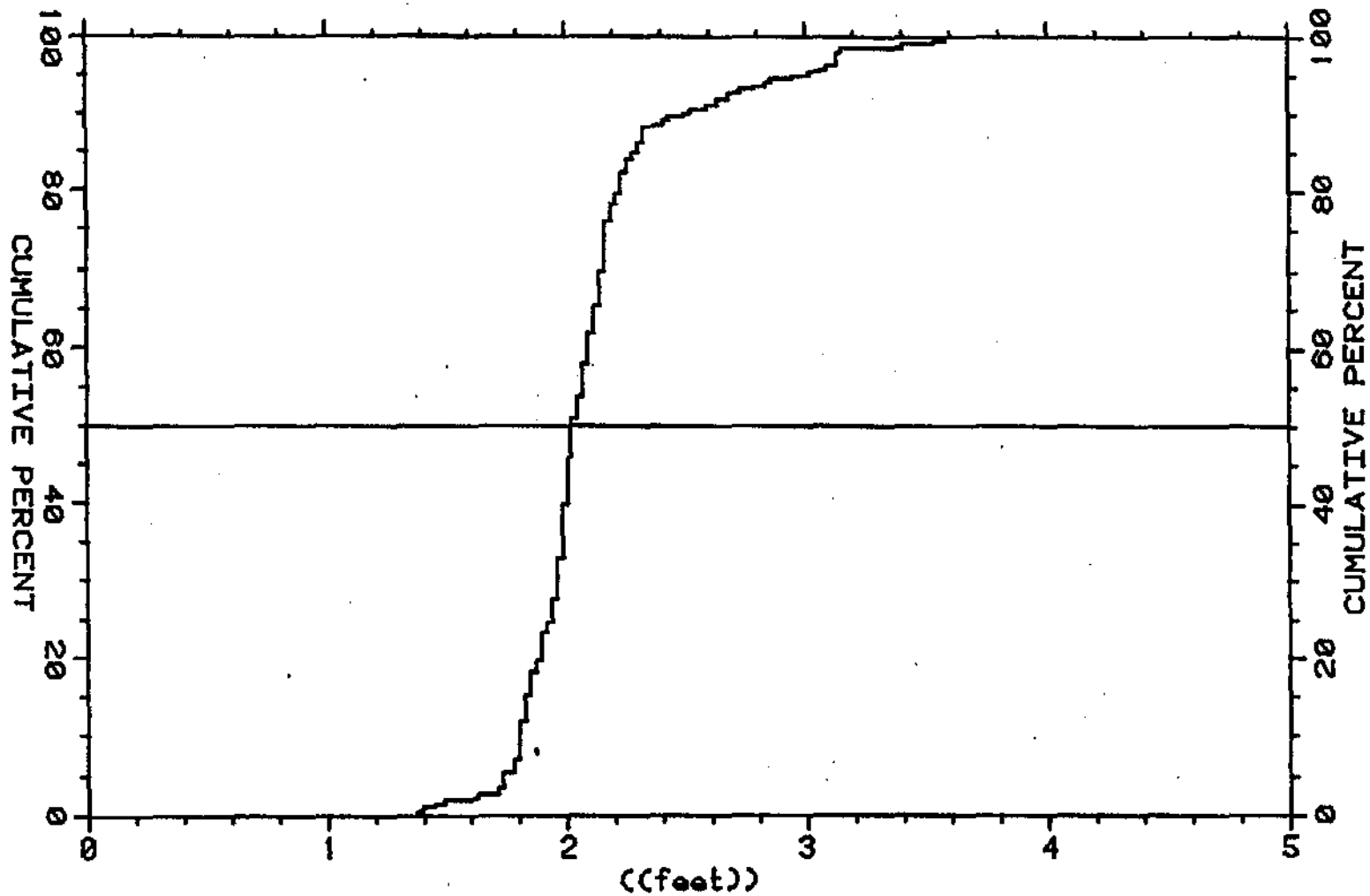


FIGURE B37. CUMULATIVE PROBABILITY PLOT
MAXIMUM WAVE HEIGHT
POINT THOMSON STATION Y
2015, 27 JULY TO 2015, 2 SEPTEMBER, 1982
223 DATA POINTS

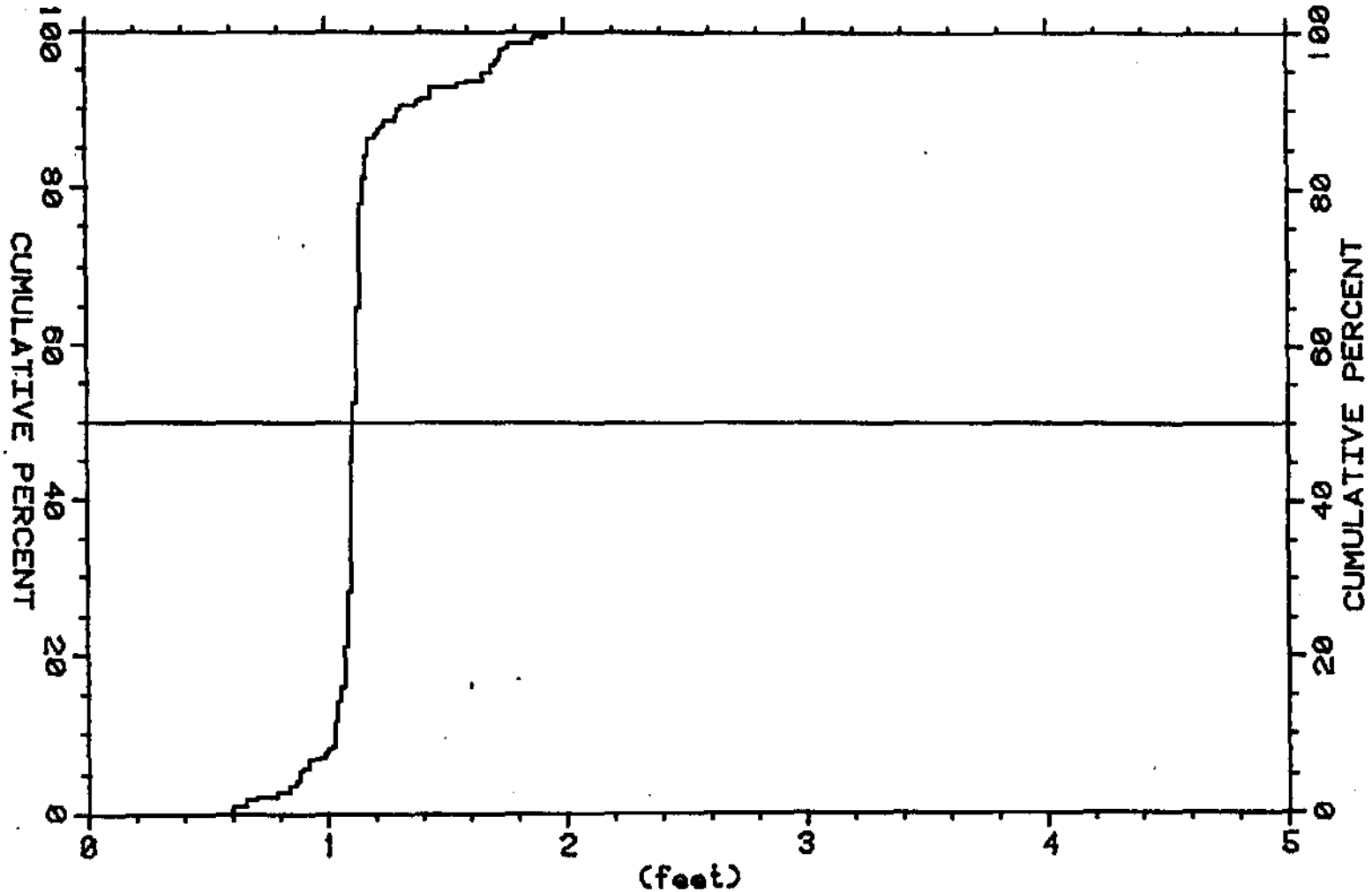
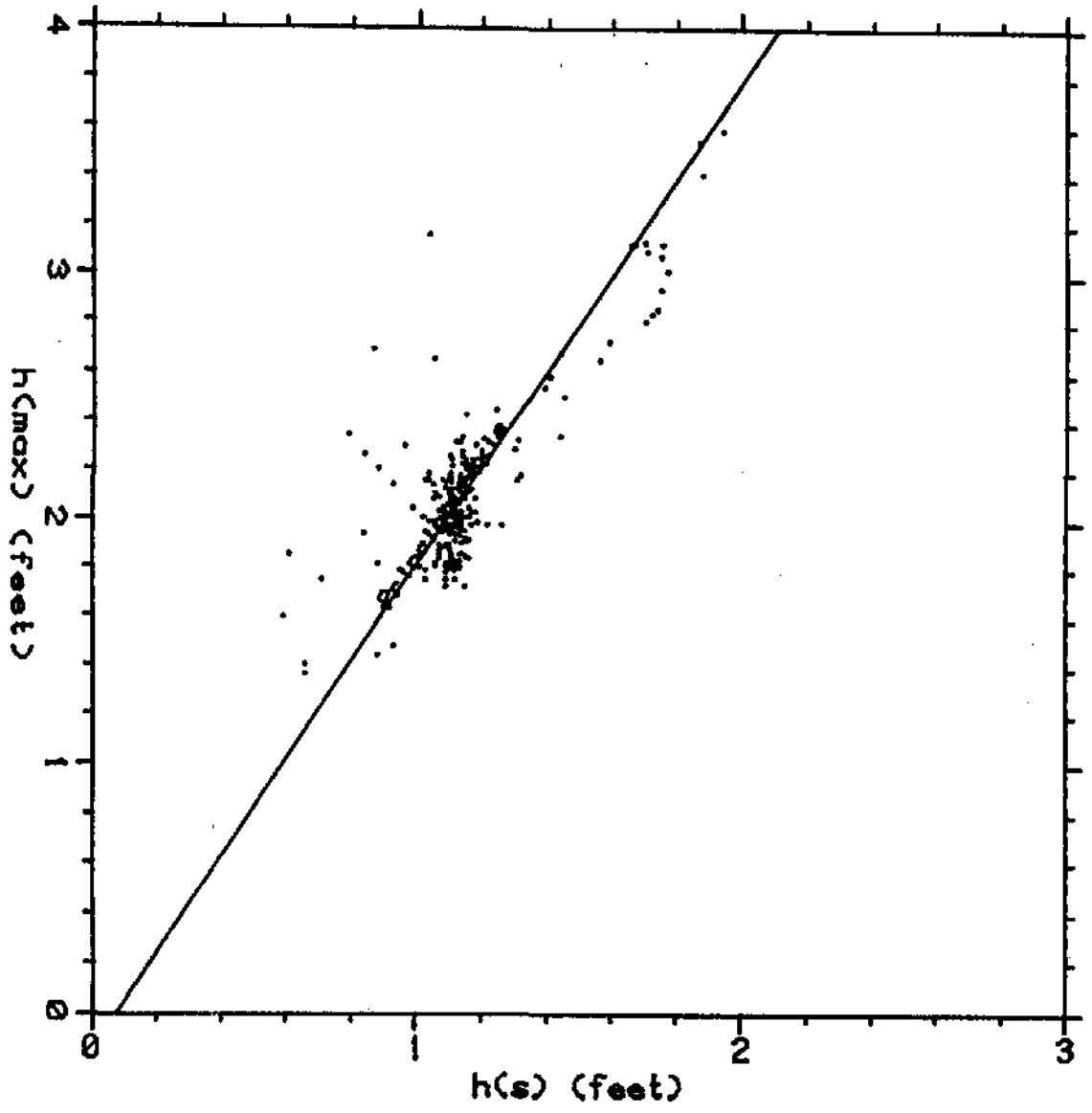
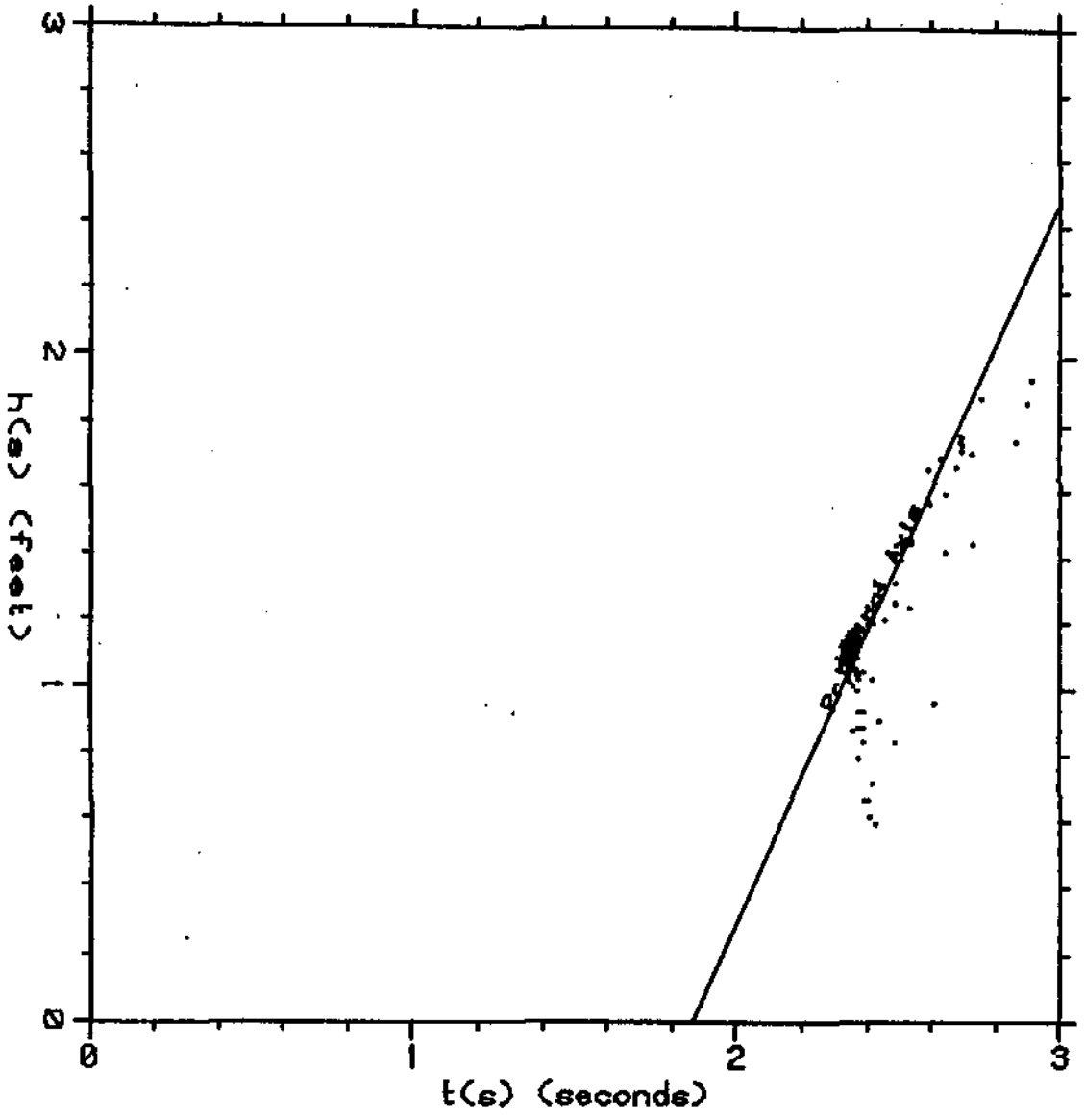


FIGURE B38. CUMULATIVE PROBABILITY PLOT
SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION Y
2015, 27 JULY TO 2015, 2 SEPTEMBER, 1982
223 DATA POINTS



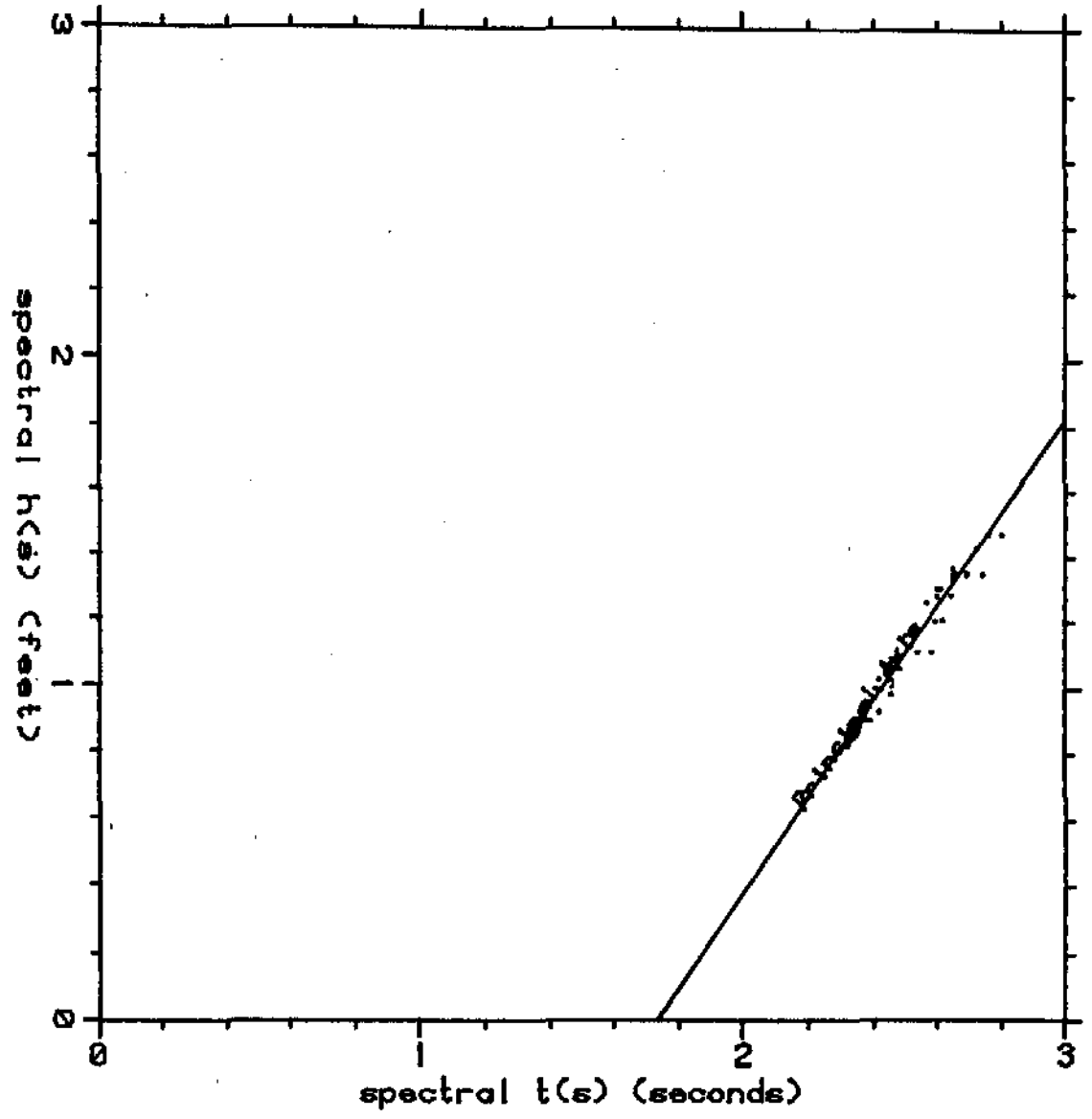
Statistics:
223 data points
time interval = 4.000 hours
H(s):
Mean = 1.15
Std. Dev. = 0.20
H(max):
Mean = 2.11
Std. Dev. = 0.35
Covariance = 0.05
Correlation = 0.800
Principal axis:
Slope = 1.966
Intercept = -0.147

FIGURE B43 SCATTER PLOT
H(S) VS. H(MAX)
POINT THOMSON STATION Y
2015, 27 JULY TO 2015,2 SEPTEMBER, 1982



Statistics:
- 223 data points
- time interval = 4.000 hours
- T(s):
  - Mean = 2.39
  - Std. Dev. = 0.11
- H(s):
  - Mean = 1.15
  - Std. Dev. = 0.20
- Covariance = 0.02
- Correlation = 0.783
- Principal axis:
  - Slope = 2.181
  - Intercept = -4.067

FIGURE B45. SCATTER PLOT
T(S) VS. H(S)
POINT THOMSON STATION Y
2015, 27 JULY TO 2015, 2 SEPTEMBER, 1982



Statistics:
223 data points
time interval = 4.000 hours
Spectral t(s):
Mean = 2.38
Std. Dev. = 0.09
Spectral h(s):
Mean = 0.92
Std. Dev. = 0.13
Covariance = 0.01
Correlation = 0.988
Principal axis:
Slope = 1.433
Intercept = -2.484

FIGURE B46. SCATTER PLOT
SPECTRAL T(S) VS. SPECTRAL H(S)
POINT THOMSON STATION Y
2015, 27 JULY TO 2015, 2 SEPTEMBER, 1982

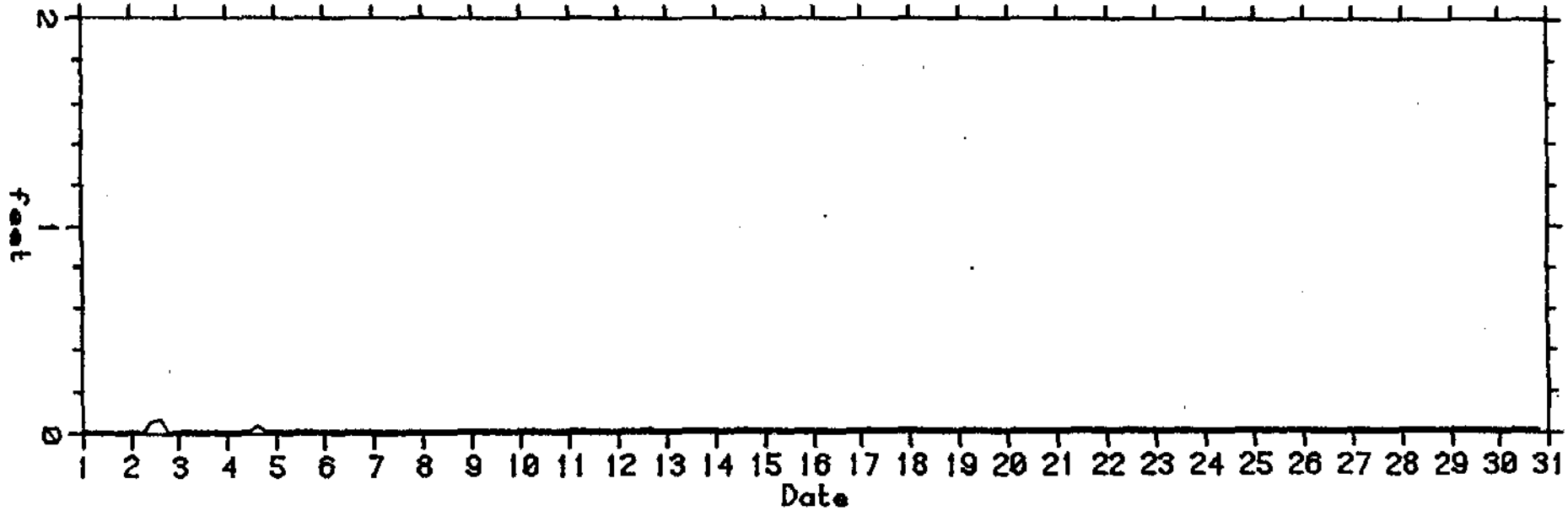


FIGURE B47. MAXIMUM WAVE HEIGHT
POINT THOMSON STATION SP
0210, 1 OCTOBER TO 1810, 30 OCTOBER, 1982

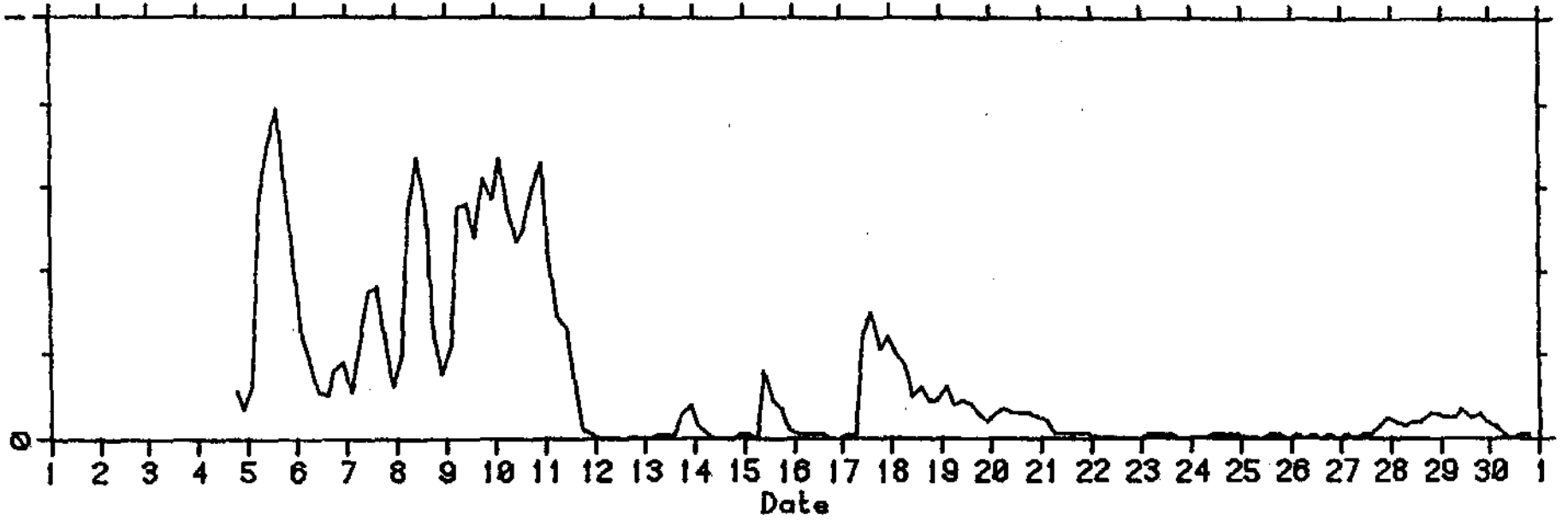


FIGURE B48 SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 1810, 30 SEPTEMBER, 1982

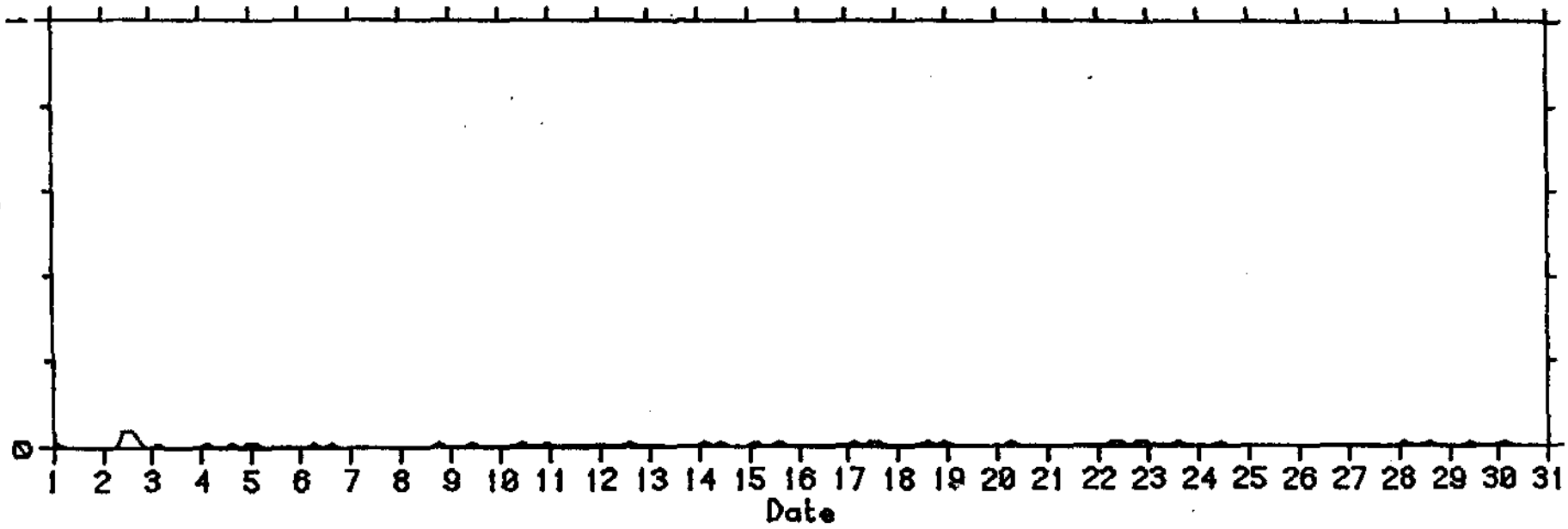


FIGURE B48. SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION SP
0210, 1 OCTOBER TO 1810, 30 OCTOBER, 1982

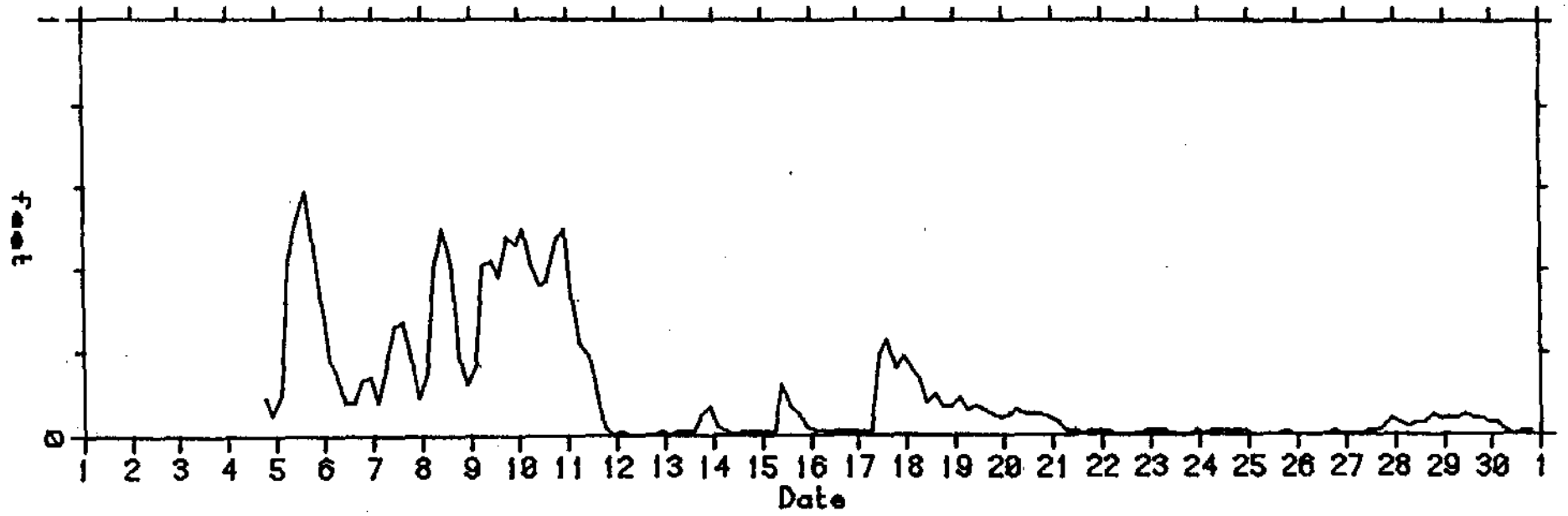


FIGURE B49. SPECTRAL SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 1810, 30 SEPTEMBER, 1982

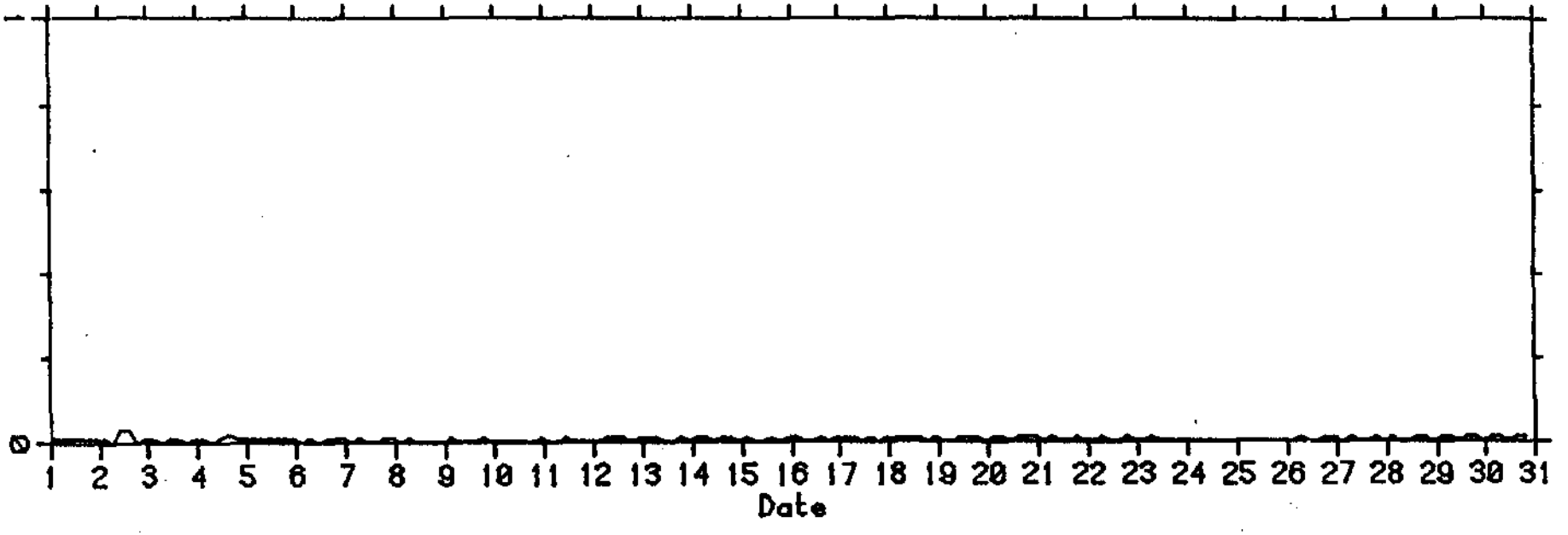


FIGURE B49. SPECTRAL SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION SP
0210, 1 OCTOBER TO 1810, 30 OCTOBER, 1982

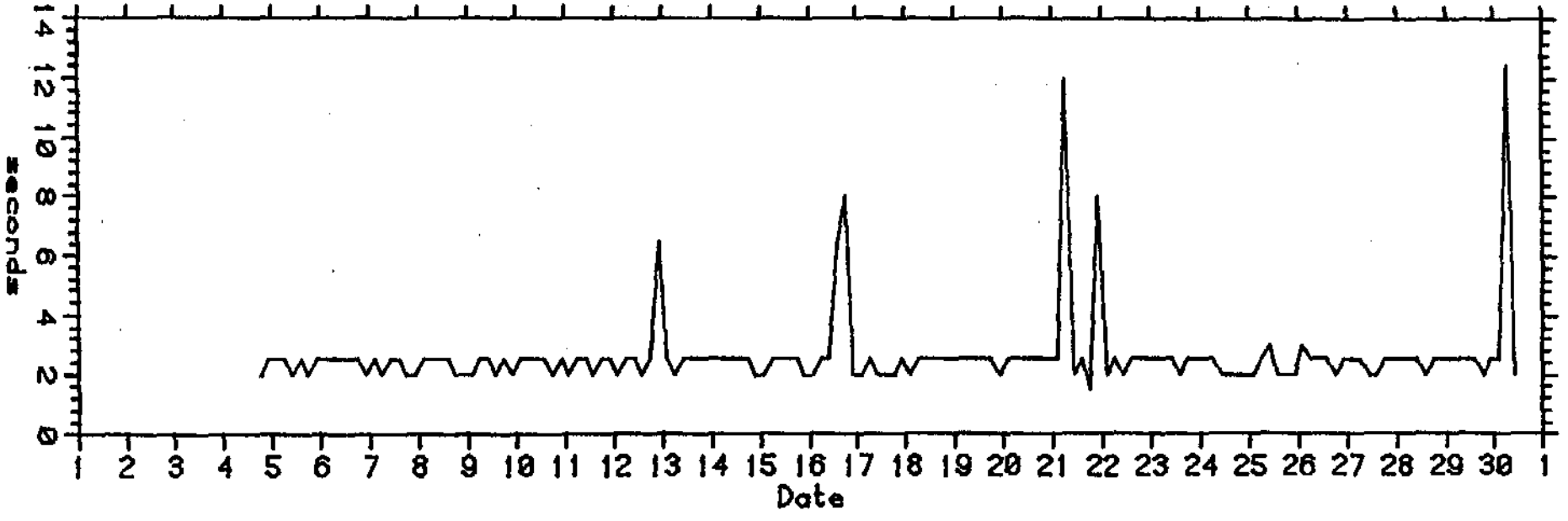


FIGURE B50. MAXIMUM WAVE PERIOD
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 1810, 30 SEPTEMBER, 1982

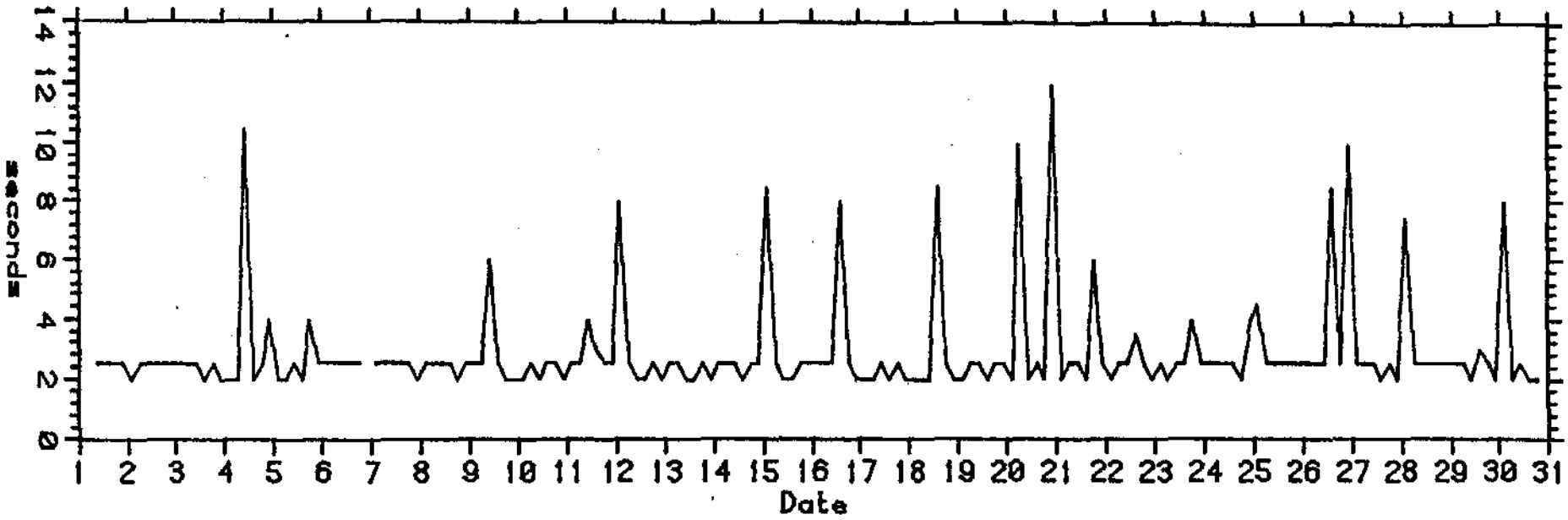


FIGURE B50. MAXIMUM WAVE PERIOD
POINT THOMSON STATION STATION SP
0210, 1 OCTOBER TO 1810, 30 OCTOBER, 1982

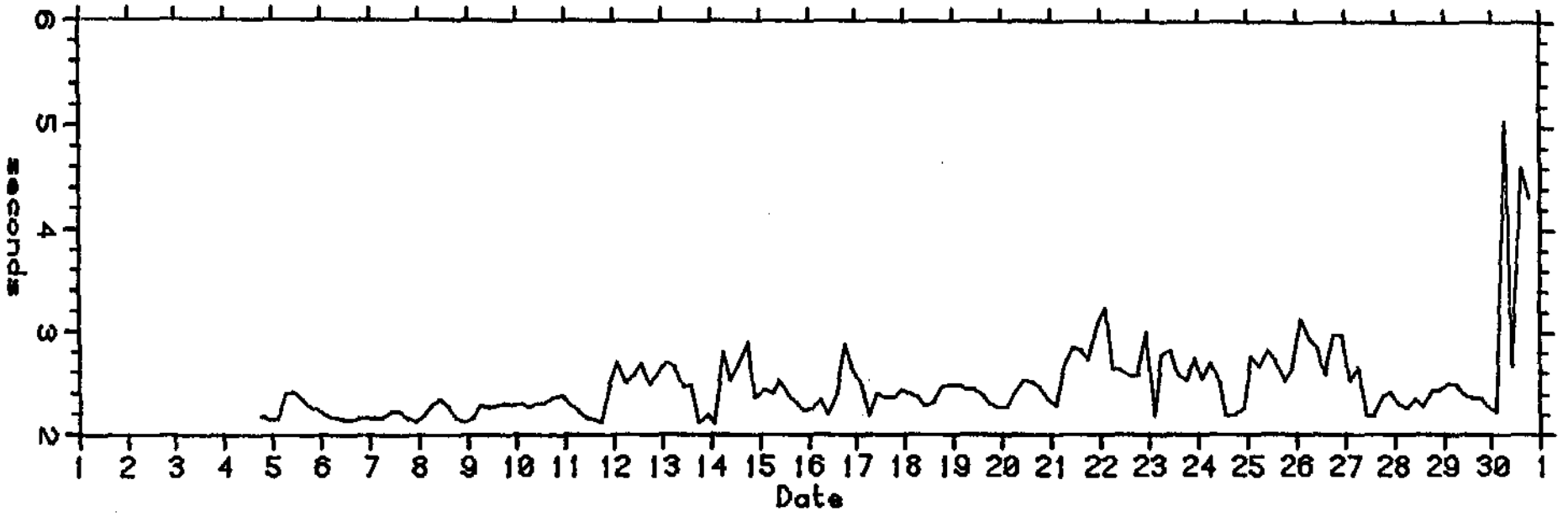


FIGURE B51. SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION SP
1810, 4 SEPTEMBER, TO 1820, 30 SEPTEMBER, 1982

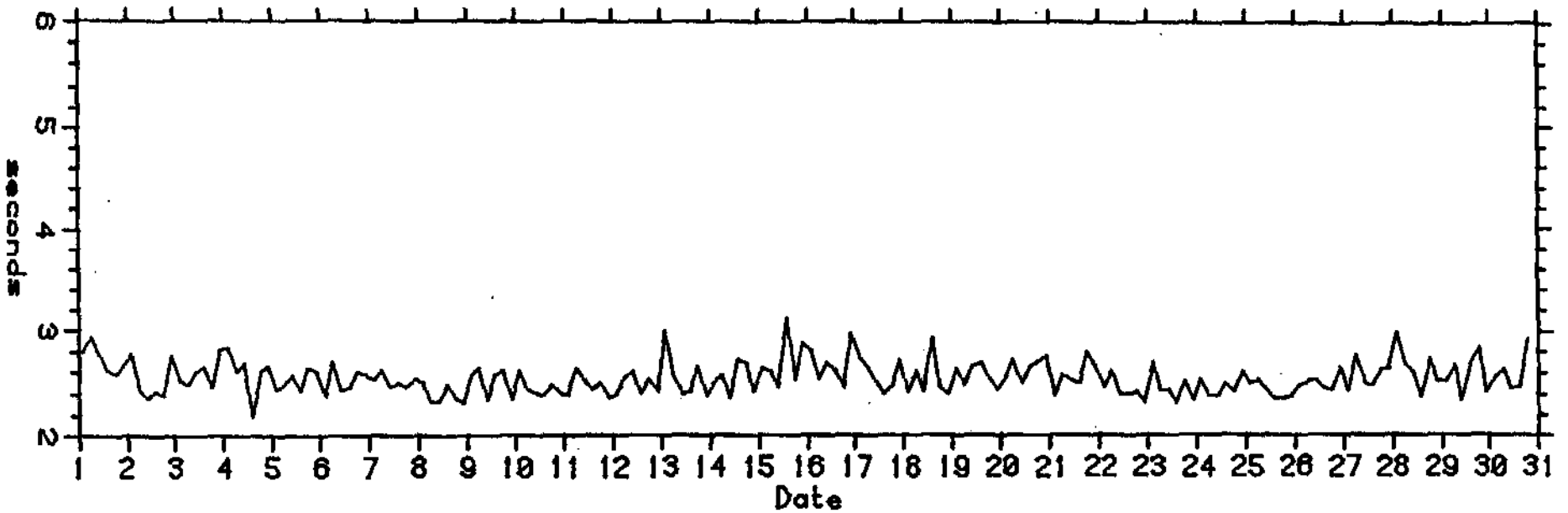


FIGURE B51. SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION SP
0210, 1 OCTOBER TO 1820, 30 OCTOBER, 1982

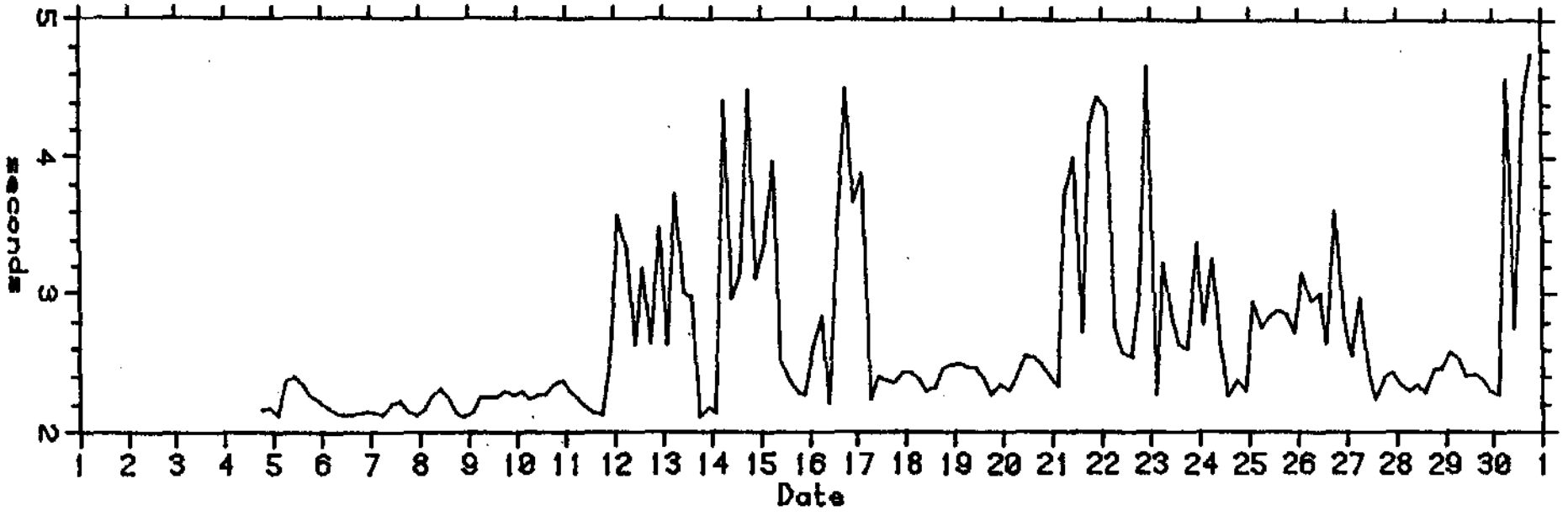


FIGURE B52. SPECTRAL SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 1810, 30 SEPTEMBER, 1982

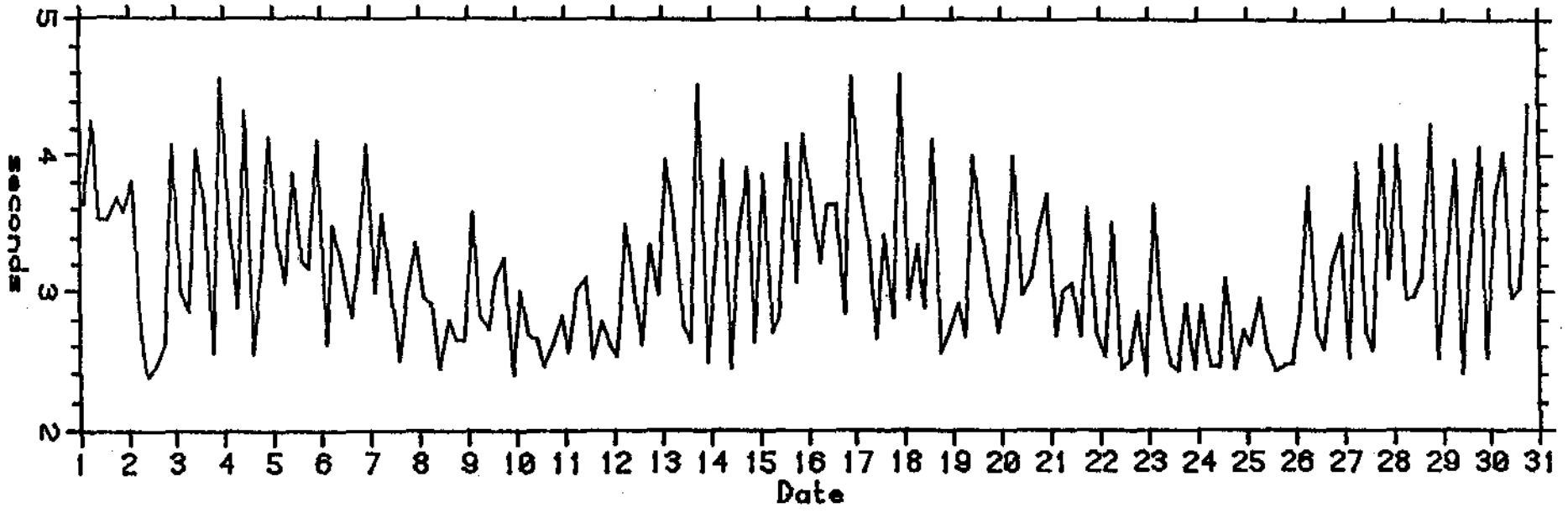


FIGURE B52. SPECTRAL SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION SP
0210, 1 OCTOBER TO 1810, 30 OCTOBER 1982

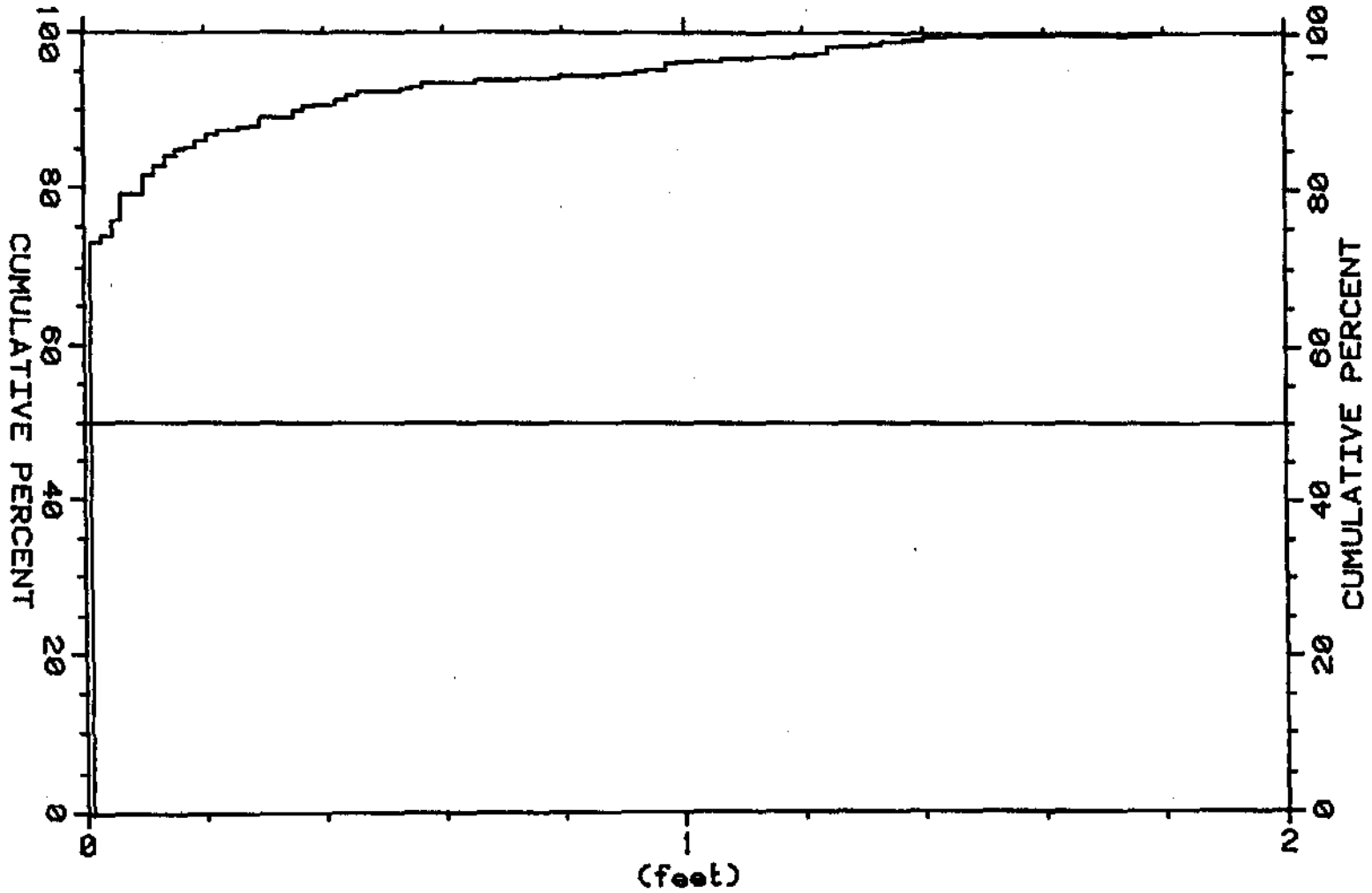


FIGURE B53. CUMULATIVE PROBABILITY PLOT
MAXIMUM WAVE HEIGHT
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982
339 DATA POINTS

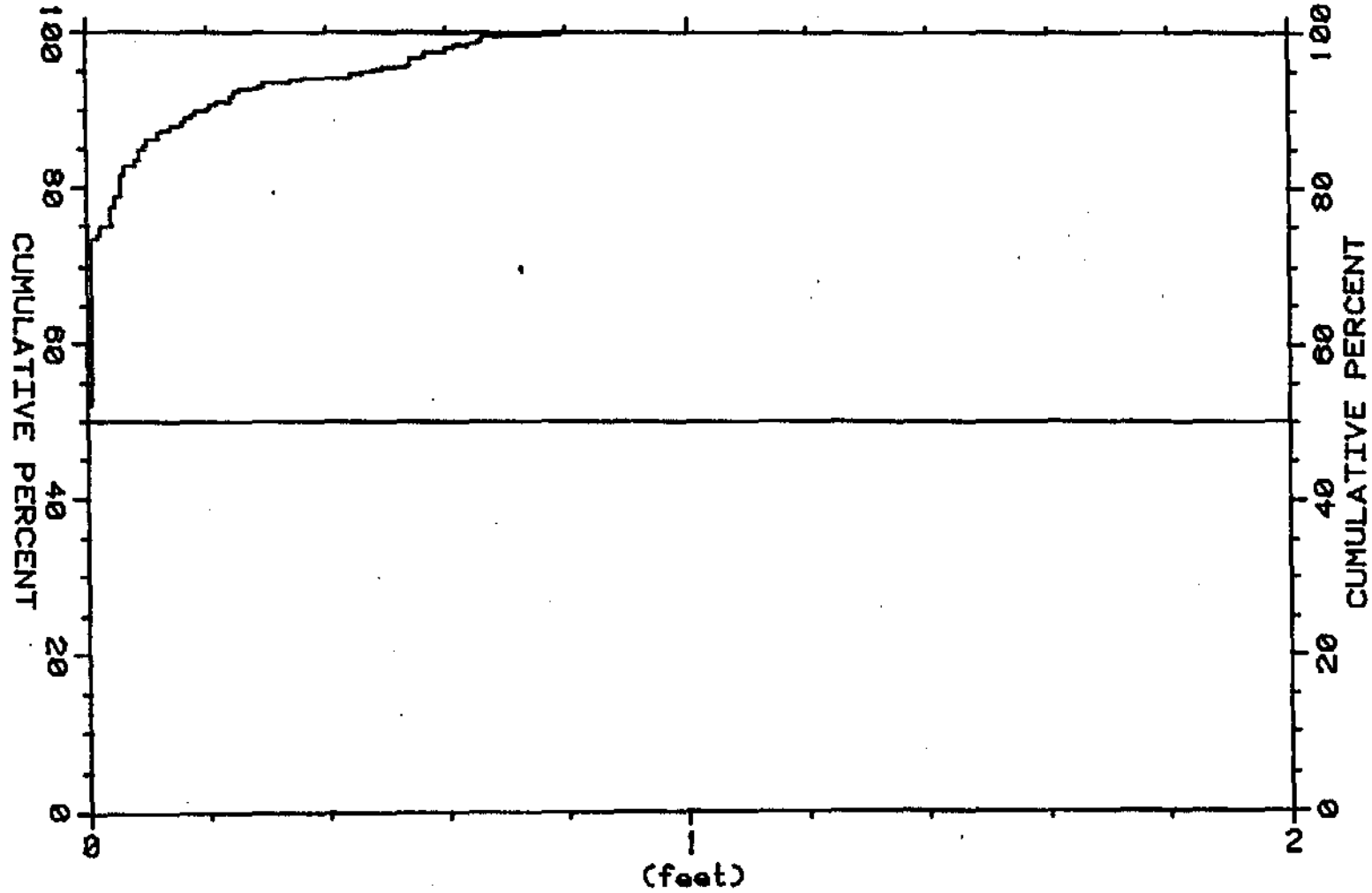


FIGURE B54 CUMULATIVE PROBABILITY PLOT
SIGNIFICANT WAVE HEIGHT
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982
339 DATA POINTS

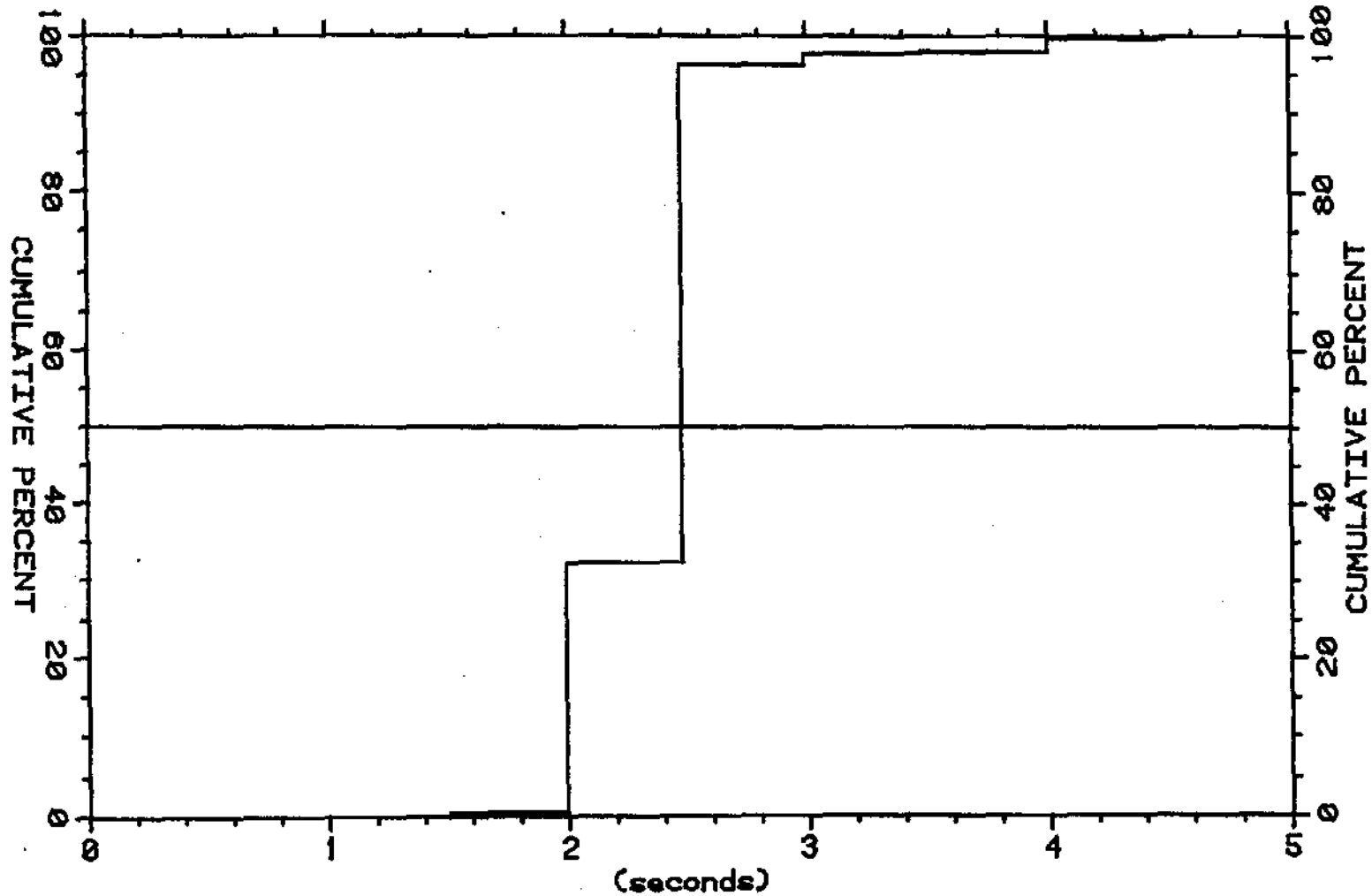


FIGURE B55. CUMULATIVE PROBABILITY PLOT
MAXIMUM WAVE PERIOD
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982
317 DATA POINTS

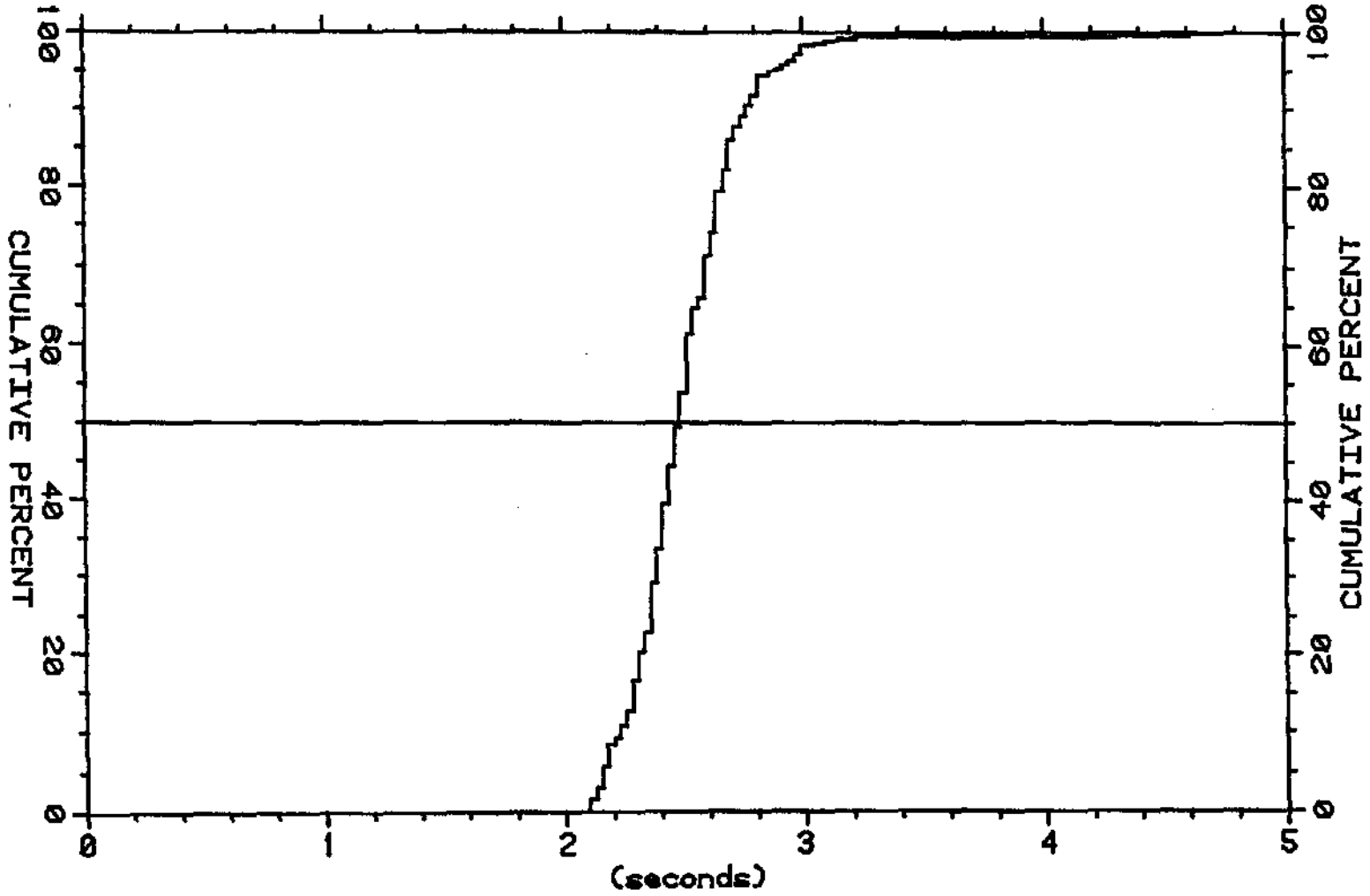
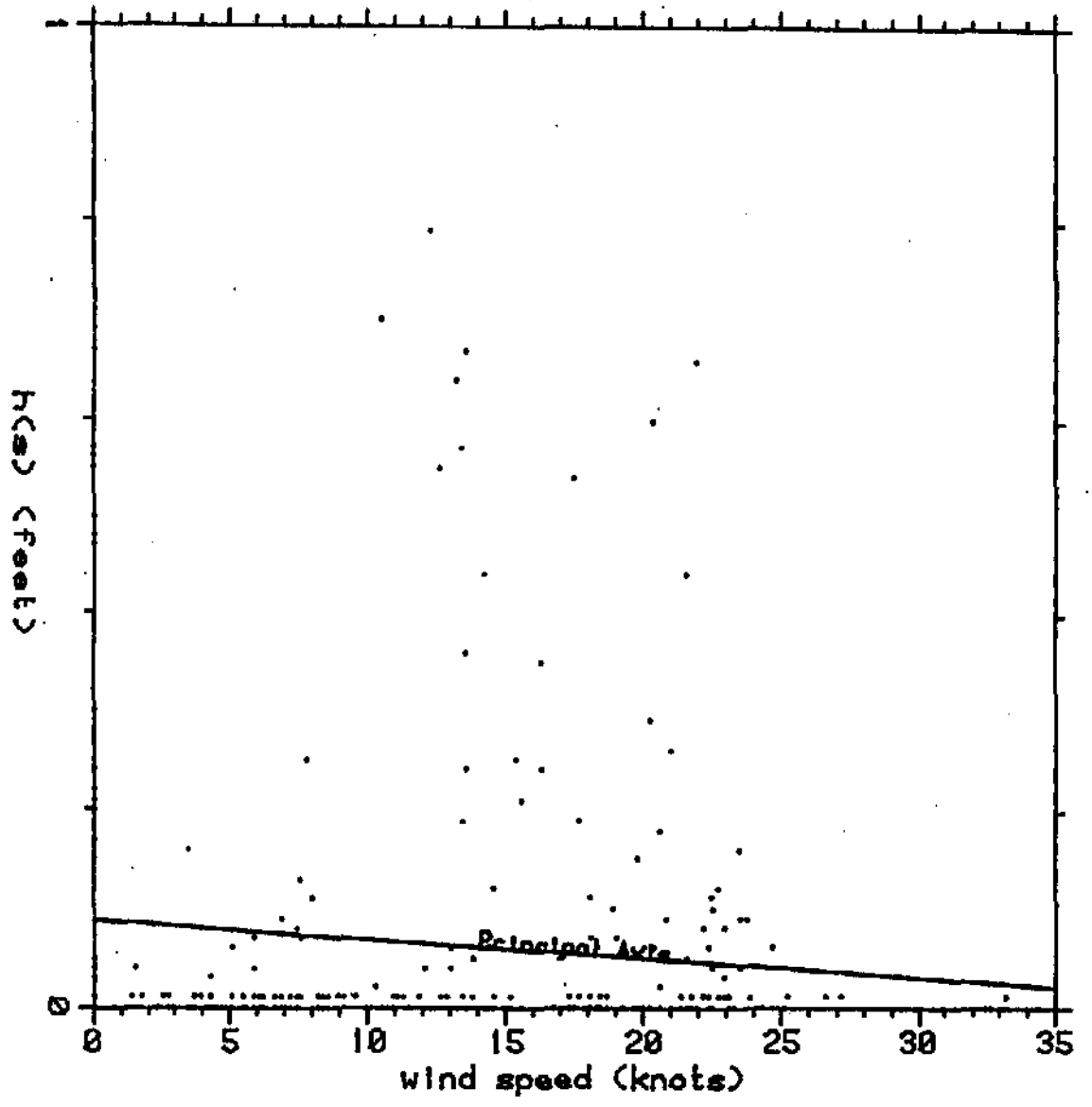
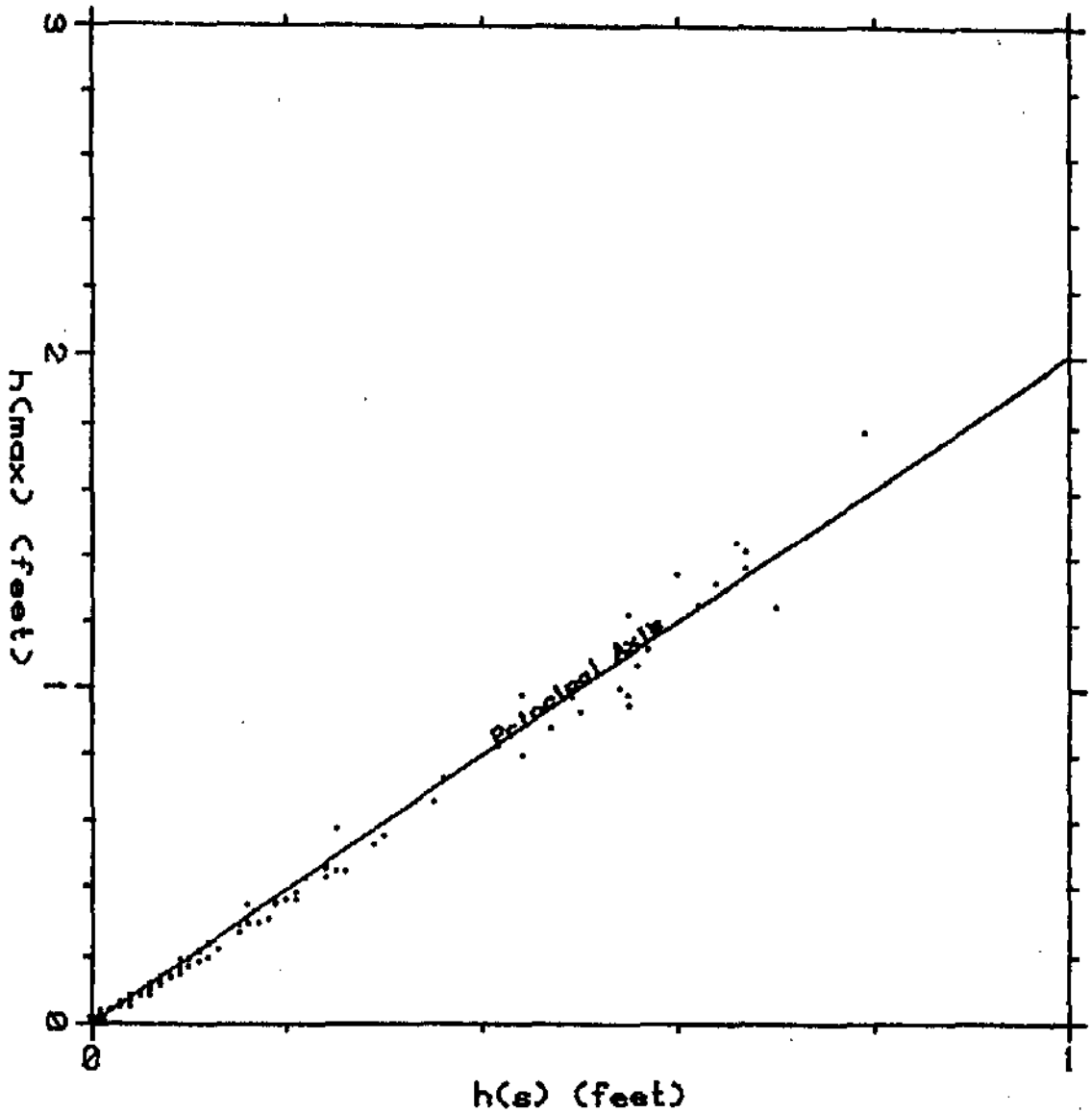


FIGURE B56. CUMULATIVE PROBABILITY PLOT
SIGNIFICANT WAVE PERIOD
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982
338 DATA POINTS



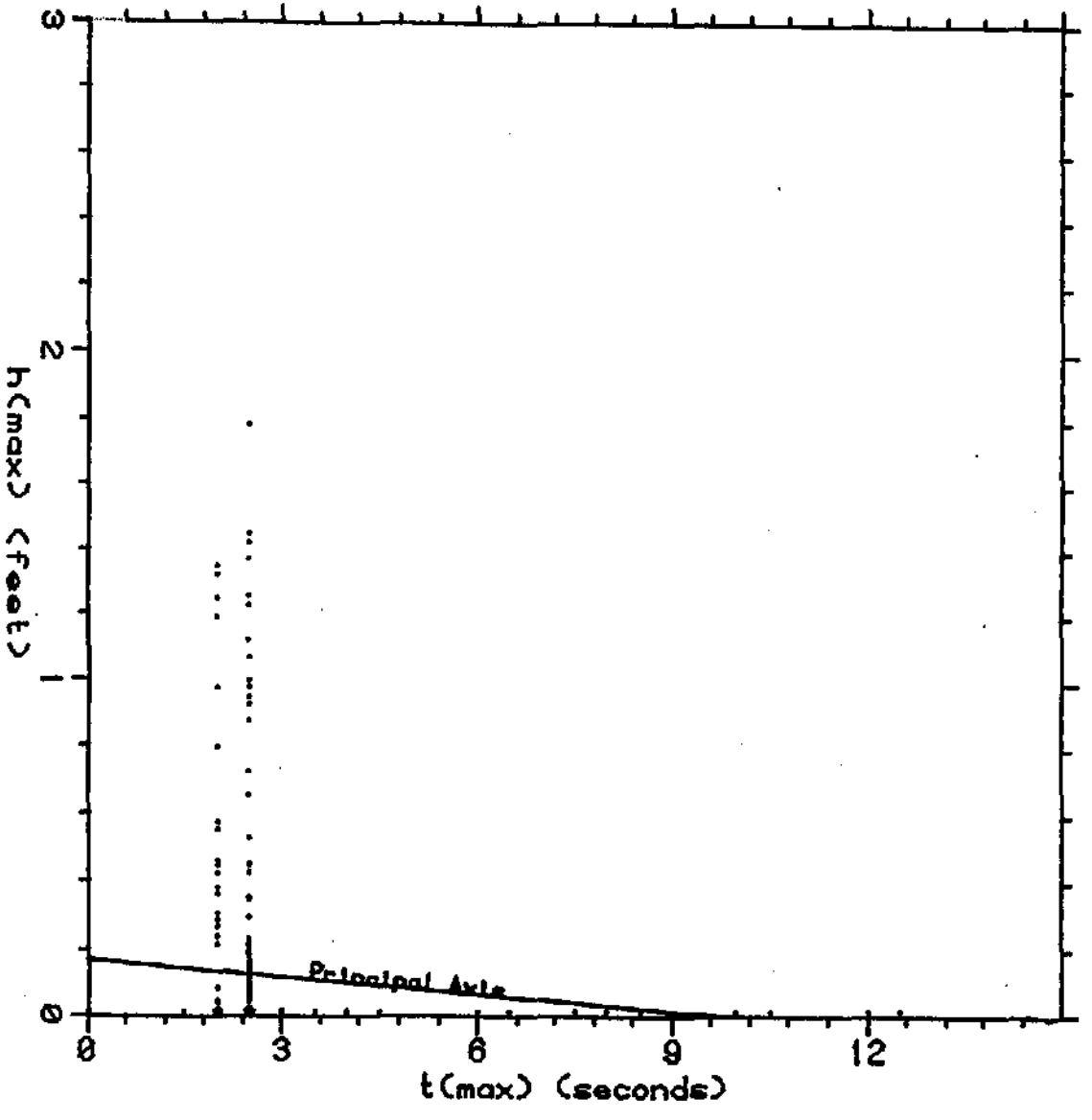
Statistics:
- 322 data points
- time interval = 4.000 hours
- Wind speed:
  - Mean = 12.47
  - Std. Dev. = 8.31
- H(s):
  - Mean = 0.06
  - Std. Dev. = 0.15
- Covariance = -0.13
- Correlation = -0.104
- Principal axis:
  - Slope = -0.002
  - Intercept = 0.086

FIGURE B57. SCATTER PLOT
WIND SPEED VS. H(S)
CHALLENGE ISLAND WEATHER STATION VS. PT. THOMSON STATION SP
1805, 4 SEPTEMBER TO 0605, 28 OCTOBER, 1982



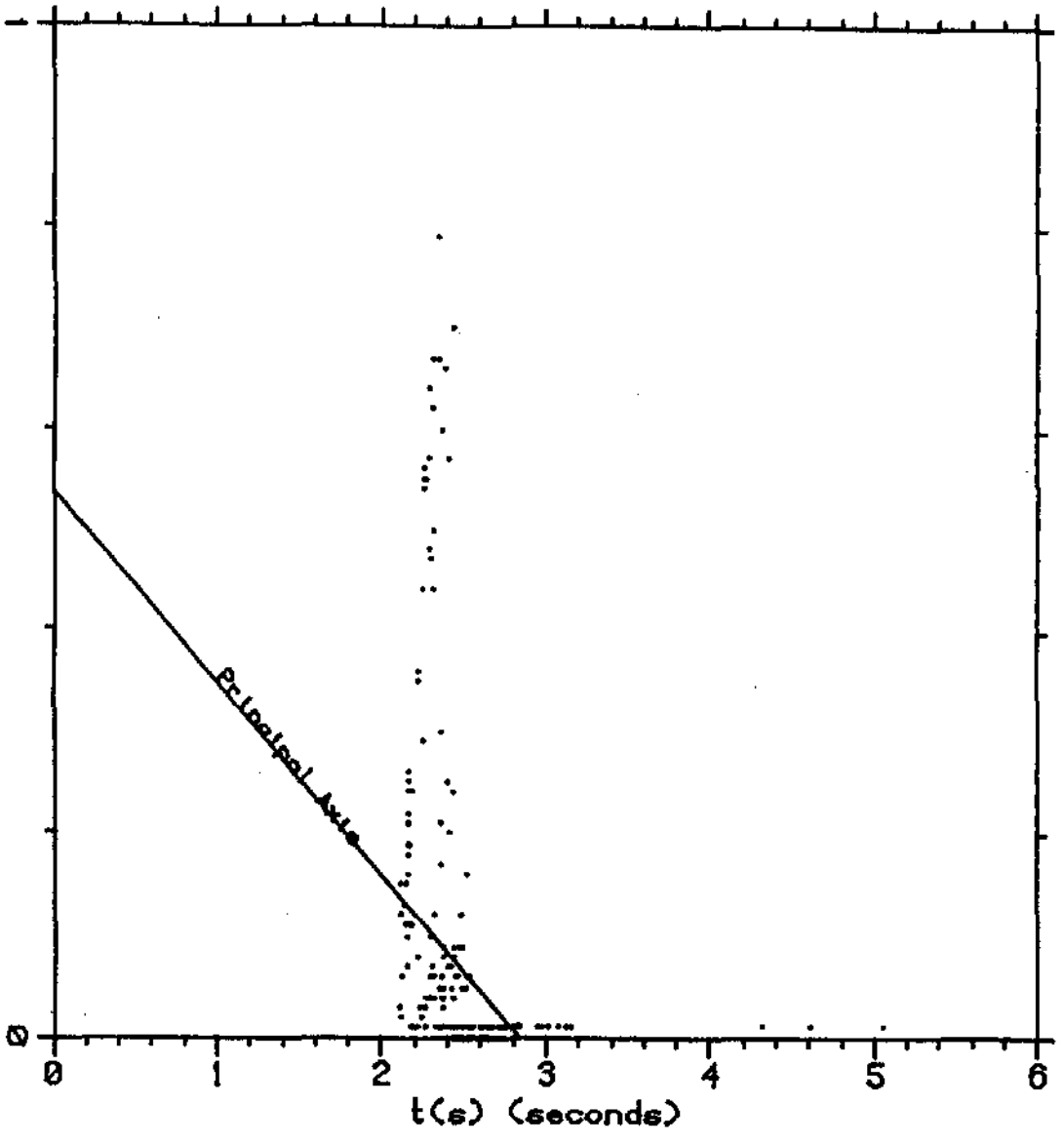
Statistics:
- 339 data points
- time interval = 4.000 hours
- H(s):
  - Mean = 0.06
  - Std. Dev. = 0.14
- H(max):
  - Mean = 0.12
  - Std. Dev. = 0.29
- Covariance = 0.04
- Correlation = 0.995
- Principal axis:
  - Slope = 2.012
  - Intercept = -0.000

FIGURE B58. SCATTER PLOT
H(S) VS. H(MAX)
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982



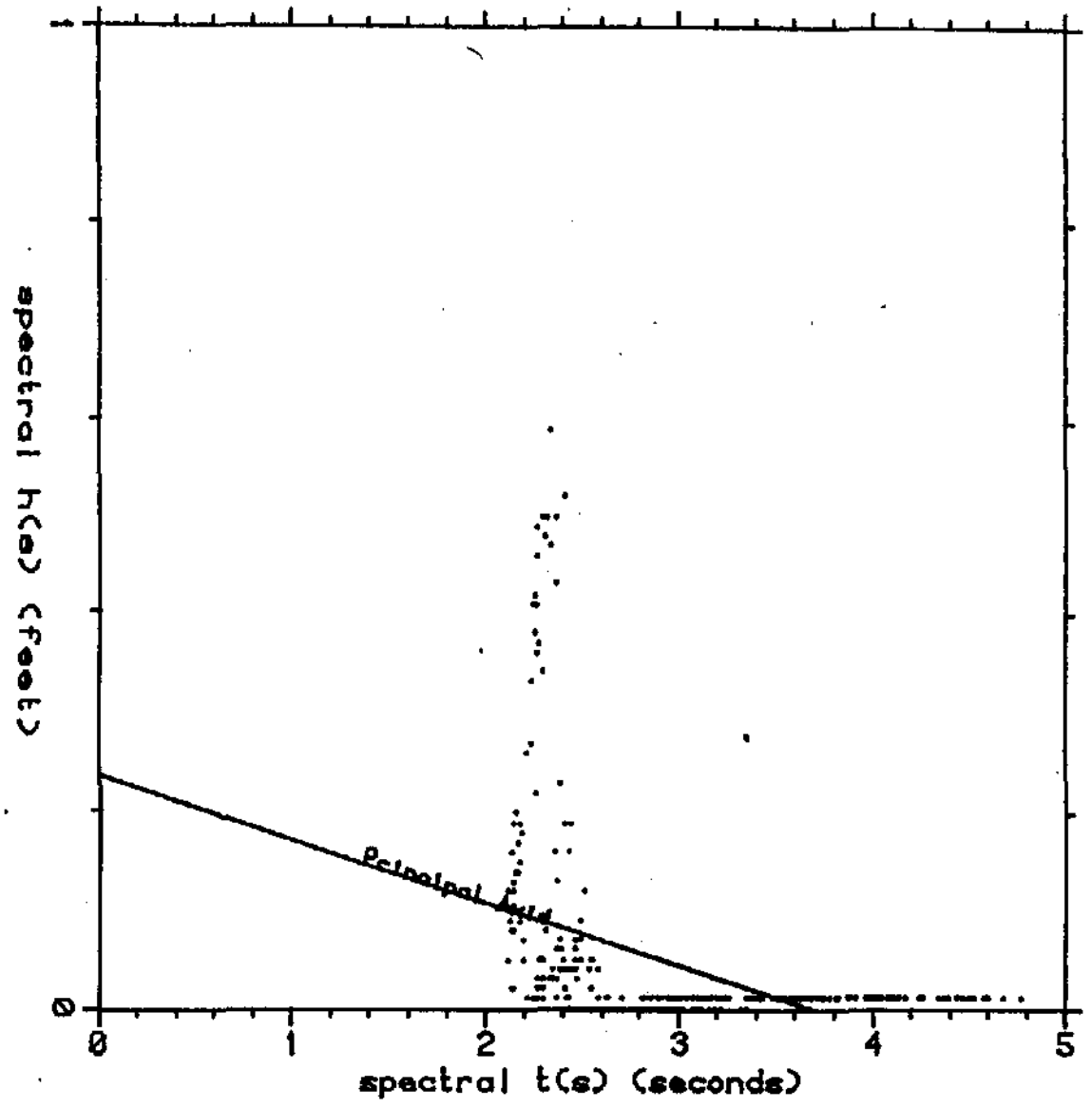
Statistics:
- 339 data points
- time interval = 4.000 hours
- T(max):
  - Mean = 2.71
  - Std. Dev. = 1.58
- H(max):
  - Mean = 0.12
  - Std. Dev. = 0.29
- Covariance = -0.04
- Correlation = -0.089
- Principal axis:
  - Slope = -0.017
  - Intercept = 0.167

FIGURE B59. SCATTER PLOT
T(MAX) VS. H(MAX)
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982



Statistics:
- 339 data points
- time interval = 4.000 hours
- T(s):
  - Mean = 2.52
  - Std. Dev. = 0.29
- H(s):
  - Mean = 0.06
  - Std. Dev. = 0.14
- Covariance = -0.01
- Correlation = -0.296
- Principal axis:
  - Slope = -0.189
  - Intercept = 0.536

FIGURE B60. SCATTER PLOT
T(S) VS. H(S)
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982



Statistics:
- 339 data points
- time interval = 4.000 hours
- Spectral t(s):
  - Mean = 2.93
  - Std. Dev. = 0.65
- Spectral h(s):
  - Mean = 0.05
  - Std. Dev. = 0.11
- Covariance = -0.03
- Correlation = -0.371
- Principal axis:
  - Slope = -0.064
  - Intercept = 0.236

FIGURE B61. SCATTER PLOT
SPECTRAL T(S) VS. SPECTRAL H(S)
POINT THOMSON STATION SP
1810, 4 SEPTEMBER TO 0210, 31 OCTOBER, 1982