Proudman Oceanographic Laboratory

Acoustic Doppler Current Profiler Records

Site A – 55°30' N 00°54' E

August 1988 – September 1989

North Sea Project

PJ Knight MJ Howarth and D Flatt

Report No 15 1991

Natural Environment Research Council

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DOCUMENT DATA SHEET

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PUBLICATION DATE **1991**

TITLE

Acoustic Doppler Current Profiler records. Site A - 55° 30'N 00° 54'E. August 1988 - September 1989. North Sea Project.

REFERENCE

Proudman Oceanographic Laboratory, Report No 15, 147pp.

ABSTRACT

This report describes results from an ADCP current meter rig positioned at site A during the North Sea Project. Site A was one of six current meter sites used throughout the survey part of the experiment. Standard plots are shown as well as statistical output from the calibrated current meter records.

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KEYWORDS

CURRENT METER DATA **NORTH SEA PROJECT**
CURRENT METER OBSERVATIONS **NWEURNORS**
"CHALLENGER" / RRS-CRUISES (1988-89)

CONTRACT

PROJECT **MLS-21-5**

PRICE £ 34 [redacted]

CONTENTS

1 INTRODUCTION

Fifteen months of data were gathered in the southern North Sea as part of the North Sea Project, a NERC Community Research Project. Each month the RRS Challenger ship time was split between a two week survey and a two week process cruise.

This report describes the results from a current meter mooring at 55° 30′N 00° 54′E deployed during the survey cruises. The mooring was first deployed on survey cruise Challenger C33/88 and subsequently re-deployed during follow up cruises between August 1988 and September 1989.

Figure 1 shows the position of the mooring, site A, and its relative position to other sites in the North Sea. It was one of six current meter moorings deployed during the North Sea Survey, and was situated in a region of weak tidal currents, up to a maximum of 0.5 m s^{-1}, and in 85m depth of water. During the summer period the site was stratified. Data reports for the other sites are given in POL reports 11, 12 ,13 (Knight, Falconer and Howarth, 1990) and 16, 17 (Knight, Howarth and Flatt, 1991).

The mooring, Figure 2, contained two instruments, an Acoustic Doppler Current Profiler (ADCP) and an Aanderaa, RCM 4 or RCM 7 current meter, both mounted on the sea bed. The ADCP recorded vector averaged North and East components of current at set levels throughout the water column. The Aanderaa measured conductivity, pressure and temperature. The pressure sensor, not of tide gauge quality, gave an indication of mooring stability.

Gaps of the order of 20 minutes occurred in the ADCP data during the C51/89 deployment. After calibration of the data and, if required, linear interpolation of the gaps, statistics were calculated and a low pass filter was applied to produce six hourly values which were also statistically analysed. Finally standard current meter plots were produced in order to check data quality and to aid in interpretation of the data.

The reference direction was estimated for each deployment, see Section 7, since the compasses returned arbitrary zero directions, because of a design fault. During C47/89 and C53/89 cruises RCM's were not fitted due to their unavailability. Also, mooring C39/88 was lost, and C41/89 and C45/89 were not re-deployed. The ADCP's returned 59% (angle corrected) and the RCM's 73% good data when deployed. The data coverage over the 15 month period was 50% for the ADCP's and 52% for the RCM's.

2 SUMMARY OF DEPLOYMENTS

The following information gives an overview of the data processed at site A during the North Sea project.

Mooring	Meter No	Deployment	Recovery	Meter Ht(m)	Data length	Comments
C33AC	0002	12-AUG-88	10-SEP-88	0.8	0.0 days	Corrupted data set
C33AC	7570	12-AUG-88	10-SEP-88	0.8	29.5 days	Good data set
C35AC	0004	10-SEP-88	10-OCT-88	0.8	0.0 days	Corrupted data set
C35AC	6443	10-SEP-88	10-OCT-88	0.8	29.3 days	Good data set
C37AC	0003	10-OCT-88	08-NOV-88	0.8	29.1 days	Upper eight bins corrupted
C37AC	7570	10-OCT-88	08-NOV-88	0.8	29.1 days	Good data set
C39AC	0005	10-NOV-88	----------	0.8	0.0 days	Lost
C39AC	1509	10-NOV-88	----------	0.8	0.0 days	Lost
C43AC	0007	03-JAN-88	06-FEB-89	0.8	0.0 days	Corrupted data set
C43AC	7570	03-JAN-88	06-FEB-89	0.8	34.2 days	Good data set until trawled
C47AC	0004	06-MAR-89	06-APR-89	0.8	30.7 days	Good data set
C49AC	0003	08-APR-89	04-MAY-89	0.8	25.8 days	Good data set
C49AC	9631	08-APR-89	04-MAY-89	0.8	0.0 days	Corrupted data set
C51AC	0001	04-MAY-89	02-JUN-89	0.8	28.0 days	Gaps
C51AC	6443	04-MAY-89	02-JUN-89	0.8	28.6 days	Good data set
C53AC	0002	02-JUN-89	01-JUL-89	0.8	28.8 days	Good data set
C55AC	0004	01-JUL-89	04-AUG-89	0.8	33.5 days	Good data set
C55AC	9631	01-JUL-89	04-AUG-89	0.8	33.5 days	T/S Spikes in parameters
C57AC	0003	04-AUG-89	16-AUG-89	0.8	4.8 days	Trawled
C57AC	9632	04-AUG-89	16-AUG-89	0.8	4.8 days	Trawled
C59AC	0009	30-AUG-89	29-SEP-89	0.8	29.6 days	Good data set
C59AC	6443	30-AUG-89	29-SEP-89	0.8	29.6 days	T/S/P Spikes in parameters

3 RIG SYSTEM DESCRIPTION

The mooring was deployed in a water depth of 85m at latitude 55° 30'N and longitude 00° 54'E. It consisted of two instruments, see Figure 4, and an IOS acoustic release mounted on a frame positioned on the sea bed. On recovery the release was triggered by sending acoustic signals from the ship so that the frame separated from the ballast weight. The frame under its own buoyancy (glass spheres) then rose to the surface ready for picking up. Figure 2 shows a schematic diagram of the mooring.

4 CURRENT METER SPECIFICATIONS

The ADCP (Proudman Oceanographic Laboratory 250 KHz version) measured the vertical profile of currents in bins from the sea floor to the surface. The Aanderaa of type RCM 4 or RCM 7 was used to measured conductivity, temperature and pressure.

4.1 Acoustic Doppler Current Profiler (POL 250 KHz version)

The ADCP sends out short acoustic pulses, typically lasting a few thousandths of a second, at a fixed frequency. The acoustic pulses are transmitted in two narrow beams at right angles to each other and 30° to the vertical and are reflected back to the ADCP by small particles such as plankton which move with the water. The frequency of the reflected signal is changed by a small amount proportional to the current speed, the Doppler shift. By measuring the frequency change along the two beams the speed and direction of the currents are determined. The currents at different heights through the water column are obtained by chopping the return signal into segments by time.

The 250 KHz ADCP has a range of 100m and can measure up to 24 bins. However, the technique has some limitations which reduce the amount of good data return. The closest bins to the transducers can give erroneous data due to the time taken for transients to decay and the far end bins can be effected by interference from side lobes reflected from the sea surface. Hence, the good data return bins are usually between 25% of depth from surface and 10% of depth from the bottom. The good bin returns are as follows: C37AC / bins(1-4), C47AC / C59AC / bins(1-10) and C49AC / C51AC / C53AC / C55AC / C57AC/ bins(1-11) with bins 1 (bottom) to 12 (top). The M2 amplitude generally increases with each bin up through the profile. However, amplitudes for bin 5's tended to be significantly lower than for bin 4's. This anomally is currently being investigated.

4.2 ADCP specification

Speed	Range	0 to 350 cm s^{-1}
	Accuracy	±4 cm s^{-1}
Direction	Refer to section **7 ANGLE CORRECTION TO ADCP DATA**	
Tilt	Two tilts measured at 90° to each other (not used in processing)	

4.3 ADCP set up details

Set up	Sample period	10 minutes
	Number of bins (cells)	12
	Number of pings in ensemble	275
	First bin height/Bin separation	13.4 m / 5.7 m
	Bin heights (range) (1-12)	13.4 m / 19.1 m / 24.8 m / 30.5 m / 36.2 m / 41.9 m / 47.6 m / 53.3 m / 59.0 m / 64.7 m / 70.4 m / 76.1 m

4.4 Aanderaa RCM 4 and RCM 7 current meters

Temperature is measured by a thermistor fitted into a stud extending into the water. Conductivity is measured by an electrodeless induction conductivity cell and pressure is measured by a sensor consisting of a potentiometer driven by a Bourdon tube. Both types of meter used similar sensors, but differed in data storage. The RCM 4 used 6mm width reel magnetic tape and the RCM 7 used solid state memory.

4.5 Aanderaa sensor specifications

Temperature	Range	-2.46 to 21.4°C
	Accuracy	±0.05°C
Conductivity	Range	21 to 51 mmho cm^{-1}
	Accuracy	±0.025 mmho cm^{-1}
Pressure	Range	0 to 100 PSI or 0 to 200 PSI
	Accuracy	±1%

5 DATA PROCESSING STEPS

5.1 Raw data transfer

The data from the deployments were brought back to POL in three different forms. These consisted of standard magnetic cassette from the ADCP, 6mm width magnetic tape from the RCM 4 and 3.5 inch floppy disk from the RCM 7. The RCM 7 data was translated from the solid state memory on board ship and the RCM 4 and ADCP data were translated on to an IBM/PS2 at POL. The data were then transferred to the IBM 4381 mainframe via a 3270 terminal emulator on the IBM/PS2.

5.2 Processing stage

Two software systems, CALT and CALP, were developed at POL for quick and efficient processing and display of times series data, such as current meter data. The CALT system calibrates and checks for errors and the CALP system produces standard graphical output, filtered and non-filtered statistical analyses. Before calibrating the data, all the information required for processing were input into an ORACLE data base. All the information could then be accessed easily with FORTRAN programs.

Processing was then initiated by CALTUX, which calls a suite of FORTRAN programs for error checking and producing calibrated data. Any errors found from the initial run were edited out of the raw data and CALTUX run again. After successful completion of the CALTUX stage another suite of FORTRAN programs initiated by DOPTX were used to produce the output contained in this data report. The types of plot obtained, details of filtering and statistics are explained in more detail in the following sections.

5.3 Interpolation

In some data sets, gaps occur of the order of 20 minutes, as indicated by the meter information sheets found further into the report and in Section 2 SUMMARY OF DEPLOYMENTS. In these cases the gaps were filled by linear interpolation to the data before producing standard graphical output and statistical analyses.

6 DETAILS OF STATISTICS AND FILTERING

6.1 Simple statistics

A simple statistical analysis was carried out on each calibrated data set. The following statistics were calculated :-

(1) Mean, variance and standard deviation of the East and North components of velocity.
(2) The mean vector speed and direction were calculated from the above statistics.
(3) The maximum ten and minimum ten Northings and Eastings and the top speeds.

6.2 Variance ellipse statistics

Statistical analysis was also carried out on the ellipse which can be graphically represented by a scatter plot. The following statistics were calculated :-

(1) The maximum and minimum variances and their ratio (minimum/maximum). If the ratio is near to one the currents have no preferred direction, whilst if it is near to zero the flow is rectilinear.
(2) The direction associated with the maximum and minimum variance, in the range of -180° to +180°.
(3) The total variance which equals the sum of the North and East component variances or the sum of the maximum and minimum variances.
(4) The average direction for each half of the ellipse, related to the directions of maximum variance. If these directions differ by 180° the scatter plot is symmetrical.

6.3 Filtering

The ten minute calibrated data were also low pass filtered, see Figure 3 which shows the filters response function, and sub-sampled every 6 hours. Three days of data are lost at the beginning and the end of the record. The statistical analysis was repeated on the filtered data set.

7 ANGLE CORRECTION TO ADCP DATA

7.1 Direction measurement

Figure 5 shows how beam 1 and beam 2 of the ADCP align with respect to the frame and the compass. The compass manufactured by Digicourse (no longer in production) measures the angle between magnetic North and the frame. The two beams can be converted into East and North components of velocity by using the angle obtained from the compass and trigonometry.

Preliminary analysis of ADCP data obtained from the Celtic Sea showed no problem with this type of compass. However, during the North Sea Project it had a tendency to stick giving directions of flow different from those predicted by tidal model results (Proctor, personal communication) and previous current meter records (Howarth, 1990). Also, the frame moved on the sea floor during some storm events. A correction was then required to the frame angle for each deployment.

7.2 Correction procedure

The ADCP data were first processed using the CALT and CALP software. The statistical analysis gave the angle α of maximum variance as shown in Figure 6(a). This angle α was taken to represent the M2 major axis tidal ellipse angle β shown in Figure 6(b). The compass, although giving incorrect readings of frame angle was recording direction to an unknown fixed position. It was therefore decided to correct the frame angle by adding a correction angle.

The correction angle was calculated from the difference between β calculated from a model and α calculated from the initial raw data analysis. The model gave a depth average value so α obtained from the data bin closest to this depth was needed. The bin to use was found by taking the bin nearest to a value z=0.4D, where D is the total depth of water and z is the height from the bottom (Prandle, 1982). There is a 180° ambiguity in the calculation of α which was resolved by study of the M2 tidal phase given by the model and by the observations.

7.3 Adaption of correction for frame movements

During some of the deployments the tilt and compass measurements from the ADCP and recovery positions of the mooring indicated limited movement of the frame on the sea floor. On some occasions the compass reacts correctly to the movement and the correction procedure is as in section 7.2. However, when the compass does not react correctly to these changes the record has to be split up into stable periods and the procedure in section 7.2 followed.

8 FORMAT OF DATA OUTPUT

All speeds and velocities are in m/s, directions in degrees true and time in GMT. The results are ordered by mooring number (See page 10). Each mooring result is made up of mooring information, meter information, and combined and depth averaged graphical output and statistics (unfiltered and filtered) with the ADCP first followed by the RCM.

8.1 Mooring information

Position latitude	: Latitude of deployment
Position longitude	: Longitude of deployment
Water depth(m)	: Depth measured from ship's echo sounder
Deployed on cruise	: Cruise identifier
Recovered on cruise	: Cruise identifier
Site name identification	: Additional site identifier
Magnetic deviation	: Taken from charts
Rig deployed on	: Time frame on the bottom
Rig recovered on	: Time release fired on rig
Period of deployment	: Total time of deployment
Comments	: Details regarding mooring

8.2 Meter information

Rig number	: Unique POL mooring/rig reference
Meter number	: Four digit current meter number
Frame angle correction	: Correction to be added to ADCP frame angle
Sample interval	: Sampling interval in seconds
Meter height from bottom	: Height in metres
Position of meter on rig	: A for attached to frame
Meter type	: DP for ADCP AA for RCM 4 AS for RCM 7
Meter started	: Date and time
Meter stopped	: Date and time
Time of last valid scan	: Used when good data ends before switch off
Period in days on record	: Total time meter switched on
Total number of scans	: Used to check timing
Timing error	: Error in seconds
Comments	: Details regarding meter

8.3 Combined ADCP profile output

(1) North and East components of velocity against time. The semi-diurnal nature of the tides can be seen as well as the Spring/Neap cycle in both components of velocity.

(2) Scatter diagrams of North components of velocity against the East components. Shows the direction and magnitudes of the currents. This plot is often a good check on the quality of the data, in particular regarding direction and possible problems at low speeds.

(3) Stacked filtered stick plot. The filtered data can be displayed in a stick type way in order to see the change of the residual flow with time and through the vertical.

(4) Combined statistics for each bin giving vector mean speed and direction, and maximum and minimum variance and directions of maximum and minimum variance.

8.4 Single bin (closest to depth average) output

(1) North and East components of velocity against time.

(2) Eulerian progressive vector plot. The nature of the residual flow is emphasised, although the semi-diurnal tides are also apparent.

(3) This is followed by simple statistics of the calibrated data and filtered data. The filtered statistics page is indicated by the letter 'F' at the end of the file type printed at the top of the page. The statistics shown are from the ADCP bin closest to a value representing the depth averaged value.

8.5 Aanderaa graphical output

(1) Temperature, salinity and pressure against time. Salinity is calculated from temperature, conductivity and pressure.

ACKNOWLEDGEMENTS

The authors would like to thank POL engineers for setting up, deploying and recovering the instruments. The survey on such a large scale and with quick turn around of equipment needed would not have yielded such excellent returns without their effort and it is to their credit. We would also like to thank Steve Loch of BODC for undertaking the initial design and implementation of the CALTUX software.

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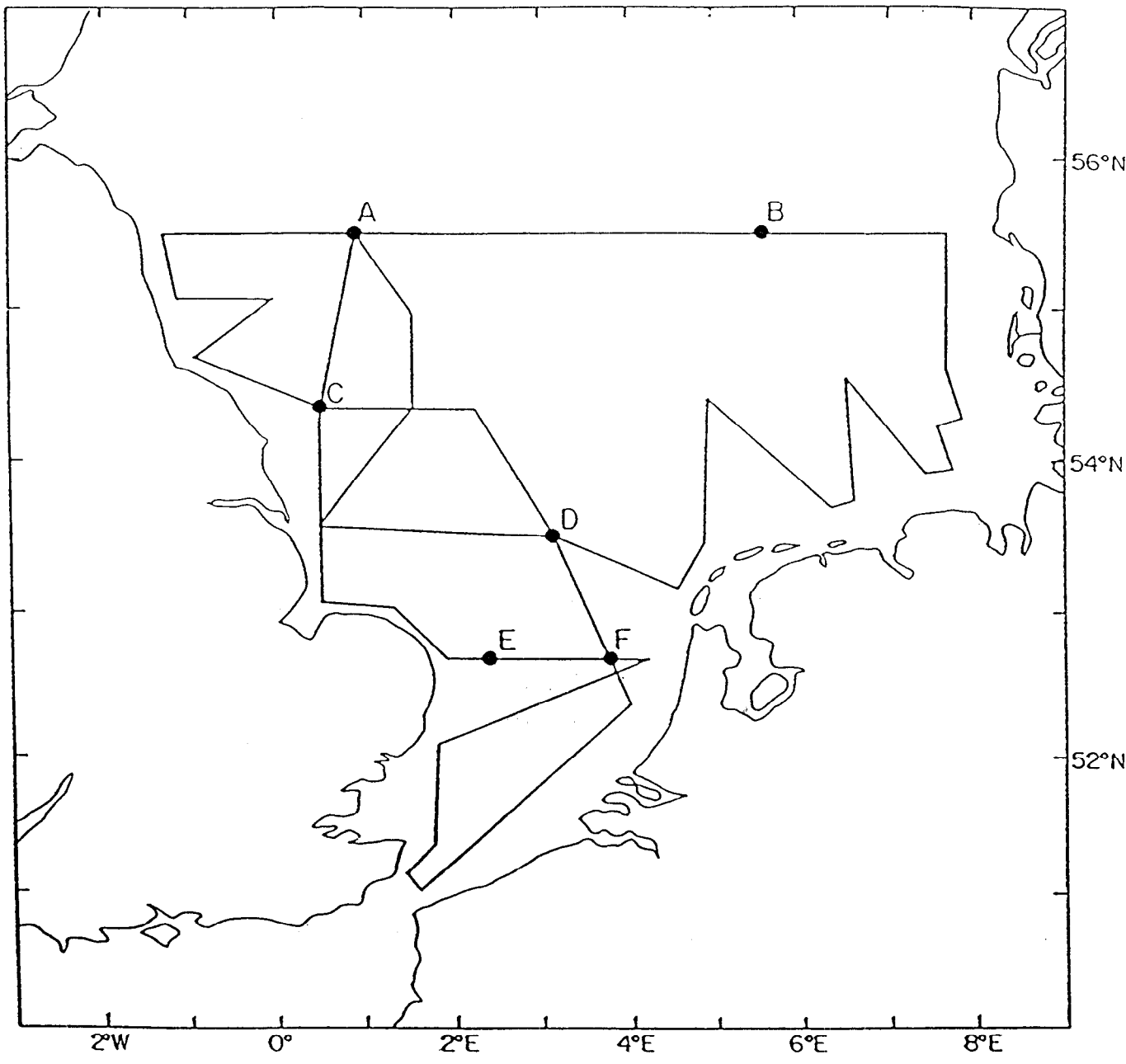


Figure 1. Positions of North Sea Project current meter rigs.

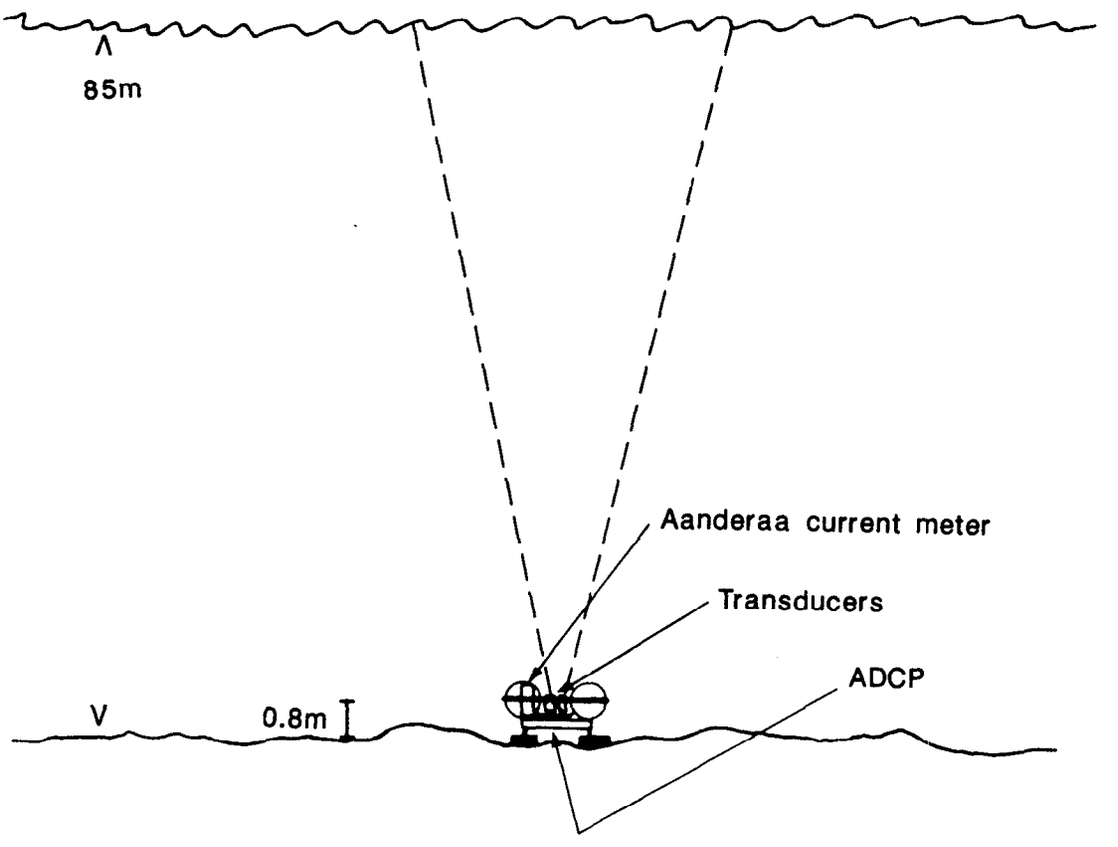


Figure 2. Mooring system schematic description.

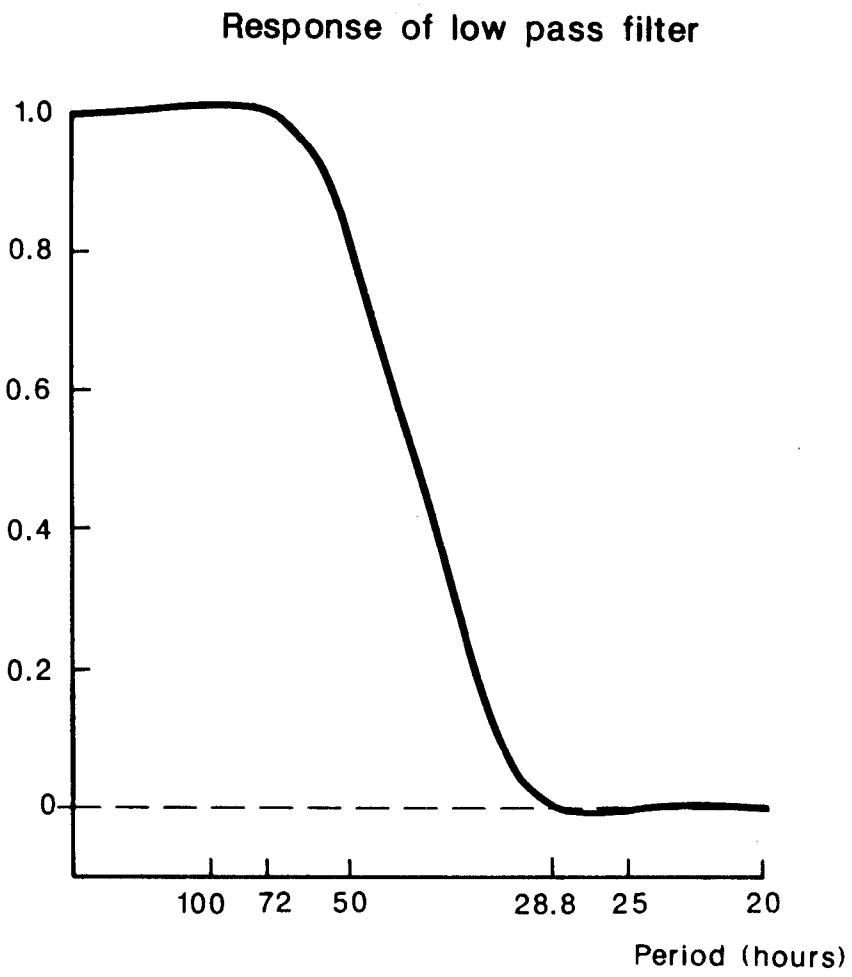


Figure 3. Response of low pass filter.

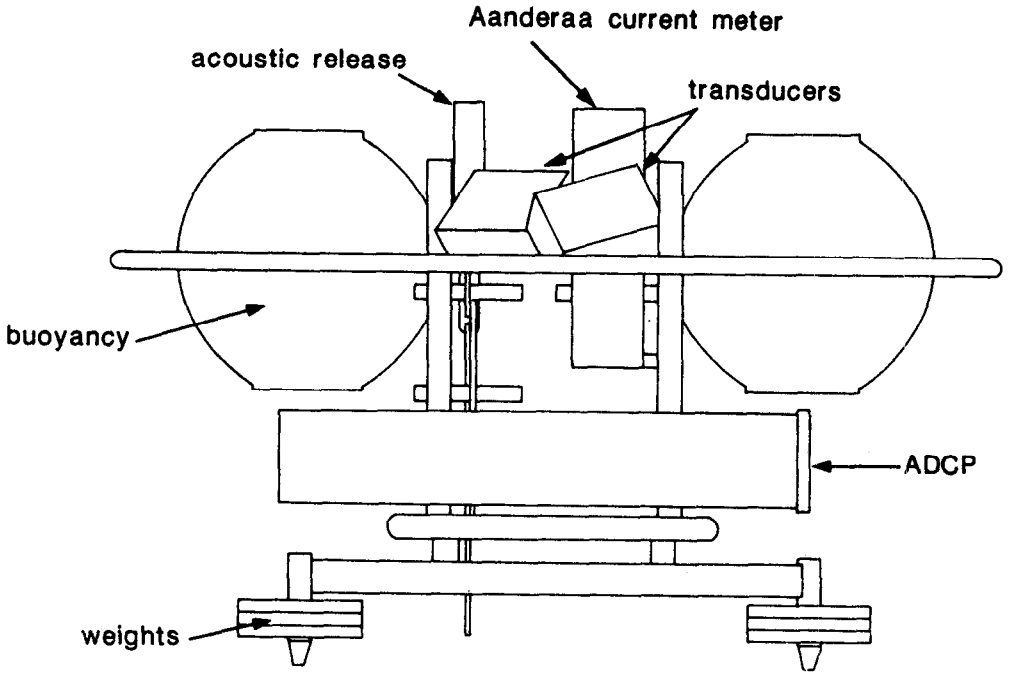


Figure 4. Diagram of ADCP and Aanderaa current meters on frame.

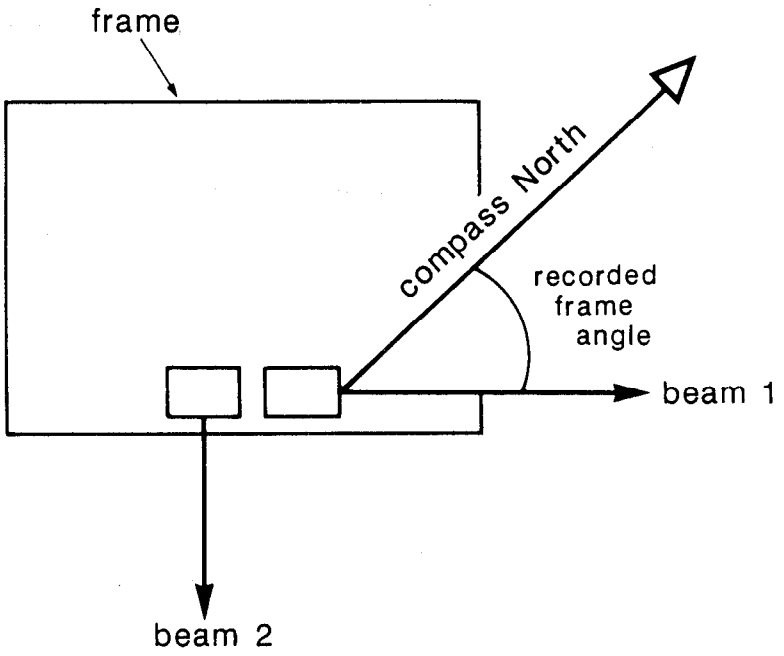


Figure 5. ADCP compass alignment.

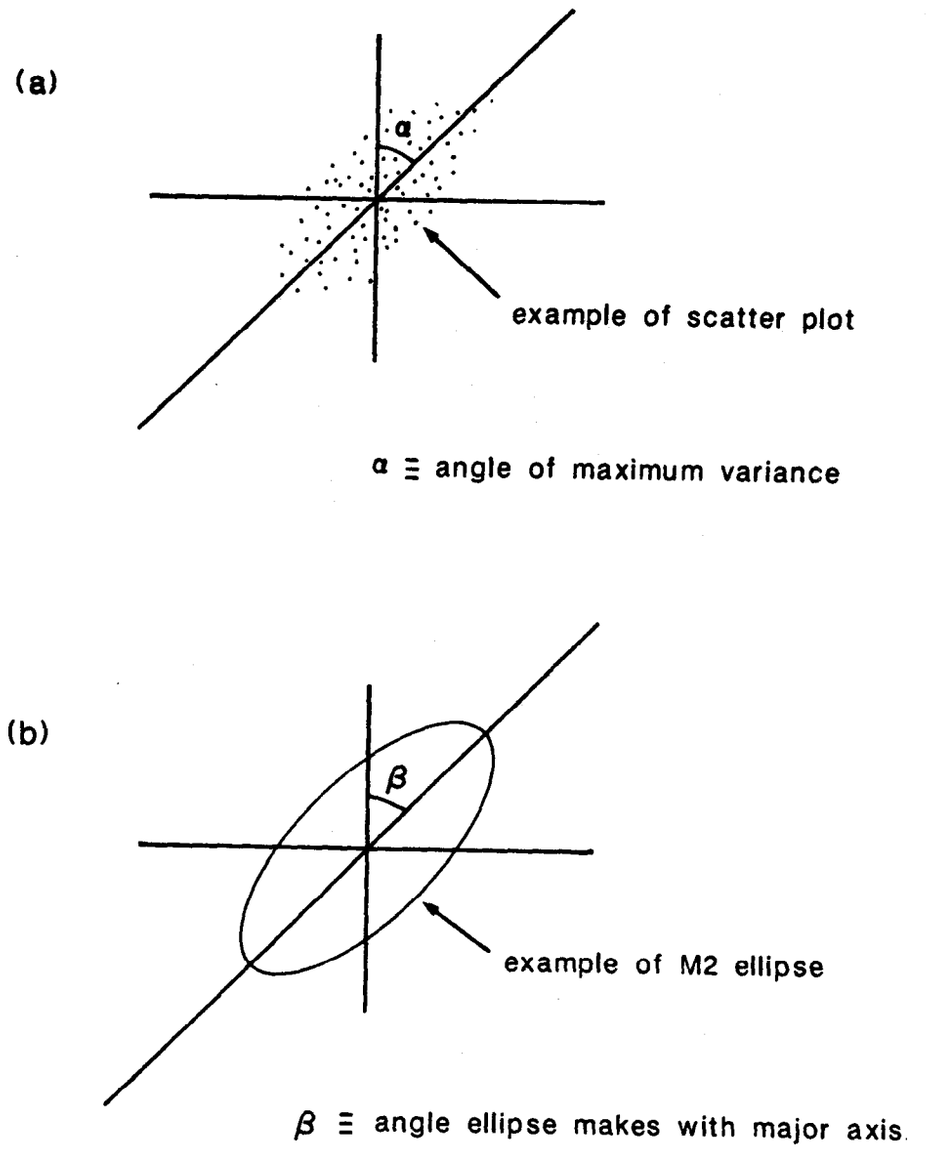


Figure 6. Diagram showing angles used in correction.

Rig information details for C33AC

Position Latitude	:	55 29.96N
Position Longitude	:	00 54.00E
Water depth	:	85.0 m
Deployed on cruise	:	C33
Recovered on cruise	:	C35
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	12-AUG-88 07:35:00
Rig recovered on	:	10-SEPT-88 18:39:00
Period of deployment	:	29.5 days
Comments	:	Launch and recovery successful

Meter information details for 0002

Rig No	:	C33AC
Meter No	:	0002
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	Corrupted data set

Meter information details for 7570

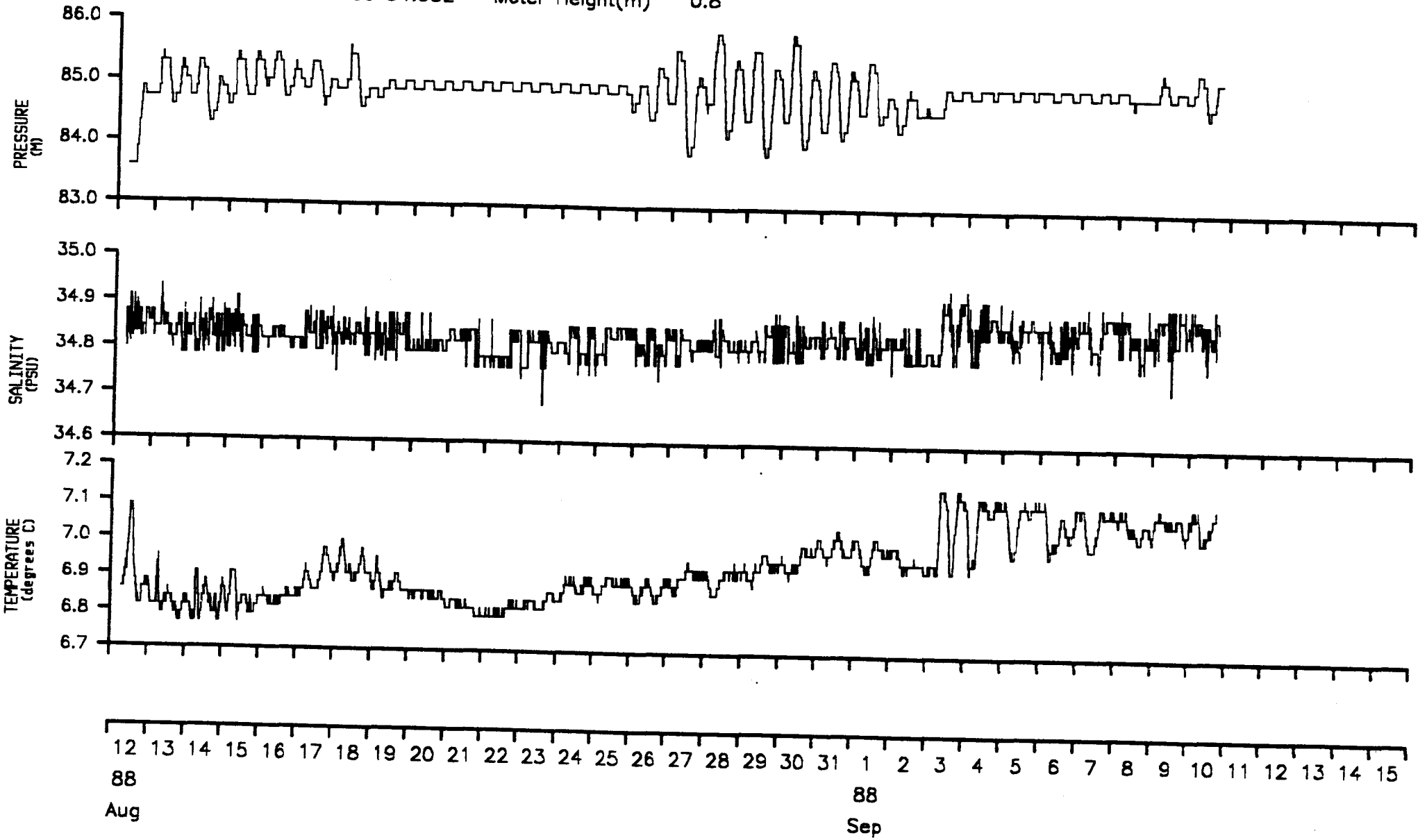
Rig No	:	C33AC
Meter No	:	7570
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AA
Meter started	:	09-AUG-88 05:30:00
Meter stopped	:	11-SEPT-88 08:10:48
Period switched on	:	33.1 days
Period of good data	:	29.5 days
Total number of scans	:	4242
Timing error	:	48 seconds slow
Comments	:	Good record obtained

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 7570 Rig no. C33AC Depth of water(m) 85.0

Start/End 1988/08/12 AT 07:35:00 1988/09/10 AT 18:39:00

Position 55 29.96N 00 54.00E Meter Height(m) 0.8



Rig information details for C35AC

Position Latitude	:	55 29.92N
Position Longitude	:	00 54.09E
Water depth	:	85.0 m
Deployed on cruise	:	C35
Recovered on cruise	:	C37
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	10-SEPT-88 22:49:00
Rig recovered on	:	10-OCT-88 06:00:00
Period of deployment	:	29.3 days
Comments	:	Launch and recovery successful

Meter information details for 0004

Rig No	:	C35AC
Meter No	:	0004
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	Corrupted data set

Meter information details for 6443

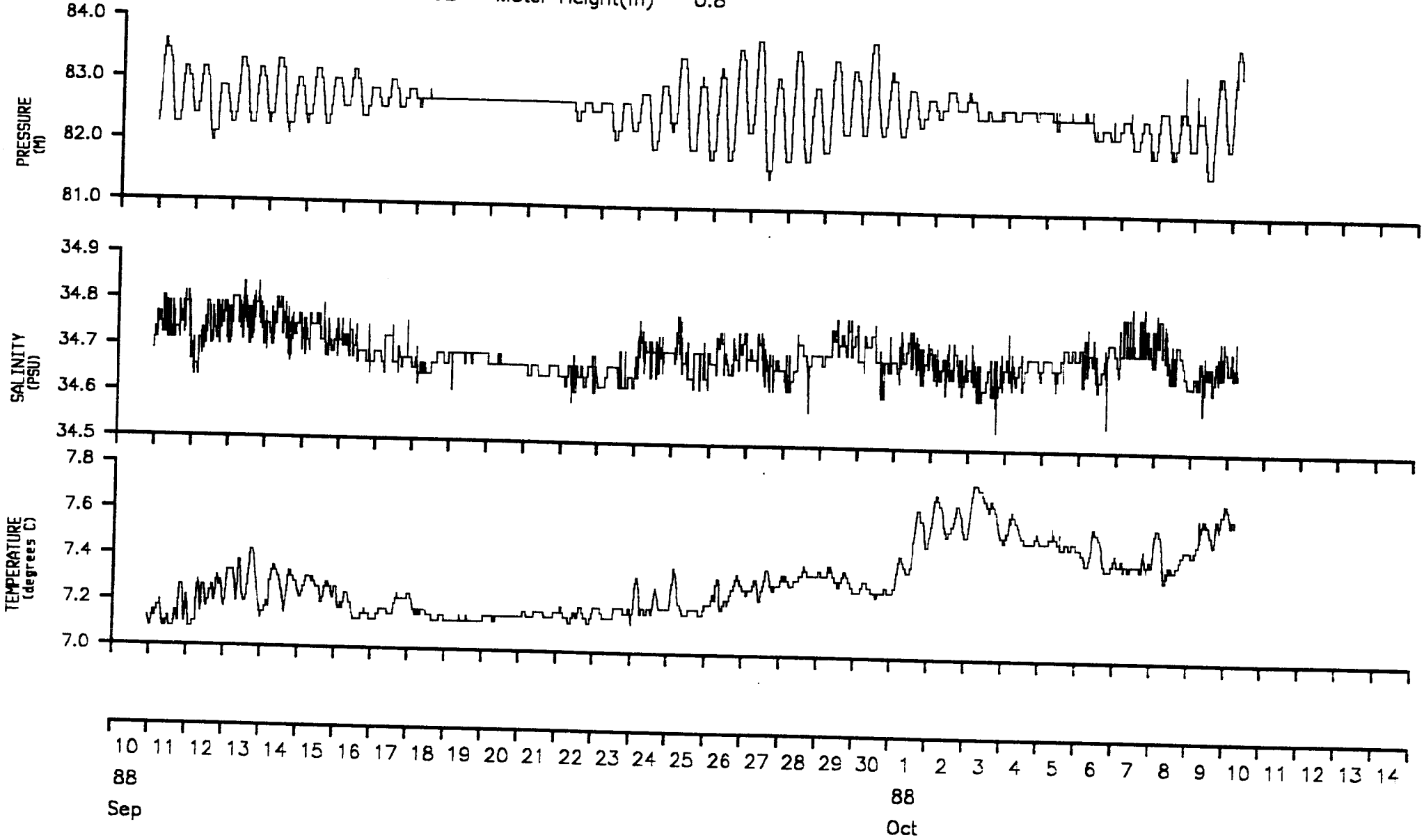
Rig No	:	C35AC
Meter No	:	6443
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AA
Meter started	:	06-SEPT-88 20:30:00
Meter stopped	:	11-OCT-88 19:50:40
Period switched on	:	35.0 days
Period of good data	:	29.3 days
Total number of scans	:	4219
Timing error	:	40 seconds slow
Comments	:	Good record obtained

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 6443 Rig no. C35AC Depth of water(m) 85.0

Start/End 1988/09/10 AT 22:49:00 1988/10/10 AT 06:00:00

Position 55 29.92N 00 54.09E Meter Height(m) 0.8



Rig information details for C37AC

Position Latitude	:	55 30.34N
Position Longitude	:	00 54.31E
Water depth	:	85.0 m
Deployed on cruise	:	C37
Recovered on cruise	:	C39
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	10-OCT-88 09:30:00
Rig recovered on	:	08-NOV-88 12:20:00
Period of deployment	:	29.1 days
Comments	:	Launch and recovery successful

Meter information details for 0003

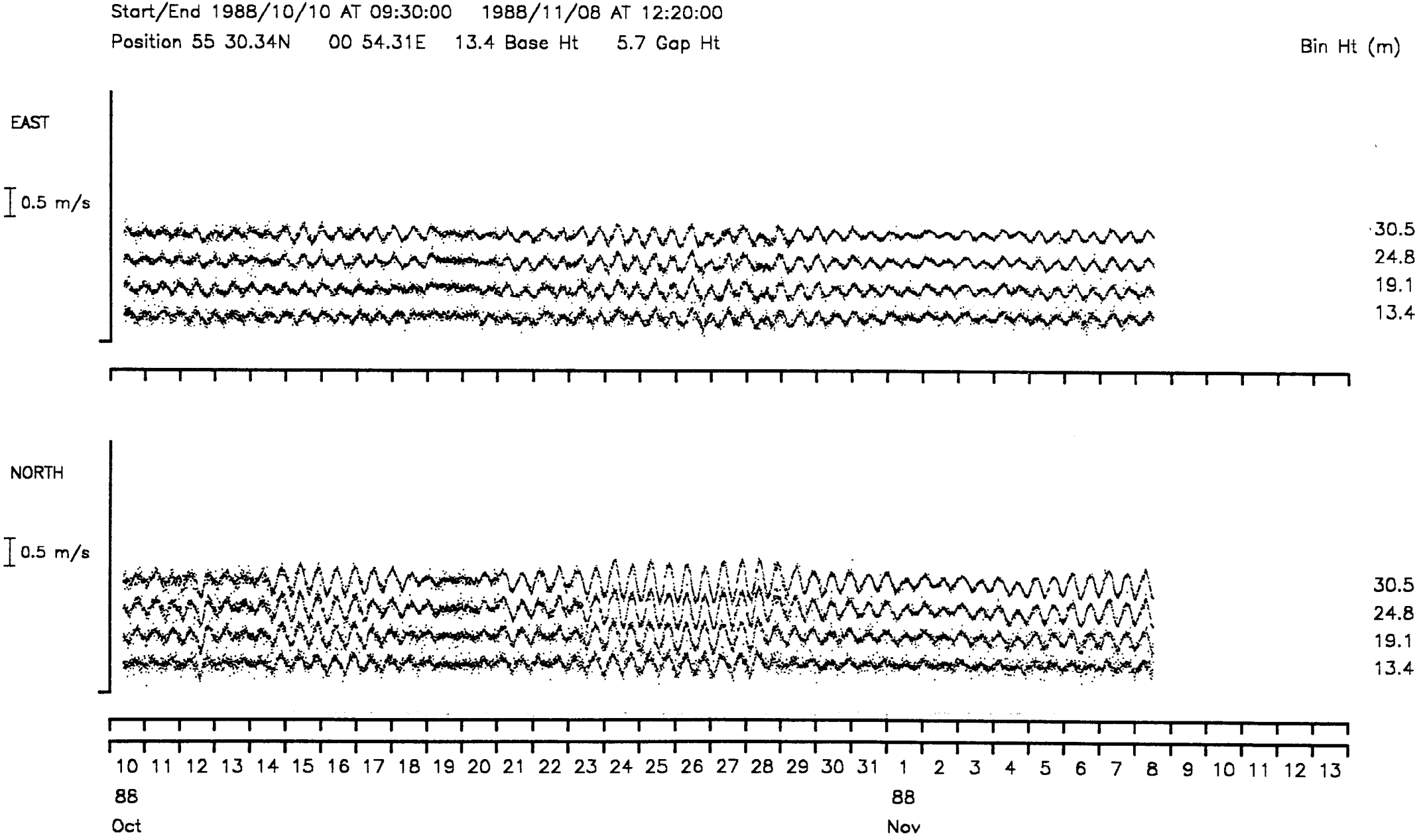
Rig No	:	C37AC
Meter No	:	0003
Frame angle correction	:	9.0 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	10-OCT-88 08:18:24
Meter stopped	:	08-NOV-88 12:48:38
Period switched on	:	29.2 days
Period of good data	:	29.1 days
Total number of scans	:	4193
Timing error	:	14 seconds slow
Comments	:	Corrupted beam components above bin4
		Beam(1) channel recording Beam(2) and vis-a-vis
		Compass does not react correctly to frame movement
		Applied frame angle corrections are 120.8 degrees between scans 1 - 2656 68.2 degrees between scans 2657 - 4194

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C37AC Depth of water(m) 85.0

Start/End 1988/10/10 AT 09:30:00 1988/11/08 AT 12:20:00

Position 55 30.34N 00 54.31E 13.4 Base Ht 5.7 Gap Ht

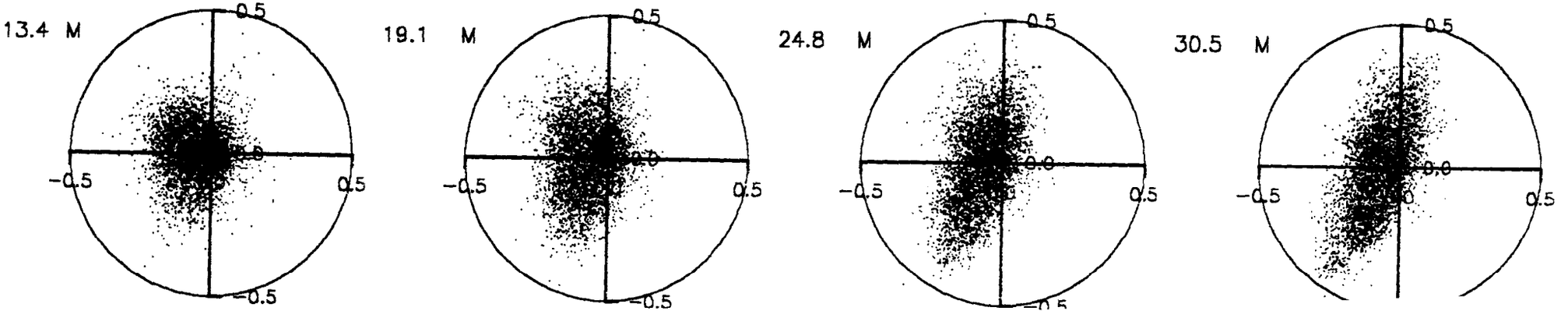


SCATTER PLOT

Meter no. 0003 Rig no. C37AC Depth of water(m) 85.0

Start/End 1988/10/10 AT 09:30:00 1988/11/08 AT 12:20:00

Position 55 30.34N 00 54.31E 13.4 Base Ht 5.7 Gap Ht



STICK TIME SERIES PLOT

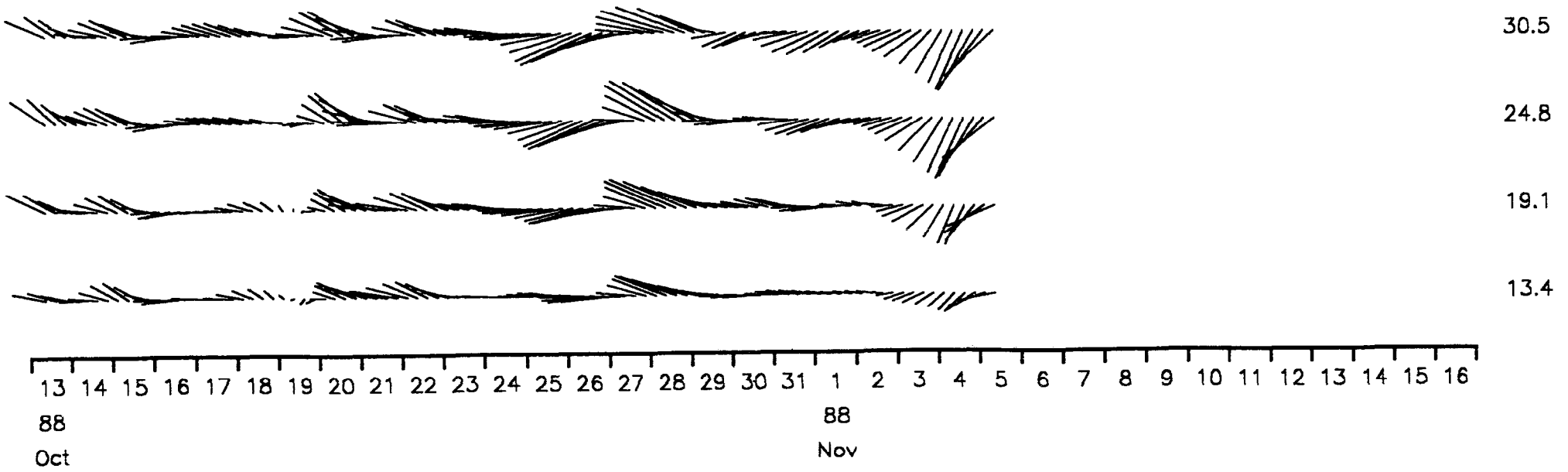
Meter no. 0003 Rig no. C37AC Depth of water(m) 85.0

Start/End 1988/10/10 AT 09:30:00 1988/11/08 AT 12:20:00

Position 55 30.34N 00 54.31E 13.4 Base Ht 5.7 Gap Ht

Scale 0.1 m/s

Bin Ht (m)



STATISTICS FOR DP0003 C37AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.052	-88.7	0.0084	-3.7	0.0061	86.3
2	19.1	0.061	-90.2	0.0145	8.0	0.0062	98.0
3	24.8	0.067	-93.8	0.0223	16.7	0.0047	106.7
4	30.5	0.071	-96.5	0.0257	19.6	0.0040	109.6

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.054	-85.7	0.0005	-70.2	0.0002	19.8
2	19.1	0.062	-86.6	0.0007	-47.4	0.0004	42.6
3	24.8	0.069	-90.3	0.0012	-3.7	0.0004	86.3
4	30.5	0.072	-94.2	0.0010	-4.8	0.0004	85.2

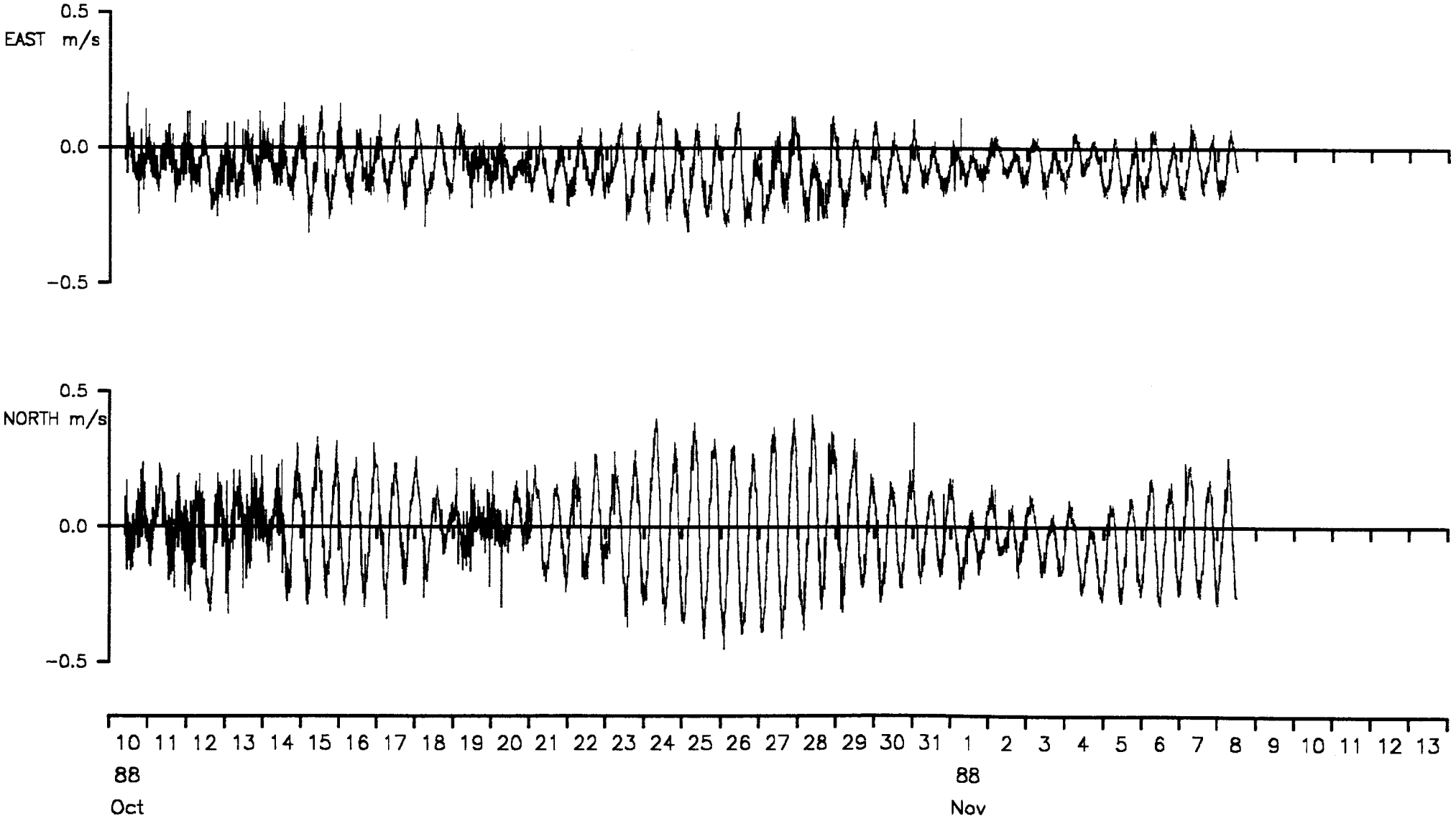
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C37AC Depth of water(m) 85.0

Start/End 1988/10/10 AT 09:30:00 1988/11/08 AT 12:20:00

Position 55 30.34N 00 54.31E 13.4 Base Ht 5.7 Gap Ht 30.5 Bin Ht (m)

Bin closest to depth average depth



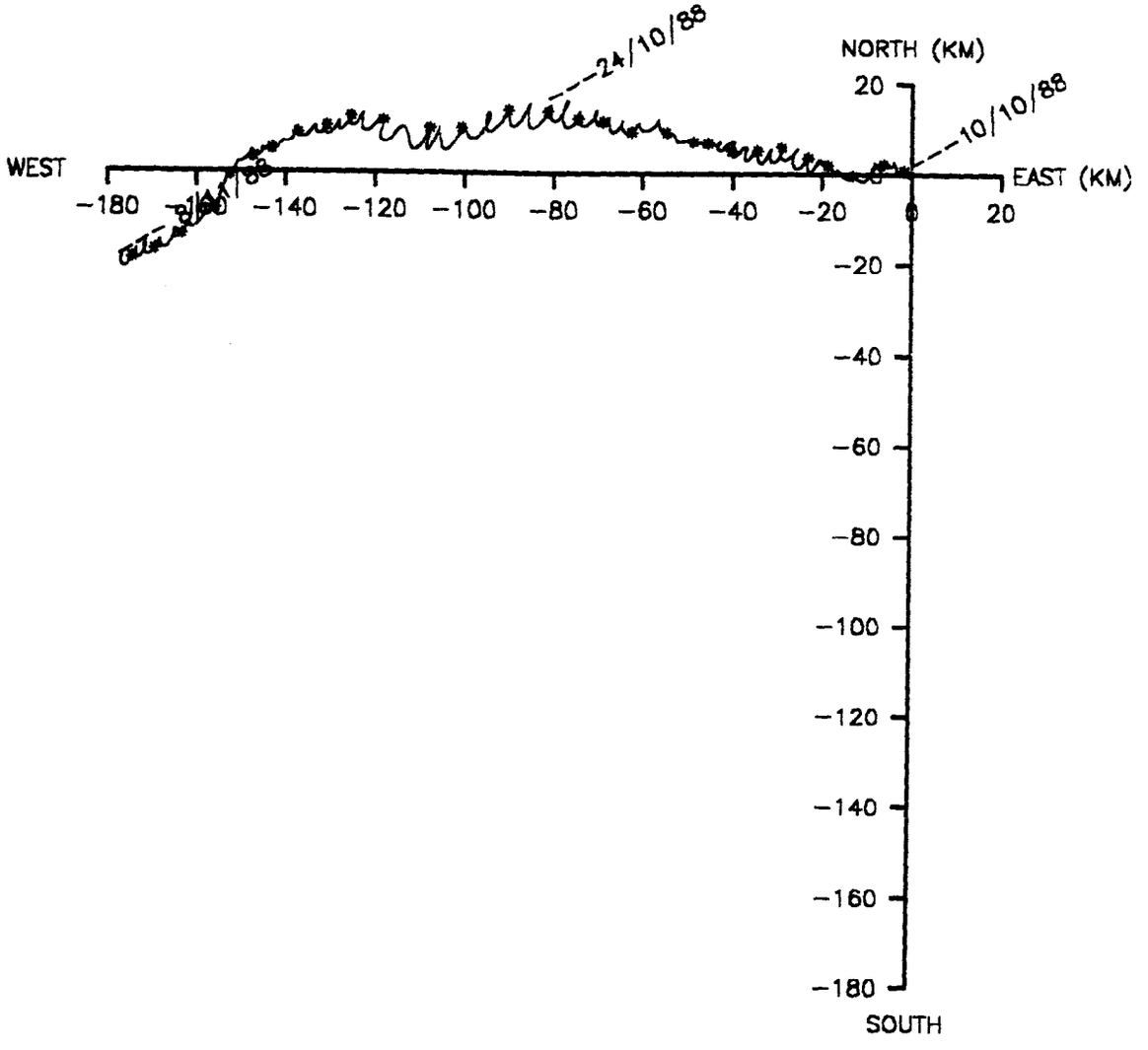
VECTOR PLOT

Meter no. 0003 Rig no. C37AC Depth of water(m) 85.0

Start/End 1988/10/10 AT 09:30:00 1988/11/08 AT 12:20:00

Position 55 30.34N 00 54.31E 13.4 Base Ht 5.7 Gap Ht 30.5 Bin Ht (m)

Bin closest to depth average



Statistics for DP0003 C37AC4 A
Doppler bin number 4

	Mean	Variance	Standard deviation
Eastings	-0.0703	0.64340569E-02	0.80212533E-01
Northings	-0.0081	0.23266450E-01	0.15253341E+00
Speed	0.1629	0.81697442E-02	0.90386629E-01

Vector mean speed 0.0708
Vector Mean Direction -96.5

Maximum ten values

Eastings					Northings				
0.198	0.163	0.161	0.156	0.154	0.413	0.400	0.400	0.399	0.389
0.152	0.146	0.144	0.142	0.140	0.386	0.385	0.383	0.383	0.383

Minimum ten values

Eastings					Northings				
-0.282	-0.290	-0.291	-0.291	-0.292	-0.384	-0.385	-0.387	-0.389	-0.389
-0.292	-0.297	-0.308	-0.309	-0.316	-0.391	-0.397	-0.413	-0.413	-0.453

Maximum speeds

0.522	0.477	0.468	0.466	0.465	0.462	0.460	0.456	0.454	0.452
0.452	0.449	0.448	0.445	0.438	0.437	0.436	0.436	0.435	0.435
0.433	0.432	0.429	0.429	0.429	0.427	0.426	0.424	0.424	0.424
0.423	0.423	0.422	0.420	0.419	0.418	0.418	0.418	0.417	0.417
0.415	0.413	0.413	0.412	0.412	0.411	0.410	0.405	0.405	0.405
0.405	0.404	0.404	0.404	0.404	0.404	0.404	0.403	0.403	0.402
0.401	0.401	0.401	0.401	0.399	0.399	0.399	0.399	0.398	0.398
0.398	0.396	0.396	0.395	0.394	0.393	0.393	0.392	0.392	0.392
0.391	0.390	0.390	0.390	0.390	0.388	0.388	0.387	0.387	0.386
0.385	0.385	0.385	0.384	0.384	0.384	0.383	0.383	0.382	0.382

Variance ellipse statistics

Maximum variance 0.2570E-01 Direction 19.6

Minimum variance 0.3997E-02 Direction 109.6

Total variance 0.2970E-01 Ratio of variances 0.1555E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -30.6

Average direction. maxdir +PI/2 to maxdir -PI/2 204.4

Statistics for DP0003 C37AC4F A
Doppler bin number 4

	Mean	Variance	Standard deviation
Eastings	-0.0719	0.43321610E-03	0.20813845E-01
Northings	-0.0053	0.10338391E-02	0.32153368E-01
Speed	0.0784	0.50535402E-03	0.22480085E-01

Vector mean speed 0.0721
Vector Mean Direction -94.2

Maximum ten values

Eastings					Northings				
-0.035	-0.038	-0.040	-0.042	-0.044	0.045	0.042	0.042	0.041	0.038
-0.045	-0.046	-0.046	-0.047	-0.047	0.036	0.030	0.030	0.030	0.029

Minimum ten values

Eastings					Northings				
-0.104	-0.104	-0.106	-0.112	-0.113	-0.046	-0.048	-0.052	-0.057	-0.073
-0.117	-0.119	-0.123	-0.123	-0.126	-0.078	-0.089	-0.093	-0.100	-0.102

Maximum speeds

0.133	0.132	0.132	0.127	0.122	0.120	0.119	0.118	0.117	0.114
0.111	0.109	0.107	0.106	0.104	0.103	0.102	0.099	0.098	0.095
0.093	0.092	0.090	0.089	0.089	0.088	0.087	0.086	0.085	0.083
0.083	0.083	0.083	0.082	0.081	0.080	0.080	0.080	0.078	0.077
0.076	0.076	0.076	0.076	0.075	0.075	0.074	0.074	0.074	0.074
0.073	0.072	0.071	0.070	0.070	0.069	0.068	0.068	0.067	0.067
0.066	0.066	0.065	0.064	0.064	0.064	0.064	0.064	0.064	0.064
0.064	0.063	0.063	0.062	0.062	0.061	0.061	0.060	0.059	0.059
0.058	0.057	0.054	0.053	0.050	0.050	0.049	0.048	0.048	0.046
0.040	0.039	0.035							

Variance ellipse statistics

Maximum variance 0.1038E-02 Direction -4.8

Minimum variance 0.4289E-03 Direction 85.2

Total variance 0.1467E-02 Ratio of variances 0.4131E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -70.5

Average direction. maxdir +PI/2 to maxdir -PI/2 249.8

Meter information details for 7570

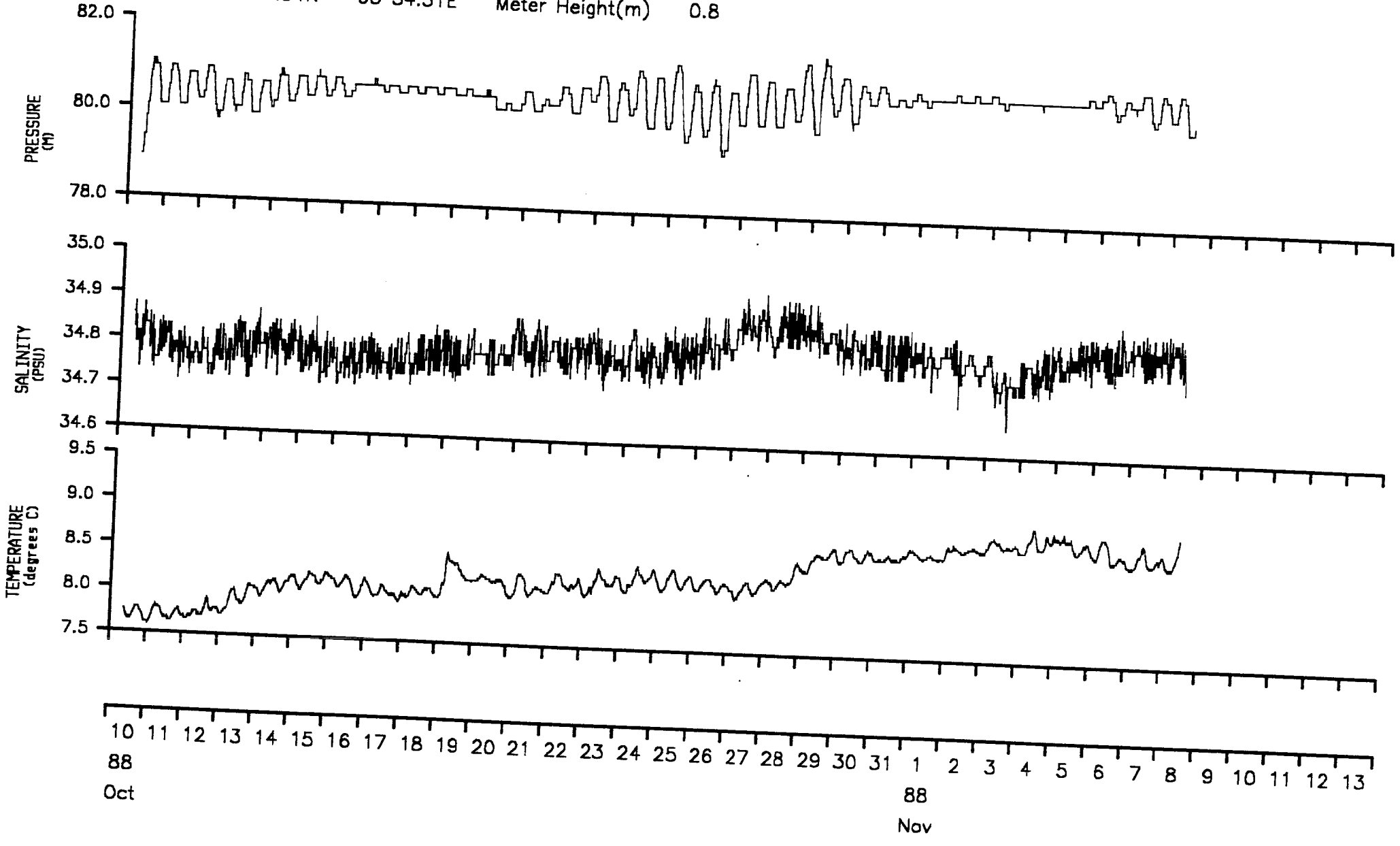
Rig No	:	C37AC
Meter No	:	7570
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AA
Meter started	:	09-OCT-88 18:20:00
Meter stopped	:	08-NOV-88 17:50:39
Period switched on	:	30.0 days
Period of good data	:	29.1 days
Total number of scans	:	4193
Timing error	:	39 seconds slow
Comments	:	Good record obtained

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 7570 Rig no. C37AC Depth of water(m) 85.0

Start/End 1988/10/10 AT 09:30:00 1988/11/08 AT 12:20:00

Position 55 30.34N 00 54.31E Meter Height(m) 0.8



Rig information details for C43AC

Position Latitude	:	55 29.65N
Position Longitude	:	00 54.46E
Water depth	:	85.0 m
Deployed on cruise	:	C43
Recovered on cruise	:	TRAWLED
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	03-JAN-89 00:15:00
Rig recovered on	:	06-FEB-89 05:50:00
Period of deployment	:	34.2 days
Comments	:	Rig trawled up on 06-FEB-89

Meter information details for 0007

Rig No	:	C43AC
Meter No	:	0007
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	Corrupted data set

Meter information details for 7570

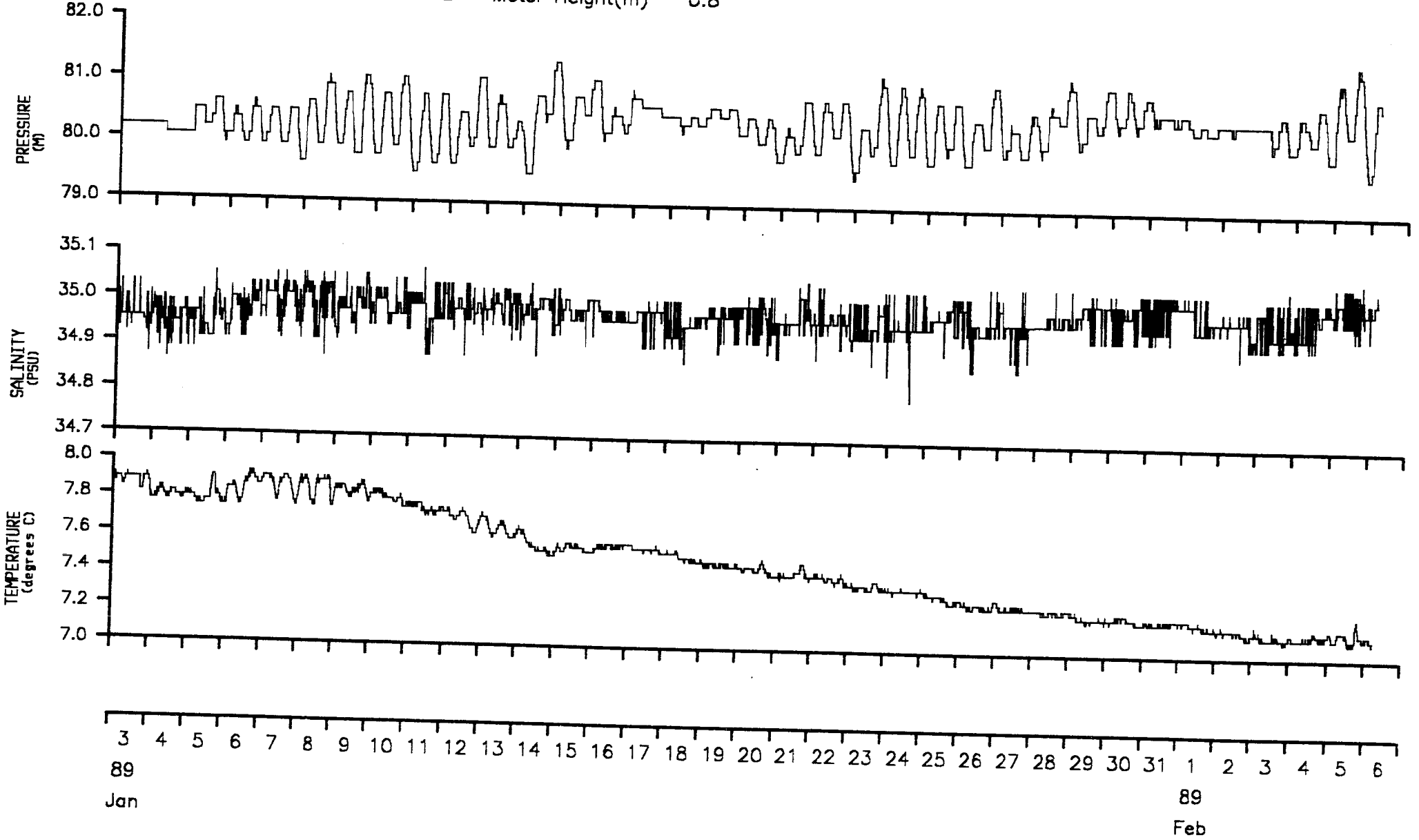
Rig No	:	C43AC
Meter No	:	7570
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AA
Meter started	:	02-JAN-89 14:50:00
Meter stopped	:	06-FEB-89 06:20:00
Period switched on	:	34.6 days
Period of good data	:	34.2 days
Total number of scans	:	4930
Timing error	:	None
Comments	:	Good record obtained until trawled

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 7570 Rig no. C43AC Depth of water(m) 85.0

Start/End 1989/01/03 AT 00:15:00 1989/02/06 AT 05:50:00

Position 55 29.65N 00 54.46E Meter Height(m) 0.8



Rig information details for C47AC

Position Latitude	:	55 29.60N
Position Longitude	:	00 53.72E
Water depth	:	85.0 m
Deployed on cruise	:	C47
Recovered on cruise	:	C49
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	06-MAR-89 21:10:00
Rig recovered on	:	06-APR-89 13:02:00
Period of deployment	:	30.7 days
Comments	:	Launch and recovery successful

Meter information details for 0004

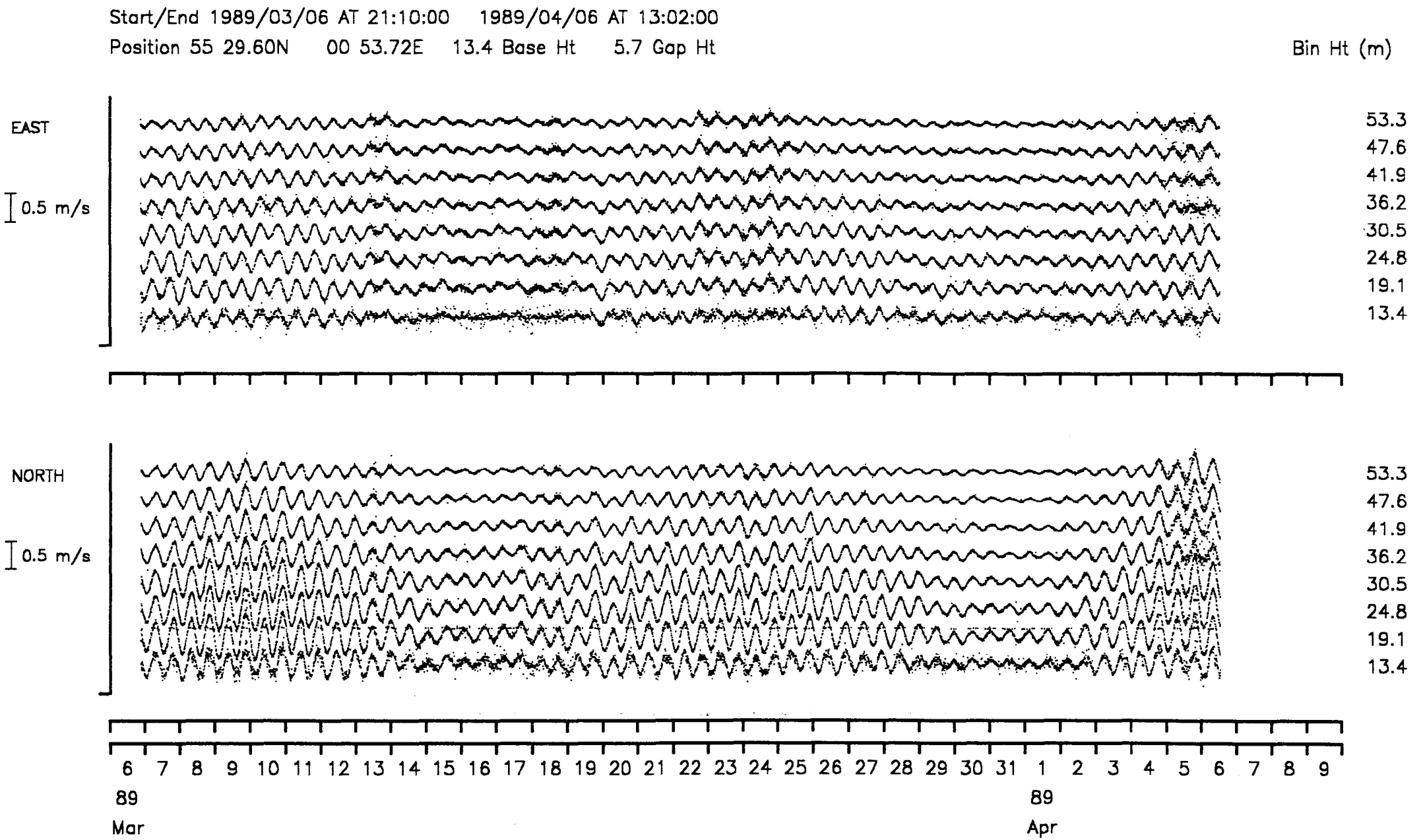
Rig No	:	C47AC
Meter No	:	0004
Frame angle correction	:	8.6 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	06-MAR-89 20:28:25
Meter stopped	:	06-APR-89 19:48:25
Period switched on	:	31.0 days
Period of good data	:	30.7 days
Total number of scans	:	4415
Timing error	:	None
Comments	:	Good record obtained. However incorrect hexadecimal was present which had to be changed. e.g F7's instead of FF's Bin 2 still shows some corruption

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht

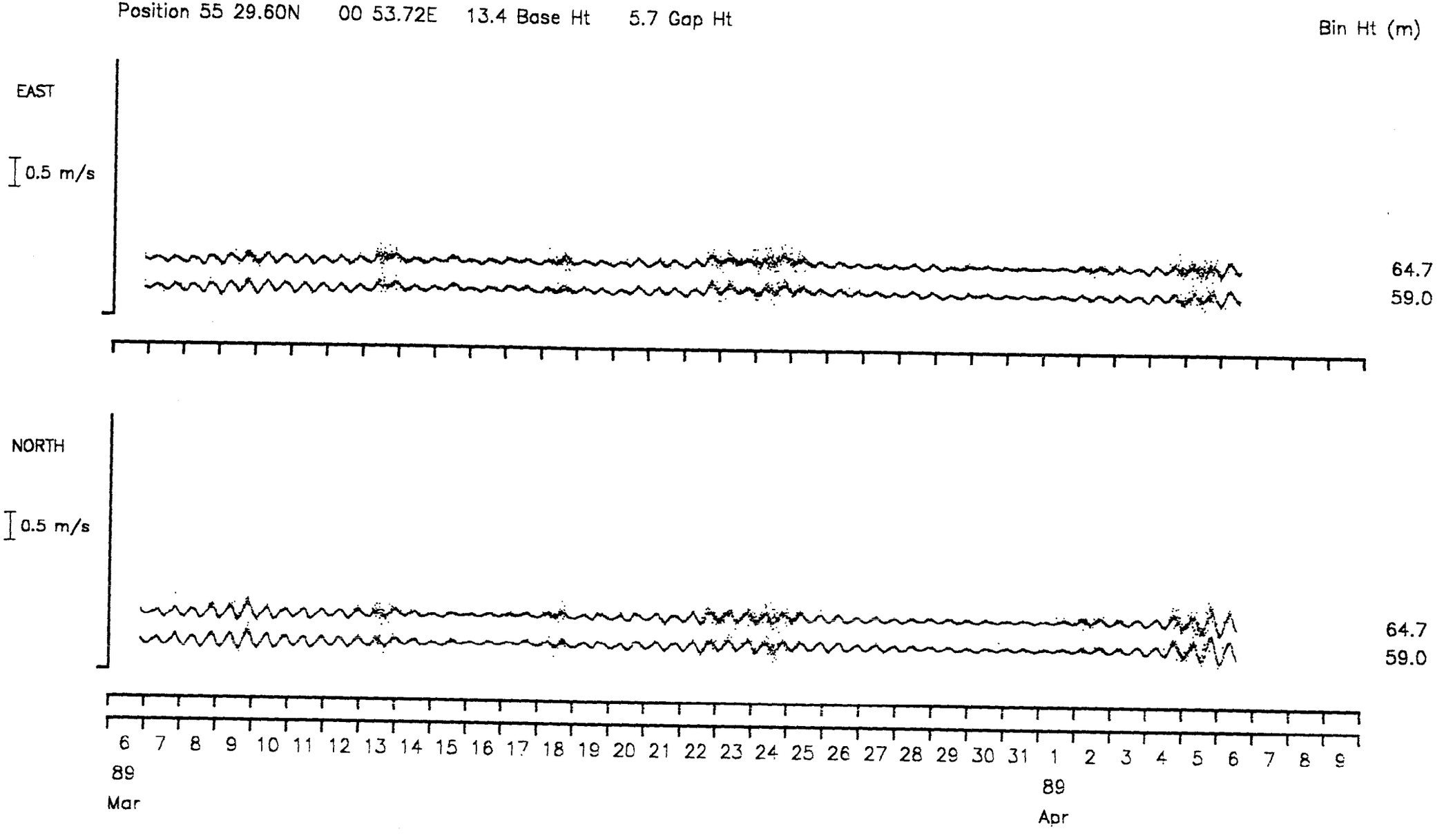


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht

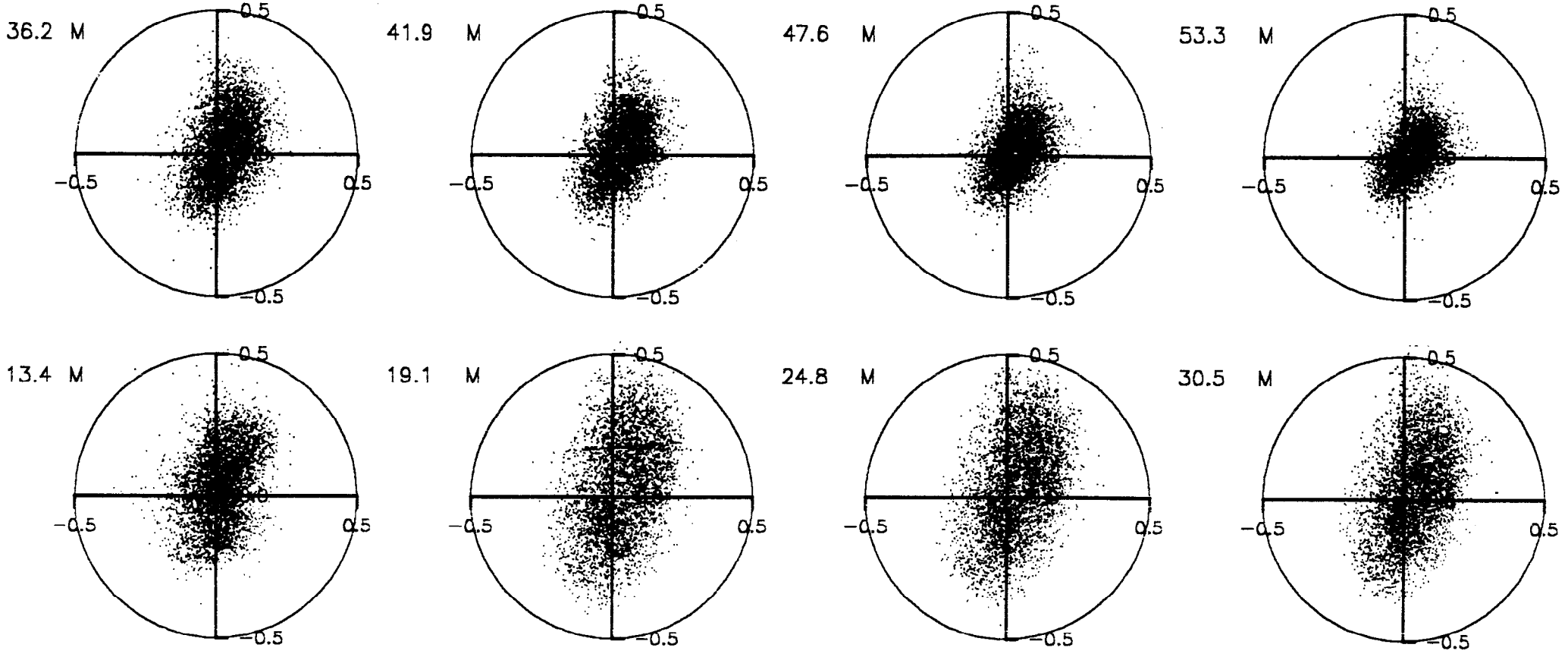


SCATTER PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht

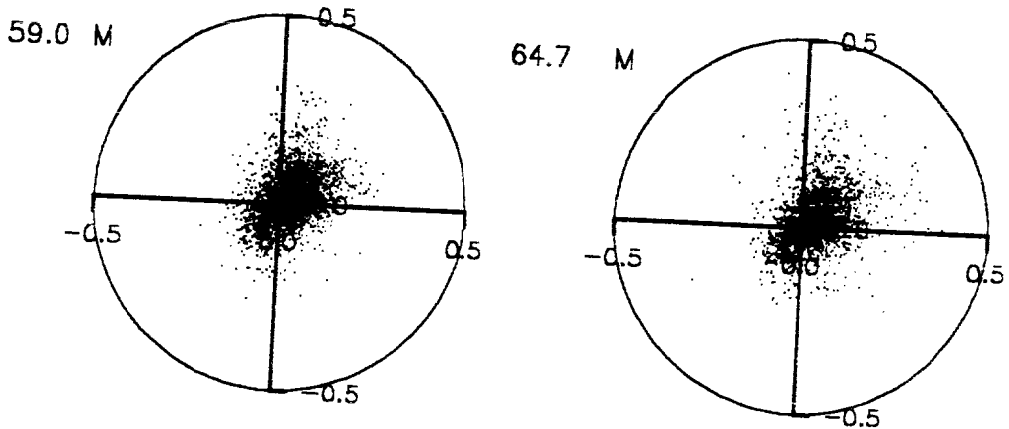


SCATTER PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht



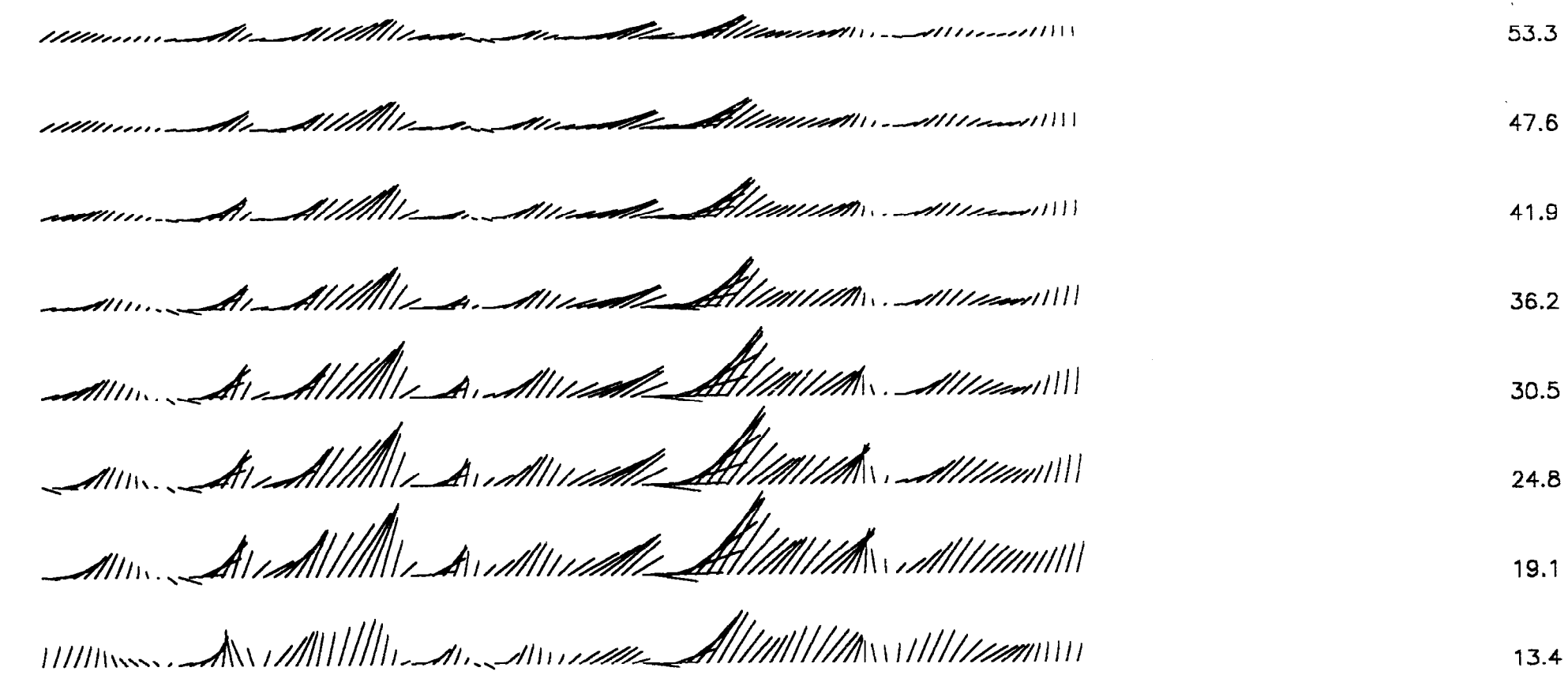
STICK TIME SERIES PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht

Scale 0.1 m/s



STICK TIME SERIES PLOT

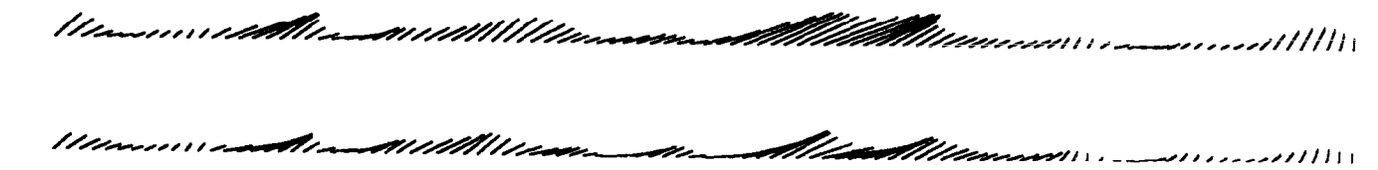
Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



64.7

59.0

9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12

89

Mar

89

STATISTICS FOR DP0004 C47AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.037	28.9	0.0178	14.9	0.0053	104.9
2	19.1	0.059	39.2	0.0316	14.1	0.0074	104.1
3	24.8	0.056	43.5	0.0303	15.3	0.0070	105.3
4	30.5	0.051	46.4	0.0266	15.4	0.0061	105.4
5	36.2	0.040	53.7	0.0142	19.6	0.0043	109.6
6	41.9	0.038	56.6	0.0115	21.6	0.0034	111.6
7	47.6	0.035	59.0	0.0090	24.5	0.0030	114.5
8	53.3	0.032	60.7	0.0064	27.7	0.0024	117.7
9	59.0	0.028	62.6	0.0043	33.2	0.0018	123.2
10	64.7	0.034	59.5	0.0043	37.3	0.0019	127.3

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.040	32.6	0.0005	36.8	0.0003	126.8
2	19.1	0.063	43.2	0.0012	35.2	0.0005	125.2
3	24.8	0.060	48.9	0.0012	45.2	0.0005	135.2
4	30.5	0.055	53.3	0.0010	52.9	0.0004	142.9
5	36.2	0.045	60.5	0.0007	63.9	0.0003	153.9
6	41.9	0.042	63.9	0.0006	68.1	0.0002	158.1
7	47.6	0.040	66.3	0.0006	75.3	0.0001	165.3
8	53.3	0.036	68.2	0.0005	78.0	0.0001	168.0
9	59.0	0.032	68.9	0.0005	76.3	0.0000	166.3
10	64.7	0.038	63.7	0.0008	68.7	0.0000	158.7

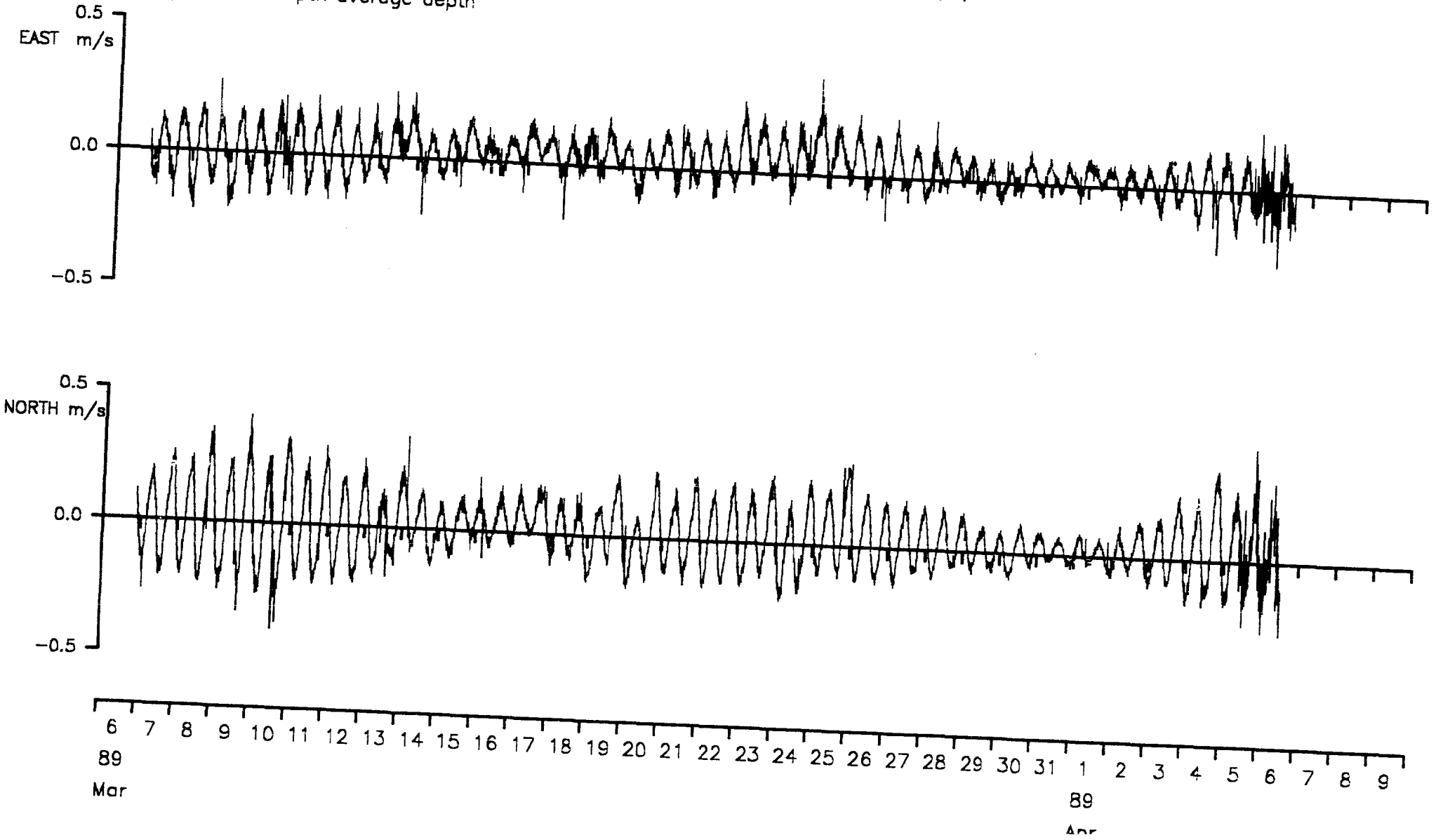
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



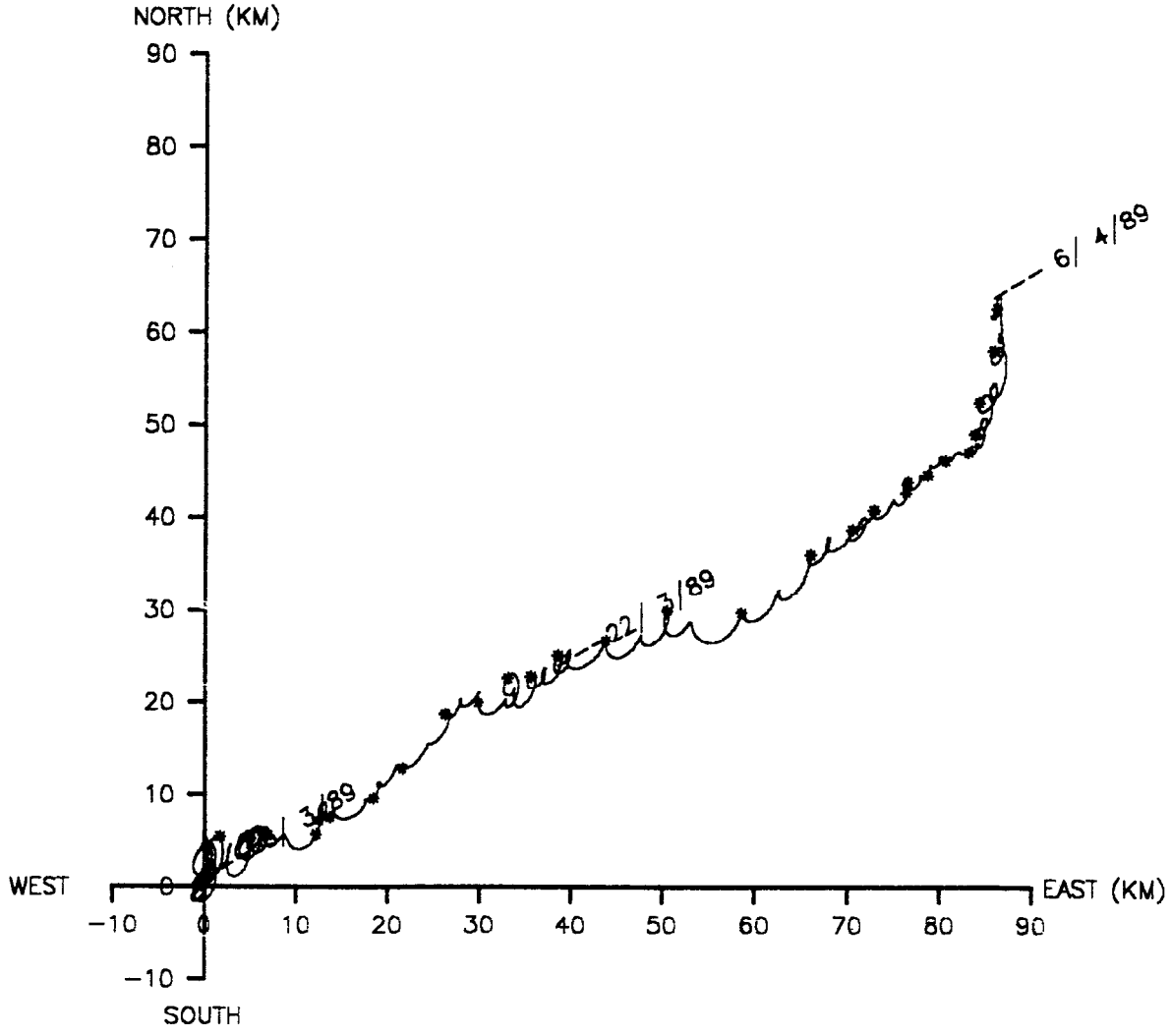
VECTOR PLOT

Meter no. 0004 Rig no. C47AC Depth of water(m) 85.0

Start/End 1989/03/06 AT 21:10:00 1989/04/06 AT 13:02:00

Position 55 29.60N 00 53.72E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 C47AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0324	0.53840131E-02	0.73375821E-01
Northings	0.0238	0.13107561E-01	0.11448824E+00
Speed	0.1250	0.44905432E-02	0.67011476E-01

Vector mean speed 0.0402
Vector Mean Direction 53.7

Maximum ten values

Eastings					Northings				
0.365	0.298	0.269	0.266	0.261	0.425	0.405	0.377	0.356	0.346
0.251	0.248	0.246	0.244	0.241	0.345	0.340	0.335	0.329	0.329

Minimum ten values

Eastings					Northings				
-0.186	-0.188	-0.198	-0.199	-0.207	-0.263	-0.263	-0.264	-0.265	-0.268
-0.209	-0.210	-0.218	-0.237	-0.279	-0.272	-0.281	-0.335	-0.375	-0.400

Maximum speeds

0.426	0.407	0.405	0.400	0.384	0.365	0.357	0.356	0.349	0.348
0.346	0.345	0.341	0.335	0.334	0.333	0.332	0.331	0.331	0.330
0.330	0.329	0.327	0.326	0.326	0.326	0.326	0.326	0.321	0.321
0.320	0.319	0.318	0.317	0.317	0.315	0.315	0.314	0.314	0.314
0.313	0.312	0.312	0.312	0.311	0.309	0.309	0.309	0.306	0.306
0.304	0.303	0.303	0.302	0.300	0.299	0.298	0.298	0.297	0.296
0.294	0.293	0.292	0.291	0.291	0.290	0.289	0.289	0.288	0.288
0.287	0.287	0.287	0.287	0.287	0.286	0.286	0.285	0.284	0.284
0.284	0.284	0.284	0.284	0.284	0.283	0.282	0.282	0.282	0.282
0.281	0.280	0.280	0.280	0.280	0.280	0.279	0.279	0.278	0.278

Variance ellipse statistics

Maximum variance 0.1422E-01 Direction 19.6

Minimum variance 0.4268E-02 Direction 109.6

Total variance 0.1849E-01 Ratio of variances 0.3001E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 14.1

Average direction. maxdir +PI/2 to maxdir -PI/2 168.8

Statistics for DP0004 C47AC5F A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0393	0.61488245E-03	0.24796817E-01
Northings	0.0222	0.35048323E-03	0.18721197E-01
Speed	0.0478	0.71875076E-03	0.26809528E-01

Vector mean speed 0.0452
Vector Mean Direction 60.5

Maximum ten values

Eastings					Northings				
0.110	0.109	0.098	0.097	0.093	0.081	0.077	0.070	0.068	0.067
0.089	0.084	0.080	0.080	0.072	0.063	0.058	0.058	0.048	0.047

Minimum ten values

Eastings					Northings				
0.009	0.007	0.007	0.007	0.006	0.001	0.001	0.000	0.000	0.000
0.006	0.005	0.004	0.003	-0.001	-0.002	-0.002	-0.005	-0.008	-0.008

Maximum speeds

0.120	0.119	0.113	0.112	0.100	0.099	0.098	0.092	0.092	0.092
0.089	0.084	0.084	0.080	0.077	0.076	0.074	0.073	0.073	0.069
0.068	0.064	0.063	0.063	0.062	0.062	0.060	0.060	0.059	0.058
0.058	0.057	0.055	0.054	0.053	0.052	0.051	0.051	0.049	0.048
0.048	0.047	0.047	0.046	0.044	0.044	0.043	0.043	0.043	0.041
0.040	0.039	0.039	0.038	0.038	0.038	0.037	0.037	0.036	0.036
0.036	0.036	0.035	0.035	0.035	0.033	0.032	0.032	0.032	0.032
0.032	0.032	0.031	0.031	0.030	0.029	0.029	0.028	0.026	0.025
0.025	0.025	0.024	0.024	0.021	0.021	0.020	0.020	0.019	0.018
0.018	0.016	0.014	0.011	0.010	0.009	0.008	0.006	0.004	

Variance ellipse statistics

Maximum variance 0.6984E-03 Direction 63.9

Minimum variance 0.2669E-03 Direction 153.9

Total variance 0.9653E-03 Ratio of variances 0.3822E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -4.7

Average direction. maxdir +PI/2 to maxdir -PI/2 0.0

Rig information details for C49AC

Position Latitude	:	55 29.96N
Position Longitude	:	00 55.13E
Water depth	:	85.0 m
Deployed on cruise	:	C49
Recovered on cruise	:	C51
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	08-APR-89 23:29:00
Rig recovered on	:	04-MAY-89 18:01:00
Period of deployment	:	25.8 days
Comments	:	Launch and recovery successful

Meter information details for 0003

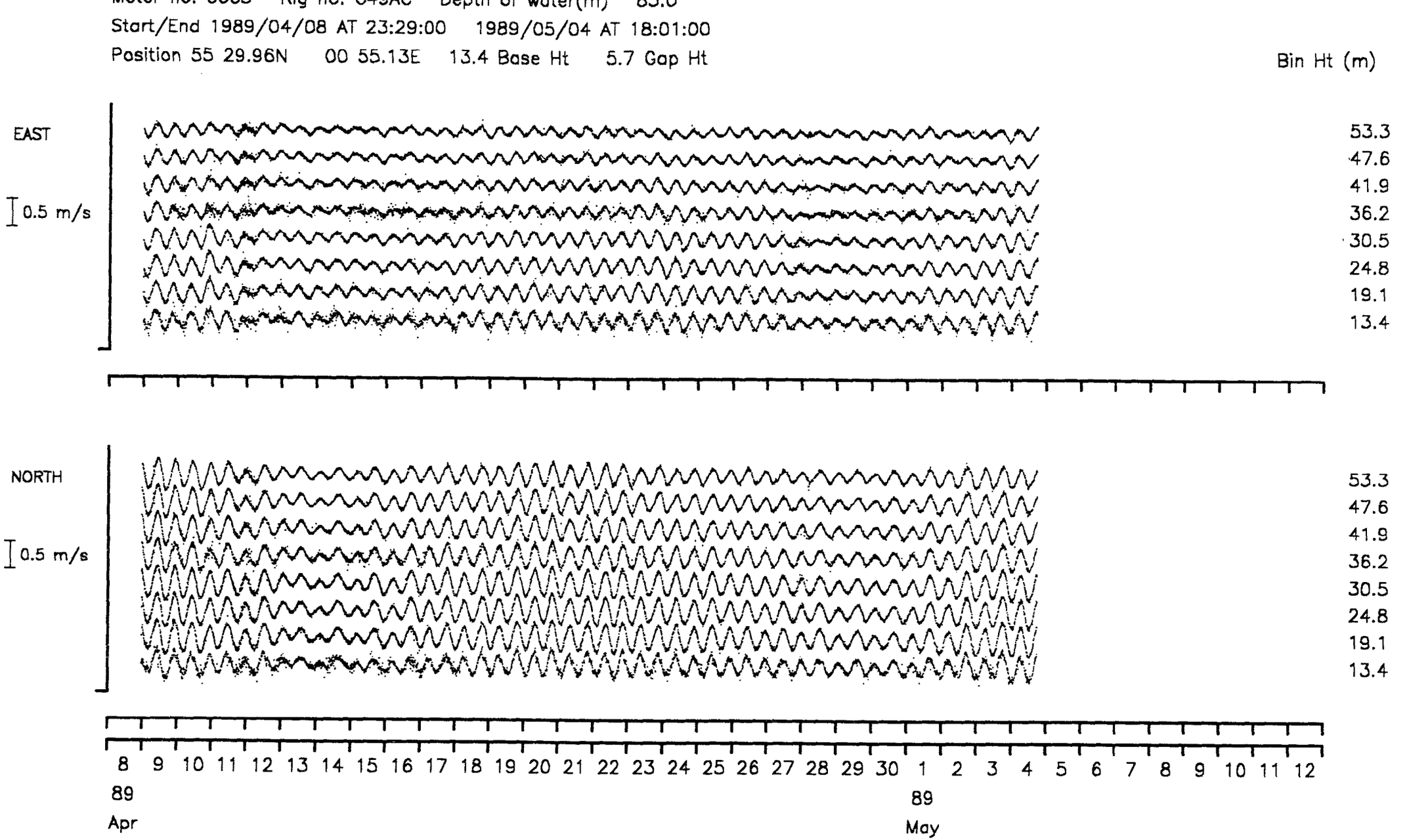
Rig No	:	C49AC
Meter No	:	0003
Frame angle correction	:	1.6 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	08-APR-89 23:28:34
Meter stopped	:	04-MAY-89 18:08:37
Period switched on	:	25.8 days
Period of good data	:	25.8 days
Total number of scans	:	3711
Timing error	:	3 seconds slow
Comments	:	Manually recorded start and stop times used due to timing channel malfunction

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht

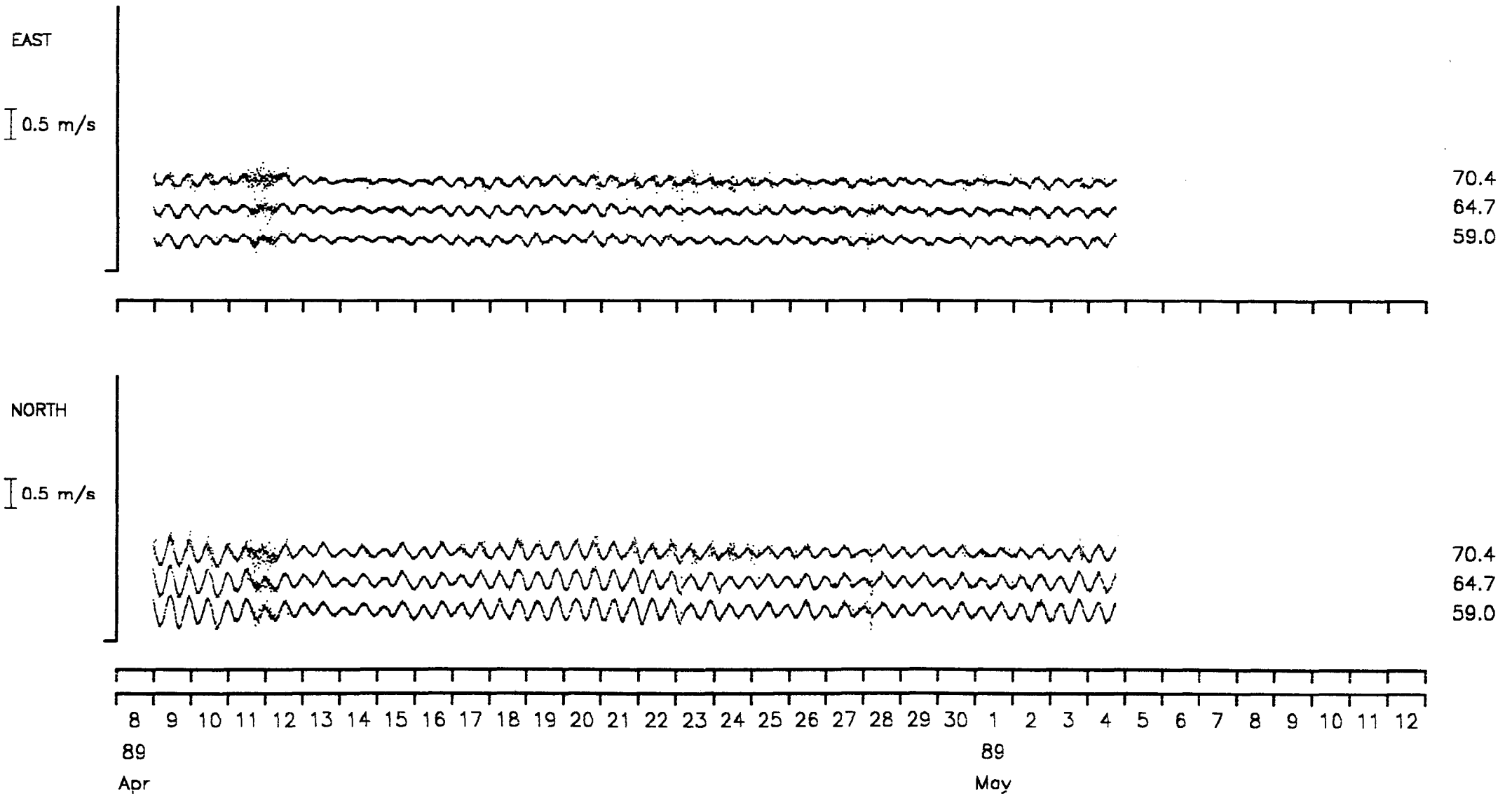


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht

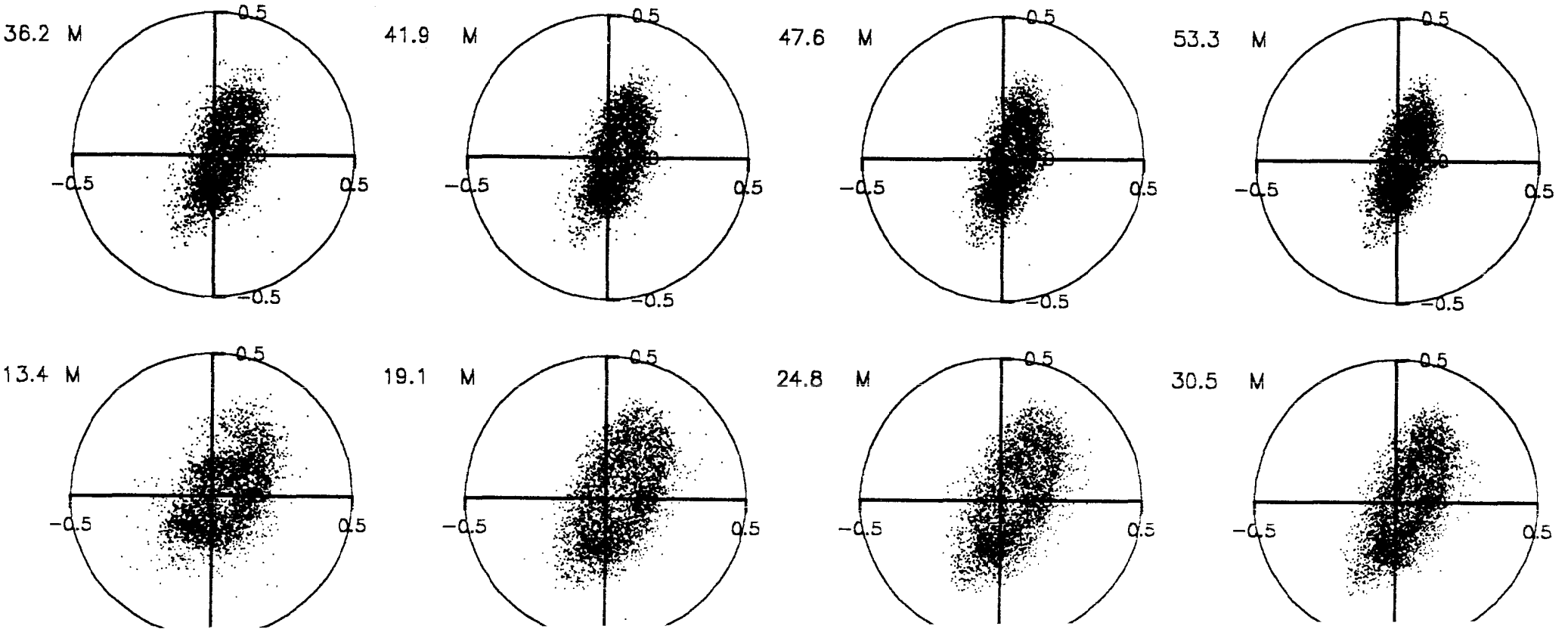


SCATTER PLOT

Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht

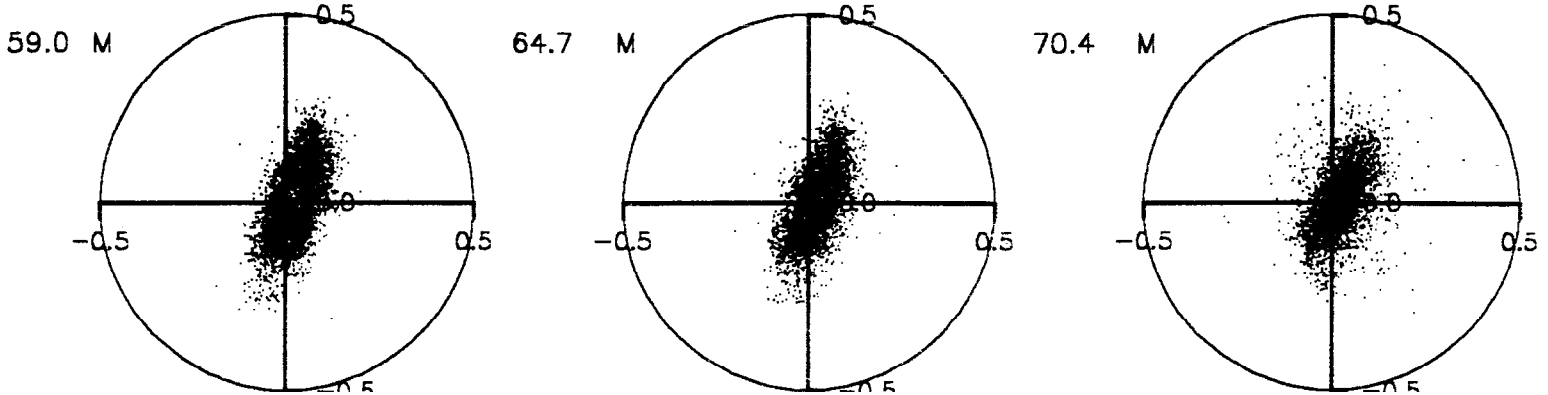


SCATTER PLOT

Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht



STICK TIME SERIES PLOT

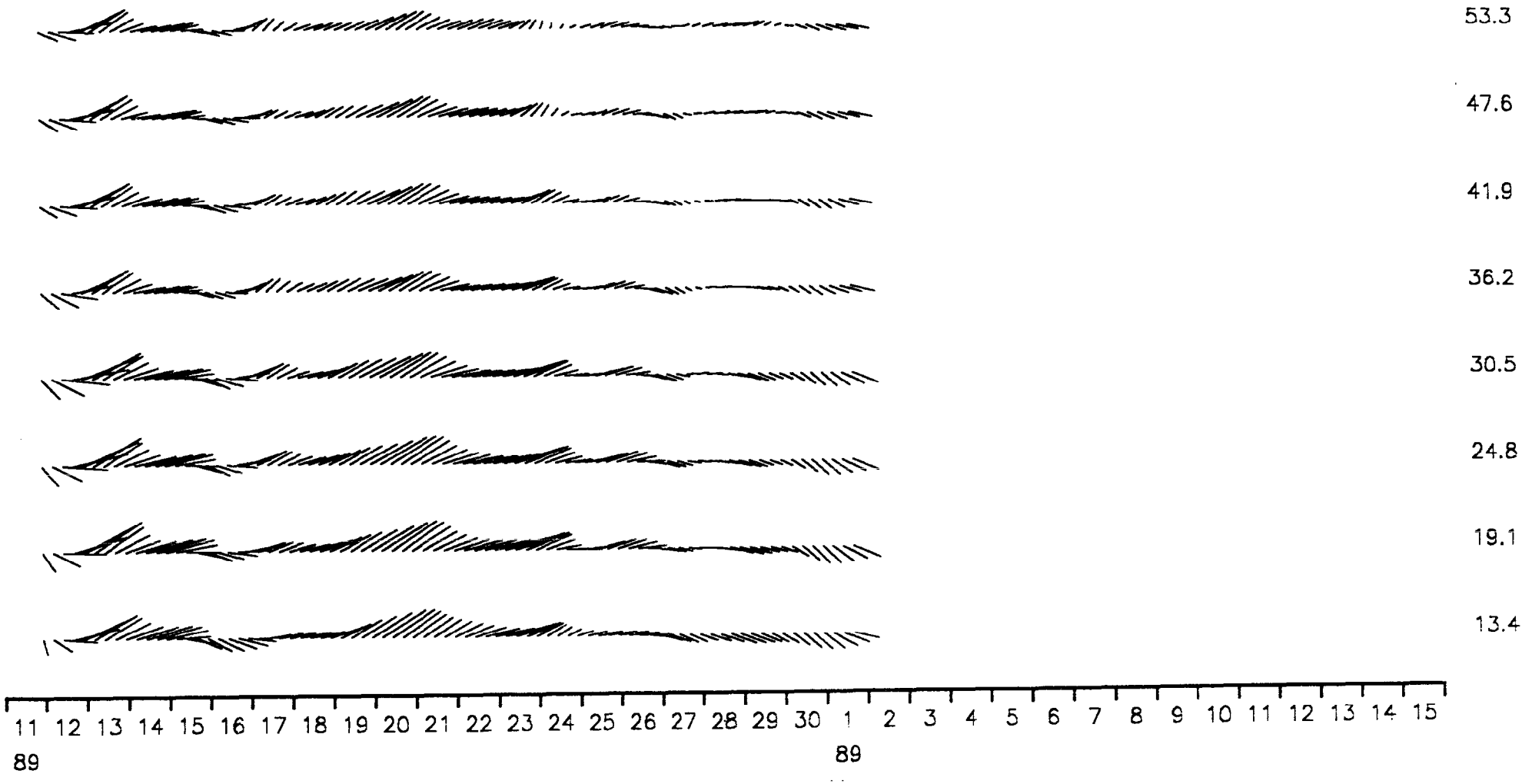
Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht

Scale 0.1 m/s

Bin Ht (m)



STICK TIME SERIES PLOT

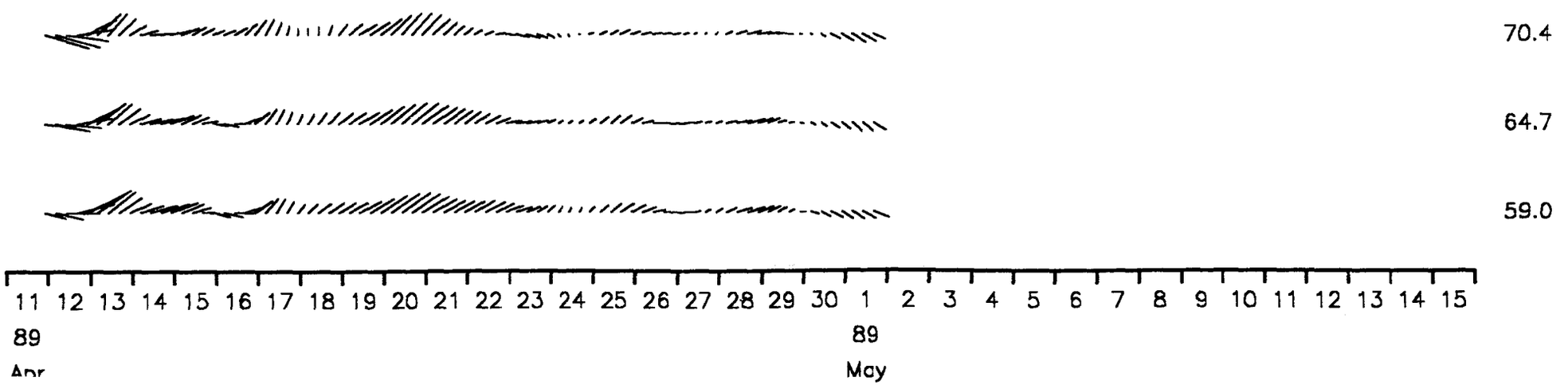
Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht

—— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0003 C49AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.043	86.1	0.0187	33.1	0.0063	123.1
2	19.1	0.049	85.3	0.0257	24.4	0.0063	114.4
3	24.8	0.049	85.3	0.0259	24.5	0.0052	114.5
4	30.5	0.047	86.2	0.0245	23.7	0.0042	113.7
5	36.2	0.036	87.3	0.0178	19.6	0.0032	109.6
6	41.9	0.035	84.4	0.0169	19.3	0.0026	109.3
7	47.6	0.033	83.2	0.0164	17.9	0.0024	107.9
8	53.3	0.030	80.7	0.0145	17.7	0.0020	107.7
9	59.0	0.027	77.7	0.0115	18.5	0.0015	108.5
10	64.7	0.025	77.5	0.0099	19.6	0.0014	109.6
11	70.4	0.022	81.5	0.0079	21.4	0.0019	111.4

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.048	82.8	0.0006	32.5	0.0001	122.5
2	19.1	0.054	79.5	0.0007	41.8	0.0001	131.8
3	24.8	0.054	79.6	0.0007	44.4	0.0001	134.4
4	30.5	0.052	80.6	0.0006	47.2	0.0001	137.2
5	36.2	0.041	80.6	0.0003	50.4	0.0001	140.4
6	41.9	0.039	78.3	0.0003	52.3	0.0001	142.3
7	47.6	0.037	77.0	0.0003	55.9	0.0001	145.9
8	53.3	0.034	73.8	0.0003	63.8	0.0001	153.8
9	59.0	0.029	69.8	0.0002	53.6	0.0001	143.6
10	64.7	0.027	69.4	0.0002	50.9	0.0001	140.9
11	70.4	0.022	69.1	0.0002	82.9	0.0002	172.9

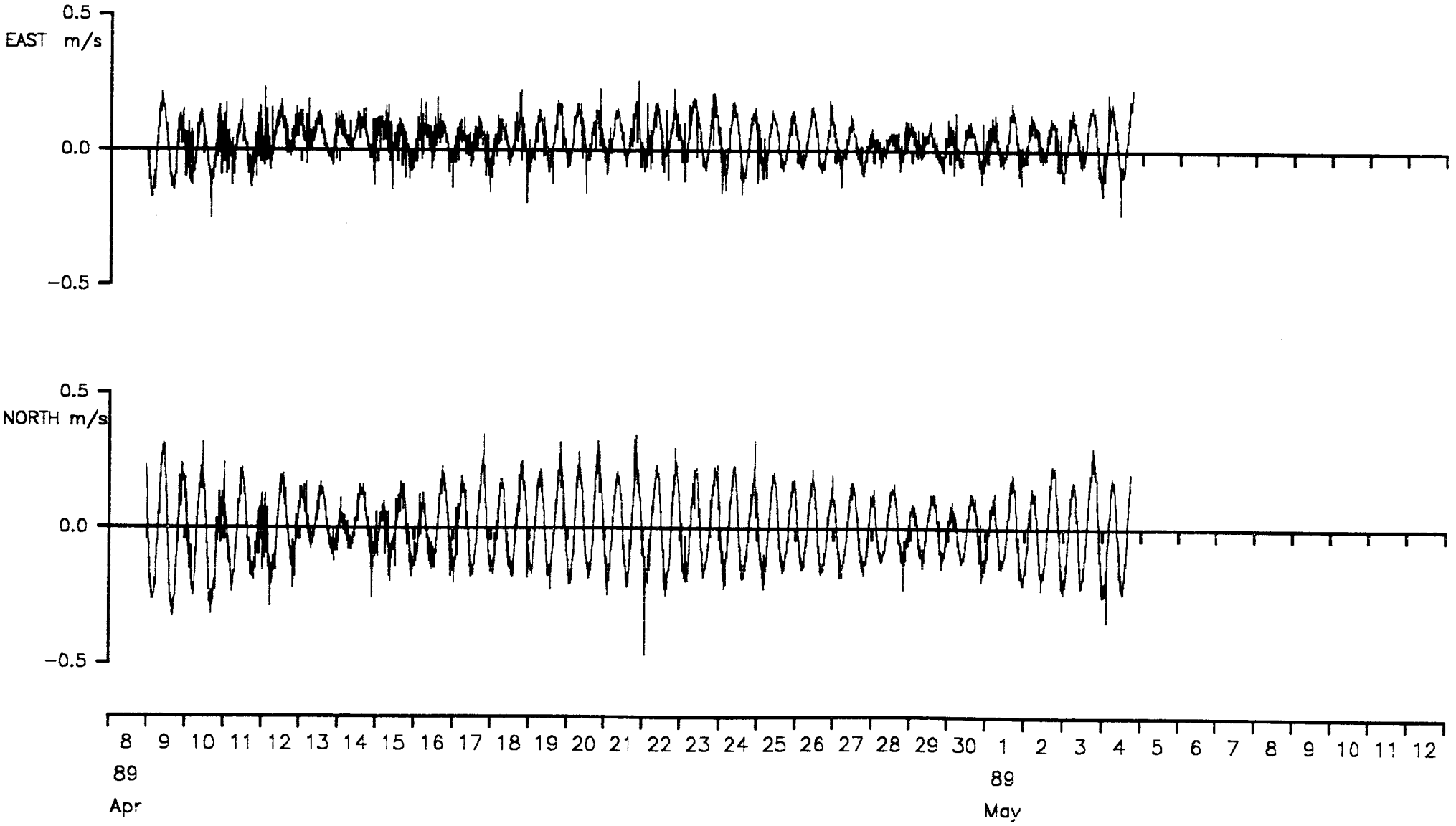
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



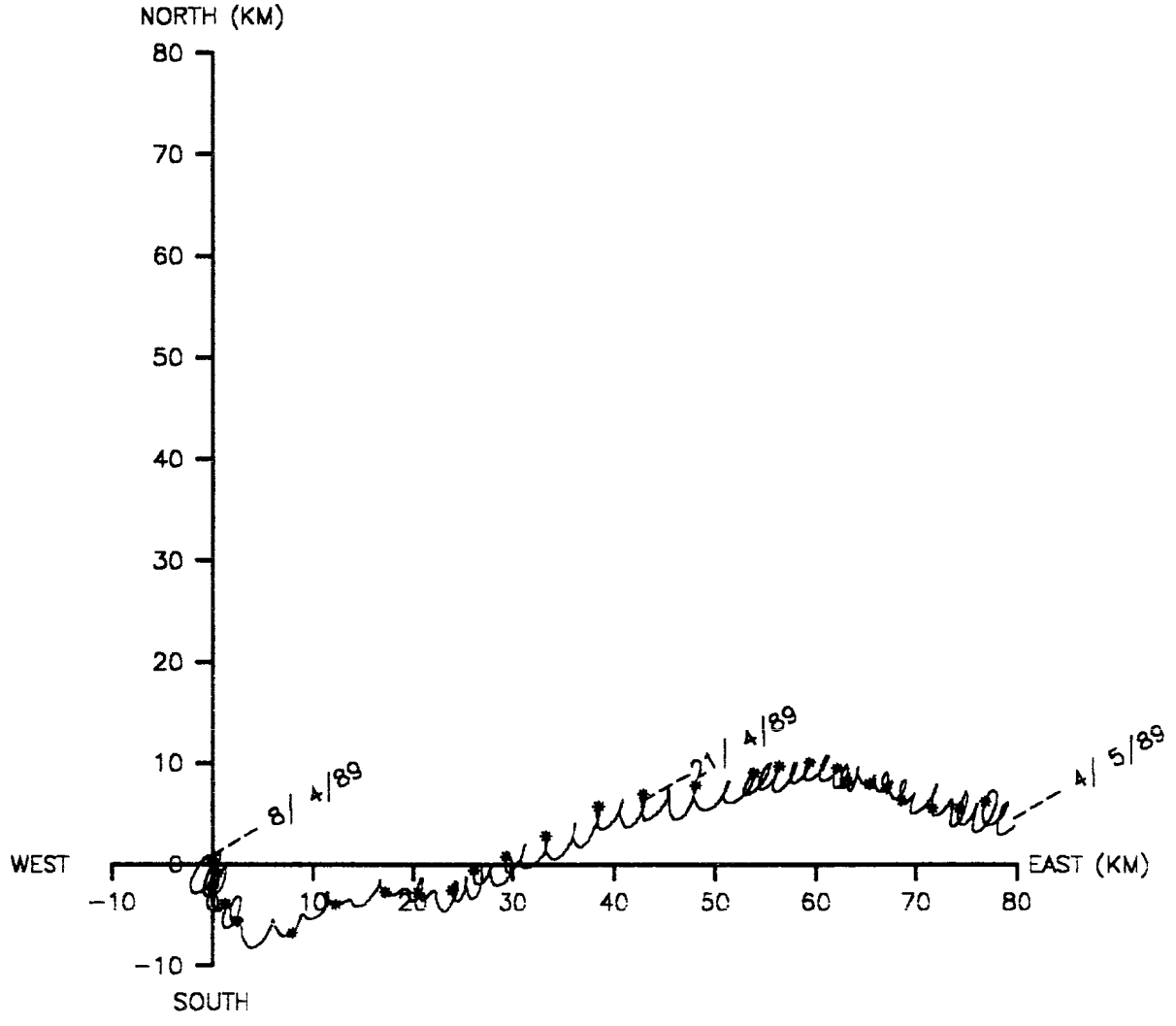
VECTOR PLOT

Meter no. 0003 Rig no. C49AC Depth of water(m) 85.0

Start/End 1989/04/08 AT 23:29:00 1989/05/04 AT 18:01:00

Position 55 29.96N 00 55.13E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0003 C49AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0358	0.48264302E-02	0.69472492E-01
Northings	0.0017	0.16149014E-01	0.12707877E+00
Speed	0.1350	0.40484853E-02	0.63627720E-01

Vector mean speed 0.0359
Vector Mean Direction 87.3

Maximum ten values

Eastings					Northings				
0.256	0.228	0.227	0.227	0.226	0.345	0.345	0.329	0.323	0.322
0.222	0.212	0.212	0.210	0.209	0.318	0.316	0.312	0.300	0.300

Minimum ten values

Eastings					Northings				
-0.158	-0.159	-0.162	-0.162	-0.163	-0.289	-0.291	-0.293	-0.309	-0.311
-0.175	-0.177	-0.196	-0.233	-0.251	-0.319	-0.320	-0.328	-0.342	-0.469

Maximum speeds

0.501	0.429	0.401	0.394	0.371	0.358	0.356	0.342	0.336	0.333
0.332	0.331	0.330	0.330	0.328	0.328	0.328	0.325	0.325	0.323
0.322	0.321	0.321	0.318	0.317	0.317	0.316	0.316	0.316	0.314
0.312	0.311	0.309	0.308	0.308	0.308	0.307	0.305	0.304	0.303
0.302	0.301	0.299	0.297	0.297	0.296	0.296	0.295	0.295	0.294
0.293	0.292	0.291	0.291	0.291	0.288	0.287	0.287	0.286	0.285
0.285	0.285	0.284	0.283	0.283	0.282	0.282	0.281	0.281	0.280
0.280	0.280	0.280	0.277	0.277	0.276	0.276	0.276	0.274	0.273
0.272	0.272	0.271	0.271	0.271	0.270	0.269	0.269	0.269	0.269
0.269	0.268	0.268	0.267	0.267	0.266	0.266	0.266	0.266	0.265

Variance ellipse statistics

Maximum variance 0.1780E-01 Direction 19.6

Minimum variance 0.3173E-02 Direction 109.6

Total variance 0.2097E-01 Ratio of variances 0.1782E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 15.1

Average direction. maxdir +PI/2 to maxdir -PI/2 161.2

Statistics for DP0003 C49AC5F A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0401	0.24459930E-03	0.15639674E-01
Northings	0.0066	0.19843635E-03	0.14086742E-01
Speed	0.0427	0.26313076E-03	0.16221311E-01

Vector mean speed 0.0406
Vector Mean Direction 80.6

Maximum ten values

Eastings					Northings				
0.071	0.070	0.069	0.068	0.064	0.039	0.034	0.032	0.031	0.031
0.064	0.064	0.063	0.062	0.062	0.028	0.026	0.023	0.022	0.022

Minimum ten values

Eastings					Northings				
0.022	0.022	0.019	0.019	0.016	-0.011	-0.011	-0.011	-0.011	-0.012
0.016	0.016	0.015	0.010	0.010	-0.014	-0.014	-0.015	-0.024	-0.027

Maximum speeds

0.077	0.073	0.072	0.071	0.069	0.067	0.066	0.065	0.065	0.065
0.064	0.063	0.063	0.063	0.062	0.059	0.059	0.059	0.058	0.057
0.056	0.055	0.054	0.054	0.053	0.052	0.052	0.051	0.050	0.049
0.048	0.048	0.044	0.043	0.041	0.041	0.040	0.040	0.039	0.039
0.039	0.038	0.038	0.037	0.037	0.037	0.037	0.036	0.036	0.035
0.034	0.034	0.034	0.034	0.033	0.033	0.033	0.032	0.032	0.032
0.031	0.031	0.030	0.030	0.030	0.030	0.029	0.029	0.026	0.025
0.025	0.024	0.023	0.020	0.019	0.018	0.017	0.016	0.012	0.010

Variance ellipse statistics

Maximum variance 0.3448E-03 Direction 50.4

Minimum variance 0.9825E-04 Direction 140.4

Total variance 0.4430E-03 Ratio of variances 0.2850E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 34.4

Average direction. maxdir +PI/2 to maxdir -PI/2 0.0

Meter information details for 9631

Rig No	:	C49AC
Meter No	:	9631
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AS
Meter started	:	08-APR-89 15:40:00
Meter stopped	:	05-MAY-89 12:20:00
Period switched on	:	26.9 days
Period of good data	:	0.0 days
Total number of scans	:	3712
Timing error	:	None
Comments	:	Corrupted data set
		No PRESSURE sensor fitted to meter

Rig information details for C51AC

Position Latitude	:	55 29.99N
Position Longitude	:	00 55.20E
Water depth	:	85.0 m
Deployed on cruise	:	C51
Recovered on cruise	:	C53
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	04-MAY-89 23:28:00
Rig recovered on	:	02-JUNE-89 14:48:00
Period of deployment	:	28.6 days
Comments	:	Launch and recovery successful

Meter information details for 0001

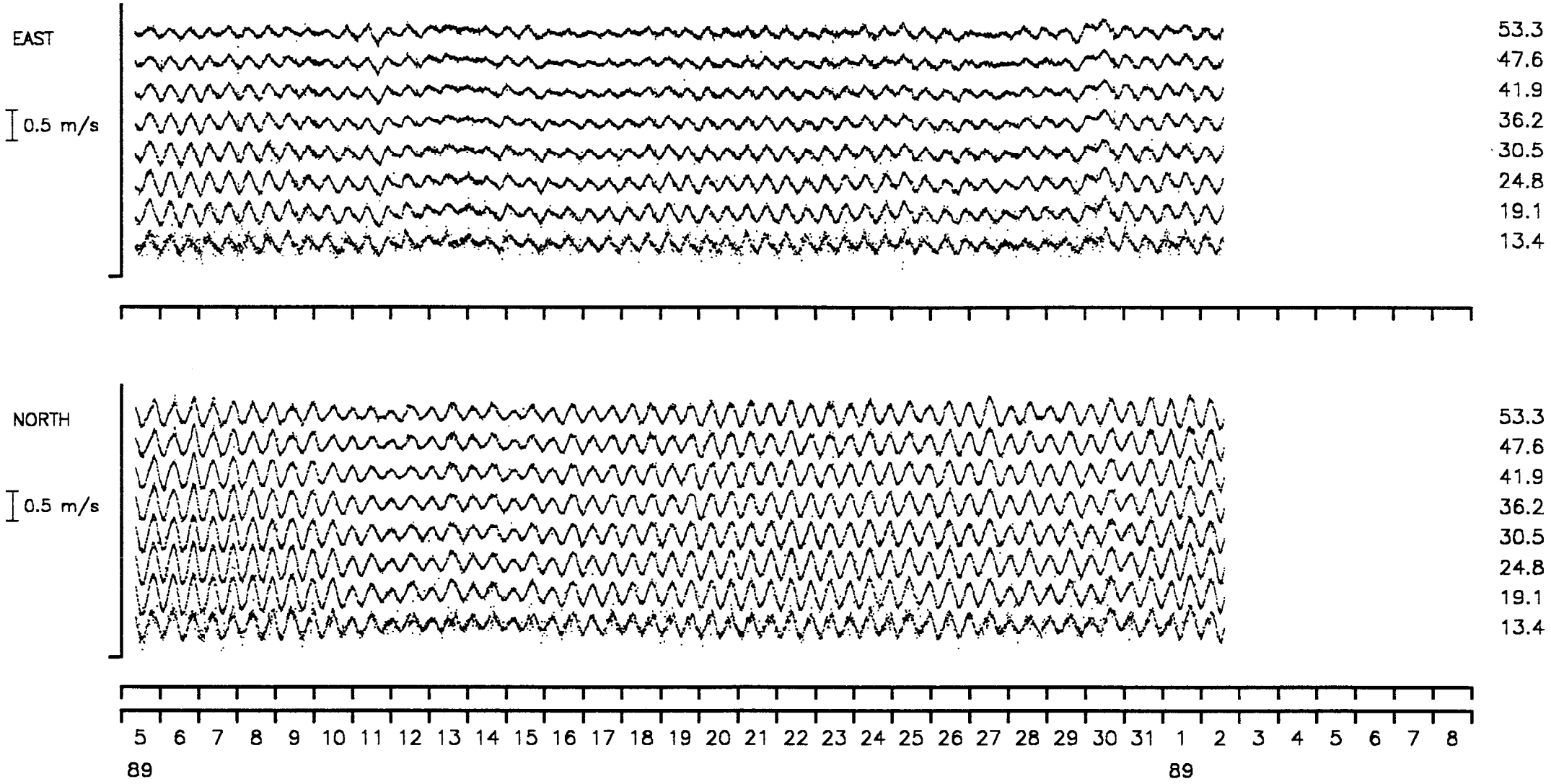
Rig No	:	C51AC
Meter No	:	0001
Frame angle correction	:	177.0 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	05-MAY-89 09:08:47
Time of last valid scan	:	02-JUNE-89 14:48:44
Period of good data	:	28.0 days short record
Total number of scans	:	4028
Timing error	:	3 seconds fast
Comments	:	Nineteen increments of 30 minutes instead of 10 minutes every 215 scans Corrupted data at start of recording which has been removed giving a meter start time after deployment

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht

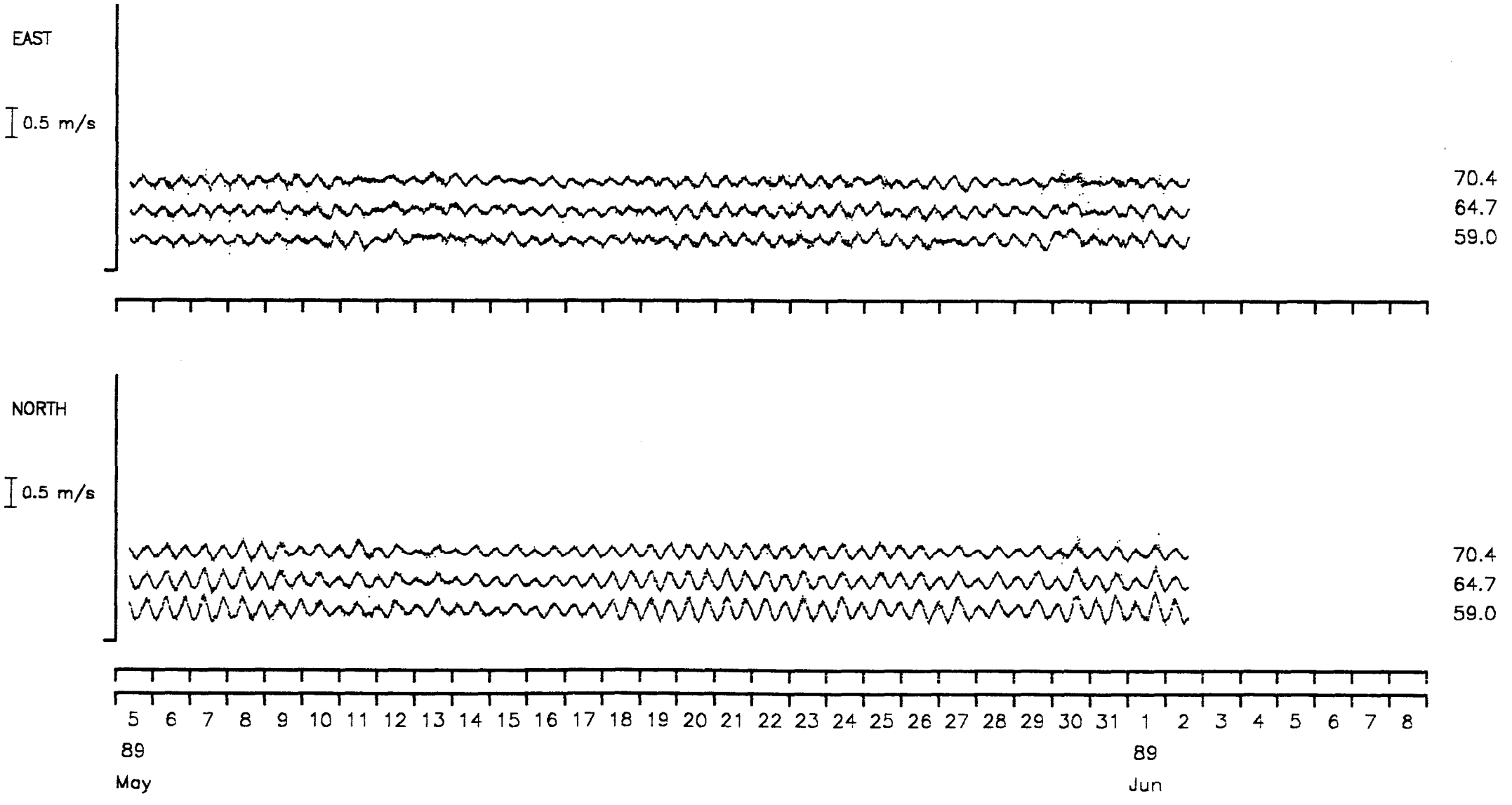


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht

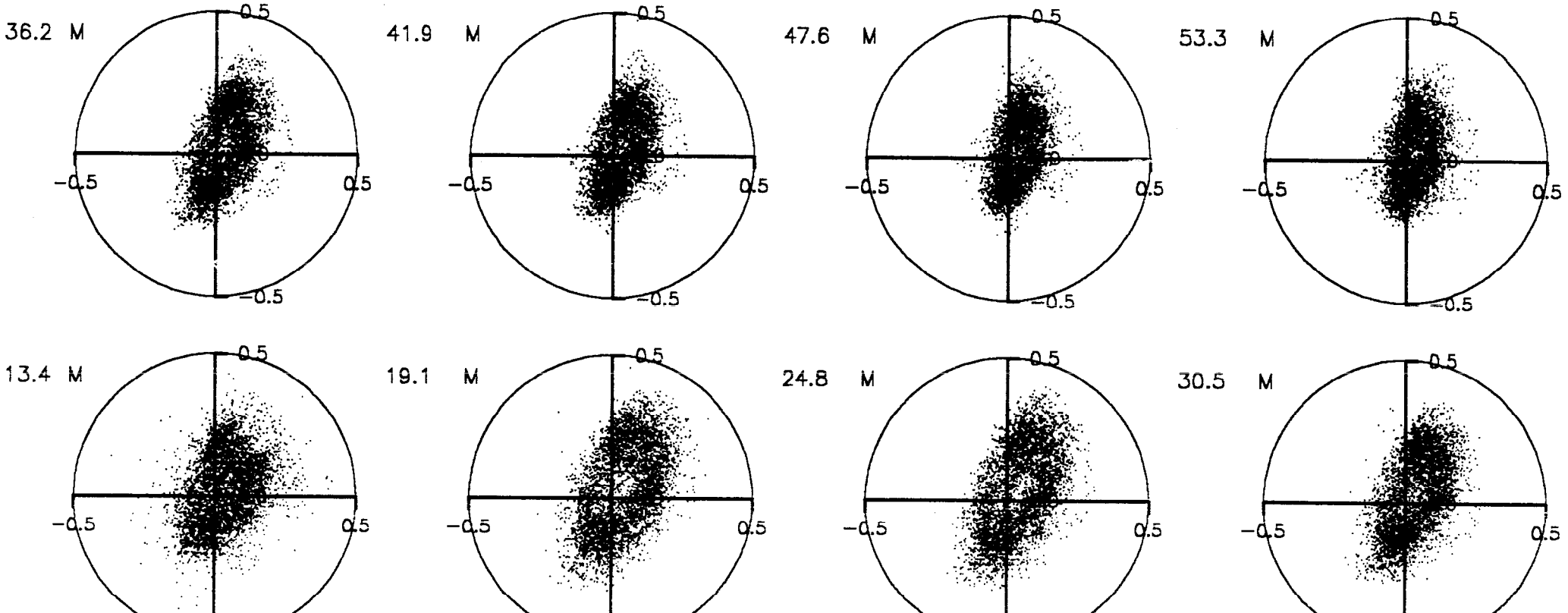


SCATTER PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht

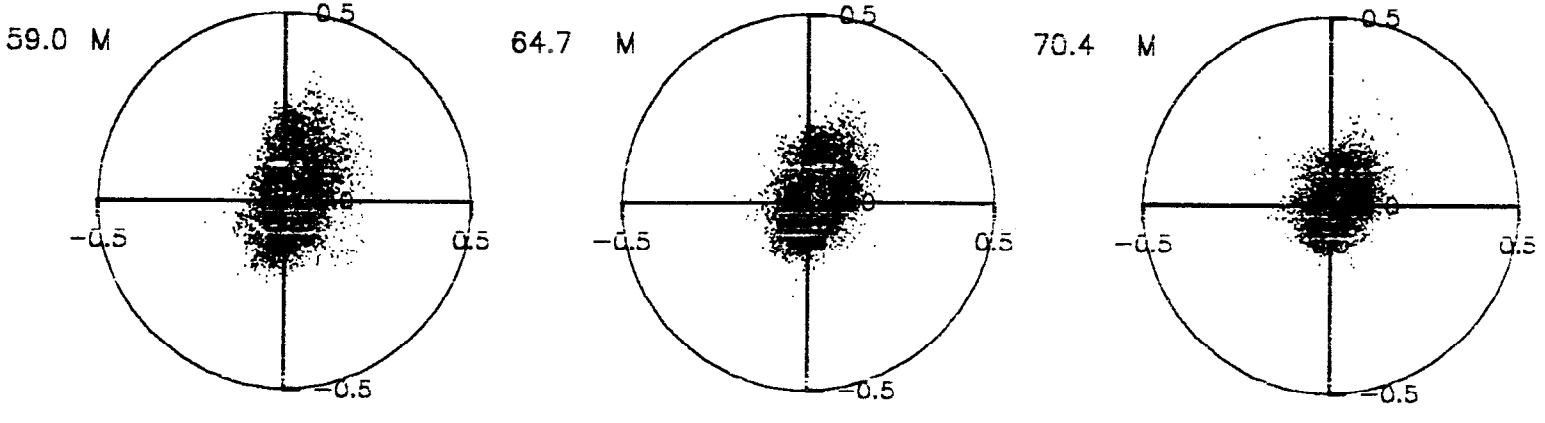


SCATTER PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht

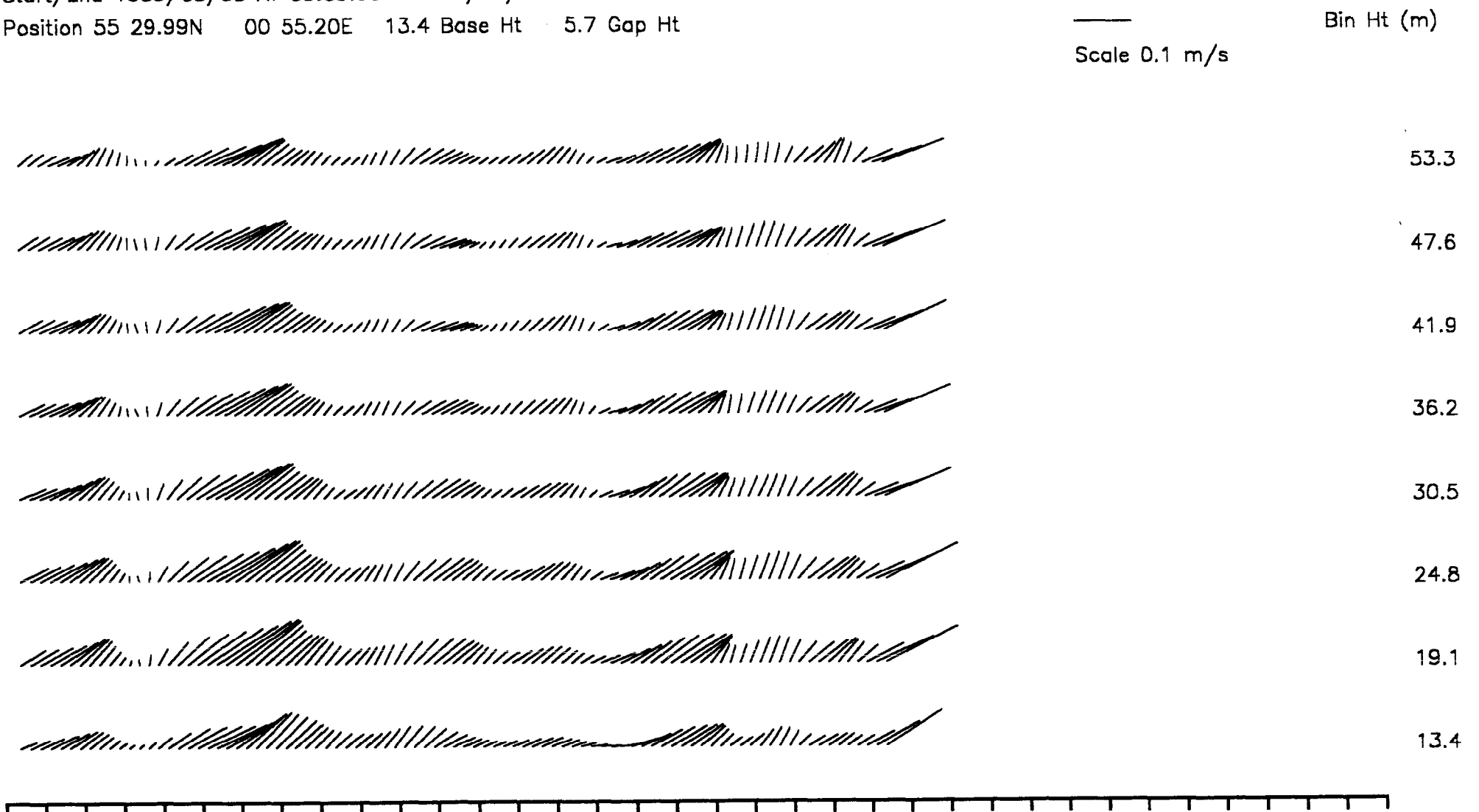


STICK TIME SERIES PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht



STICK TIME SERIES PLOT

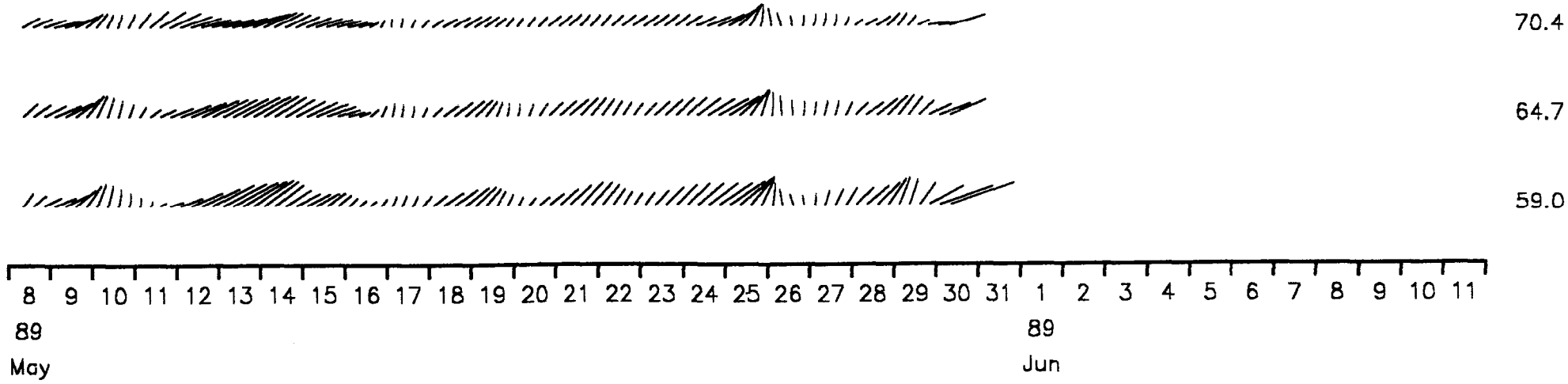
Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht

—— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0001 C51AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.046	57.8	0.0175	23.9	0.0066	113.9
2	19.1	0.059	50.6	0.0262	21.8	0.0063	111.8
3	24.8	0.058	51.9	0.0261	21.6	0.0055	111.6
4	30.5	0.050	52.6	0.0212	20.7	0.0041	110.7
5	36.2	0.047	52.9	0.0196	19.6	0.0035	109.6
6	41.9	0.046	53.2	0.0165	17.7	0.0029	107.7
7	47.6	0.045	52.2	0.0142	13.7	0.0026	103.7
8	53.3	0.042	51.0	0.0140	10.8	0.0030	100.8
9	59.0	0.038	49.0	0.0118	14.0	0.0037	104.0
10	64.7	0.034	51.3	0.0084	20.1	0.0030	110.1
11	70.4	0.028	57.8	0.0053	23.4	0.0024	113.4

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.046	57.0	0.0005	56.5	0.0001	146.5
2	19.1	0.059	49.9	0.0009	63.7	0.0001	153.7
3	24.8	0.057	51.7	0.0009	68.3	0.0001	158.3
4	30.5	0.049	52.0	0.0007	69.1	0.0001	159.1
5	36.2	0.045	52.7	0.0007	71.7	0.0001	161.7
6	41.9	0.044	53.1	0.0007	73.4	0.0001	163.4
7	47.6	0.043	51.9	0.0006	75.8	0.0001	165.8
8	53.3	0.041	50.4	0.0006	75.6	0.0001	165.6
9	59.0	0.038	48.4	0.0005	72.7	0.0001	162.7
10	64.7	0.036	50.6	0.0003	83.8	0.0000	173.8
11	70.4	0.030	56.0	0.0003	-89.2	0.0000	0.8

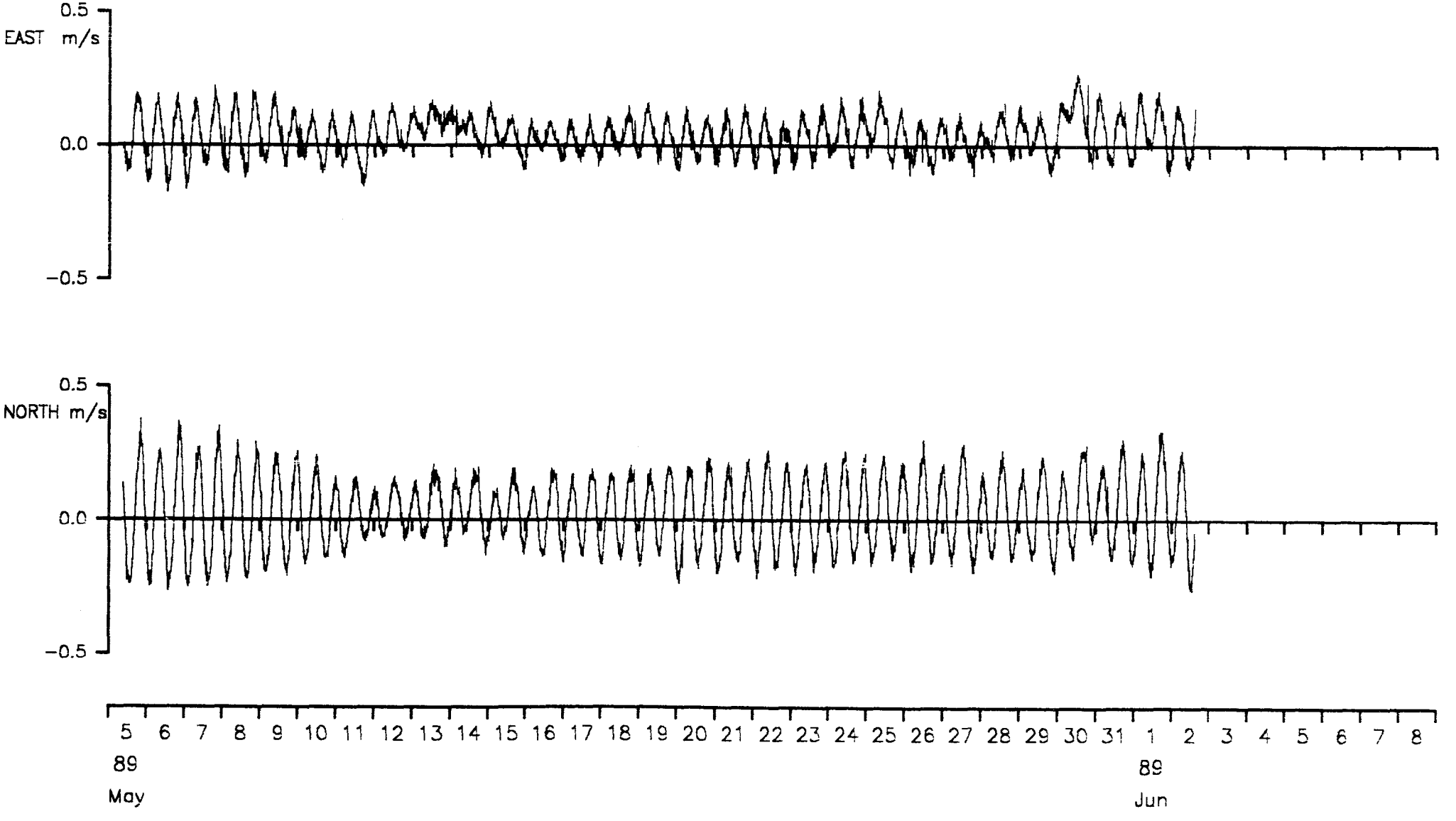
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



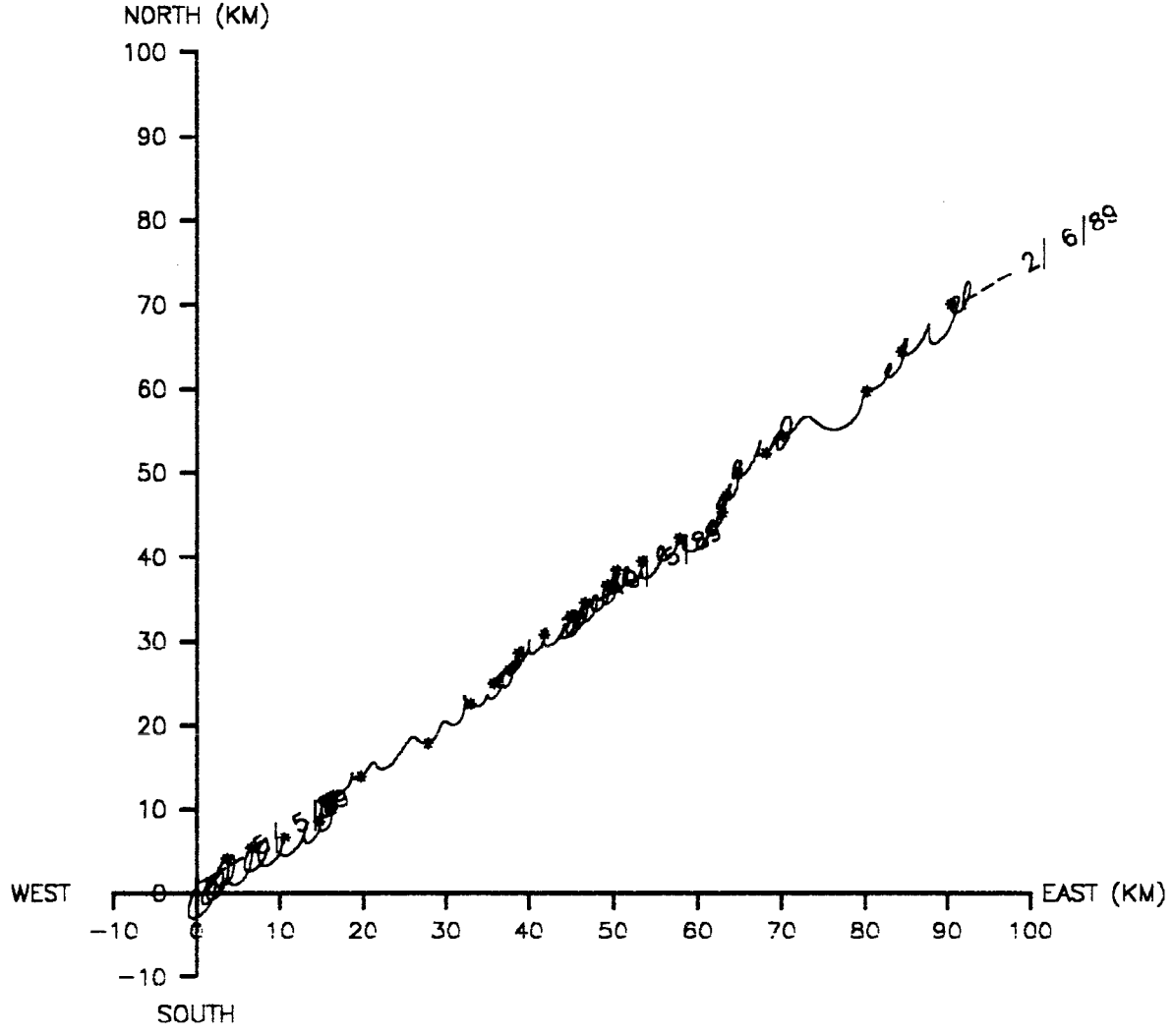
VECTOR PLOT

Meter no. 0001 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/05 AT 09:09:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0001 C51AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0378	0.53033642E-02	0.72824180E-01
Northings	0.0285	0.17755982E-01	0.13325155E+00
Speed	0.1448	0.43385066E-02	0.65867364E-01

Vector mean speed 0.0473
Vector Mean Direction 52.9

Maximum ten values

Eastings					Northings				
0.268	0.263	0.261	0.258	0.254	0.376	0.367	0.362	0.347	0.345
0.254	0.252	0.252	0.247	0.242	0.345	0.335	0.333	0.332	0.331

Minimum ten values

Eastings					Northings				
-0.142	-0.143	-0.143	-0.147	-0.147	-0.247	-0.248	-0.249	-0.250	-0.252
-0.148	-0.153	-0.156	-0.163	-0.173	-0.254	-0.257	-0.258	-0.262	-0.264

Maximum speeds

0.392	0.387	0.382	0.377	0.363	0.360	0.357	0.356	0.355	0.354
0.354	0.349	0.349	0.348	0.345	0.344	0.343	0.342	0.342	0.341
0.341	0.340	0.339	0.338	0.335	0.334	0.330	0.330	0.329	0.327
0.325	0.325	0.324	0.324	0.319	0.318	0.317	0.315	0.315	0.315
0.314	0.312	0.311	0.311	0.310	0.309	0.308	0.308	0.306	0.305
0.305	0.305	0.305	0.304	0.303	0.302	0.302	0.302	0.301	0.301
0.300	0.300	0.300	0.299	0.298	0.298	0.297	0.297	0.297	0.296
0.295	0.294	0.294	0.294	0.293	0.293	0.293	0.292	0.291	0.290
0.289	0.289	0.289	0.288	0.288	0.287	0.287	0.287	0.287	0.287
0.287	0.286	0.286	0.285	0.285	0.285	0.285	0.285	0.283	0.283

Variance ellipse statistics

Maximum variance 0.1955E-01 Direction 19.6

Minimum variance 0.3505E-02 Direction 109.6

Total variance 0.2306E-01 Ratio of variances 0.1793E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 12.9

Average direction. maxdir +PI/2 to maxdir -PI/2 167.3

Statistics for DP0001 C51AC5F A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0361	0.62495284E-03	0.24999052E-01
Northings	0.0275	0.11661500E-03	0.10798842E-01
Speed	0.0469	0.59961854E-03	0.24487112E-01

Vector mean speed 0.0454
Vector Mean Direction 52.7

Maximum ten values

Eastings					Northings				
0.119	0.096	0.094	0.093	0.091	0.057	0.057	0.053	0.052	0.048
0.084	0.080	0.072	0.070	0.067	0.047	0.044	0.043	0.039	0.039

Minimum ten values

Eastings					Northings				
0.011	0.011	0.009	0.009	0.008	0.014	0.014	0.013	0.013	0.012
0.006	0.005	-0.002	-0.002	-0.005	0.011	0.011	0.011	0.009	0.008

Maximum speeds

0.129	0.110	0.109	0.102	0.101	0.098	0.090	0.088	0.080	0.078
0.076	0.076	0.075	0.068	0.066	0.065	0.064	0.064	0.062	0.061
0.061	0.060	0.059	0.058	0.058	0.056	0.054	0.054	0.054	0.052
0.051	0.051	0.050	0.049	0.049	0.049	0.048	0.048	0.048	0.045
0.045	0.042	0.042	0.041	0.040	0.040	0.039	0.039	0.038	0.038
0.038	0.038	0.038	0.037	0.036	0.036	0.036	0.035	0.035	0.034
0.033	0.033	0.032	0.032	0.031	0.030	0.029	0.027	0.026	0.026
0.025	0.025	0.025	0.025	0.024	0.024	0.024	0.023	0.023	0.021
0.021	0.020	0.019	0.019	0.016	0.016	0.016	0.012	0.011	

Variance ellipse statistics

Maximum variance 0.6873E-03 Direction 71.7

Minimum variance 0.5424E-04 Direction 161.7

Total variance 0.7415E-03 Ratio of variances 0.7892E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -24.0

Average direction. maxdir +PI/2 to maxdir -PI/2 264.6

Meter information details for 6443

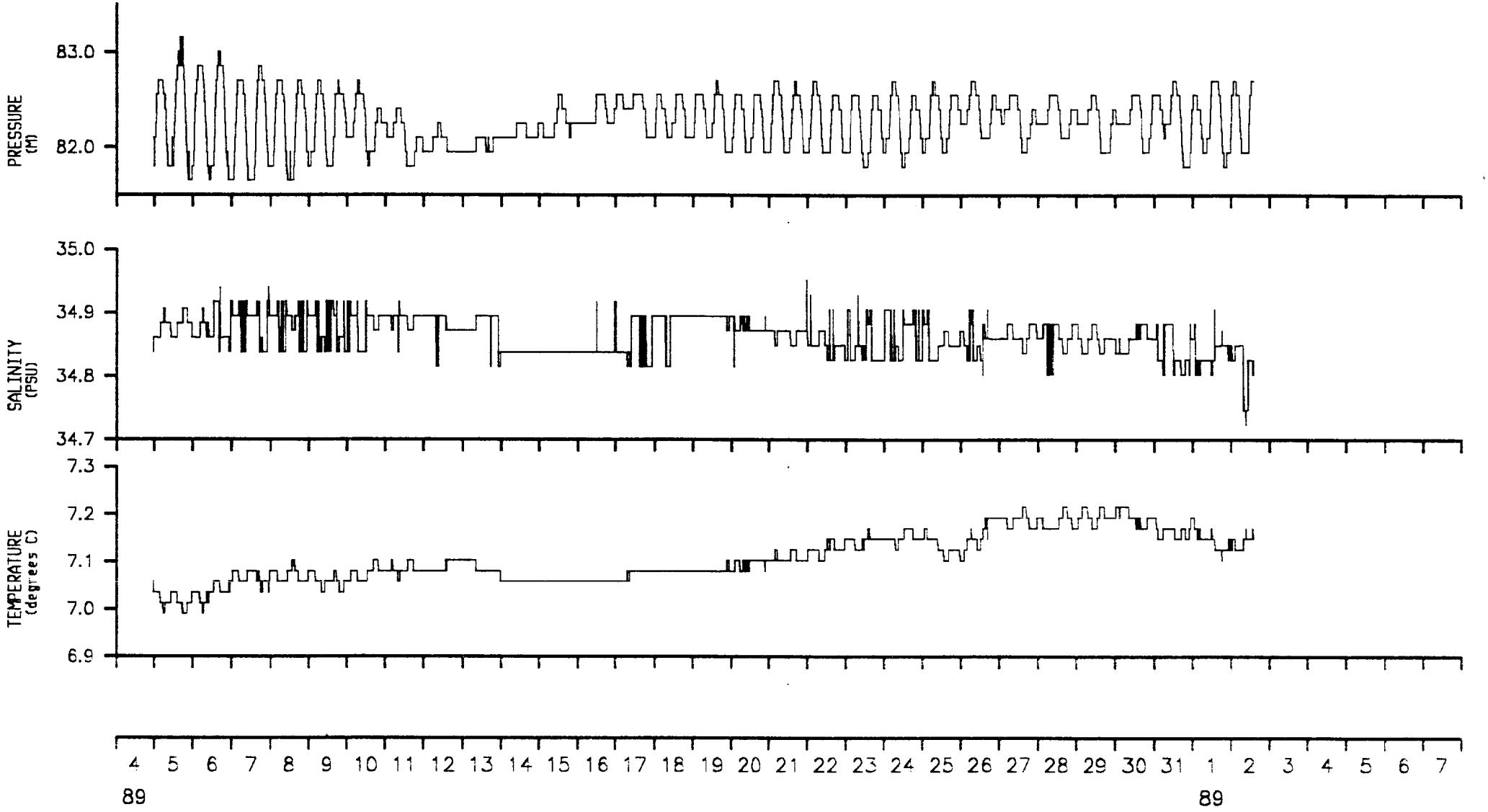
Rig No	:	C51AC
Meter No	:	6443
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AA
Meter started	:	01-MAY-89 15:50:00
Meter stopped	:	03-JUNE-89 13:10:35
Period switched on	:	32.9 days
Period of good data	:	28.6 days
Total number of scans	:	4124
Timing error	:	35 seconds slow
Comments	:	Good record obtained

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 6443 Rig no. C51AC Depth of water(m) 85.0

Start/End 1989/05/04 AT 23:28:00 1989/06/02 AT 14:48:00

Position 55 29.99N 00 55.20E Meter Height(m) 0.8



Rig information details for C53AC

Position Latitude	:	55 29.96N
Position Longitude	:	00 53.92E
Water depth	:	85.0 m
Deployed on cruise	:	C53
Recovered on cruise	:	C55
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	02-JUNE-89 19:27:00
Rig recovered on	:	01-JULY-89 15:00:00
Period of deployment	:	28.8 days
Comments	:	Launch and recovery successful

Meter information details for 0002

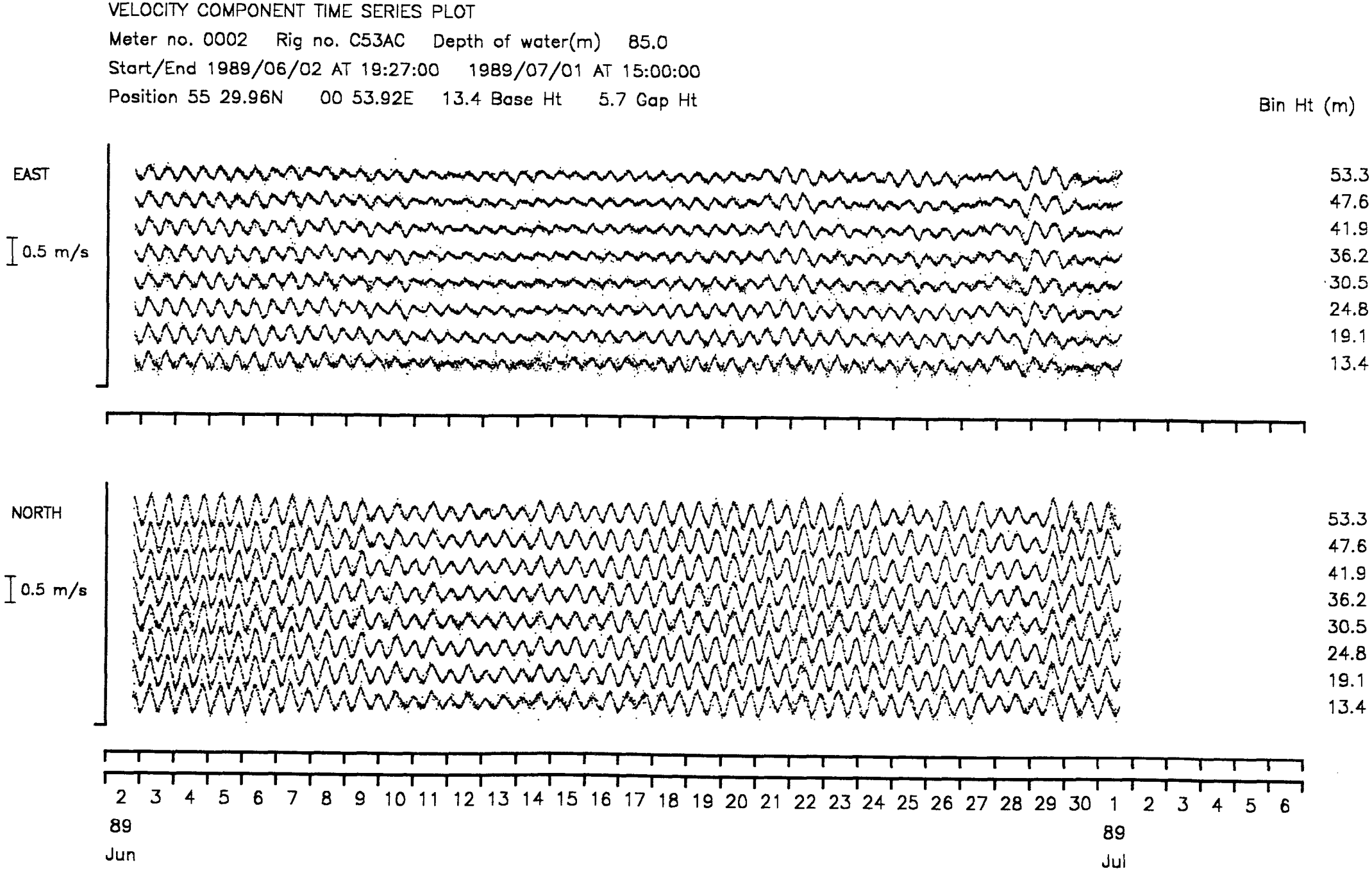
Rig No	:	C53AC
Meter No	:	0002
Frame angle correction	:	-24.3 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	02-JUNE-89 11:48:39
Meter stopped	:	01-JULY-89 15:08:46
Period switched on	:	29.1 days
Period of good data	:	28.8 days
Total number of scans	:	4150
Timing error	:	7 seconds slow
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht

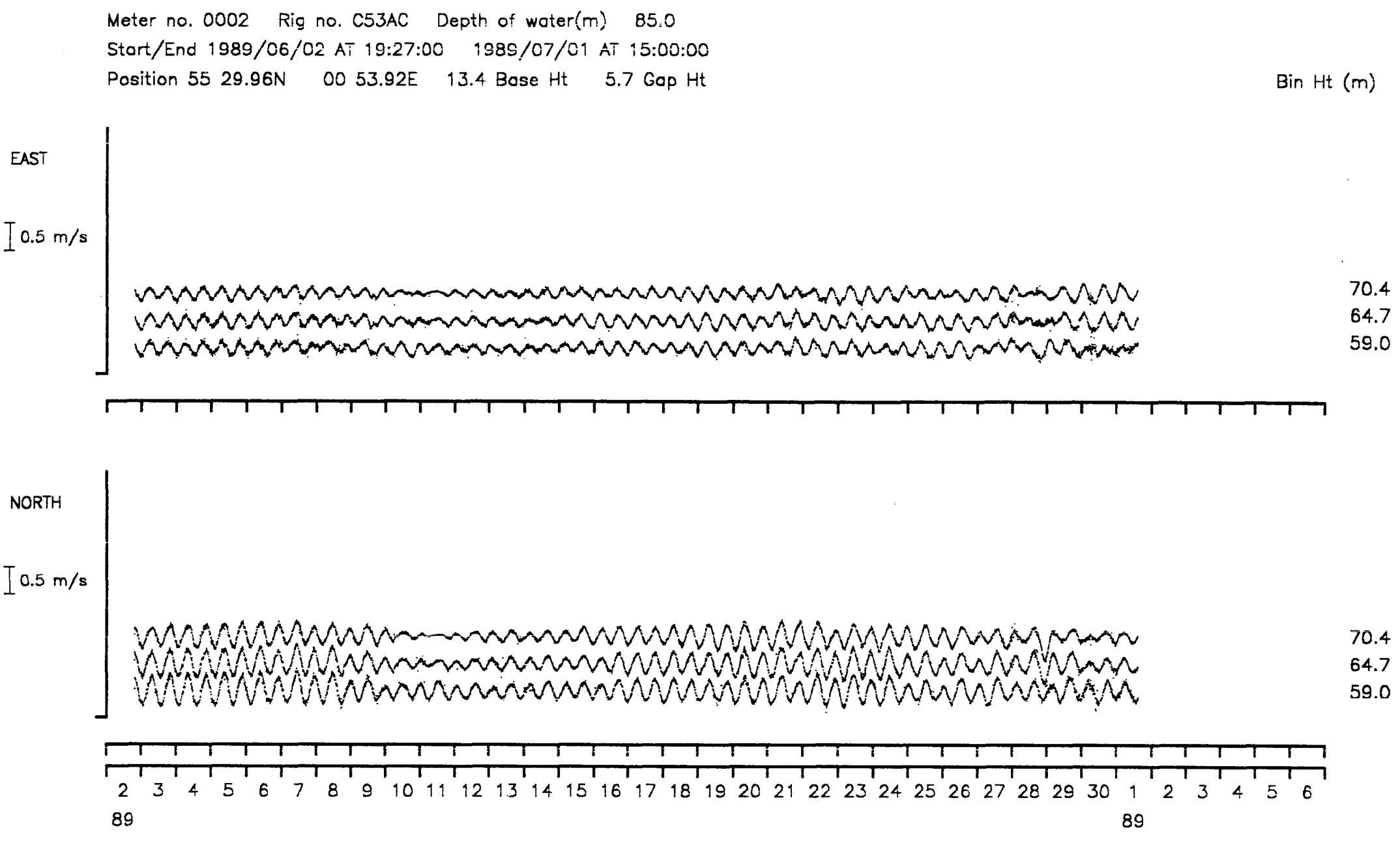


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht

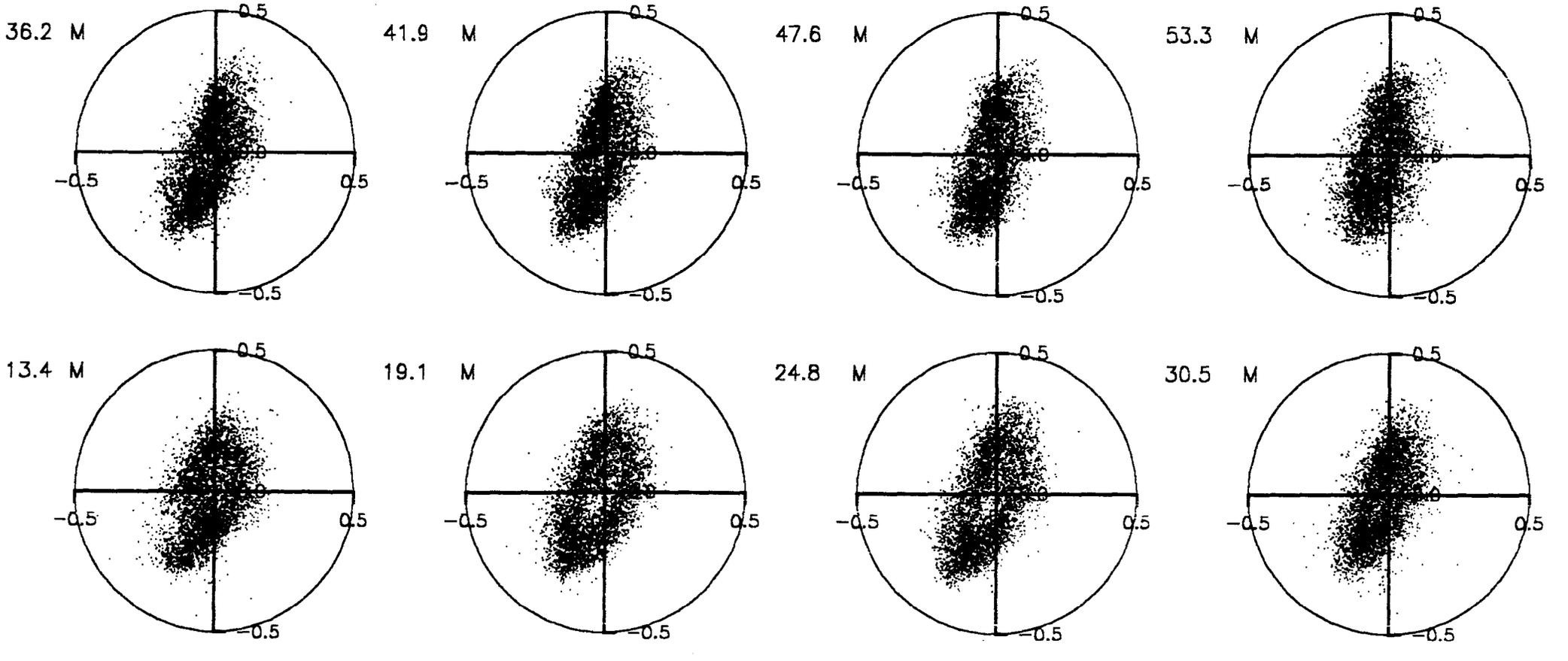


SCATTER PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht

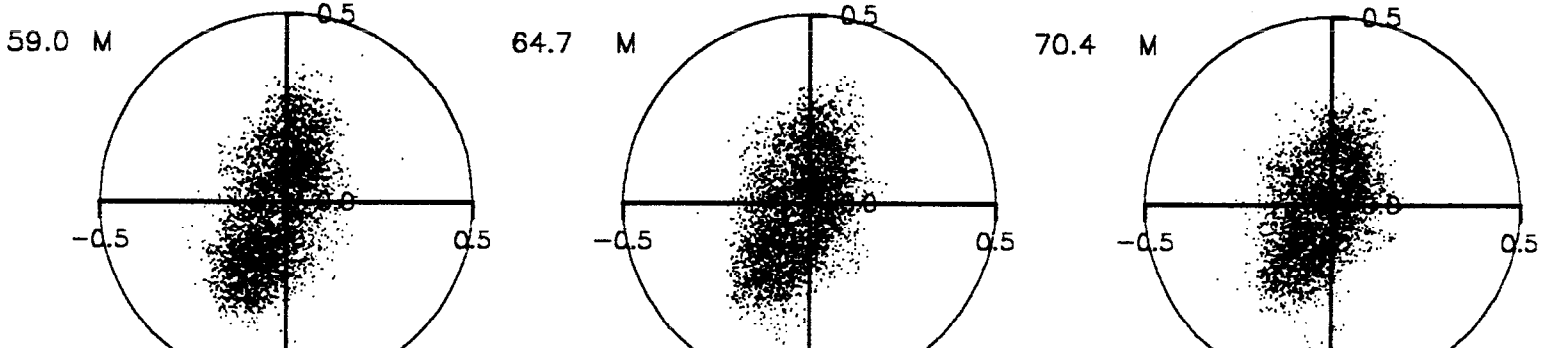


SCATTER PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht



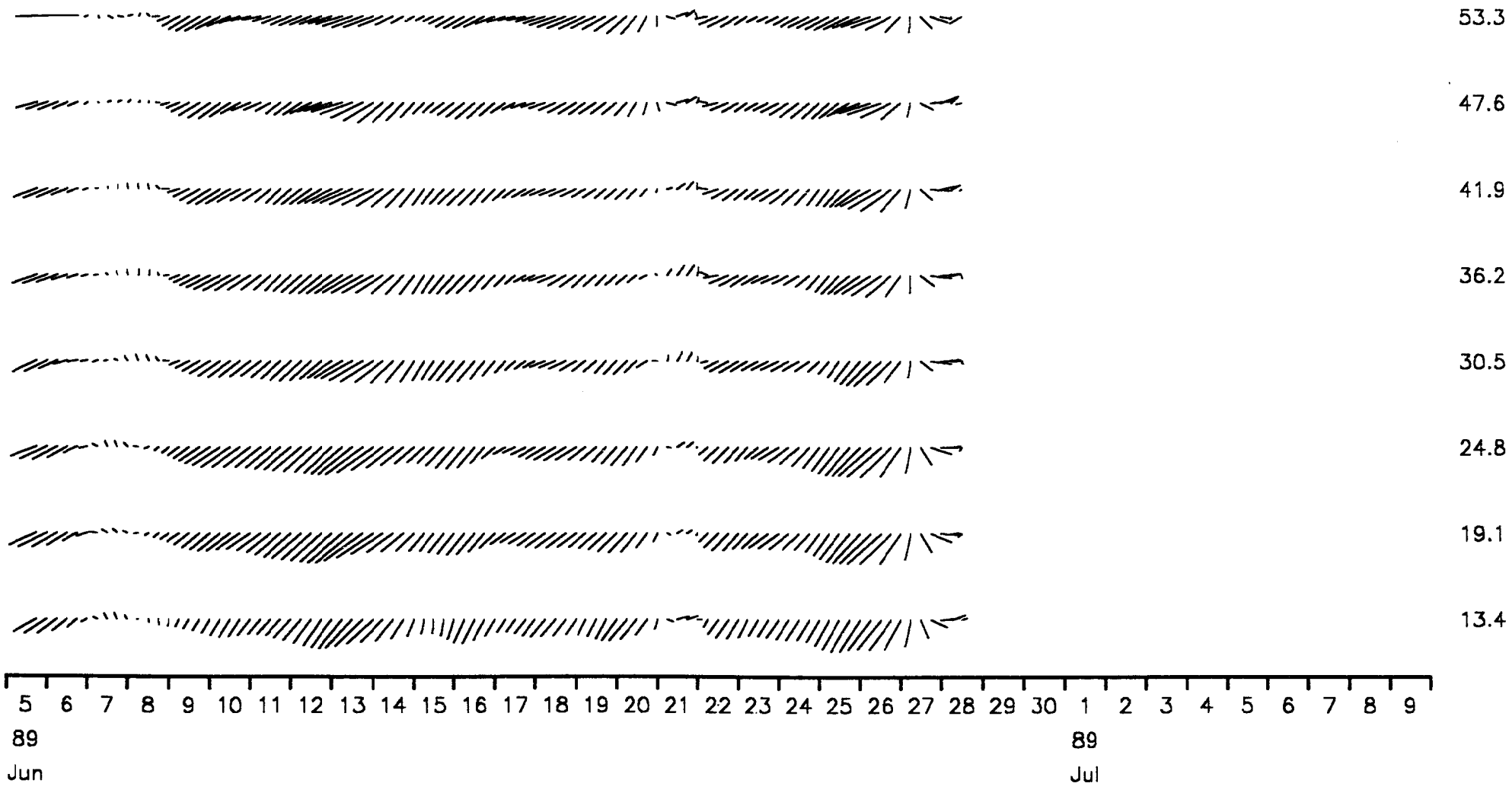
STICK TIME SERIES PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht

Scale 0.1 m/s



STICK TIME SERIES PLOT

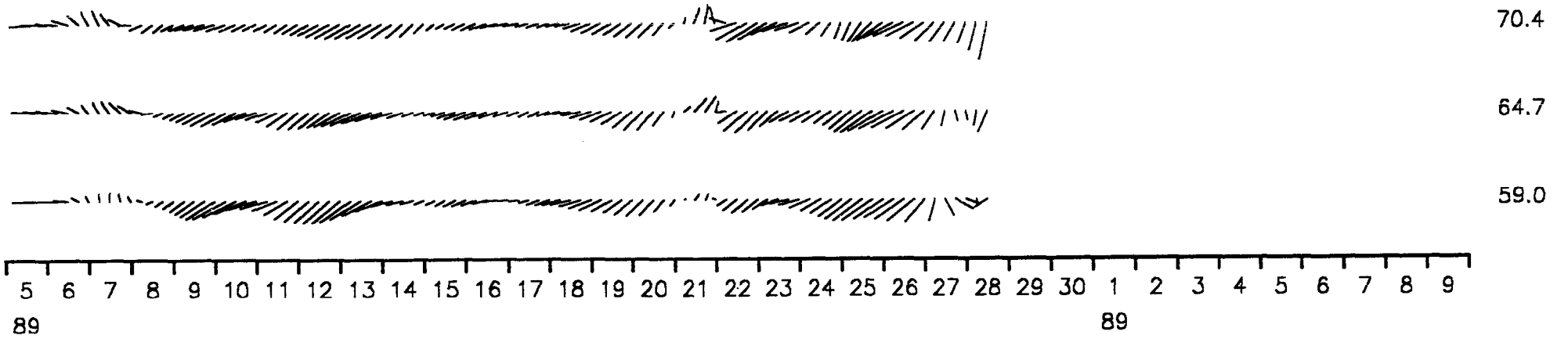
Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht

—— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0002 C53AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.032	-145.3	0.0198	19.1	0.0053	109.1
2	19.1	0.039	-132.3	0.0243	21.1	0.0053	111.1
3	24.8	0.037	-130.7	0.0276	20.3	0.0048	110.3
4	30.5	0.031	-129.6	0.0205	20.7	0.0036	110.7
5	36.2	0.030	-127.8	0.0232	19.6	0.0032	109.6
6	41.9	0.029	-126.3	0.0247	17.8	0.0031	107.8
7	47.6	0.027	-123.0	0.0241	14.9	0.0032	104.9
8	53.3	0.029	-115.7	0.0241	15.0	0.0038	105.0
9	59.0	0.033	-117.9	0.0241	18.7	0.0041	108.7
10	64.7	0.034	-117.9	0.0208	19.7	0.0047	109.7
11	70.4	0.032	-119.1	0.0164	20.5	0.0044	110.5

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.032	-147.8	0.0005	44.6	0.0001	134.6
2	19.1	0.039	-133.0	0.0005	54.2	0.0001	144.2
3	24.8	0.037	-131.4	0.0006	53.4	0.0001	143.4
4	30.5	0.029	-128.3	0.0004	51.9	0.0001	141.9
5	36.2	0.029	-126.4	0.0005	55.9	0.0001	145.9
6	41.9	0.029	-125.2	0.0005	59.1	0.0001	149.1
7	47.6	0.028	-122.1	0.0004	65.1	0.0000	155.1
8	53.3	0.029	-114.9	0.0004	73.2	0.0000	163.2
9	59.0	0.031	-118.6	0.0004	58.3	0.0001	148.3
10	64.7	0.031	-115.4	0.0004	47.5	0.0001	137.5
11	70.4	0.030	-115.2	0.0003	31.2	0.0001	121.2

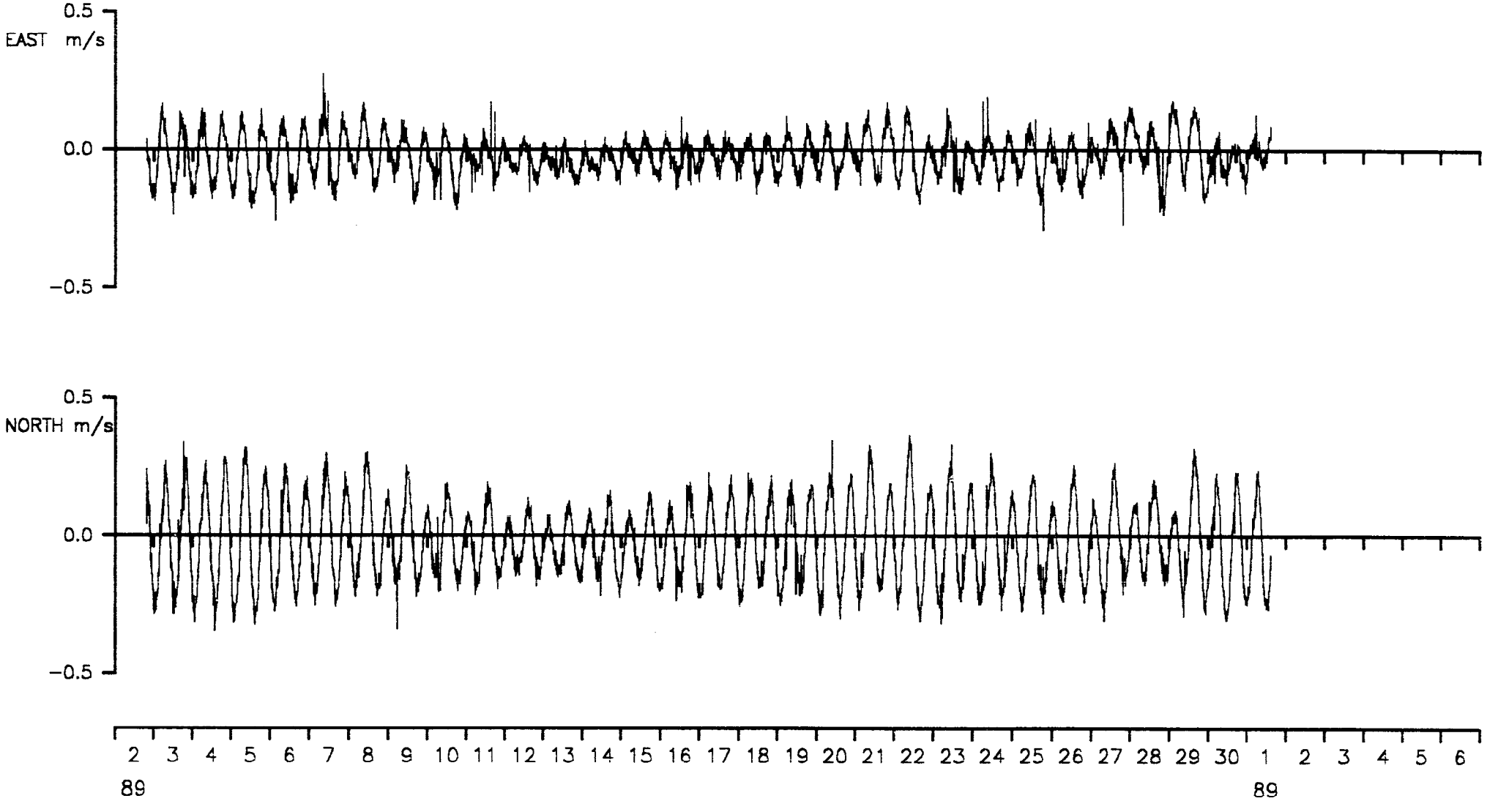
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



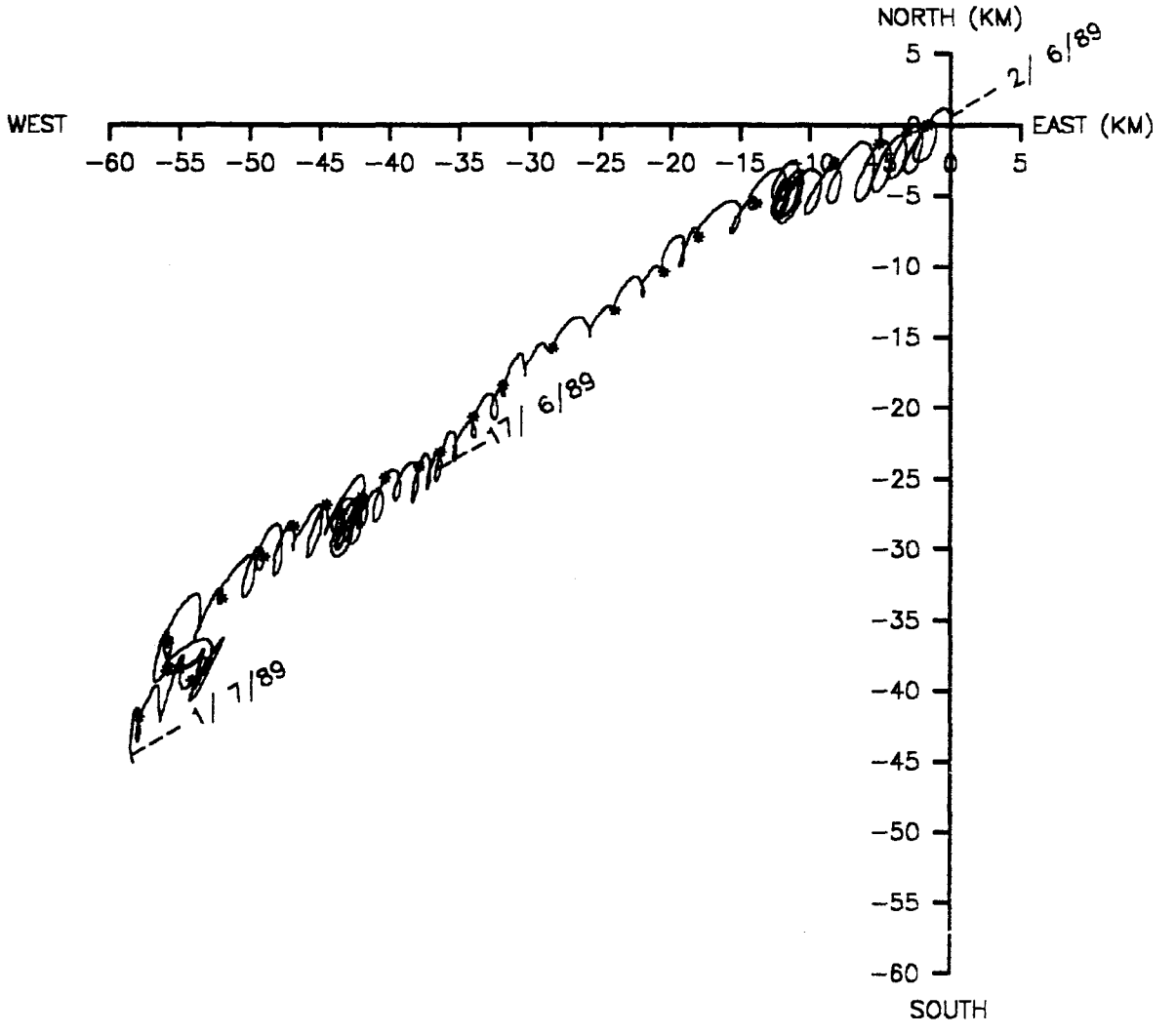
VECTOR PLOT

Meter no. 0002 Rig no. C53AC Depth of water(m) 85.0

Start/End 1989/06/02 AT 19:27:00 1989/07/01 AT 15:00:00

Position 55 29.96N 00 53.92E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0002 C53AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	-0.0234	0.54860115E-02	0.74067593E-01
Northings	-0.0181	0.21003857E-01	0.14492702E+00
Speed	0.1488	0.52140243E-02	0.72208166E-01

Vector mean speed 0.0296
Vector Mean Direction -127.8

Maximum ten values

Eastings					Northings				
0.271	0.201	0.192	0.178	0.175	0.365	0.356	0.347	0.339	0.338
0.174	0.171	0.170	0.168	0.167	0.336	0.335	0.335	0.334	0.333

Minimum ten values

Eastings					Northings				
-0.210	-0.214	-0.215	-0.218	-0.220	-0.310	-0.311	-0.312	-0.313	-0.316
-0.234	-0.235	-0.256	-0.268	-0.288	-0.320	-0.325	-0.327	-0.341	-0.347

Maximum speeds

0.402	0.379	0.370	0.367	0.365	0.358	0.358	0.358	0.356	0.355
0.354	0.353	0.350	0.350	0.346	0.343	0.343	0.342	0.342	0.342
0.341	0.341	0.341	0.341	0.341	0.341	0.339	0.338	0.337	0.336
0.335	0.334	0.333	0.333	0.333	0.331	0.330	0.330	0.330	0.330
0.329	0.328	0.328	0.328	0.327	0.326	0.326	0.325	0.324	0.324
0.323	0.323	0.322	0.321	0.321	0.320	0.319	0.319	0.318	0.318
0.317	0.317	0.317	0.317	0.317	0.317	0.316	0.316	0.316	0.316
0.315	0.314	0.314	0.313	0.313	0.312	0.312	0.312	0.312	0.312
0.311	0.311	0.311	0.311	0.311	0.311	0.311	0.310	0.310	0.310
0.310	0.308	0.308	0.308	0.308	0.306	0.305	0.304	0.304	0.304

Variance ellipse statistics

Maximum variance 0.2324E-01 Direction 19.6

Minimum variance 0.3245E-02 Direction 109.6

Total variance 0.2649E-01 Ratio of variances 0.1396E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -7.9

Average direction. maxdir +PI/2 to maxdir -PI/2 184.1

Statistics for DP0002 C53AC5F A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	-0.0233	0.34878496E-03	0.18675782E-01
Northings	-0.0172	0.19362582E-03	0.13914946E-01
Speed	0.0338	0.23591347E-03	0.15359476E-01

Vector mean speed 0.0289
Vector Mean Direction -126.4

Maximum ten values

Eastings					Northings				
0.037	0.033	0.023	0.017	0.013	0.018	0.016	0.014	0.010	0.009
0.012	0.007	0.003	0.001	0.001	0.009	0.008	0.006	0.005	0.004

Minimum ten values

Eastings					Northings				
-0.045	-0.046	-0.047	-0.047	-0.048	-0.032	-0.032	-0.032	-0.032	-0.032
-0.048	-0.049	-0.051	-0.053	-0.054	-0.033	-0.033	-0.034	-0.036	-0.036

Maximum speeds

0.062	0.061	0.060	0.060	0.057	0.057	0.057	0.056	0.054	0.053
0.053	0.053	0.052	0.051	0.051	0.049	0.049	0.048	0.047	0.046
0.046	0.046	0.045	0.045	0.045	0.044	0.044	0.043	0.042	0.042
0.041	0.041	0.040	0.039	0.039	0.039	0.039	0.038	0.038	0.038
0.037	0.037	0.037	0.036	0.035	0.035	0.033	0.033	0.033	0.033
0.032	0.032	0.032	0.032	0.032	0.031	0.030	0.030	0.030	0.030
0.029	0.029	0.029	0.027	0.026	0.026	0.025	0.025	0.025	0.023
0.023	0.022	0.021	0.021	0.020	0.020	0.017	0.014	0.014	0.013
0.012	0.012	0.009	0.009	0.009	0.008	0.006	0.006	0.005	0.005
0.004	0.004								

Variance ellipse statistics

Maximum variance 0.4793E-03 Direction 55.9

Minimum variance 0.6309E-04 Direction 145.9

Total variance 0.5424E-03 Ratio of variances 0.1316E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -20.3

Average direction. maxdir +PI/2 to maxdir -PI/2 180.2

Rig information details for C55AC

Position Latitude	:	55 29.99N
Position Longitude	:	00 54.32E
Water depth	:	85.0 m
Deployed on cruise	:	C55
Recovered on cruise	:	C57
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	01-JULY-89 16:36:00
Rig recovered on	:	04-AUG-89 04:10:00
Period of deployment	:	33.5 days
Comments	:	Launch and recovery successful

Meter information details for 0004

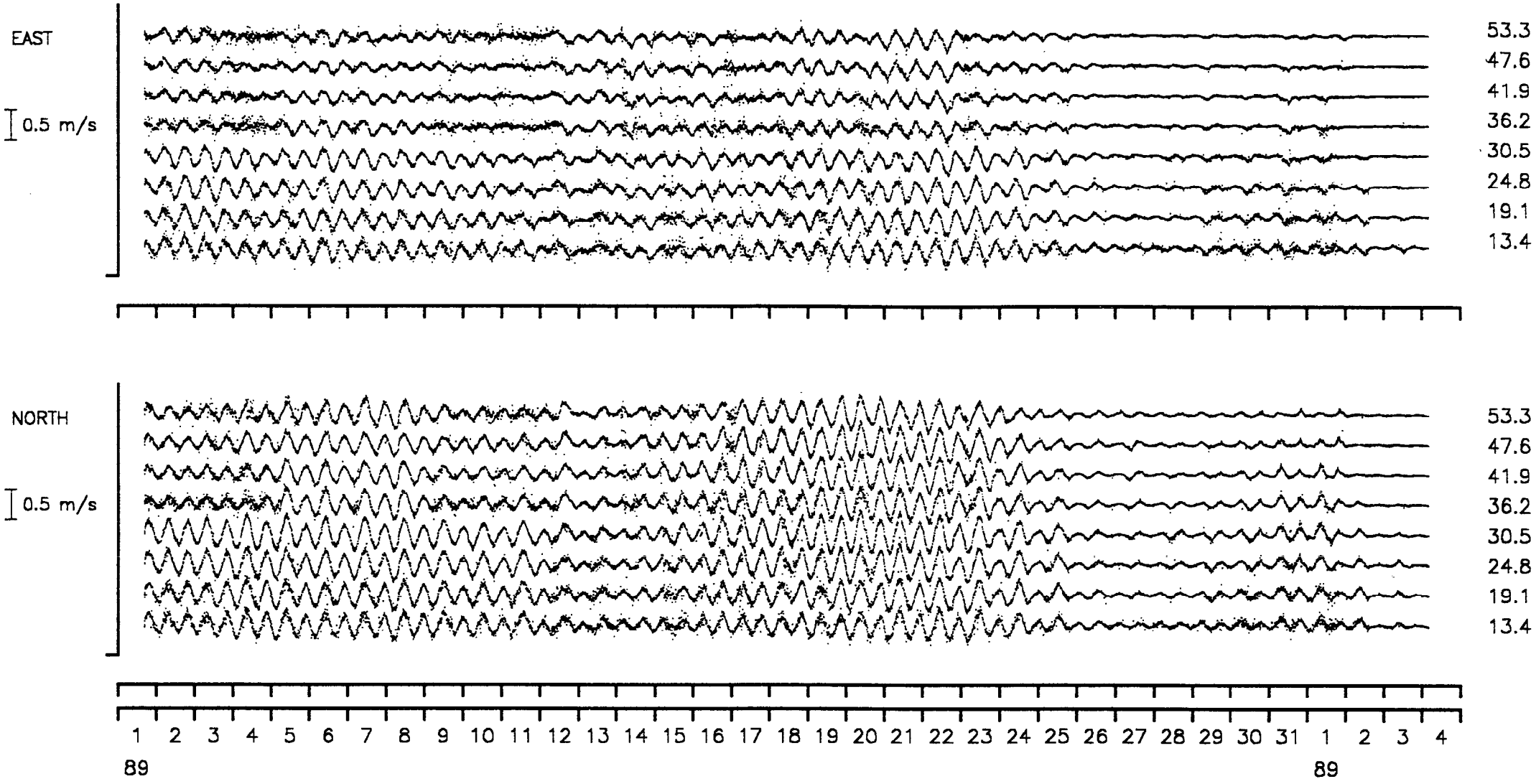
Rig No	:	C55AC
Meter No	:	0004
Frame angle correction	:	0.0 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	01-JULY-89 07:38:24
Meter stopped	:	04-AUG-89 04:28:25
Period switched on	:	33.9 days
Period of good data	:	33.5 days
Total number of scans	:	4822
Timing error	:	1 second slow
Comments	:	Good record obtained. However incorrect hexadecimal was present which had to be changed. e.g F7's instead of FF's

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht

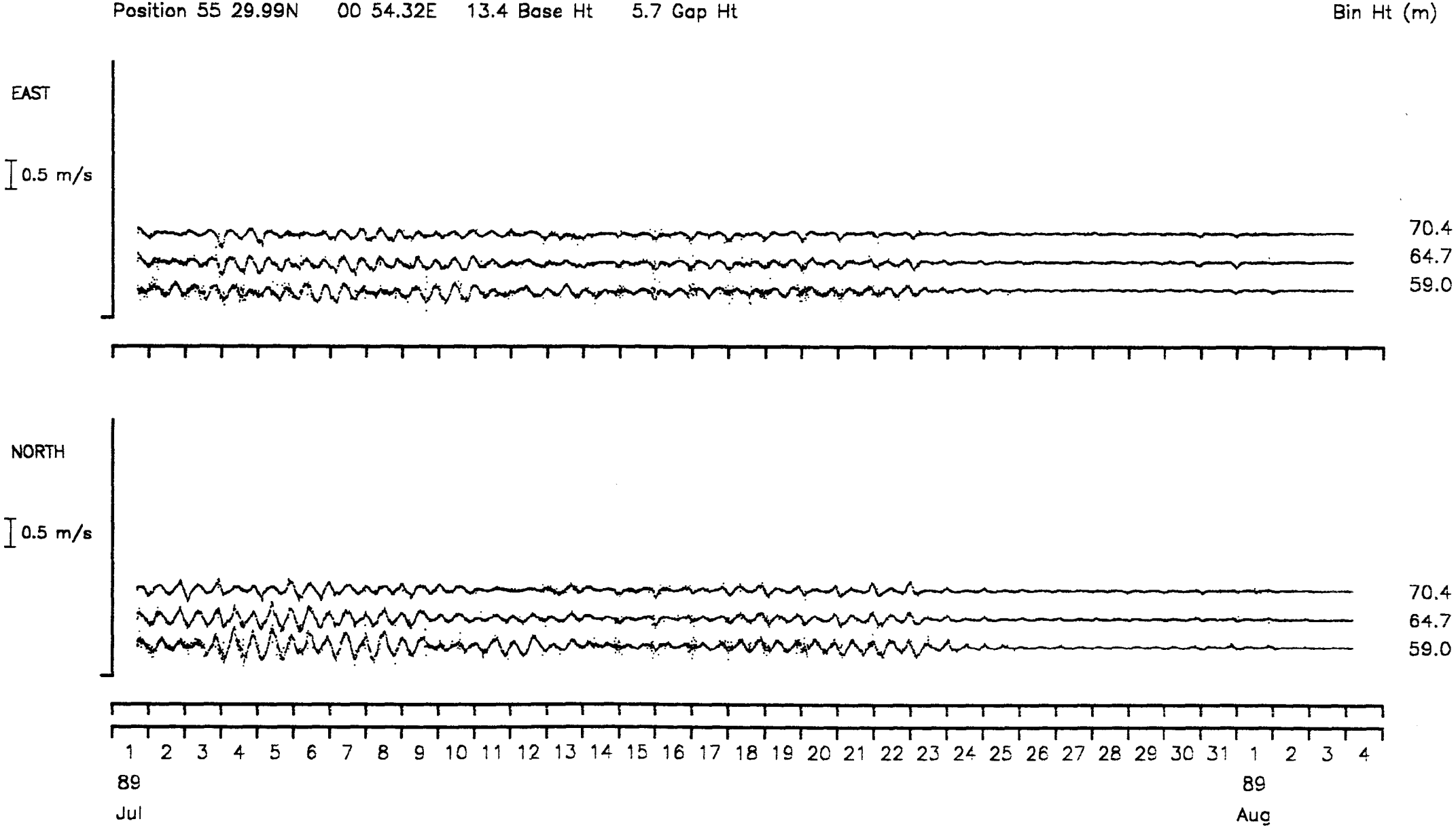


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht

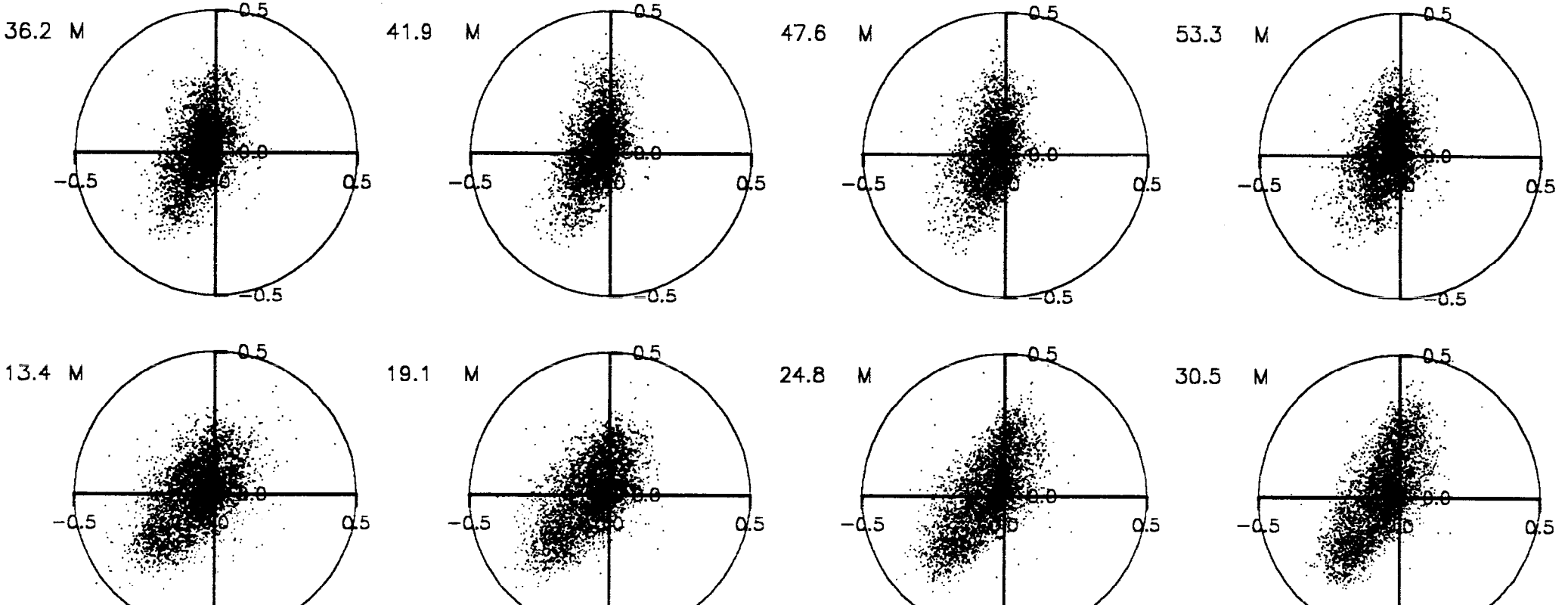


SCATTER PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht

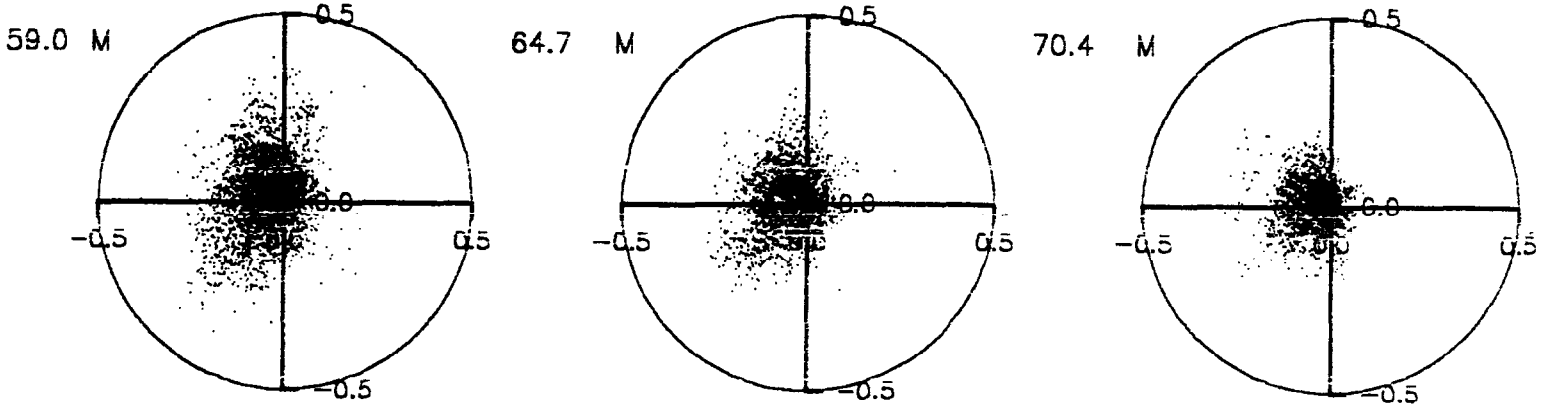


SCATTER PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht

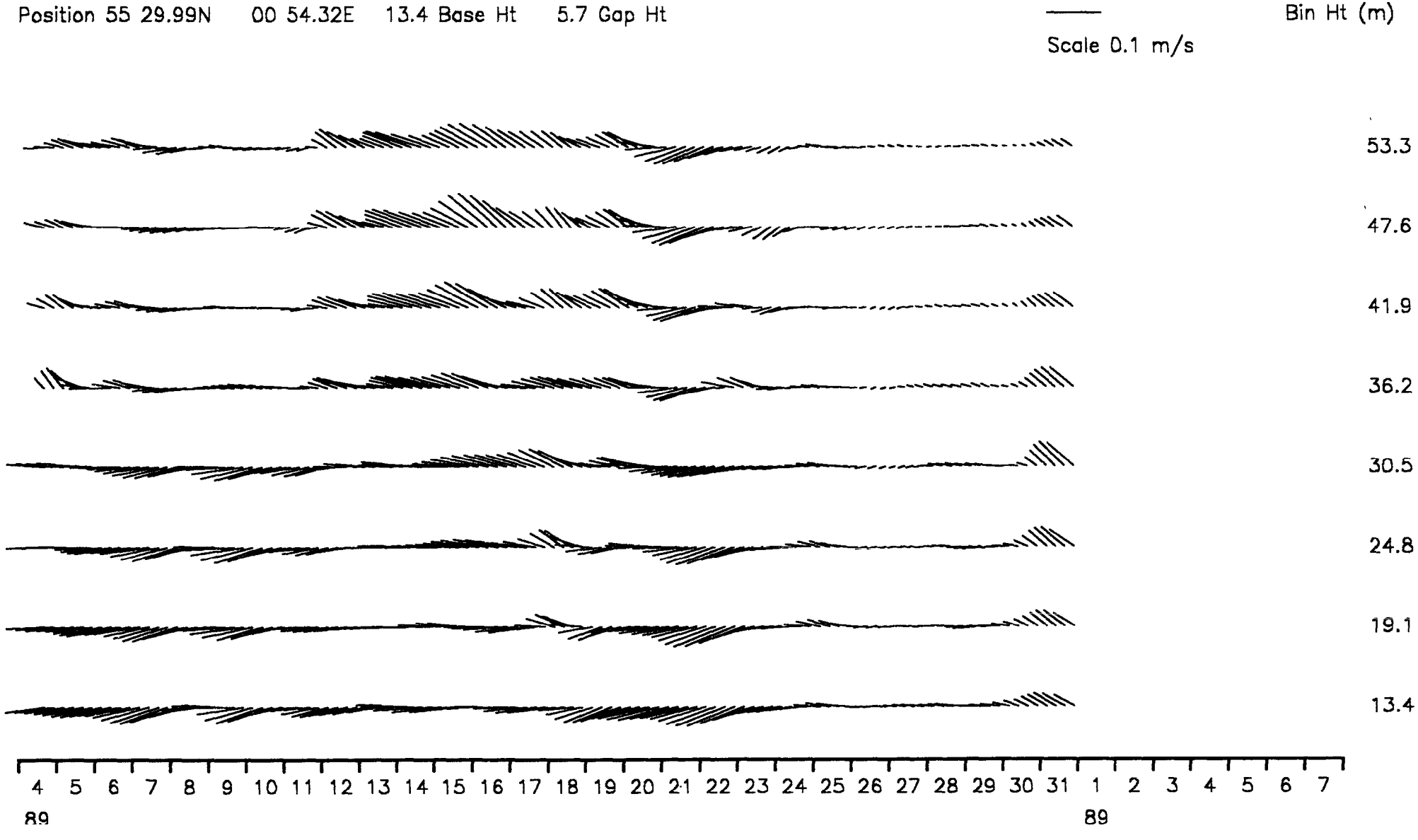


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht



STICK TIME SERIES PLOT

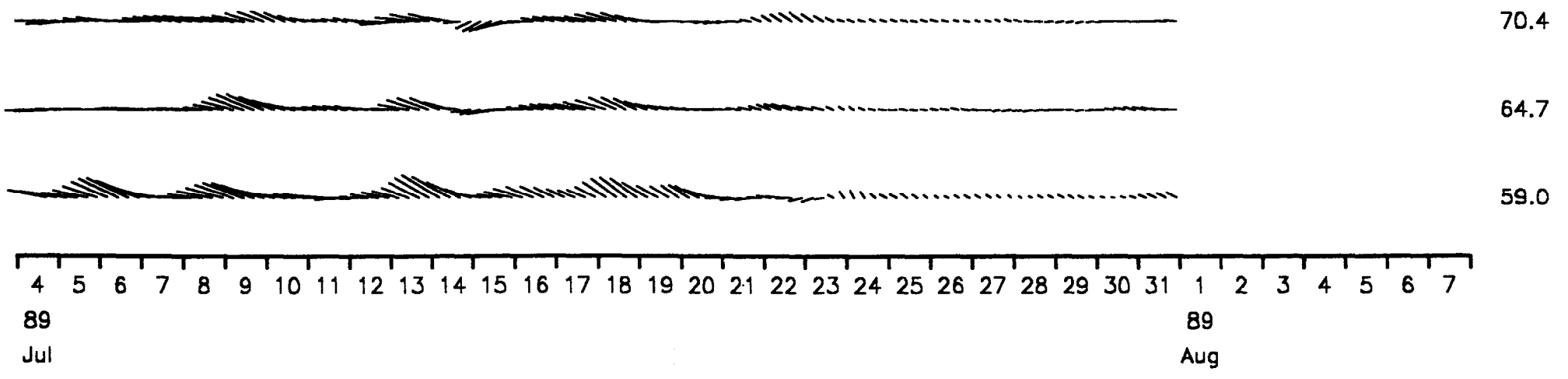
Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0004 C55AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.062	-95.4	0.0156	38.0	0.0046	128.0
2	19.1	0.059	-92.4	0.0163	35.4	0.0039	125.4
3	24.8	0.058	-88.5	0.0192	31.5	0.0035	121.5
4	30.5	0.057	-84.3	0.0208	26.9	0.0032	116.9
5	36.2	0.042	-77.6	0.0111	19.6	0.0028	109.6
6	41.9	0.041	-76.1	0.0110	16.9	0.0024	106.9
7	47.6	0.039	-76.2	0.0105	15.6	0.0025	105.6
8	53.3	0.036	-75.9	0.0093	16.0	0.0027	106.0
9	59.0	0.035	-72.7	0.0065	15.6	0.0033	105.6
10	64.7	0.034	-83.0	0.0035	21.2	0.0023	111.2
11	70.4	0.029	-82.8	0.0018	-10.6	0.0017	79.4

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.068	-97.9	0.0006	64.7	0.0001	154.7
2	19.1	0.064	-94.8	0.0006	69.4	0.0001	159.4
3	24.8	0.063	-91.2	0.0006	74.4	0.0002	164.4
4	30.5	0.062	-87.6	0.0006	82.0	0.0002	172.0
5	36.2	0.047	-80.0	0.0004	-87.2	0.0001	2.8
6	41.9	0.045	-78.2	0.0005	-70.6	0.0002	19.4
7	47.6	0.043	-78.6	0.0005	-56.0	0.0003	34.0
8	53.3	0.040	-78.1	0.0005	-69.2	0.0002	20.8
9	59.0	0.038	-73.8	0.0005	-74.8	0.0001	15.2
10	64.7	0.036	-82.8	0.0003	-82.3	0.0000	7.7
11	70.4	0.030	-83.8	0.0003	-86.5	0.0000	3.5

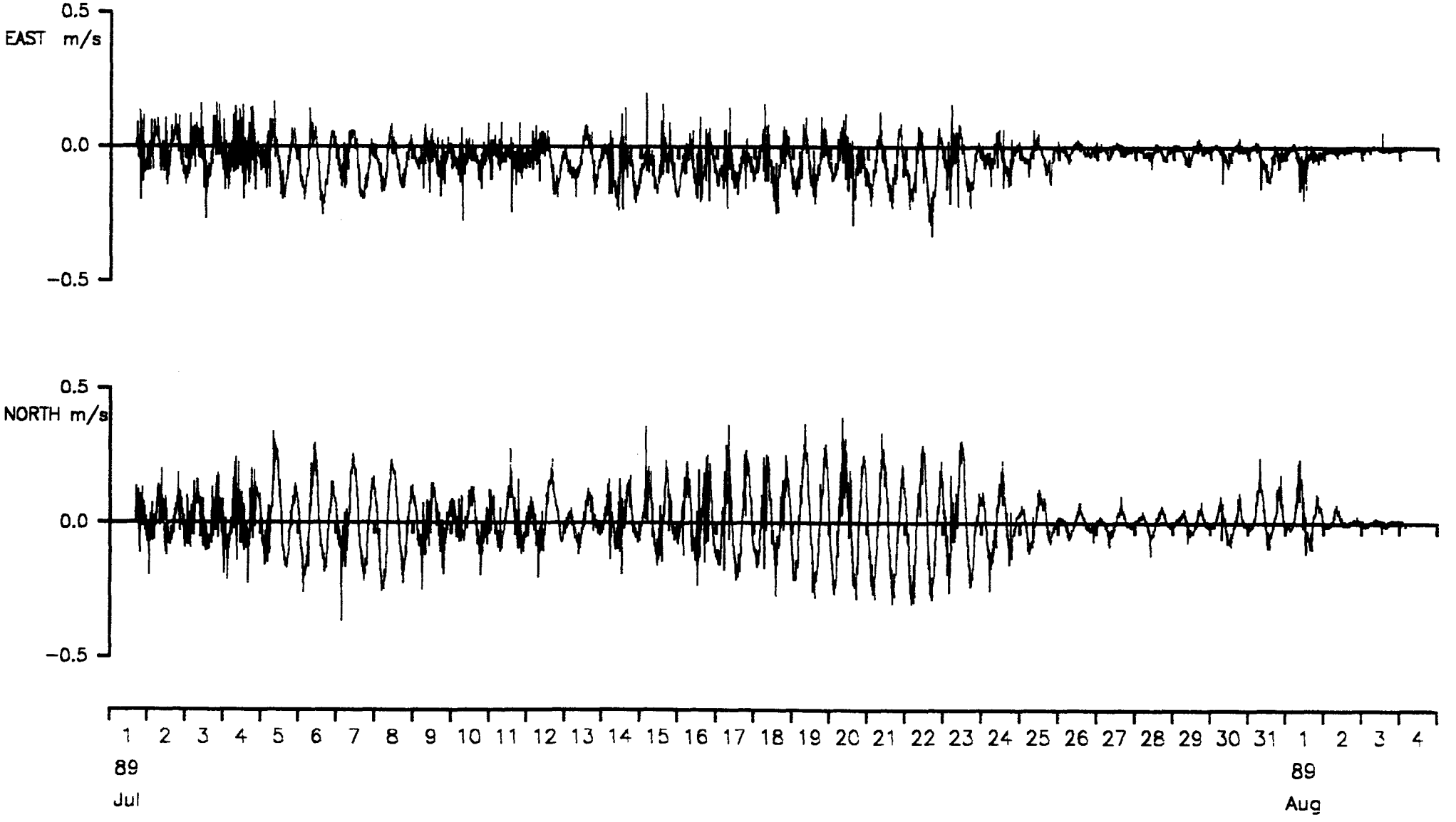
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



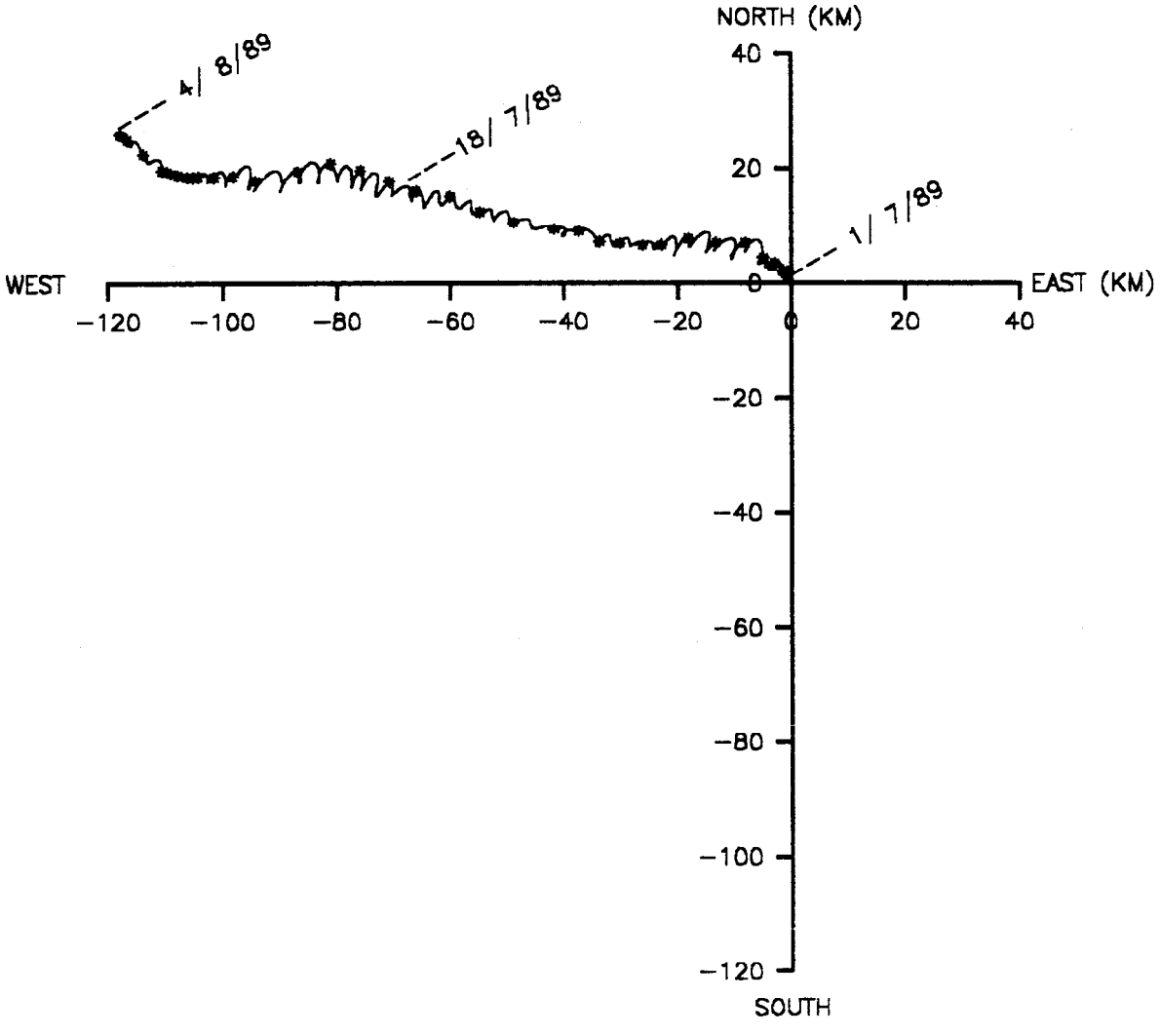
VECTOR PLOT

Meter no. 0004 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 C55AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	-0.0407	0.37178893E-02	0.60974501E-01
Northings	0.0090	0.10126065E-01	0.10062832E+00
Speed	0.1002	0.55543855E-02	0.74527740E-01

Vector mean speed 0.0417
Vector Mean Direction -77.6

Maximum ten values

Eastings					Northings				
0.196	0.163	0.156	0.156	0.155	0.391	0.368	0.362	0.356	0.338
0.154	0.153	0.153	0.150	0.149	0.330	0.310	0.305	0.303	0.303

Minimum ten values

Eastings					Northings				
-0.246	-0.252	-0.265	-0.266	-0.275	-0.280	-0.282	-0.285	-0.286	-0.288
-0.276	-0.284	-0.288	-0.289	-0.333	-0.289	-0.301	-0.304	-0.305	-0.368

Maximum speeds

0.403	0.391	0.388	0.383	0.381	0.376	0.373	0.371	0.367	0.366
0.365	0.365	0.362	0.362	0.361	0.355	0.348	0.345	0.336	0.335
0.335	0.334	0.333	0.333	0.326	0.322	0.321	0.318	0.315	0.314
0.314	0.312	0.312	0.310	0.308	0.308	0.305	0.305	0.304	0.303
0.303	0.303	0.302	0.300	0.300	0.300	0.299	0.296	0.295	0.295
0.295	0.294	0.294	0.293	0.293	0.292	0.292	0.291	0.291	0.290
0.289	0.288	0.288	0.287	0.287	0.287	0.287	0.287	0.287	0.286
0.285	0.285	0.285	0.284	0.284	0.283	0.283	0.282	0.282	0.282
0.282	0.281	0.281	0.281	0.280	0.280	0.280	0.280	0.279	0.279
0.279	0.279	0.278	0.278	0.278	0.278	0.277	0.277	0.277	0.276

Variance ellipse statistics

Maximum variance 0.1106E-01 Direction 19.6

Minimum variance 0.2784E-02 Direction 109.6

Total variance 0.1384E-01 Ratio of variances 0.2518E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -29.3

Average direction. maxdir +PI/2 to maxdir -PI/2 204.3

Statistics for DP0004 C55AC5F A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	-0.0462	0.42712921E-03	0.20667102E-01
Northings	0.0082	0.13591223E-03	0.11658143E-01
Speed	0.0482	0.43755258E-03	0.20917758E-01

Vector mean speed 0.0469
Vector Mean Direction -80.0

Maximum ten values

Eastings					Northings				
-0.008	-0.009	-0.009	-0.011	-0.012	0.036	0.036	0.035	0.032	0.031
-0.012	-0.012	-0.013	-0.014	-0.014	0.031	0.026	0.026	0.024	0.023

Minimum ten values

Eastings					Northings				
-0.073	-0.074	-0.075	-0.078	-0.078	-0.005	-0.005	-0.006	-0.008	-0.009
-0.080	-0.083	-0.084	-0.086	-0.086	-0.010	-0.018	-0.019	-0.024	-0.024

Maximum speeds

0.089	0.088	0.087	0.085	0.082	0.082	0.080	0.076	0.075	0.075
0.073	0.073	0.073	0.072	0.072	0.071	0.071	0.069	0.068	0.067
0.067	0.066	0.066	0.065	0.065	0.065	0.065	0.064	0.064	0.063
0.063	0.062	0.062	0.061	0.061	0.060	0.060	0.059	0.059	0.058
0.058	0.058	0.058	0.057	0.055	0.055	0.055	0.053	0.053	0.052
0.052	0.051	0.051	0.050	0.050	0.050	0.050	0.049	0.049	0.048
0.047	0.046	0.046	0.045	0.045	0.045	0.045	0.044	0.044	0.043
0.042	0.041	0.041	0.039	0.038	0.038	0.038	0.038	0.038	0.038
0.037	0.037	0.035	0.034	0.034	0.033	0.032	0.030	0.026	0.026
0.024	0.019	0.019	0.018	0.018	0.018	0.017	0.017	0.016	0.016

Variance ellipse statistics

Maximum variance 0.4278E-03 Direction -87.2

Minimum variance 0.1352E-03 Direction 2.8

Total variance 0.5630E-03 Ratio of variances 0.3161E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 12.1

Average direction. maxdir +PI/2 to maxdir -PI/2 0.0

Meter information details for 9631

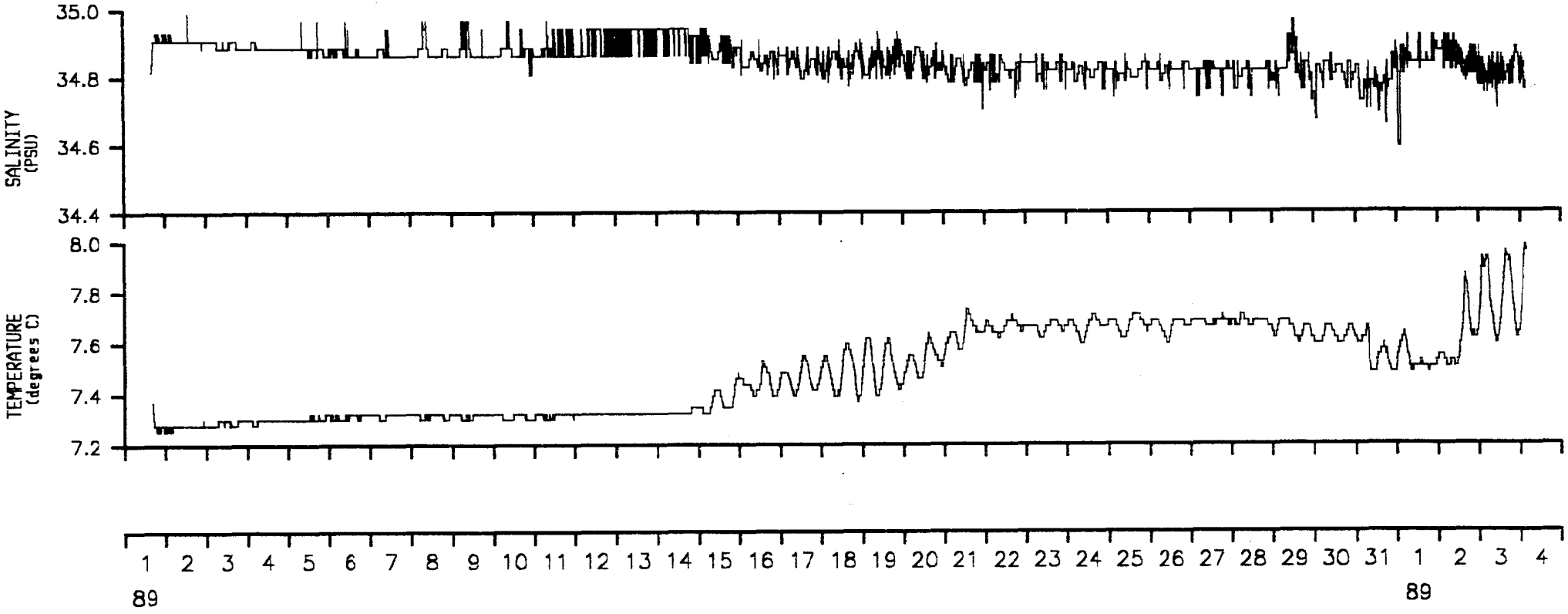
Rig No	:	C55AC
Meter No	:	9631
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AS
Meter started	:	01-JULY-89 05:18:00
Meter stopped	:	04-AUG-89 13:18:00
Period switched on	:	34.3 days
Period of good data	:	33.5 days
Total number of scans	:	4822
Timing error	:	None
Comments	:	Spikes present in parameter data
		No PRESSURE sensor fitted to meter

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 9631 Rig no. C55AC Depth of water(m) 85.0

Start/End 1989/07/01 AT 16:36:00 1989/08/04 AT 04:10:00

Position 55 29.99N 00 54.32E Meter Height(m) 0.8



Rig information details for C57AC

Position Latitude	:	55 30.10N
Position Longitude	:	00 54.30E
Water depth	:	85.0 m
Deployed on cruise	:	C57
Recovered on cruise	:	TRAWLED
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	04-AUG-89 05:37:00
Rig recovered on	:	16-AUG-89 11:00:00
Period of deployment	:	12.2 days
Comments	:	Rig trawled up on 09-AUG-89

Meter information details for 0003

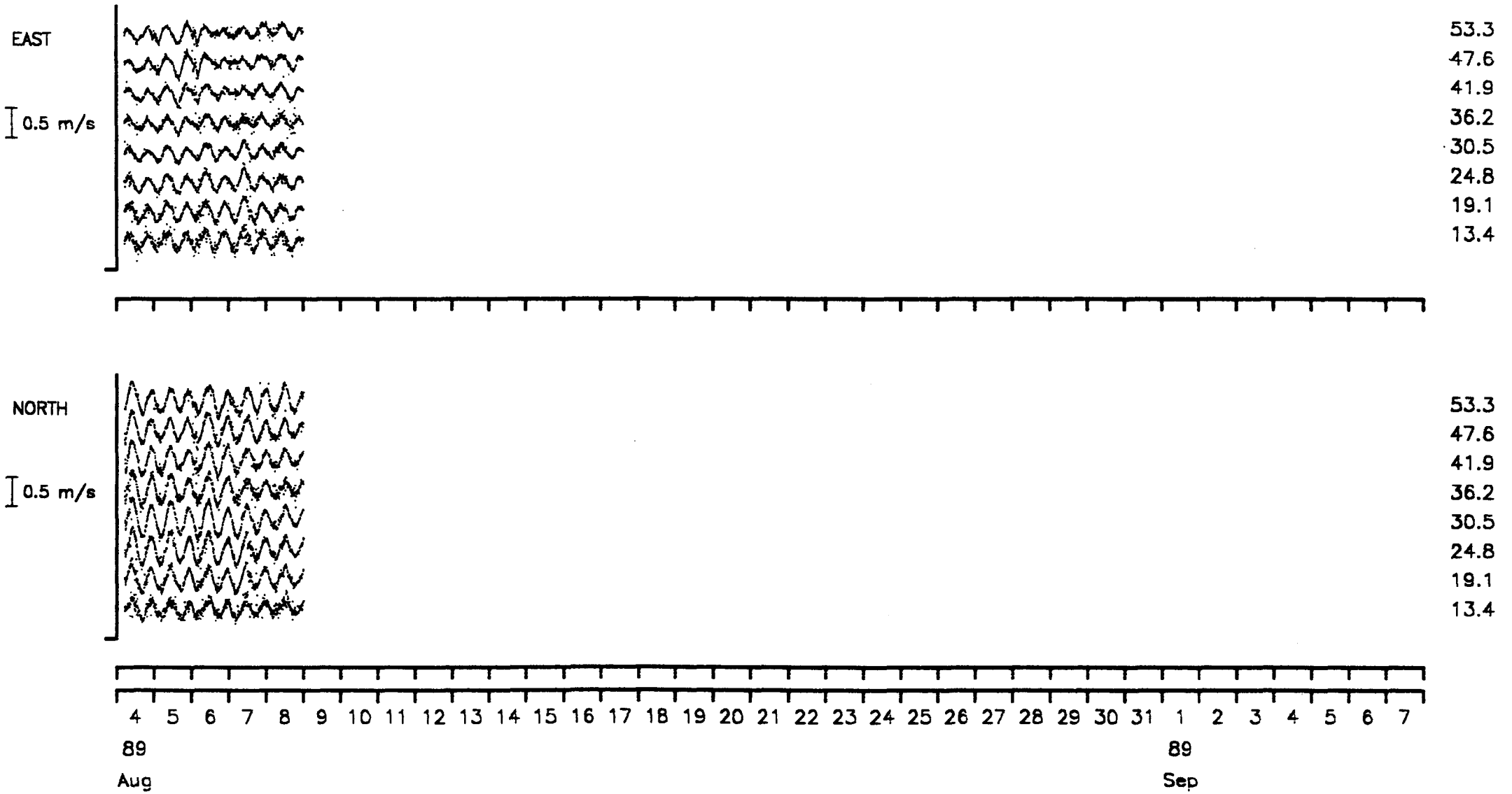
Rig No	:	C57AC
Meter No	:	0003
Frame angle correction	:	33.3 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	04-AUG-89 03:58:25
Time of last valid scan	:	09-AUG-89 00:08:42
Period of good data	:	4.8 days short record
Total number of scans	:	688
Timing error	:	17 seconds slow
Comments	:	Manually recorded start and stop times used due to timing channel malfunction

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E 13.4 Base Ht 5.7 Gap Ht

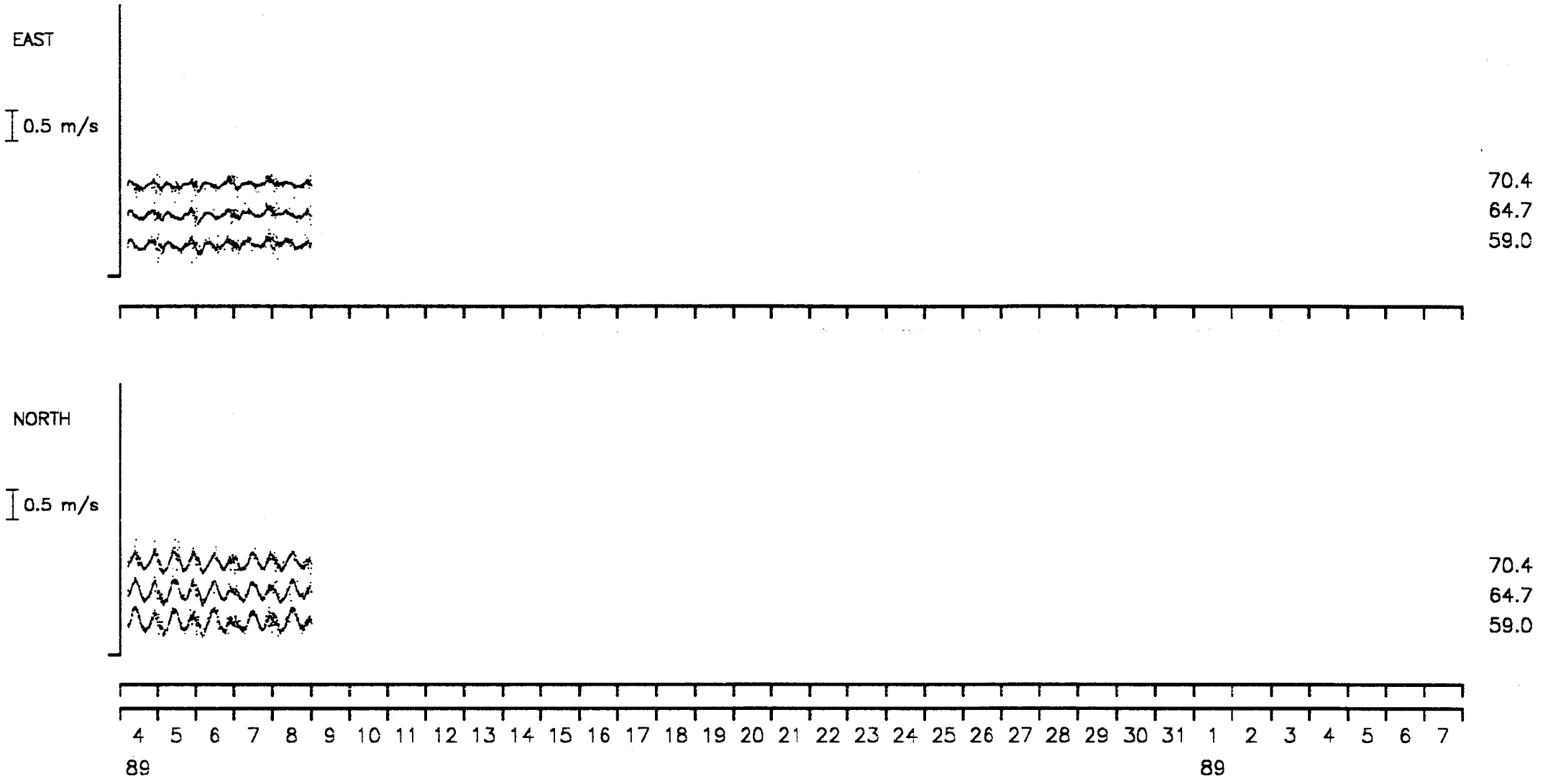


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E 13.4 Base Ht 5.7 Gap Ht

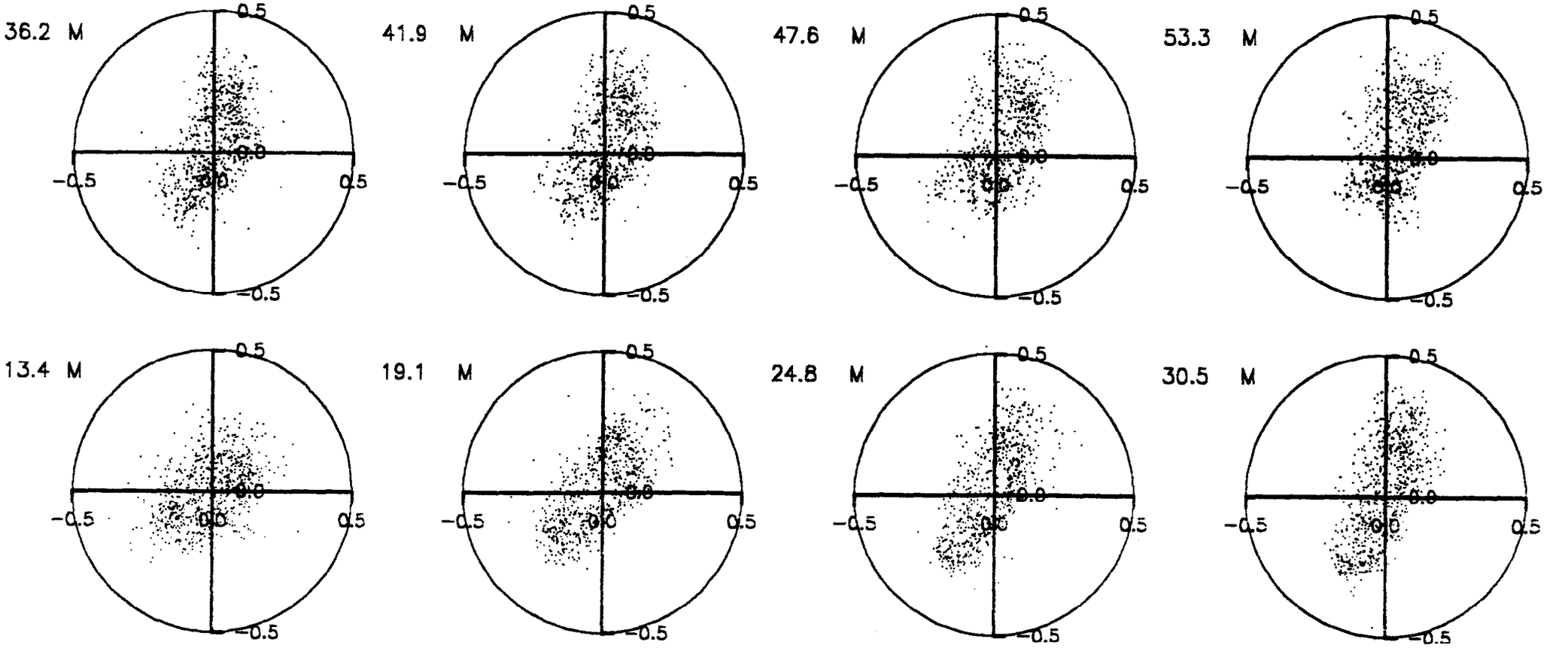


SCATTER PLOT

Meter no. 0003 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E 13.4 Base Ht 5.7 Gap Ht

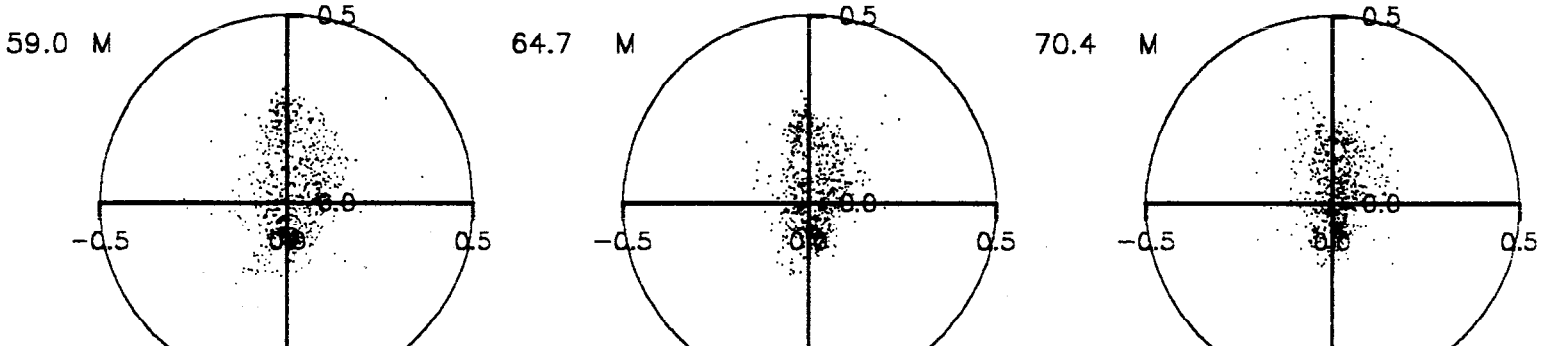


SCATTER PLOT

Meter no. 0003 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E 13.4 Base Ht 5.7 Gap Ht



STATISTICS FOR DP0003 C57AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.015	-88.9	0.0172	47.0	0.0068	137.0
2	19.1	0.019	-57.2	0.0258	36.2	0.0052	126.2
3	24.8	0.022	-31.8	0.0322	26.4	0.0045	116.4
4	30.5	0.022	-20.2	0.0356	19.2	0.0042	109.2
5	36.2	0.036	2.1	0.0235	19.6	0.0047	109.6
6	41.9	0.047	12.5	0.0237	21.3	0.0053	111.3
7	47.6	0.063	21.7	0.0244	24.1	0.0062	114.1
8	53.3	0.071	31.9	0.0242	18.6	0.0056	108.6
9	59.0	0.041	22.1	0.0143	6.6	0.0045	96.6
10	64.7	0.041	22.9	0.0117	3.2	0.0030	93.2
11	70.4	0.039	19.0	0.0104	-1.0	0.0029	89.0

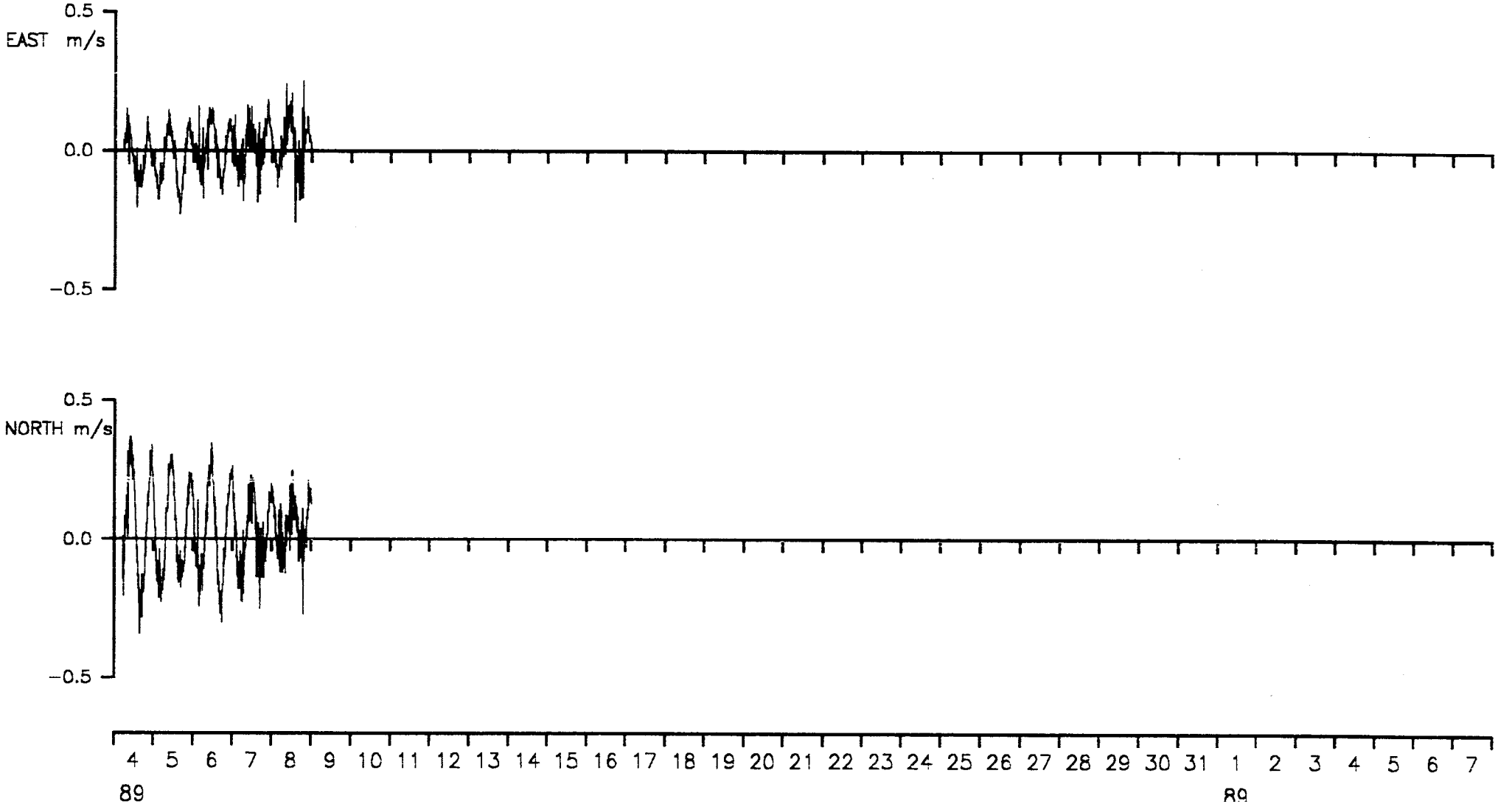
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0003 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



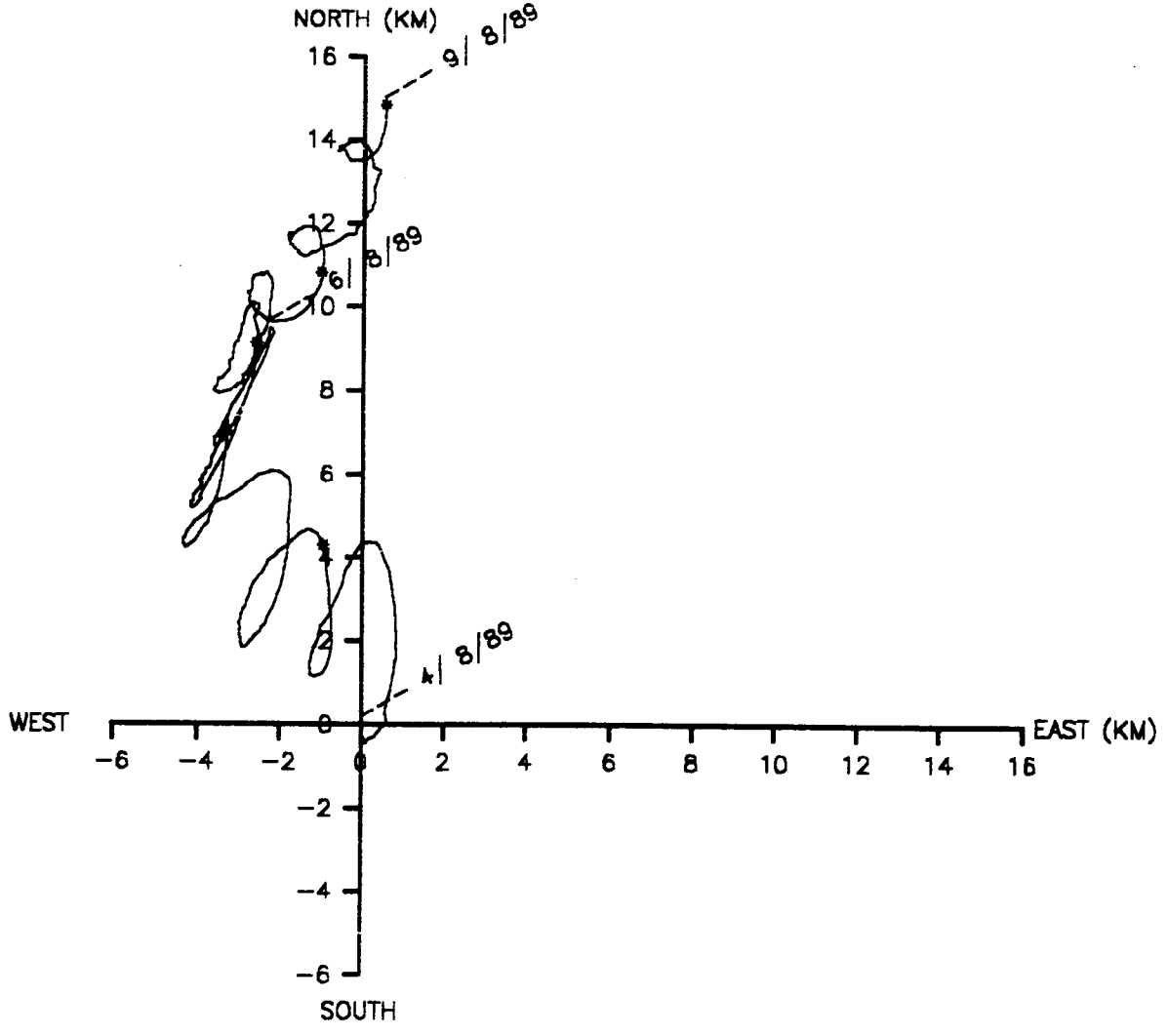
VECTOR PLOT

Meter no. 0003 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0003 C57AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	0.0013	0.67924932E-02	0.82416594E-01
Northings	0.0359	0.21419249E-01	0.14635313E+00
Speed	0.1542	0.57069808E-02	0.75544536E-01

Vector mean speed 0.0360
Vector Mean Direction 2.1

Maximum ten values

Eastings					Northings				
0.249	0.239	0.202	0.179	0.174	0.367	0.364	0.353	0.351	0.343
0.174	0.165	0.161	0.161	0.160	0.339	0.339	0.337	0.334	0.331

Minimum ten values

Eastings					Northings				
-0.180	-0.181	-0.181	-0.186	-0.193	-0.243	-0.244	-0.252	-0.263	-0.269
-0.203	-0.205	-0.206	-0.229	-0.256	-0.269	-0.270	-0.283	-0.300	-0.341

Maximum speeds

0.367	0.367	0.359	0.358	0.355	0.353	0.350	0.346	0.342	0.340
0.337	0.336	0.335	0.334	0.329	0.325	0.316	0.315	0.310	0.310
0.303	0.303	0.300	0.300	0.300	0.298	0.297	0.295	0.294	0.292
0.292	0.290	0.286	0.284	0.283	0.283	0.283	0.282	0.281	0.276
0.276	0.276	0.275	0.275	0.274	0.273	0.273	0.272	0.272	0.271
0.271	0.271	0.271	0.271	0.271	0.271	0.270	0.269	0.269	0.267
0.266	0.266	0.266	0.265	0.265	0.263	0.263	0.259	0.258	0.258
0.258	0.258	0.256	0.256	0.255	0.255	0.255	0.254	0.254	0.254
0.253	0.252	0.252	0.252	0.252	0.250	0.249	0.248	0.247	0.247
0.247	0.246	0.245	0.245	0.244	0.243	0.242	0.242	0.241	0.240

Variance ellipse statistics

Maximum variance 0.2353E-01 Direction 19.6

Minimum variance 0.4680E-02 Direction 109.6

Total variance 0.2821E-01 Ratio of variances 0.1989E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 0.1

Average direction. maxdir +PI/2 to maxdir -PI/2 183.6

Meter information details for 9632

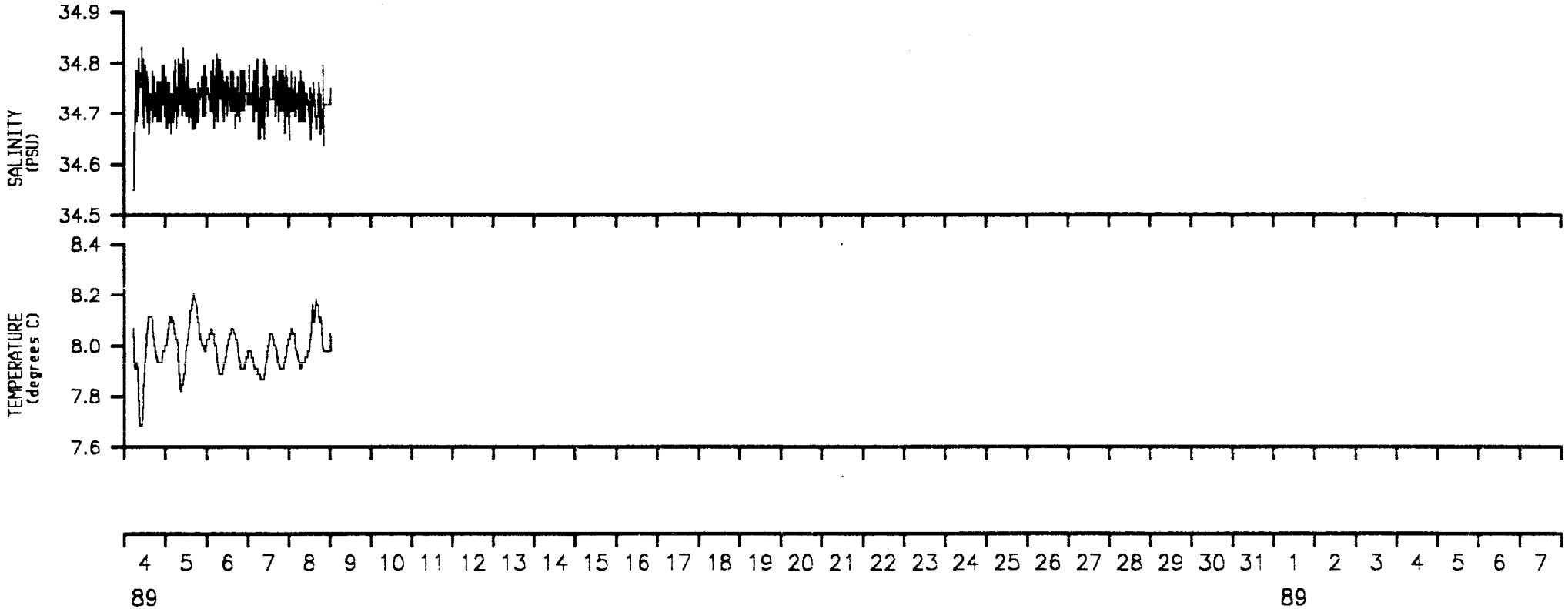
Rig No	:	C57AC
Meter No	:	9632
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AS
Meter started	:	02-AUG-89 09:49:00
Time of last valid scan	:	09-AUG-89 00:39:00
Period of good data	:	4.8 days short record
Total number of scans	:	691
Timing error	:	None
Comments	:	Good record obtained until being trawled

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 9632 Rig no. C57AC Depth of water(m) 85.0

Start/End 1989/08/04 AT 05:37:00 1989/08/16 AT 11:00:00

Position 55 30.10N 00 54.30E Meter Height(m) 0.8



Rig information details for C59AC

Position Latitude	:	55 30.06N
Position Longitude	:	00 54.76E
Water depth	:	85.0 m
Deployed on cruise	:	C59
Recovered on cruise	:	C61
Site name identification	:	A
Magnetic deviation	:	4.5 degrees west
Rig deployed on	:	30-AUG-89 16:41:00
Rig recovered on	:	29-SEPT-89 06:20:00
Period of deployment	:	29.6 days
Comments	:	Launch and recovery successful

Meter information details for 0009

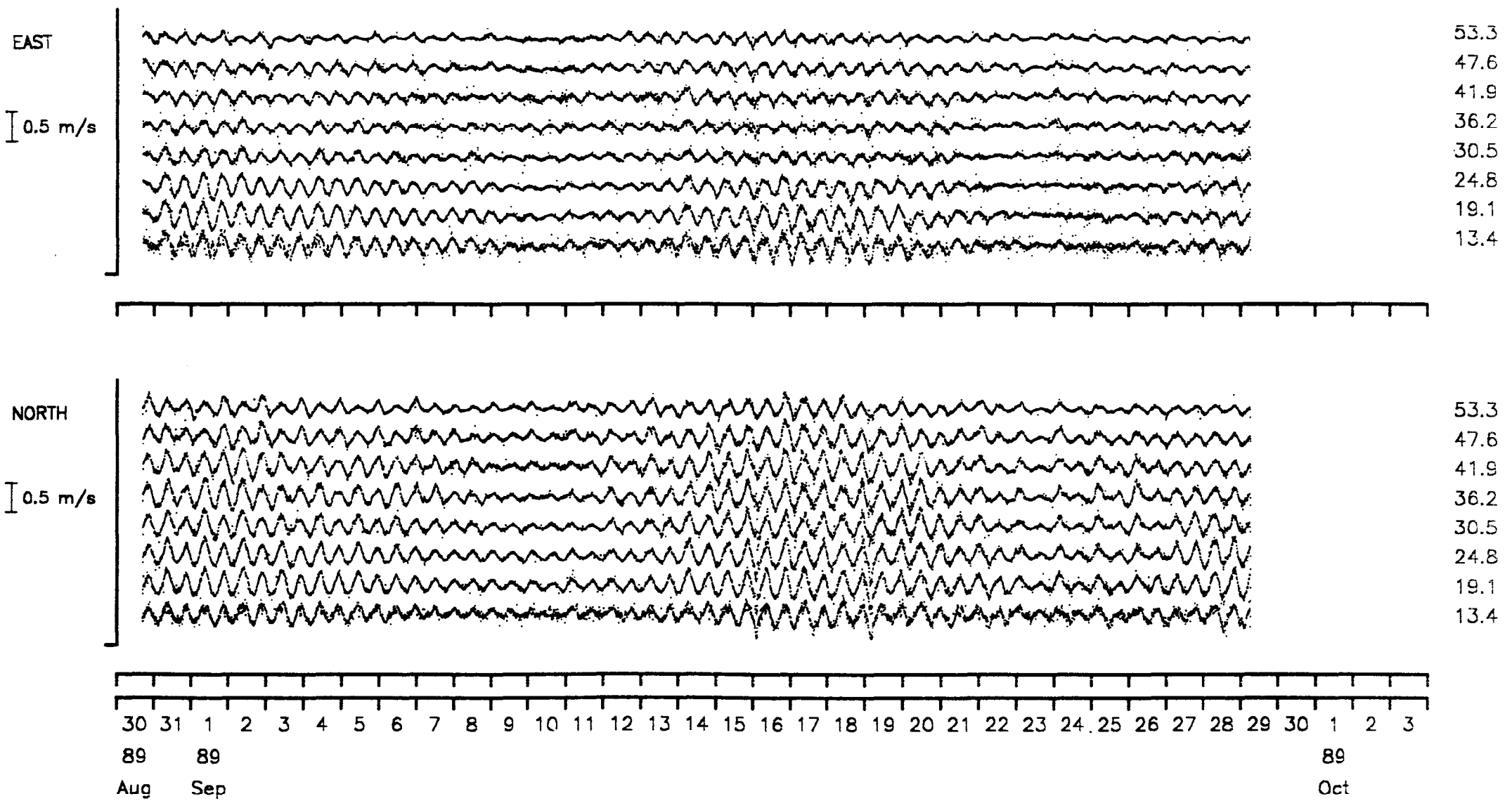
Rig No	:	C59AC
Meter No	:	0009
Frame angle correction	:	24.2 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	30-AUG-89 12:08:39
Meter stopped	:	29-SEPT-89 11:38:40
Period switched on	:	30.0 days
Period of good data	:	29.6 days
Total number of scans	:	4258
Timing error	:	1 second slow
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht

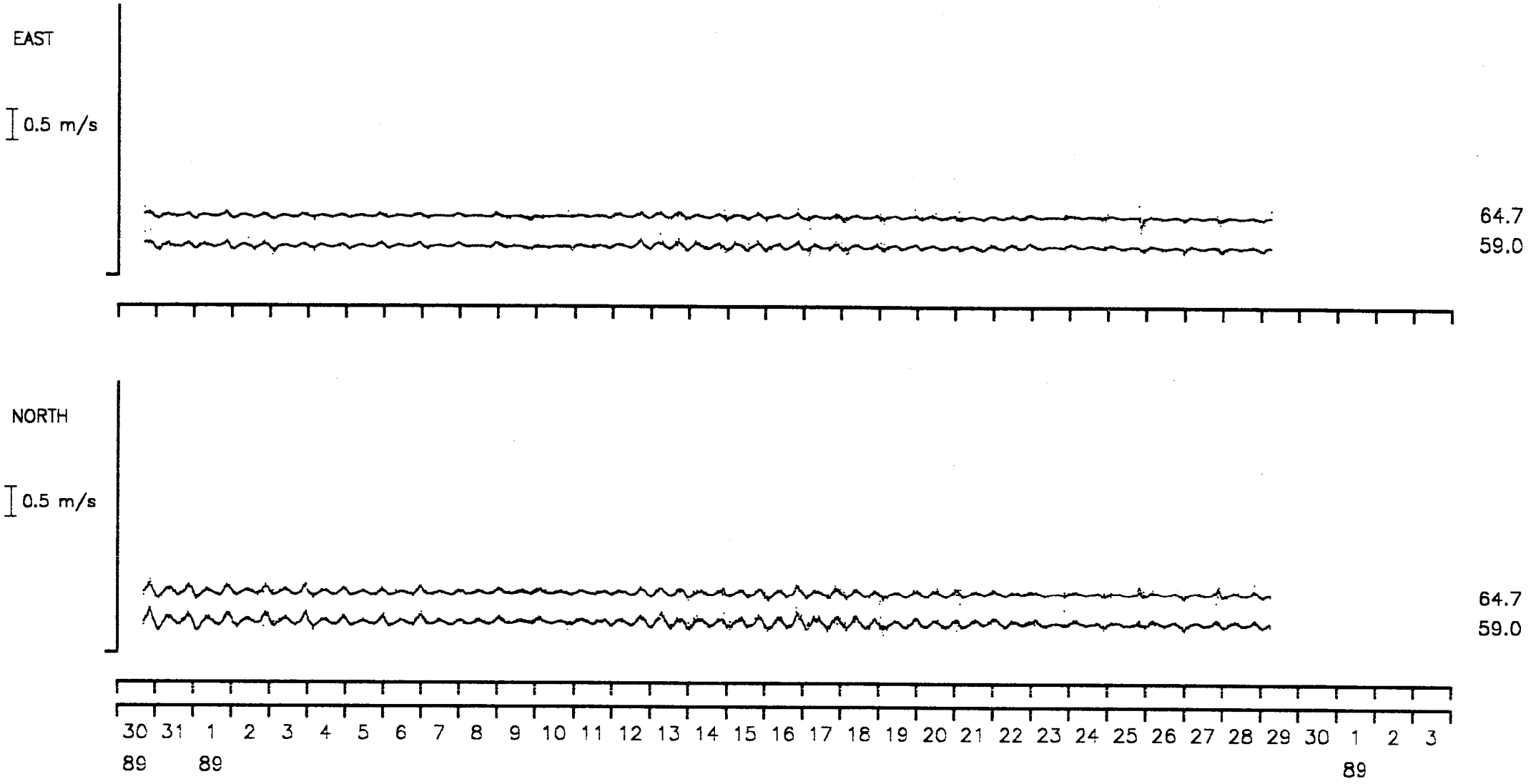


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht

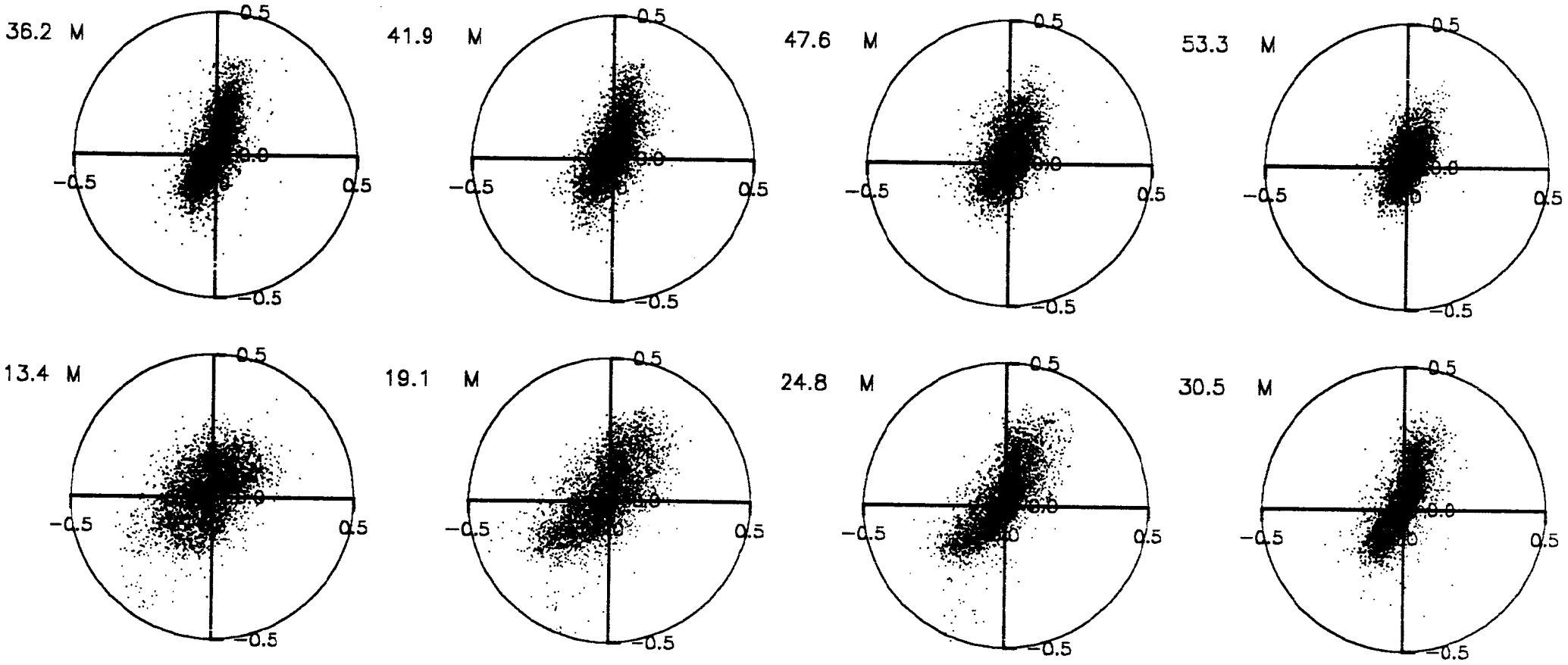


SCATTER PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht

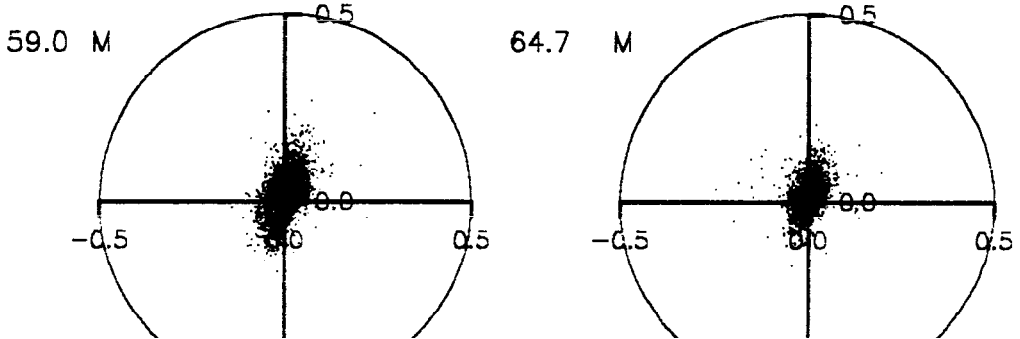


SCATTER PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht



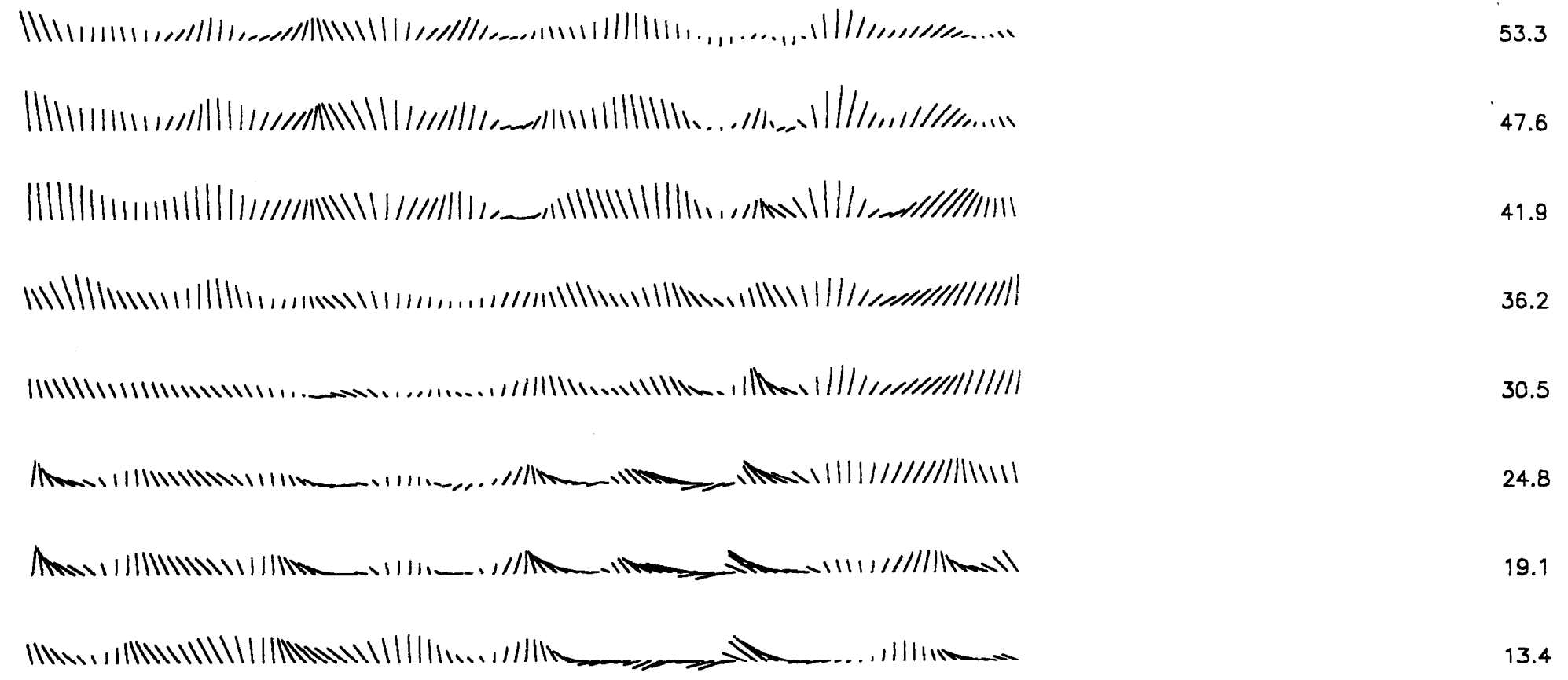
STICK TIME SERIES PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht

Scale 0.1 m/s



STICK TIME SERIES PLOT

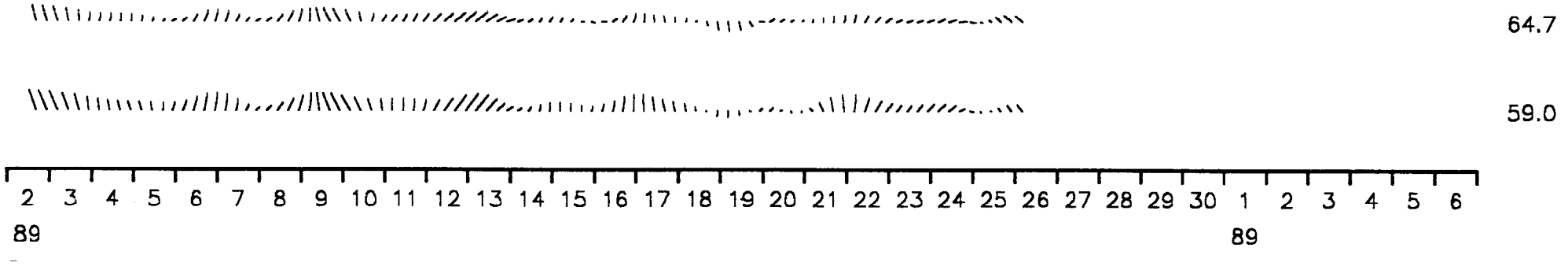
Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht

—— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0009 C59AC

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.025	-46.7	0.0136	41.3	0.0048	131.3
2	19.1	0.028	-41.7	0.0194	37.8	0.0039	127.8
3	24.8	0.026	-26.1	0.0171	32.1	0.0022	122.1
4	30.5	0.025	-8.6	0.0129	23.1	0.0014	113.1
5	36.2	0.031	-4.6	0.0138	19.6	0.0015	109.6
6	41.9	0.036	0.8	0.0130	21.5	0.0020	111.5
7	47.6	0.032	3.4	0.0094	23.5	0.0021	113.5
8	53.3	0.021	7.4	0.0054	20.8	0.0012	110.8
9	59.0	0.014	3.1	0.0026	19.3	0.0006	109.3
10	64.7	0.010	19.7	0.0014	15.6	0.0004	105.6

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	13.4	0.028	-45.5	0.0004	38.1	0.0002	128.1
2	19.1	0.028	-46.4	0.0005	73.1	0.0001	163.1
3	24.8	0.023	-35.5	0.0004	62.0	0.0001	152.0
4	30.5	0.022	-13.0	0.0002	58.6	0.0001	148.6
5	36.2	0.028	-4.3	0.0002	-77.1	0.0001	12.9
6	41.9	0.035	3.0	0.0003	-44.1	0.0002	45.9
7	47.6	0.032	3.7	0.0003	-14.3	0.0001	75.7
8	53.3	0.021	9.4	0.0002	-13.5	0.0001	76.5
9	59.0	0.014	7.2	0.0001	-14.9	0.0001	75.1
10	64.7	0.010	25.8	0.0001	-26.8	0.0000	63.2

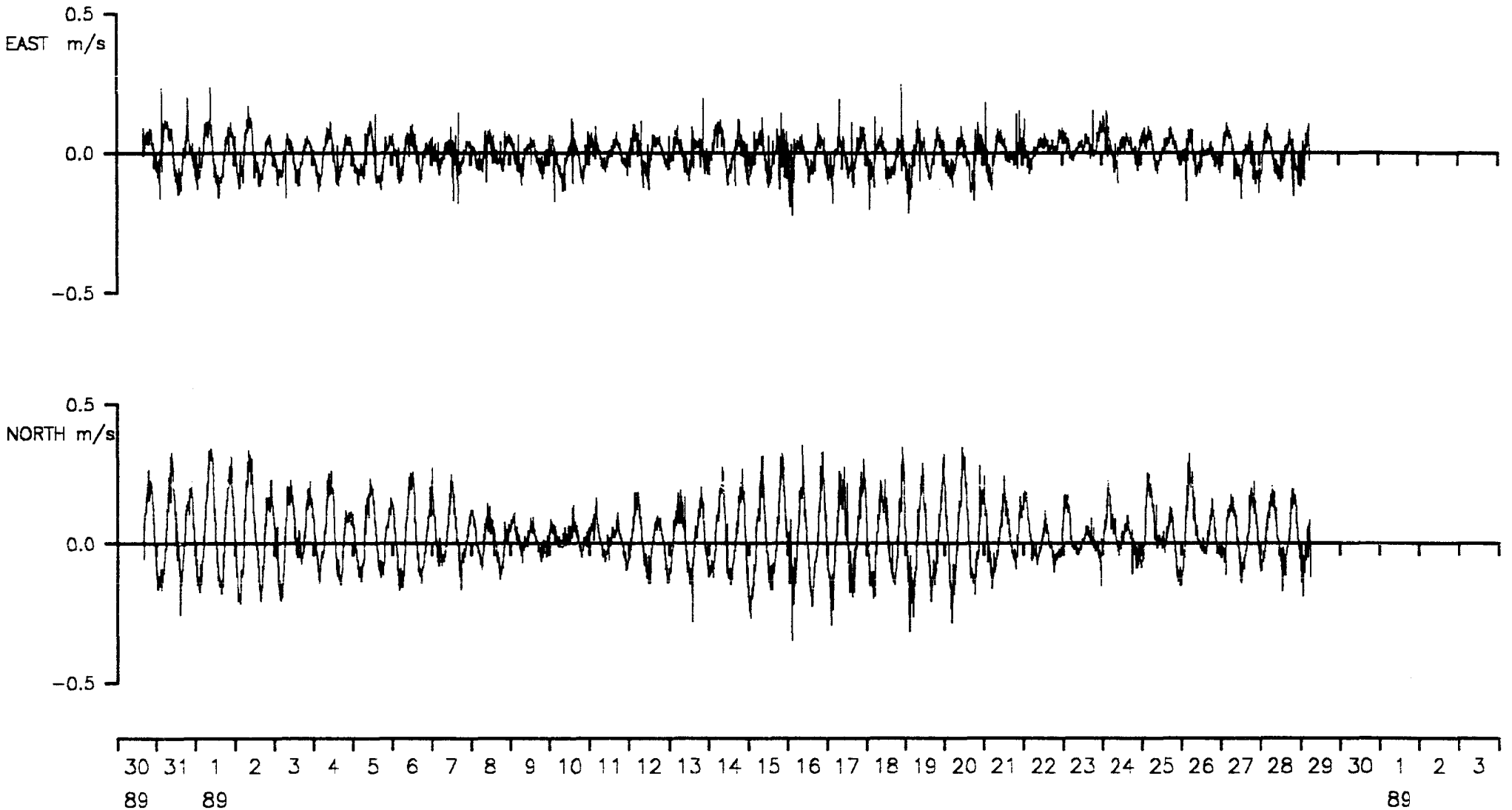
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average depth



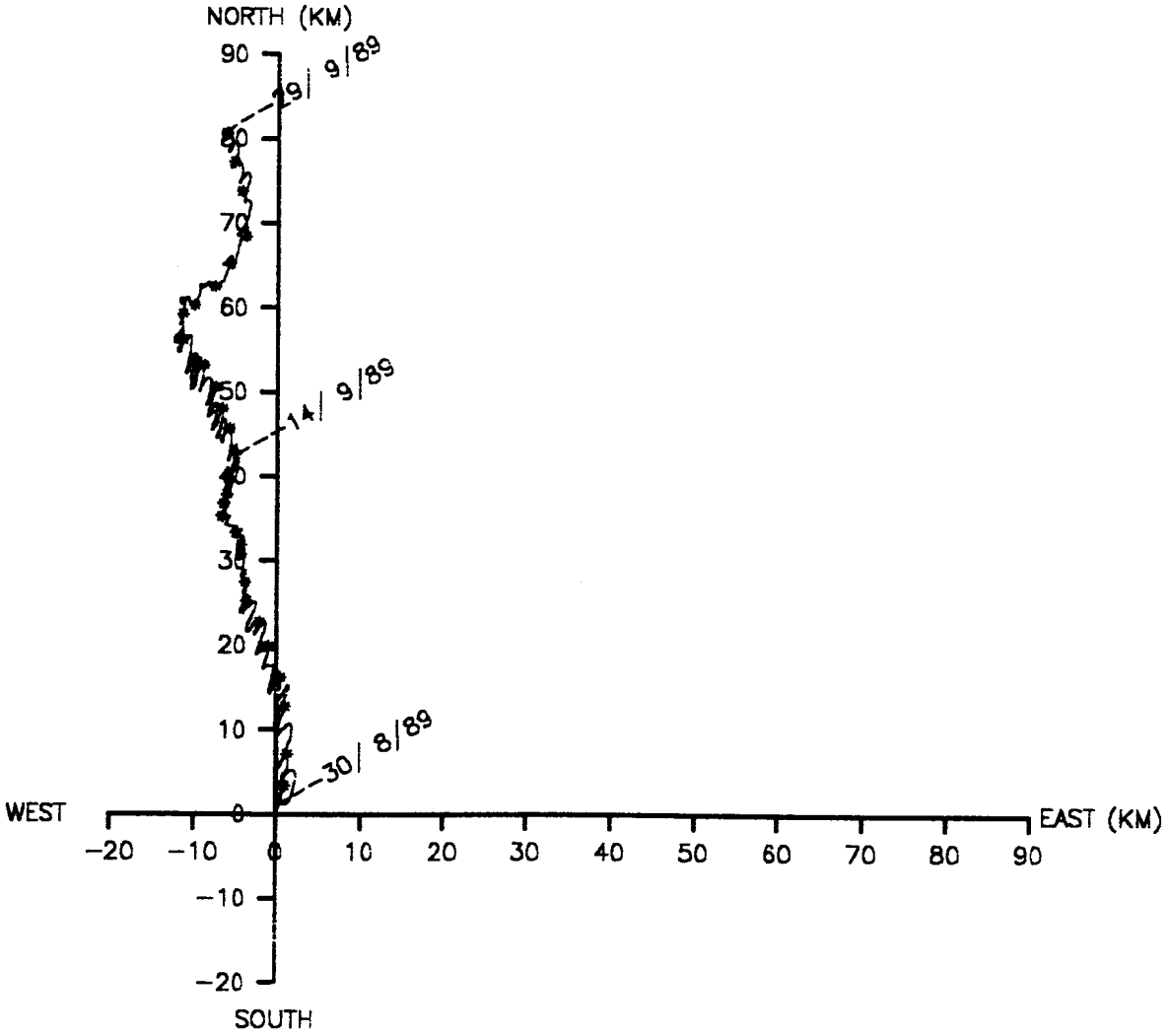
VECTOR PLOT

Meter no. 0009 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E 13.4 Base Ht 5.7 Gap Ht 36.2 Bin Ht (m)

Bin closest to depth average



Statistics for DP0009 C59AC5 A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	-0.0025	0.29111602E-02	0.53955171E-01
Northings	0.0312	0.12410756E-01	0.11140358E+00
Speed	0.1072	0.48052706E-02	0.69320023E-01

Vector mean speed 0.0313
Vector Mean Direction -4.6

Maximum ten values

Eastings					Northings				
0.246	0.232	0.231	0.196	0.192	0.349	0.343	0.343	0.339	0.335
0.190	0.180	0.166	0.151	0.150	0.335	0.333	0.332	0.330	0.328

Minimum ten values

Eastings					Northings				
-0.169	-0.171	-0.174	-0.177	-0.180	-0.256	-0.265	-0.269	-0.269	-0.269
-0.181	-0.193	-0.202	-0.213	-0.223	-0.281	-0.286	-0.294	-0.316	-0.348

Maximum speeds

0.411	0.386	0.369	0.352	0.350	0.349	0.349	0.347	0.345	0.341
0.339	0.338	0.337	0.336	0.334	0.334	0.334	0.334	0.332	0.330
0.329	0.328	0.328	0.326	0.325	0.325	0.324	0.323	0.323	0.323
0.322	0.322	0.322	0.320	0.320	0.319	0.319	0.319	0.318	0.318
0.317	0.317	0.316	0.316	0.316	0.316	0.315	0.315	0.314	0.312
0.311	0.310	0.310	0.310	0.309	0.308	0.308	0.307	0.306	0.306
0.303	0.303	0.303	0.302	0.300	0.299	0.297	0.297	0.296	0.296
0.295	0.294	0.294	0.294	0.291	0.291	0.291	0.290	0.289	0.289
0.288	0.288	0.288	0.287	0.287	0.286	0.286	0.285	0.285	0.285
0.284	0.284	0.283	0.283	0.282	0.281	0.281	0.280	0.279	0.278

Variance ellipse statistics

Maximum variance 0.1379E-01 Direction 19.6

Minimum variance 0.1527E-02 Direction 109.6

Total variance 0.1532E-01 Ratio of variances 0.1107E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 -3.9

Average direction. maxdir +PI/2 to maxdir -PI/2 191.5

Statistics for DP0009 C59AC5F A
Doppler bin number 5

	Mean	Variance	Standard deviation
Eastings	-0.0021	0.18976058E-03	0.13775356E-01
Northings	0.0279	0.12522029E-03	0.11190183E-01
Speed	0.0311	0.13083486E-03	0.11438303E-01

Vector mean speed 0.0280
Vector Mean Direction -4.3

Maximum ten values

Eastings					Northings				
0.033	0.032	0.031	0.029	0.029	0.056	0.053	0.052	0.050	0.047
0.025	0.025	0.021	0.021	0.020	0.045	0.045	0.044	0.044	0.044

Minimum ten values

Eastings					Northings				
-0.017	-0.018	-0.018	-0.019	-0.019	0.014	0.013	0.013	0.012	0.012
-0.019	-0.020	-0.020	-0.021	-0.021	0.012	0.011	0.008	0.008	0.007

Maximum speeds

0.058	0.055	0.053	0.050	0.048	0.048	0.046	0.045	0.044	0.044
0.044	0.044	0.044	0.043	0.043	0.043	0.042	0.042	0.042	0.042
0.042	0.041	0.041	0.041	0.040	0.039	0.039	0.039	0.039	0.039
0.038	0.038	0.038	0.036	0.036	0.036	0.036	0.036	0.036	0.035
0.034	0.033	0.033	0.033	0.032	0.031	0.031	0.031	0.031	0.030
0.030	0.030	0.029	0.029	0.029	0.028	0.028	0.028	0.027	0.027
0.026	0.026	0.026	0.026	0.026	0.025	0.025	0.025	0.025	0.024
0.024	0.022	0.022	0.021	0.020	0.020	0.020	0.019	0.019	0.019
0.018	0.018	0.017	0.017	0.016	0.015	0.015	0.014	0.013	0.013
0.012	0.012	0.008	0.008	0.007					

Variance ellipse statistics

Maximum variance 0.1933E-03 Direction -77.1

Minimum variance 0.1216E-03 Direction 12.9

Total variance 0.3150E-03 Ratio of variances 0.6292E+00

Average direction. maxdir -PI/2 to maxdir +PI/2 61.8

Average direction. maxdir +PI/2 to maxdir -PI/2 109.5

Meter information details for 6443

Rig No	:	C59AC
Meter No	:	6443
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	AA
Meter started	:	30-AUG-89 02:15:00
Meter stopped	:	30-SEPT-89 01:13:35
Period switched on	:	31.0 days
Period of good data	:	29.6 days
Total number of scans	:	4258
Timing error	:	85 seconds fast
Comments	:	Spikes present in all parameter data

TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 6443 Rig no. C59AC Depth of water(m) 85.0

Start/End 1989/08/30 AT 16:41:00 1989/09/29 AT 06:20:00

Position 55 30.06N 00 54.76E Meter Height(m) 0.8