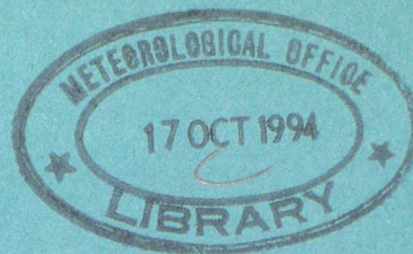




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**REPORT ON  
THE QUALITY OF MARINE  
SURFACE OBSERVATIONS  
FOR THE PERIOD  
JANUARY TO JUNE 1994.**

**REPORT NO. 11**

**CENTRAL FORECASTING DIVISION,  
METEOROLOGICAL OFFICE,  
BRACKNELL.**

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AD(CF),  
Room R207,  
Meteorological Office,  
London Road,  
Bracknell,  
Berkshire,  
United Kingdom.  
RG12 2SZ



# REPORT ON THE QUALITY OF MARINE SURFACE OBSERVATIONS:

JANUARY TO JUNE 1994

## CONTENTS

1. Introduction
2. Monitoring methods
3. Monitoring results:
  - 3.1 *Pressure*
  - 3.2 *Wind*
  - 3.3 *Sea-surface temperature*
4. Summary



# REPORT ON THE QUALITY OF MARINE SURFACE OBSERVATIONS:

JANUARY TO JUNE 1994

## LIST OF TABLES

1. Frequency distribution of the number of observations of pressure, wind and SST.
2. Number of observations of pressure for past six-month periods.
3. Platforms reporting suspect pressure observations:
  - 3a *Stations reporting in DRIFTR code.*
  - 3b *Stations reporting in SHIP code.*
4. Platforms reporting in SHIP code,not listed in table 3 but listed as suspect in the previous six-month period.
5. Platforms reporting suspect wind speed observations:
  - 5a *Stations reporting in DRIFTR code.*
  - 5b *Stations reporting in SHIP code.*
6. Platforms reporting in SHIP code,not listed in table 5 but listed as suspect in the previous six-month period.
7. Platforms reporting suspect wind direction observations:
  - 7a *Stations reporting in DRIFTR code.*
  - 7b *Stations reporting in SHIP code.*
8. Platforms reporting in SHIP code,not listed in table 7 but listed as suspect in the previous six-month period.
9. Platforms reporting suspect sea surface temperature:
  - 9a *Stations reporting in DRIFTR code.*
  - 9b *Stations reporting in SHIP code.*
10. Platforms reporting in SHIP code,not listed in table 9 but listed as suspect in the previous six-month period.



# REPORT ON THE QUALITY OF MARINE SURFACE OBSERVATIONS:

JANUARY TO JUNE 1994

## LIST OF FIGURES

1. Number of observations of pressure for past six-month periods.
- 2a Distribution of O-B SHIP pressure differences, all observations.
- 2b Distribution of O-B SHIP pressure differences, flagged observations only.
- 2c Distribution of O-B SHIP pressure differences, unflagged observations only.
- 2d-f As 2a-c but for wind speed.
- 2g-j As 2a-c but for wind direction.
3. Geographical distribution of bias of SHIP pressure.
4. Geographical distribution of standard deviation of SHIP pressure.
5. Geographical distribution of the number of SHIP pressure observations.
- 6-8 As figures 3-5 but for wind speed.
- 9-11 As figures 3-5 but for wind direction.
- 12a Number of observations of SST for each hemisphere & observation type.
- 12b Mean O-A of SST for each hemisphere & observation type.
- 12c Standard deviation of SST for each hemisphere & observation type.
- 13-15 As figures 3-5 but for SST.
16. As figure 5 but for fixed buoys and for SST.
17. As figure 5 but for drifting buoys and for SST.



# REPORT ON THE QUALITY OF MARINE SURFACE OBSERVATIONS:

JANUARY TO JUNE 1994

## 1. INTRODUCTION

In 1985, the Commission for Basic Systems agreed that there was a need for GDPS/ Global NWP centres to monitor the quality of observations available on the GTS and to exchange monthly lists of those stations providing observations which seem in error. In 1988 three lead centres were nominated which would have a co-ordinating role of producing, at six-monthly intervals, consolidated lists of suspect stations for given data types together with information on the nature of the error. RSMC Bracknell was allocated the role as lead centre for marine surface observations which encompasses observations from ships, drifting buoys, moored buoys and other fixed marine platforms. This is the eleventh such report and covers the period January to June 1994. The report covering the period July to December 1994 will appear in spring 1995.

Following the CBS recommendations, four centres have been active in exchanging monitoring information each month; RSMC Bracknell since August 1987, ECMWF since August 1988, RSMC Tokyo since September 1988 and NMC Washington since August 1989. At first, the only monitoring information exchanged on marine surface observations was related to pressure, and the first two WMO reports were restricted to that parameter alone. All four centres now regularly monitor wind observations and results are contained in this report. In addition, the report contains monitoring results for sea-surface temperature (SST). For each marine observing platform identified as suspect, values are supplied for the number of observations received at each centre, the number of observations with gross errors, and the mean and rms differences from the background values used by the numerical data assimilation system.

## 2. MONITORING METHODS

Errors in observations may arise from a number of sources: the instrument may be malfunctioning, figures may be mistaken while being transferred manually, or there may be corruption of data during transmission. Errors can also arise in the pressure report if the adjustment to sea level is made incorrectly or not at all, and a poorly-sighted anemometer can result in errors in the observations of wind. For SST observations, the depth at which the observation is made can be crucial. "Surface" observations from buoys are usually made at a depth of around 0.5m, whereas ships may take a measurement between a depth of 10m and the surface, depending on the method used. At present, there is no indication given within the report of the observation's depth, so it is not possible to determine the significance of this factor. By contrast, satellites measure the temperature of the ocean's "skin" which is generally slightly cooler than the temperature immediately beneath, by several tenths of a °C, as a result of evaporative cooling and other surface processes. Some of these errors can be detected by applying checks on the code format and the internal consistency of the report (for example: are the position and pressure consistent with a report 6 hours earlier?). Checks on spatial consistency may be made if there are other nearby observations. However, such quality checks are unable to identify errors on all occasions and it is recognised that the numerical data assimilation systems in use today can provide global reference values which have a valuable application in the area of observation monitoring. The background field, or the short-term forecast from the previous numerical analysis, provides perhaps the most useful information on observation quality, as it represents an accurate and spatially consistent estimate of the observed value which is independent of the observation itself. Observation-minus-background (hereafter referred to as O-B) differences are at the centre of all monitoring work by GDPS centres. For sea-surface temperature, it is not possible to use a



background field with which to compare the observed value, as for wind and pressure observations, because no forecast of SST is performed. Instead, the analysis field is used. SST changes only slowly relative to parameters above the surface, thus this is a good enough approximation. Analyses are performed daily at RSMC Bracknell from an assimilation of both surface and satellite observations. There is one drawback in using the analysis field as an alternative: it is not independent of the observations themselves. This is a major limitation when it comes to assessing observation quality since the results are not straightforward to interpret.

Taking all marine surface observations together, the values of O-B have distinct characteristics. The vast majority of the observations show quite small departures from background and the distribution of O-B is nearly Gaussian, with little or no bias. The errors in the background field probably contribute most to the values of O-B for these observations. There is, however, often a smaller group of observations departing much more from background, for which observation error is the only reasonable explanation for the large values of O-B. Studies of the distribution of O-B and its variation at different points around the globe enable reasonably accurate estimates of background error to be made, and this provides the basis for the monitoring methods described here. Those marine observing platforms for which, in a sufficiently large sample, the observed values of pressure or wind differ from the background by an amount significantly in excess of the estimate of background error, may be labelled as suspect with a high degree of confidence. The limits used here to identify suspect observing platforms have been set sufficiently stringent to preclude much likelihood of the background, rather than the observations, being in error.

Each monitoring centre produces a monthly list of the identifiers of marine observing platforms considered suspect according to the departure from the centre's background values. All observations, both synoptic and asynoptic, are assimilated. At Bracknell, Tokyo and Washington, the corresponding background value used is that valid at the nearest main synoptic hour. At ECMWF, however, interpolation in time is performed.

Given that the number of observations made during the month is greater than or equal to 20, then the condition used by all centres for obtaining platforms for the suspect lists is that at least one of the following criteria are satisfied:

#### Pressure

1. the | mean of O-B |  $\geq 4.0 \text{ hPa}$
2. the standard deviation of O-B  $\geq 6.0 \text{ hPa}$
3. the percentage of gross errors  $\geq 25$

#### Wind

1. the | mean of O-B |  $\geq 5.0 \text{ ms}^{-1}$  (Speed)  
 $\geq 30^\circ$  (Direction)
2. the standard deviation of O-B  $\geq 80^\circ$  (Direction)
3. the percentage of gross errors  $\geq 25$

A gross error is defined as an observation which departs from the background by more than 15hPa (Pressure) or  $25 \text{ ms}^{-1}$  (Vector Wind). The mean and standard deviation of the samples are evaluated excluding gross errors and in this way occasional "wild" values resulting from, for example, corruption during transmission, do not influence the sample characteristics. Direction statistics are also calculated excluding values in light winds, where either the observed or background speed is less than  $5 \text{ ms}^{-1}$ .

Very little information is exchanged between centres on a regular monthly basis for SST.

The monthly results for pressure from all four monitoring centres show considerable agreement, both on the observing platforms listed as suspect and the values of the mean and rms difference from each centre's background. Differences between the monthly suspect lists are usually due to



the different numbers of observations available at each centre. The cut-off varies between 6 and 24 hours. There are also some unexplained variations in the data receipt between the centres, which may be due to problems in the GTS or in the local procedures for handling the data. Monitoring information for wind speed is regularly exchanged between ECMWF, NMC Washington, RSMC Tokyo and RSMC Bracknell, with reasonable agreement on the mean and standard deviation from each centre's background; there is less agreement as to which platforms are listed, reflecting the greater uncertainty when monitoring wind speed.

This report draws together all the monthly monitoring results exchanged on marine surface data and identifies a list of observing platforms which have provided observations of poor quality over the six-month period. In drawing-up this list, there have been a number of guiding principles:

1. As with the monthly lists, accuracy is assessed relative to background values.
2. Only those observing platforms are listed for which there is a very high degree of confidence that the observations rather than the background values are in error.
3. At least 40 reports are required over the period in which the observations are considered suspect.
4. The perceived accuracy over the last part of the six-month period is of greatest importance; observing platforms will not be listed if there has been recent improvement and their reports are at present without major error.
5. Given that the number of observations made during the period is greater than or equal to 40, then the condition for listing a platform as suspect in this report is that at least one of the following criteria are satisfied:

#### Pressure

1. the | mean of O-B |  $\geq 3.5 \text{ hPa}$
2. the standard deviation of O-B  $\geq 5.0 \text{ hPa}$
3. the percentage of gross errors  $\geq 25$

#### Wind

1. the | mean of O-B |  $\geq 5.0 \text{ ms}^{-1}$  (Speed)  
 $\geq 30^\circ$  (Direction)
2. the standard deviation of O-B  $\geq 6.0 \text{ ms}^{-1}$  (Speed)  
 $\geq 60^\circ$  (Direction)
3. the percentage of gross errors  $\geq 25$

#### SST

1. the RMS of O-A  $\geq 2.5^\circ\text{C}$
2. the percentage of gross errors  $\geq 25$

The same gross error limits apply in this report as for the monthly lists, with the limit for SST being set at  $5^\circ\text{C}$ . All observations having gross errors are excluded from the calculation of the mean and standard deviation of O-B and O-A.

The limits set on the bias and standard deviation of O-B are slightly less stringent than those for the monthly lists because the sample sizes are larger. They are only applied over the last part of the period if there has been a recent deterioration in quality. It is possible that there are a few observing platforms listed in this report which have not appeared on any of the monthly lists. This can occur if they report infrequently and only produce a large enough sample over a period of several months. The six-month list is longer than most of the monthly lists because many ships cease reporting for variable periods of time, presumably in most cases while they are in port or



out of service. Only over a relatively long period, probably more than six months, is a representative sample obtained from all those ships providing observations.

### 3. MONITORING RESULTS

The monitoring results presented in this report only relate to data exchanged over the GTS. Observations from marine platforms are transmitted in one of two formats: the SHIP code, used for most observations from ships, moored buoys and other fixed platforms, and the DRIFTR code, used mostly for observations from drifting buoys. In this report the term "ship observations" refers to those received in the SHIP code and the "drifting buoy observations" to those received in DRIFTR code. The SHIP code indicates whether the observation was made manually or by an automatic system and accordingly the sub-divisions "manual ship" and "automatic ship" will be defined.

#### 3.1 Pressure

In the six-month period January to June 1994, 726025 observations of pressure were monitored at Bracknell from 6008 manual ships, 289 drifting buoys, and 362 automatic ships. The number of reports received from individual ships varies greatly as Table 1 demonstrates. Apparently, a very large percentage only report once. The reason for this is unclear but it may be a result of errors in the part of the message giving the ship identifier. A comparison with the corresponding table in the tenth report, shows that the number of identifiers has decreased across the complete range of platform types and variables; this is particularly noticable for drifting buoys observing wind.

TABLE 1: FREQUENCY DISTRIBUTION OF THE NUMBER OF REPORTS OF PRESSURE, WIND AND SEA SURFACE TEMPERATURE FROM INDIVIDUAL IDENTIFIERS AVAILABLE FOR MONITORING AT BRACKNELL, JANUARY TO JUNE 1994.

Number of reports	Number of manual ships reporting			Number of drifting buoys reporting			Number of automatic ships reporting		
	Press	Wind	SST	Press	Wind	SST	Press	Wind	SST*
1	1966	1704	2102	19	15	0	89	81	4
2-10	1003	982	1026	20	13	18	51	54	115
11-20	422	420	373	11	5	14	16	22	14
21-40	547	570	507	16	1	31	19	17	9
41-100	908	857	848	27	2	41	17	23	6
101-200	670	608	566	25	2	49	24	32	4
201-500	469	356	417	56	3	181	49	94	7
501-1000	21	10	39	38	1	280	91	88	17
1001-1500	2	2	7	47	5	51	5	1	12
1501 +	0	0	4	26	2	64	1	1	71
<b>Total</b>	<b>6008</b>	<b>5509</b>	<b>5889</b>	<b>289</b>	<b>49</b>	<b>729</b>	<b>362</b>	<b>413</b>	<b>259</b>
(Report 10)	(6662)	(6074)	(6590)	(320)	(146)	(887)	(547)	(574)	(274)

\* numbers are for automatic (fixed) buoys only

Table 2 shows the number of observations of pressure that have been received over the GTS at Bracknell for past six-month periods. Due to changes in data storage methods at Bracknell in May 1991, report number 5 covered the period January to May 1991 only, thence figures for January-June 1991 have been scaled-up in order to make a fair comparison with other six-month periods; this may not be entirely accurate. Further changes in November 1993 for drifting buoys & automatic ships for pressure & winds, may have allowed duplication of a few identifiers in Table 1 for the period June to December 1993, as reclassification from one observation type to another



occurred. The observation distribution shown in Table 2 will also have been affected in the long term with a slight shift towards drifting buoys; no duplication of observations occurred however. SST observations were not affected by the November 1993 change.

# NUMBER OF OBSERVATIONS OF PRESSURE RECEIVED AT BRACKNELL ON THE GTS FOR EACH OF THE SIX-MONTH PERIODS COVERED BY THE WMO REPORTS ON THE QUALITY OF MARINE OBSERVATIONS

TABLE 2:

Period	WMO report number	Number of Observations			Total
		Manual ships	Drifting buoys	Automatic ships	
Jan-Jun 1989	1	424087	174971	40082	639140
Jul-Dec 1989	2	421315	151972	58016	631303
Jan-Jun 1990	3	424335	177927	63847	666109
Jul-Dec 1990	4	412430	205488	71146	689064
Jan-Jun 1991	5	364760	177069	64401	606230
Jul-Dec 1991	6	348710	148604	68456	565770
Jan-Jun 1992	7	332443	216872	73893	623208
Jul-Dec 1992	8	336958	247873	80862	665693
Jan-Jun 1993	9	340293	288208	77317	705818
Jul-Dec 1993	10	348082	316261	88650	752993
Jan-Jun 1994	11	334134	279963	111928	726025

FIGURE 1:

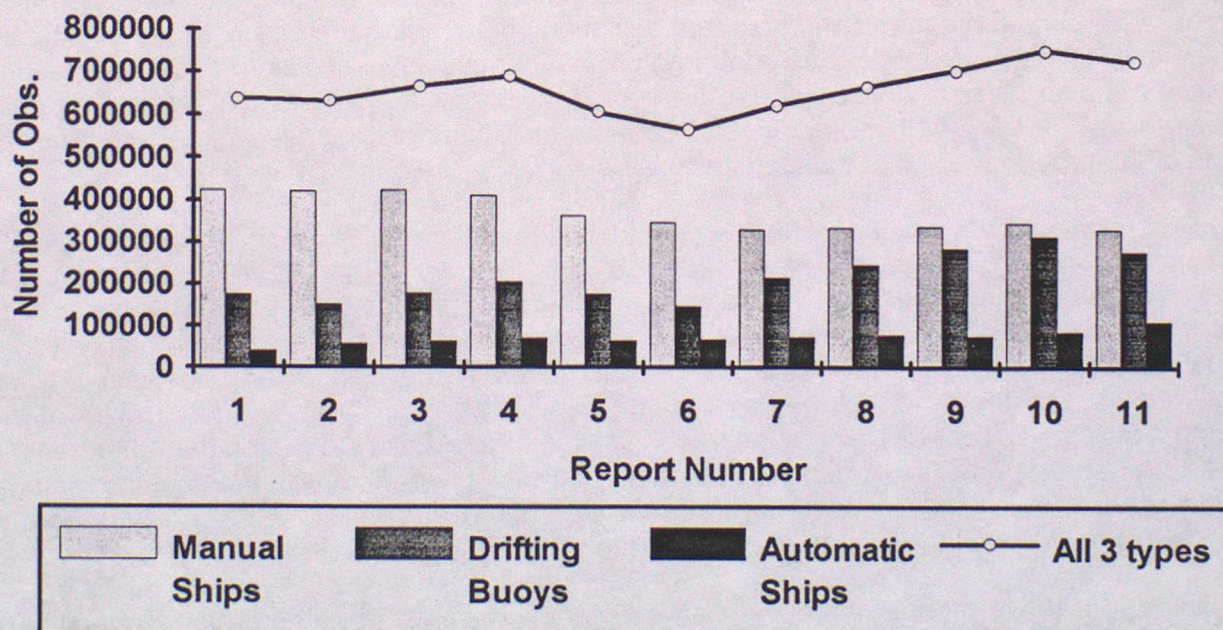


Figure 1 shows the information presented in Table 2 more clearly. It can be seen that the total number of observations rose somewhat to begin with, but was followed by a notable decline. Since report number six (covering the period July to December 1991) however, there has been a recovery in the total, with the latter half of 1993 showing the greatest number of all. At first the



increase was mainly due to an increase in the number of drifting buoys reporting; more recently however, the number of buoys has stabilised to some extent, but the increase in the number of reports from each buoy continues, as reliability improves. In this latest six month period, the total number of reports from both ships and drifting buoys has once again declined, with the shift towards automatic ships appearing to have accelerated. Overall however, the number of observations has decreased slightly.

A histogram of O-B differences for all ship pressure reports in the period January to June 1994 is shown in Figure 2a, together with the Gaussian distribution with the same mean and standard deviation. Although almost all values fall within the range +5 to -5 hPa, a small number of very large values, presumably resulting from erroneous observations, contribute to the large standard deviation of the population. The distribution for all those observations which fail the automatic quality-control checks is broad and bimodal (Figure 2b). The remaining 95 per cent of the observations which pass the quality checks show a distribution of O-B which is very close to Gaussian (Figure 2c) with mean -0.1 hPa and standard deviation 1.4 hPa; the principal contribution to the standard deviation is assumed to be from background errors.

A global estimate of the background error, such as is provided above, will conceal large variations which may occur from place to place. Background values will be more accurate in data-rich areas (eg: in the North Sea or Mediterranean) or where the meteorological variability is low (eg: the tropics). The geographical distributions of the mean and standard deviation of the values of O-B from all ship observations which pass the quality-control checks, have been calculated for 10-degree latitude-longitude boxes and are plotted in Figures 3 and 4. In almost all areas the magnitude of the mean is less than 1.0 hPa, the exceptions being generally only where the sample size is small; in fact, with these exceptions plus the Pacific Ocean, many areas show a magnitude of less than 0.5hPa. The standard deviation in the tropics is 1.0 to 1.5 hPa, in northern latitudes 1.5 to 2.0 hPa, and in the Southern Ocean 2.0 to 3.0 hPa. The number of ship pressure reports accepted by the model quality control in each 10-degree box is shown in Figure 5.

Table 3 contains a list of those ships and drifting buoys considered to have produced suspect observations of pressure in the period January to June 1994. Values over the six-month period are given for the number of observations of pressure available for the Bracknell global model runs, the number of observations differing from the background value by more than 15 hPa (gross errors), and the mean and standard deviation of O-B using the Bracknell global model. The number of times the identifier has appeared on the monthly suspect lists from the four monitoring centres is also given. In order to give a detailed picture of the frequency of reporting and any changes in the observation accuracy, six-month time-series of O-B differences are given at the end of the report for each of the identifiers listed.

An interesting characteristic of the errors identified here, which soon becomes obvious on inspection of the time-series charts at the end of this report, is that most can be attributed to a bias in the observed pressure. In many cases the bias is constant over the whole monitoring period. There are some values which appear to depart greatly from the sample mean, presumably due to some gross error in the observation, but generally they are isolated instances. In only a few cases are there regular large random departures from background. Those observing platforms listed in Table 3 which appeared in the tenth report (July to December 1993) have been indicated with an asterisk. A comparison of the statistics given here with those in the ninth report (January to June 1993), clearly indicates that the bias in the pressure observations from some ships has scarcely changed over the past 12 months.

Statistics for those marine observing platforms which were listed in the tenth six-monthly report and which do not appear in Table 3b, are given in Table 4 along with comments on the quality of their pressure observations. Time-series charts of the pressure observations from these platforms are not given. Less than 40 reports have been received in the latest six-month period for a majority of the ships on this list; several show some improvement in the quality of observations, however.



### 3.2 Wind

The monitoring of observations of wind, presents more problems than for pressure. On the majority of observing platforms, wind is measured using anemometers. The reported speed will be dependent on the averaging period and the height of the instrument above sea level, which will vary a great deal from platform to platform. The wind flow is distorted by a large structure and factors affecting the wind measurement will also include the siting of the anemometer and the bearing of the wind with respect to the structure. Not all winds are measured by anemometers; observations from some ships are based on visual estimates of the sea state and in these cases the factors outlined above do not apply.

In the monitoring results presented here, the background winds are valid at a height of 10 metres above mean sea-level, a little lower than the average height of a ship anemometer. Where the anemometer height is much different from the reference height a significant O-B speed bias may be introduced. This will be the case, for example, for observations from oil rigs or tankers with an anemometer height of 50m or more, or from buoys where the anemometer can be as low as 2m.

In the period January to June 1994, 414173 observations of wind were available for monitoring at Bracknell from 5509 manual ships, 49 drifting buoys, and 413 automatic ships. A more detailed breakdown is given in Table 1. Histograms of O-B differences for ship observations of wind speed are presented in Figures 2d to 2f and of wind direction in Figures 2g to 2j. As with observations of pressure, those wind observations which fail the quality-control checks differ most from background, some by as much as  $50\text{ms}^{-1}$ , and they make a large contribution to the variance of O-B. The distributions of O-B wind speed and direction for the remaining 91 per cent of the observations are nearly Gaussian. There is a speed bias of  $+1.4\text{ms}^{-1}$  relative to background, with a direction bias of just  $-1.7^\circ$ .

Figures 6 and 7 show the geographical distributions over the six-month period of the mean and standard deviation of O-B for ship observations of wind speed which pass the quality-control checks. The numbers of wind reports used to generate these statistics are presented in Figure 8. The standard deviation of O-B wind speed is typically  $3$  to  $4\text{ms}^{-1}$  in middle latitudes and less than  $3\text{ms}^{-1}$  in the tropics. The bias is generally around  $+1\text{ms}^{-1}$ , but exceeds  $+2\text{ms}^{-1}$  in a few places. Similar distributions of the mean and standard deviation of O-B wind direction are shown in Figures 9 and 10. Only reports where both the observed and background wind speeds are greater than  $5\text{ms}^{-1}$  were used to obtain these values. The magnitude of the bias is less than 10 degrees in most places. The standard deviation is generally between 20 and 30 degrees globally, but in some areas, notably tropical parts of the Indian and Pacific Oceans & in data-sparse areas of the southern hemisphere, it is as large as 40 or 50 degrees. The numbers of reports of wind direction used to generate these statistics are presented in Figure 11.

Figures 6-11 provide reference values against which the characteristics of O-B for different marine observing platforms may be compared. Table 5 contains a list of those ships and drifting buoys considered to have produced suspect observations of wind speed in the period January to June 1994, and in Table 7 a similar list is provided for wind direction. Values are given for the number of observations of wind received at Bracknell, the number of observations having a vector difference from background of more than  $25\text{ms}^{-1}$  (gross errors), & the mean and standard deviation of O-B. Time-series of O-B for each identifier listed are given at the end of the report. In most cases of suspect speed observations, a constant bias is clearly evident. Errors in observations of direction are more random in nature. Tables 6 & 8 contain statistics for platforms which are not included in Tables 5 & 7 but that were listed in the previous six-month report, for wind speed & direction respectively. Time-series plots for these identifiers are not included in this report.

### 3.3 Sea-surface temperature

In the six-month period, January to June 1994, a total of 1054413 observations of SST were monitored at RSMC Bracknell. Of these, 321765 were from ships, 267355 from fixed buoys and 465293 from drifting buoys. This is a decrease of 25756 compared with the six-month period July



to December 1993. The decrease is due to a decrease in the number of observations from both ships and fixed buoys, but is offset by a slight rise in reports from drifting buoys. The number of ships reporting SST has decreased by around 10% compared with the previous six months, with the number of drifting buoys reporting decreasing by more than 15%; the number of fixed buoys reporting has also decreased slightly. Table 1 gives the number of reports received from individual identifiers in frequency categories and shows that a large number of ships and fixed buoys reported only once during the six-month period. Errors in reporting the station's identifier could make a significant contribution to these totals. Despite there being a relatively small number of buoys, they constitute a substantial percentage of the total number of observations received. This is due to the frequency at which the observations are made: ships usually report only at the main synoptic hours, or less frequently, whereas some buoys report as often as every hour.

Figures 12a, 12b and 12c show the number of observations, mean O-A and standard deviation of O-A for each of the 3 observation types, for both the northern and the southern hemispheres. Only observations passing quality control checks have been used. Figure 12b shows that the overall bias of each observation type is small ( $< 0.1^{\circ}\text{C}$ ), with ship observations having a slightly positive bias and fixed and drifting buoys a slightly negative bias. Figure 12c shows that ship observations are substantially more erratic, with standard deviations approximately twice those of fixed and drifting buoys. This is partly due to the fact that buoys report frequently and at a quasi-constant location which effectively gives them increased weight in the analysed field.

Figures 13, 14 and 15 respectively show the global distribution of the bias and standard deviation of O-A and the numbers of observations, for ships. The largest biases occur at high latitudes, which is most likely a result of the small number of observations available and hence the decreased reliability of the analysis in these areas, particularly in the southern hemisphere. Figures 16 and 17 show the global distribution of fixed and drifting buoy SST reports. The coverage provided by drifting buoys is extensive, with particularly good coverage over the bulk of the Pacific Ocean. Only a limited number of platforms report in the Indian Ocean and tropical parts of the Atlantic Ocean. Fixed buoys are largely concentrated in coastal regions, with particularly high observation densities around the UK and the USA. A number of  $10^{\circ} \times 10^{\circ}$  grid boxes contain less than 5 reports; this situation may have arisen from reports containing erroneous positions.

Table 9 contains a list of the ships and drifting buoys considered to have produced suspect observations over the six-month period. The comments given in each case provide an indication of the main reason for the station to be listed as suspect. Table 10 gives details of the performance over the latest six-month period of ships which were considered suspect in the previous six-month period but which don't appear in Table 9. A significant number of the ships included in Table 10 have shown an improvement in the accuracy of SST measurements during the first six months of 1994. No time-series charts have been plotted for SST so the comments are based on a comparison of the magnitudes of the mean, root-mean-square error and standard deviation of O-A. A large number of the identifiers appearing on the list do so as a result of a persistent bias. A high percentage of those listed due to the number of gross errors, also show a large bias.

#### 4. SUMMARY

72 marine observing platforms are listed as producing suspect observations of pressure over the period January to June 1994, 27 as producing suspect wind observations and 130 as producing suspect SST observations. The first report issued by RSMC Bracknell for the period January to June 1989, listed 150 marine platforms producing suspect observations of pressure. The selection criteria have remained unchanged, and the reduction in the number of platforms listed seems to reflect a genuine improvement in quality over the period.



The most common characteristic of the pressure errors found here is a bias in the reported pressure which may remain constant for many months. The majority of platforms listed as producing suspect wind observations show a bias in the reported wind speed, while a few show a large standard deviation in wind direction. For sea-surface temperature observations, the presence of a persistent bias is again found to be the most common cause of error.

The selection criteria have been set sufficiently stringent to ensure that only those are listed for which there is a high degree of confidence in there being large observation errors. There are a great many others, not listed here, for which there must be considerable doubt over the quality of the observations. A wider range of monitoring results are available from Bracknell on request.



**TABLE 3: LIST OF MARINE OBSERVING PLATFORMS REPORTING SUSPECT PRESSURE OBSERVATIONS OVER THE PERIOD JANUARY TO JUNE 1994.**

- Column 1 Call sign or identifier.
- Column 2 Number of pressure observations available for monitoring over the 6-month period, excluding duplicates, but including any observations with gross errors.
- Column 3 Number of pressure observations differing by more than 15 hPa from background (gross error).
- Column 4 Standard deviation of observation-minus-background differences excluding cases of gross error.
- Column 5 Mean of observation-minus-background differences (bias) excluding cases of gross error.
- Columns 6-9 Number of times observing platform has appeared on suspect lists. B=Bracknell, E=ECMWF, T=Tokyo, W=Washington.
- Column 10 Comments on quality of pressure observations.

- Notes:*
1. Units are hPa.
  2. Observing platforms marked with an asterisk were listed in the previous report (July to December 1993)

**Table 3a: Platforms reporting in DRIFTR code**

*i): Platforms **non-operational** at the end of the reporting period*

Ident.	N Obs.	NGE	SD	Bias	B	E	T	W	Comments
25561	1812	35	3.7	3.1	2	2	2	2	Bias drift
44616 *	136	33	7.2	-2.4	1	1	1	1	Erratic
44728	2459	71	4.5	0.1	1	1	1	1	Erratic
44775	362	30	5.7	-2.9	0	0	0	0	Erratic
46638	70	31	4.8	-6.4	1	1	0	1	Gross errors
52632	269	15	6.3	-3.2	1	1	1	1	Erratic
56509	1205	266	3.8	-1.6	2	2	2	2	Erratic + gross errors from Mar
56515	622	60	4.4	3.5	1	1	2	1	Erratic + gross errors from May
64910	58	54	4.7	-0.2	1	1	1	1	Gross errors
65581	1223	172	5.1	0.5	1	1	1	1	Erratic
71003 *	795	795	***	****	2	2	2	2	Gross errors
71557	377	203	3.2	-11.4	1	1	1	1	Gross errors + large bias
74002 *	1277	246	2.8	-8.2	3	0	3	3	Bias +40hPa & -10hPa !!?

*ii): Platforms **operational** at the end of the reporting period*

There are no platforms that fall into this category



Table 3b: Platforms reporting in SHIP code

Ident.	N Obs.	NGE	SD	Bias	B	E	T	W	Comments
ATRK *	43	0	1.6	6.6	0	0	0	0	Constant bias
ATSR	81	1	1.8	3.5	0	0	1	0	Bias +5hPa from April
CFD3491	186	48	2.3	-2.8	1	0	0	2	Gross errors June
CG2960	674	54	1.5	2.4	1	0	1	1	Gross errors June
CZ9742	65	64	0.0	-7.4	2	1	2	2	Gross errors
C6BT8 *	111	1	2.5	5.0	2	2	2	2	Constant bias
C6FA6	43	0	2.6	-4.3	0	0	1	1	Bias -5hPa from February
C6KB6	141	0	3.9	4.2	3	3	3	1	Variable bias
C6KQ9	41	1	2.3	5.8	0	0	0	0	Near constant bias
DVRF	153	0	0.8	4.4	1	0	4	2	Constant bias
DZSB *	189	0	1.1	-3.9	2	1	2	3	Constant bias
D5NE	77	0	2.3	5.1	2	2	2	3	Constant bias
D9ZZ	58	1	3.7	5.9	0	0	0	0	Constant bias; slightly erratic
ELGI2	45	0	1.4	-4.4	1	0	1	0	Near constant bias
ELIU4	158	3	5.0	-3.4	4	4	4	4	Bias -6hPa from March
ELND2	122	0	1.6	4.2	3	1	3	4	Constant bias
ELPZ3	74	0	1.1	-3.5	0	0	0	0	Constant bias
ESDI	109	3	2.6	-3.5	1	0	1	1	Bias -5hPa from May
EUAF	69	0	2.4	4.1	2	1	2	0	Near constant bias
KRHZ *	54	3	3.2	-9.6	0	0	0	0	Constant bias
KXDB	81	5	2.5	-9.6	2	0	3	3	Bias -6hPa, then -11hPa
LAMT4	58	0	1.3	4.0	1	1	1	1	Constant bias
PEMA	144	0	1.3	-3.7	0	0	0	2	Constant bias
PENQ	54	1	1.2	-4.0	1	0	0	0	Constant bias
P3ZL4	71	0	2.3	-6.0	1	1	1	2	Near constant bias
SCYN	125	2	2.5	4.3	1	1	1	1	Constant bias
UBHT	49	20	5.7	3.6	0	0	0	0	Gross errors from May
UHUN *	132	0	2.7	4.9	4	3	0	3	Constant bias
UHZK	58	1	5.7	-6.6	1	1	0	1	Bias -11hPa from May
UKTV *	51	0	2.0	4.4	1	1	0	0	Constant bias
UNWJ	49	0	2.4	4.5	1	1	1	1	Constant bias
UOVE *	63	30	4.0	5.9	1	1	1	1	Bias +17hPa, then +5hPa
UPIU	99	1	2.0	4.0	1	2	2	1	Constant bias
USBZ	44	13	6.2	-4.7	0	0	0	0	Bias -15hPa from May
UULE	41	0	1.1	4.0	1	1	1	1	Constant bias
UUOD *	70	0	1.7	6.9	2	2	0	1	Constant bias
UYJL *	97	3	2.6	-4.8	2	2	0	2	Constant bias
UYKD	141	53	7.8	0.2	4	3	0	4	Erratic
VRUA4	285	1	1.5	4.3	5	6	6	4	Constant bias
WCB5820	61	0	3.7	6.0	1	1	1	2	Constant bias

Continued ⇨



Ident.	N Obs.	NGE	SD	Bias	B	E	T	W	Comments
WCZB *	121	0	1.9	6.9	3	3	3	3	Constant bias
WYR4481	193	1	2.0	3.2	0	1	0	1	Near constant bias
WZE4928 *	74	73	0.0	1.2	2	2	2	2	Gross errors
ZBWP *	85	0	1.2	4.1	1	1	1	1	Constant bias
ZCAM9 *	197	1	3.3	2.6	1	2	2	2	Slight bias drift
ZSBK *	95	1	3.5	-7.6	1	1	2	0	Bias -6hPa; -9hPa from March
ZTCD *	94	0	2.8	-6.8	0	0	2	0	Constant bias
ZTHP	95	1	2.6	-4.0	1	0	0	0	Bias drift
3EAY5 *	129	2	1.7	-4.3	4	3	3	0	Constant bias
3EJH6	50	0	1.3	4.7	0	0	0	0	Constant bias
3ELS2	42	1	1.1	7.8	1	1	1	1	Constant bias
3EWW5	53	0	1.3	4.0	0	0	0	0	Constant bias
3EYL9	53	0	3.6	-2.8	0	0	0	0	Bias -4hPa from February
3EYY8	80	0	2.2	-3.8	1	1	1	0	Constant bias
3FBK	199	0	1.1	9.2	4	4	4	4	Constant bias
3FCU3	43	0	2.1	6.2	0	0	0	0	Constant bias
3FGI3	106	0	1.1	-3.6	0	0	0	0	Constant bias
3FSB3	49	1	3.5	6.0	0	0	0	0	Slight bias drift
5LGK	50	10	2.0	-11.8	1	1	1	1	Constant bias



**TABLE 4: LIST OF PLATFORMS REPORTING IN SHIP CODE NOT APPEARING IN TABLE 3 BUT LISTED AS SUSPECT OVER THE PERIOD JULY TO DECEMBER 1993.**

Column 1	Call sign or identifier.
Column 2	Number of pressure observations available for monitoring over the 6-month period, excluding duplicates, but including any observations with gross errors.
Column 3	Number of pressure observations differing by more than 15 hPa from background (gross error).
Column 4	Standard deviation of observation-minus-background differences excluding cases of gross error.
Column 5	Mean of observation-minus-background differences (bias) excluding cases of gross error.
Column 6	Comments on quality of pressure observations.

Notes: 1. Units are hPa.

Ident.	N Obs.	NGE	SD	Bias	Comments
CGBR	141	4	3.1	1.0	Bias acceptable
CG2844	11	0	1.9	5.1	Less than 40 reports; bias persists
DCKF	14	0	1.9	-1.9	Less than 40 reports; bias acceptable
DGBN	2	0	0.5	0.6	Few reports
DMZL	0				No reports
ELAD7	34	2	4.0	0.1	Less than 40 reports; few gross errors
ELEL2	121	1	1.9	-0.6	Bias acceptable
ELFN7	208	1	2.2	4.3	Bias acceptable from June
EOGP	0				No reports
ESAX	33	0	2.0	3.8	Less than 40 reports; bias persists
ESBI	9	0	2.5	7.1	Few reports
ESCA	0				No reports
ESXD	23	3	1.7	12.2	Less than 40 reports; bias persists
FNVA	221	3	2.1	0.6	Bias acceptable
JMQY	319	0	1.8	-0.6	Bias acceptable
OWOG2	158	0	2.1	3.5	Bias reduced from June
UBFE	0				No reports
UFAA	3	0	3.5	1.5	Few reports
UFOJ	7	0	1.0	-3.6	Few reports
UGPA	0				No reports
UHVW	160	1	1.9	3.0	Bias reduced
UIIG	0				No reports
ULDZ	0				No reports
UNJN	0				No reports
UQJK	26	1	2.1	7.9	Less than 40 reports; bias persists
UQRA	0				No reports
URPR	52	1	1.3	-0.2	Bias acceptable
USCC	3	0	0.2	9.4	Few reports
USZQ	222	12	3.2	-1.1	Bias acceptable

Continued ⇨



Ident.	N Obs.	NGE	SD	Bias	Comments
UUJV	0				No reports
UYDW	94	2	5.0	4.6	Bias acceptable from April
UYTA	0				No reports
VC6749	0				No reports
VTCN	41	0	2.3	2.9	Bias reduced
VVGC	19	0	1.8	4.4	Less than 40 reports; bias persists
VVKK	52	0	2.0	-0.8	Bias acceptable
V2SM	126	0	5.3	-3.1	Bias acceptable from February
WCYR	0				No reports
WC5932	33	0	3.3	-2.6	Less than 40 reports; bias reduced
WE3806	80	1	3.4	-2.4	Bias reduced
WE4805	86	2	2.1	0.6	Gross errors ceased
WE4879	155	1	2.1	-3.5	Bias reduced from June
WPPO	0				No reports
WTC9408	0				No reports
ZTFM	2	0	1.5	-2.7	Few reports
ZTHG	91	0	2.5	1.9	Bias acceptable
3FGH3	94	4	2.4	-1.4	Bias acceptable
3FJJ3	64	0	4.1	-5.8	Bias acceptable from June
3FLS2	85	0	1.8	0.9	Bias acceptable



**TABLE 5: LIST OF MARINE OBSERVING PLATFORMS REPORTING SUSPECT WIND SPEED OBSERVATIONS OVER THE PERIOD JANUARY TO JUNE 1994.**

- Column 1 Call sign or identifier.  
 Column 2 Number of wind speed observations available for monitoring over the 6-month period, excluding duplicates, but including any observations with gross errors.  
 Column 3 Number of wind observations with vector difference from background of more than  $25\text{ms}^{-1}$  (gross error).  
 Column 4 Standard deviation of observation-minus-background differences excluding cases of gross error.  
 Column 5 Mean of observation-minus-background differences (bias) excluding cases of gross error.  
 Columns 6-9 Number of times observing platform has appeared on suspect lists. B=Bracknell, E=ECMWF, T=Tokyo, W=Washington.  
 Column 10 Comments on quality of wind speed observations.

- Notes:* 1. Units are  $\text{ms}^{-1}$ .  
 2. Observing platforms marked with an asterisk were listed in the previous report (July to December 1993)

**Table 5a: Platforms reporting in DRIFTR code**

*i): Platforms non-operational at the end of the reporting period*

Ident.	N Obs.	NGE	SD	Bias	B	E	T	W	Comments
44616 *	60	0	3.4	-10.3	1	1	0	1	Large bias
44728	1684	0	3.4	-3.8	1	1	1	3	Slight bias drift
44742	45	1	4.4	-11.5	1	1	0	1	Large bias
44768	136	0	4.0	-9.6	1	1	1	1	Large bias
44769	241	0	4.8	-5.3	2	2	2	2	Large bias; rather erratic
44771	293	0	4.3	-9.1	2	2	2	2	Near constant bias
62696	227	0	4.0	-11.7	2	2	2	2	Constant bias

*ii): Platforms operational at the end of the reporting period*

There are no platforms that fall into this category

**Note:**

All identifiers appearing to be suspect have been included in the above tables. However, inspection of the corresponding time-series reveals that some of the buoys report only for a very brief period. It may be possible that these buoys never actually observed wind, but that occasionally reports were coded as calm instead of missing.



Table 5b: Platforms reporting in SHIP code

Ident.	N Obs.	NGE	SD	Bias	B	E	T	W	Comments
ATSR	69	1	5.7	5.4	0	0	1	0	Bias +7ms <sup>-1</sup> from April; erratic
C6DY8	234	0	3.6	3.6	2	1	2	1	Bias +7ms <sup>-1</sup> from May
C6KF2	181	1	3.9	7.4	5	4	0	4	Near constant bias
ELIH8	52	0	3.2	-5.0	1	0	0	1	Constant bias
ELLE	52	0	4.4	9.5	0	0	0	0	Constant bias
ELLE9	489	6	5.2	9.8	6	6	6	6	Constant bias; rather erratic
FNIH	432	5	5.8	8.0	5	5	5	5	Variable bias; rather erratic
FNVA	142	1	3.8	5.1	2	1	5	0	Constant bias
GOMV	85	12	5.5	6.1	0	0	1	0	Gross errors from February
PFRX	171	0	4.5	4.5	3	0	1	0	Bias +8ms <sup>-1</sup> from April
PJGK	96	0	5.2	10.8	2	5	5	5	Variable bias
SXYY	88	1	5.5	7.4	2	4	4	2	Constant bias; rather erratic
S6CL	59	2	4.1	6.0	1	2	2	1	Near constant bias
VJBE	79	0	3.5	4.5	1	1	3	2	Near constant bias



**TABLE 6: LIST OF PLATFORMS REPORTING IN SHIP CODE NOT APPEARING IN TABLE 5 BUT LISTED AS SUSPECT OVER THE PERIOD JULY TO DECEMBER 1993.**

- Column 1 Call sign or identifier.
- Column 2 Number of wind speed observations available for monitoring over the 6-month period, excluding duplicates, but including any observations with gross errors.
- Column 3 Number of wind observations with vector difference from background of more than  $25\text{ms}^{-1}$  (gross error).
- Column 4 Standard deviation of observation-minus-background differences excluding cases of gross error.
- Column 5 Mean of observation-minus-background differences (bias) excluding cases of gross error.
- Column 6 Comments on quality of wind speed observations.

Notes: 1. Units are  $\text{ms}^{-1}$ .

Ident.	N Obs.	NGE	SD	Bias	Comments
DFCG	10	0	5.1	7.6	Less than 40 reports; still erratic & biased
ELDU4	37	1	4.4	8.0	Less than 40 reports; bias persists
P3LE5	142	0	3.7	-5.7	Bias reduced from June
UTNT	0				No reports
VMAL	129	0	4.3	2.0	Less erratic
VOXG	36	0	2.5	2.4	Less than 40 reports; bias acceptable
VRSM	0				No reports
3EZH7	576	1	2.0	4.1	Bias reduced
3FCN3	0				No reports



**TABLE 7: LIST OF MARINE OBSERVING PLATFORMS PRODUCING SUSPECT WIND DIRECTION OBSERVATIONS OVER THE PERIOD JANUARY TO JUNE 1994.**

- Column 1 Call sign or identifier.  
 Column 2 Number of wind direction observations available for monitoring over the 6-month period, excluding duplicates, but including any observations with gross errors.  
 Column 3 Number of wind observations with vector difference from background of more than  $25\text{ms}^{-1}$  (gross error).  
 Column 4 Standard deviation of observation-minus-background differences excluding cases of gross error.  
 Column 5 Mean of observation-minus-background differences (bias) excluding cases of gross error.  
 Columns 6-9 Number of times observing platform has appeared on suspect lists. B=Bracknell, E=ECMWF, T=Tokyo, W=Washington.  
 Column 10 Comments on quality of wind direction observations.

- Notes:**
1. Units are degrees ( $^{\circ}$ ).
  2. Observing platforms marked  $\blacklozenge$  had a negative speed bias and the statistics and their plots refer to direction reports associated with background wind speeds greater than  $5\text{ms}^{-1}$ . If no significant speed bias was present the statistics and plots refer to direction reports with an observed speed greater than  $5\text{ms}^{-1}$ .
  3. Observing platforms marked with an asterisk were listed in the previous report (July to December 1993)

**Table 7a: Platforms reporting in DRIFTR code**

*i): Platforms non-operational at the end of the reporting period*

Ident.		N Obs.	NGE	SD	Bias	B	E	T	W	Comments
44616	$\blacklozenge$	54	0	93.1	63.1	1	0	0	0	Erratic
44742	$\blacklozenge$	42	0	86.8	30.0	1	0	0	0	Erratic
44768	$\blacklozenge$	112	0	75.1	95.7	1	0	0	1	Large bias; rather erratic
44769	$\blacklozenge$	173	0	74.6	59.7	2	0	0	1	Large bias; rather erratic
44771	$\blacklozenge$	244	0	97.1	49.1	2	0	0	1	Erratic
62696	$\blacklozenge$	222	0	52.8	70.5	2	0	0	2	Erratic

*ii): Platforms operational at the end of the reporting period*

Ident.		N Obs.	NGE	SD	Bias	B	E	T	W	Comments
55578	$\blacklozenge$	1026	0	68.9	13.1	2	6	3	3	Erratic
55580	$\blacklozenge$	740	0	64.6	15.7	0	2	1	1	Erratic

**Note:**

All identifiers appearing to be suspect have been included in the above tables. However, inspection of the corresponding time-series reveals that some of the buoys report only for a very brief period. It may be possible that these buoys never actually observed wind, but that occasionally reports were coded as calm instead of missing.



Table 7b: Platforms reporting in SHIP code

Ident.		N Obs.	NGE	SD	Bias	B	E	T	W	Comments
CG2614	◆	242	0	36.0	32.4	5	0	3	4	Constant bias
UYKD	◆	84	0	89.1	-21.5	2	1	0	0	Erratic
21004	◆	120	0	23.0	50.5	2	2	2	2	Constant bias
42027	◆	289	0	86.4	-33.1	2	3	2	1	Bias drift; bias 180° from May

TABLE 8: LIST OF PLATFORMS REPORTING IN SHIP CODE NOT APPEARING IN TABLE 7 BUT LISTED AS SUSPECT OVER THE PERIOD JULY TO DECEMBER 1993.

- Column 1 Call sign or identifier.
- Column 2 Number of wind direction observations available for monitoring over the 6-month period, excluding duplicates, but including any observations with gross errors.
- Column 3 Number of wind observations with vector difference from background of more than  $25\text{ms}^{-1}$  (gross error).
- Column 4 Standard deviation of observation-minus-background differences excluding cases of gross error.
- Column 5 Mean of observation-minus-background differences (bias) excluding cases of gross error.
- Column 6 Comments on quality of wind direction observations.

Notes: 1. Units are degrees (°).

Ident.	N Obs.	NGE	SD	Bias	Comments
DCG2959D	35	1	78.4	-9.3	Less than 40 reports; still erratic



**TABLE 9: LIST OF MARINE OBSERVING PLATFORMS REPORTING SUSPECT SEA-SURFACE TEMPERATURE OBSERVATIONS OVER THE PERIOD JANUARY TO JUNE 1994.**

Column 1	Call sign or identifier
Column 2	Number of sea-surface temperature observations available for monitoring over the 6-month period, including any observations with gross errors.
Column 3	Number of sea surface temperature observations differing by more than 5°C from the analysis (gross errors).
Column 4	Standard deviation of observation-minus-analysis differences excluding cases of gross error.
Column 5	Mean of observation-minus-analysis differences excluding cases of gross error.
Column 6	Comments on quality of sea surface temperature observations.

- Notes:*
1. Units are °C.
  2. Observing platforms marked with an asterisk were listed in the previous report (July to December 1993)

**Table 9a: Platforms reporting in DRIFTR code**

*i): Platforms non-operational at the end of the reporting period*

Ident.	N Obs.	NGE	SD	Bias	Comments
13910	85	36	1.5	-3.4	Gross errors; large bias
13934	407	231	0.7	-0.9	Gross errors
21576	241	134	0.7	0.3	Gross errors
23504	194	32	2.3	-1.7	Erratic; slight bias
46633	1129	315	0.6	0.4	Gross errors
51829	315	101	0.9	0.0	Gross errors
62936	162	125	0.0	0.0	Gross errors

*ii): Platforms operational at the end of the reporting period*

Ident.	N Obs.	NGE	SD	Bias	Comments
43801	315	189	0.6	0.0	Gross errors
46705	1622	796	1.2	1.7	Gross errors; slight bias
52538	64	40	0.1	-0.1	Gross errors



Table 9b: Platforms reporting in SHIP code

Ident.	N Obs.	NGE	SD	Bias	Comments
A8LL *	93	8	0.8	3.2	Large bias.
BROE *	179	42	1.9	-2.1	Biased
CGBN	87	44	1.1	0.4	Gross errors
CGBY	136	47	0.8	-0.3	Gross errors
CGJY	143	36	1.4	-1.5	Gross errors
CG2240 *	44	31	1.1	3.8	Gross errors; large bias
C6JG6	71	25	1.1	0.3	Gross errors
C6JY7 *	385	38	1.0	-2.5	Biased
C6KE8	104	9	2.0	1.8	Erratic; slight bias
C6KJ5	74	3	0.7	2.4	Biased
DUMF	74	7	2.5	-0.1	Erratic
DUNV *	177	11	0.8	3.4	Large bias
DVXE *	108	27	0.6	-4.1	Gross errors; large bias
DZBD *	58	55	0.8	2.6	Gross errors; biased
DZDI	69	7	1.7	1.9	Slightly erratic; slight bias
EKYO	87	25	2.0	-0.7	Gross errors; erratic
ELBG9 *	334	8	0.9	-2.8	Biased
ELEM3	103	34	1.4	-0.4	Gross errors
ELFQ7 *	223	26	1.4	-2.5	Biased
ELJJ3	91	11	1.0	2.7	Biased
ELJO4 *	41	17	2.1	-1.4	Gross errors; erratic
ELJS5 *	93	4	0.9	2.4	Biased
ELKM7 *	45	14	1.8	1.0	Gross errors
ENHL	46	13	1.7	-0.9	Gross errors
EVKA	69	5	2.2	1.5	Erratic
EVMA	48	2	1.1	2.4	Biased
GYYP *	60	13	1.3	2.2	Biased
J4LX	177	2	1.0	2.5	Biased
J8NY	94	1	0.9	-2.4	Biased
KGTI	55	3	1.4	2.7	Biased
KHJB	176	89	1.5	0.8	Gross errors
KNJA	87	0	0.9	-2.9	Biased
KNJD	191	49	1.1	-0.1	Gross errors
KNJN *	123	8	1.7	-3.1	Large bias
KRNJ	112	12	1.5	2.1	Biased
LADR4 *	91	1	1.0	2.9	Biased
LAOO4	113	84	2.1	2.9	Gross errors; erratic; biased
NHWR	112	48	1.5	0.2	Gross errors
OENP	57	0	0.8	2.8	Biased
PJYG *	89	14	1.7	-2.2	Biased

Continued ⇨



Ident.	N Obs.	NGE	SD	Bias	Comments
P3NP4 *	68	6	1.1	2.9	Biased
SFMY	59	9	1.0	-3.7	Large bias
SQPY	42	1	1.0	-3.0	Large bias
SVKF	76	1	0.7	2.6	Biased
UBAW	58	8	1.1	2.8	Biased
UBCB	52	6	2.8	-1.7	Erratic
UBVU	42	6	1.3	2.3	Biased
UDXC	91	33	2.7	0.1	Gross errors; erratic
UEEQ	53	16	2.7	-0.3	Gross errors; erratic
UELJ *	53	9	2.3	1.4	Erratic
UERA	76	51	1.3	-1.0	Gross errors
UFPL	80	17	2.7	0.8	Erratic
UJMQ	45	6	2.7	0.7	Erratic
UJQG	89	26	2.2	-0.2	Gross errors; erratic
ULAS	101	3	1.7	-2.3	Biased
ULVR	42	10	2.3	-2.7	Erratic; biased
UMTB	59	12	2.7	2.0	Erratic; biased
UNRZ	151	3	0.7	3.1	Large bias
UNWL	51	13	2.2	0.8	Gross errors; erratic
UPGM	192	13	2.5	1.6	Erratic
UPIQ	70	20	2.7	-1.1	Gross errors; erratic
UQDH	60	6	2.4	-0.9	Erratic
UQHM	52	15	2.4	0.9	Gross errors; erratic
URFZ	61	11	2.2	1.4	Erratic
URPK	64	3	1.6	2.1	Biased
URTY	41	2	2.4	-1.0	Erratic
USNN *	97	13	2.0	-2.4	Erratic; biased
USTJ	159	8	1.5	2.4	Biased
UUQR	99	0	0.8	2.4	Biased
UVDJ	43	5	2.3	1.6	Erratic
UYDW	52	33	1.8	0.5	Gross errors
UYKD	106	57	2.4	-1.0	Gross errors; erratic
UYUS *	103	27	1.8	0.8	Gross errors
UZKJ	66	2	0.8	2.5	Biased
UZLJ	44	2	0.9	2.4	Biased
UZMX	75	15	2.8	0.0	Erratic
VCDT	41	1	1.9	1.8	Slightly erratic; slight bias
VCTV	44	13	2.0	2.0	Gross errors; erratic; biased
VJIK *	92	18	1.1	-3.0	Large bias
VODB	71	10	1.8	1.8	Slightly erratic; slight bias
VRMH	295	27	1.8	-2.7	Biased
VROC *	207	114	0.7	-4.1	Gross errors; large bias

Continued ⇨



Ident.	N Obs.	NGE	SD	Bias	Comments
VSOL	96	5	2.5	-1.7	Erratic
WBWK	47	46	0.0	-4.0	Gross errors; large bias
WCIO	55	15	1.1	-1.2	Gross errors
WCJY	82	9	1.2	2.3	Biased
WEHV	148	46	1.4	-1.7	Gross errors
WE4805	147	35	1.4	2.7	Biased
WFDP	143	39	1.6	0.0	Gross errors
WFJK	406	87	3.2	-0.2	Erratic
WLCV *	66	20	0.7	-4.1	Gross errors; large bias
WRYG	88	56	1.8	0.5	Gross errors
WR3225 *	71	23	1.3	3.2	Gross errors; large bias
WYP8657	53	1	1.9	2.1	Biased
WZP8164	104	3	2.7	-1.0	Erratic
XYKH *	80	4	1.2	-2.5	Biased
YDNP	50	49	0.0	-0.4	Gross errors
Y3CH	593	67	1.9	1.6	Slightly erratic; slight bias
Y4HM *	40	8	1.4	2.6	Biased
ZCAW7	80	9	1.8	-2.1	Biased
3ECN7	64	58	1.7	-2.2	Gross errors; biased
3EEZ7 *	156	26	0.9	3.7	Large bias
3EJB3	78	2	1.4	2.5	Biased
3EJB9	89	3	1.2	2.9	Biased
3EJT9 *	223	17	1.2	-3.7	Large bias
3EXH4	51	5	2.9	0.3	Erratic
3EZK9 *	409	35	0.4	3.5	Large bias
3FDY3 *	78	20	1.5	-0.2	Gross errors
3FEN2	176	13	1.4	2.1	Biased
41004	1809	330	1.4	-2.1	Biased
45010	276	211	0.5	4.3	Gross errors; large bias
46145	3775	1266	0.8	0.6	Gross errors
46183	2925	752	0.7	0.5	Gross errors
7LHH *	197	76	0.8	3.9	Gross errors; large bias
8JGU	53	16	1.3	0.3	Gross errors
8KVT *	94	50	2.8	0.4	Gross errors; erratic
9MBH9	100	10	1.2	2.9	Biased
9MTU	89	5	1.4	-2.3	Biased
9VJS	297	7	0.8	-2.9	Biased
9VYK	254	14	0.9	-2.6	Biased



**TABLE 10: LIST OF PLATFORMS REPORTING IN SHIP CODE NOT APPEARING IN TABLE 9  
BUT LISTED AS SUSPECT OVER THE PERIOD JULY TO DECEMBER 1993.**

- Column 1 Call sign or identifier  
 Column 2 Number of sea-surface temperature observations available for monitoring over the 6-month period, including any observations with gross errors.  
 Column 3 Number of sea surface temperature observations differing by more than 5°C from the analysis (gross errors).  
 Column 4 Standard deviation of observation-minus-analysis differences excluding cases of gross error.  
 Column 5 Mean of observation-minus-analysis differences excluding cases of gross error.  
 Column 6 Comments on quality of sea surface temperature observations.

Notes: 1. Units are °C.

Ident.	N Obs.	NGE	SD	Bias	Comments
BHFR	100	1	1.1	1.6	Bias acceptable
CGDT	24	1	1.1	2.4	Less than 40 reports; bias persists
CG2568	1	0	0.0	4.0	Few reports
C6KM	90	0	1.1	-2.0	Bias reduced
C6LU3	0				No reports
DDRL	168	2	0.8	0.0	Bias acceptable
DVPV	77	1	1.2	2.0	Bias reduced
D5ND	204	7	1.1	0.5	Gross errors ceased
ELDB7	36	12	1.5	-2.7	Less than 40 reports; GE + bias persist
EWYZ	0				No reports
JKHH	210	36	1.0	0.3	Gross errors reduced; bias acceptable
KCBK	78	6	1.0	0.1	Gross errors ceased
LXCH	0				No reports
MNKN	60	1	1.5	-1.1	Bias acceptable
NGDF	17	0	0.9	0.7	Less than 40 reports; bias acceptable
NICB	139	5	1.4	-1.2	Gross errors ceased
OUGV	6	0	1.9	1.8	Few reports
TSLN	376	0	0.9	-1.7	Bias acceptable
U/JK	8	0	0.8	0.2	Few reports
UBLH	103	3	1.5	0.2	Bias acceptable
UEVS	0				No reports
UFJN	49	1	0.3	0.5	Gross errors ceased; bias acceptable
UGTY	53	3	1.2	-2.1	Less erratic; bias persists
UJDR	68	3	1.9	-0.2	Bias acceptable
UJEJ	78	1	1.5	-1.0	Gross errors ceased
UJGD	0				No reports
UJIB	140	11	1.4	1.1	Bias acceptable
UJKW	81	9	1.6	1.8	Bias acceptable
UKDN	21	2	1.5	-1.3	Less than 40 reports; less erratic

Continued ⇨



Ident.	N Obs.	NGE	SD	Bias	Comments
UKPG	69	15	1.7	-1.6	Gross errors reduced; bias acceptable
UNGP	17	1	1.4	-2.6	Less than 40 reports; bias persists
UNSX	79	2	1.6	1.5	Gross errors ceased; less erratic
UNWB	1	0	0.0	-0.4	Few reports
UNWZ	0				No reports
UONV	17	3	1.8	1.8	Less than 40 reports
UPGQ	23	1	1.8	-1.8	Less than 40 reports; bias acceptable
UQUC	34	6	2.5	1.7	Less than 40 reports; remains erratic
URWG	49	1	1.4	-0.3	Less erratic; bias acceptable
USVO	179	8	1.6	-1.4	Less erratic
UTCP	0				No reports
UTFY	0				No reports
UTOE	16	4	2.7	-0.4	Less than 40 reports; erratic
UULU	24	2	2.2	0.6	Less than 40 reports; erratic; bias acceptable
UUST	18	0	1.5	0.8	Less than 40 reports; bias acceptable
UWEE	115	3	1.8	-0.2	Bias acceptable
UYDD	0				No reports
UYUG	76	3	1.9	-0.2	Gross errors ceased; bias acceptable
UZPQ	145	2	1.3	-0.6	Bias acceptable
VA4786	98	9	1.3	1.7	Less erratic
VB5327	0				No reports
VRQY	0				No reports
VRUH6	58	11	1.4	-1.6	Gross errors reduced; bias acceptable
VY8884	96	0	0.9	-1.5	No longer erratic
WB4520	0				No reports
WHDI	29	1	1.5	-3.2	Less than 40 reports; large bias persists
WHEJ	76	10	2.0	0.1	Gross errors ceased
WJBG	35	7	1.7	-3.4	Less than 40 reports; large bias persists
WL3108	18	4	0.7	3.1	Less than 40 reports; large bias persists
WPKB	133	7	1.4	-1.1	Bias acceptable
WPVF	39	3	1.9	-2.6	Less than 40 reports; GE ceased; bias persists
WRYL	28	10	0.9	1.7	Less than 40 reports; bias acceptable
WTM9012	0				No reports
WVHS	126	8	1.7	-1.7	Bias acceptable
WXQ4511	289	11	1.1	2.2	Bias reduced
WZ2056	0				No reports
Y5OW	58	5	1.1	2.0	Bias reduced
3EAG4	38	0	1.2	1.6	Less than 40 reports; Gross errors ceased
3EDD8	95	4	0.9	2.2	Bias reduced
3ELE9	81	2	0.9	-1.5	Gross errors ceased
3FJH3	143	9	2.0	0.7	Bias acceptable; still rather erratic
44011	4010	7	0.8	-0.5	No longer erratic; bias acceptable
45139	0				No reports

Continued ⇨



Ident.	N Obs.	NGE	SD	Bias	Comments
46030	135	8	1.2	-0.9	Bias acceptable
9MBG3	159	10	1.3	1.5	Bias acceptable
9MWH	2	0	0.0	0.7	Few reports



FIG 2A:  
DISTRIBUTION OF O-B SHIP PRESSURE DIFFERENCES UNITS: HPA  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: ALL OBSERVATIONS

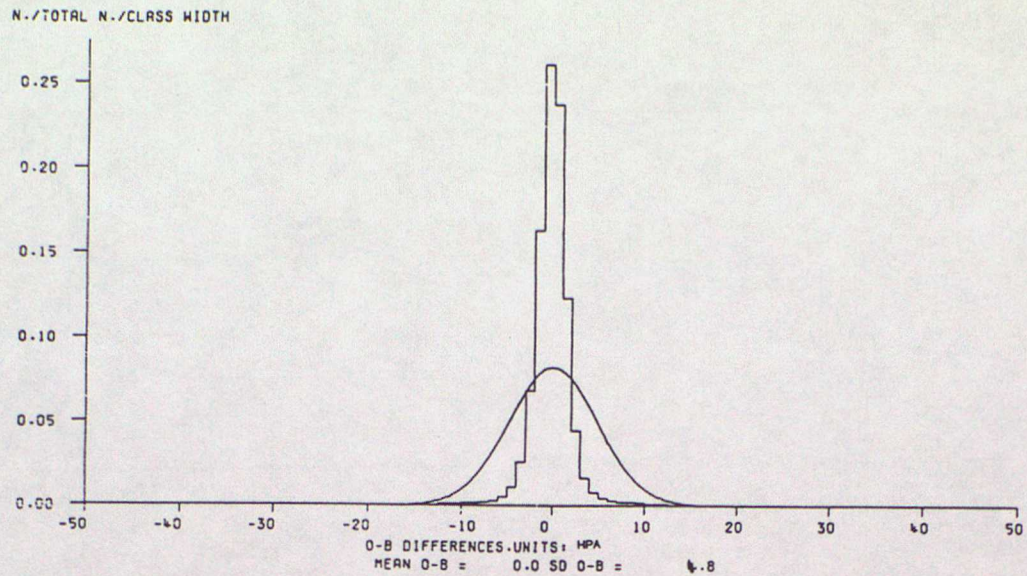


FIG 2B:  
DISTRIBUTION OF O-B SHIP PRESSURE DIFFERENCES UNITS: HPA  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: FLAGGED OBSERVATIONS

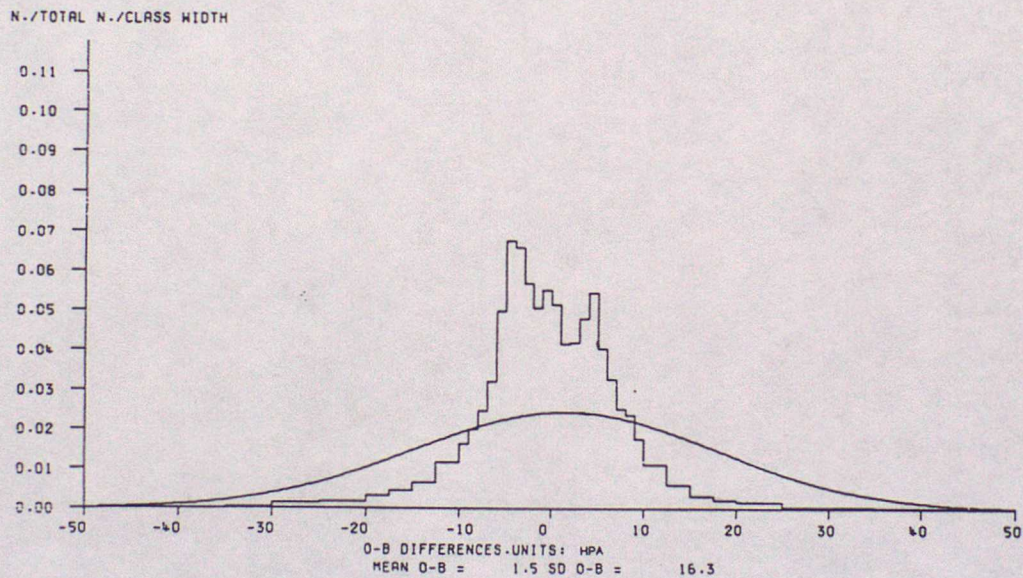


FIG 2C:  
DISTRIBUTION OF O-B SHIP PRESSURE DIFFERENCES UNITS: HPA  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: UNFLAGGED OBSERVATIONS

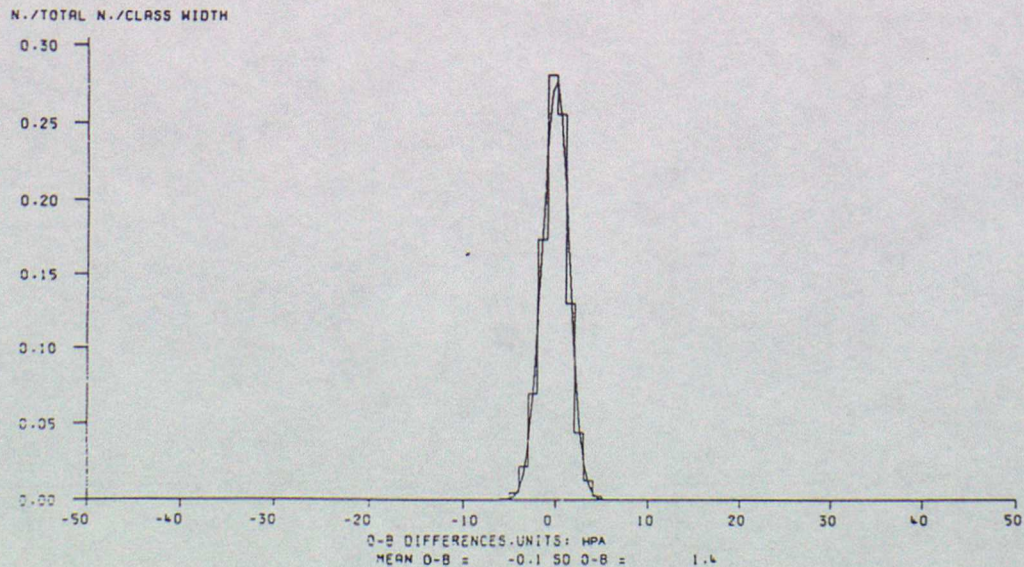




FIG 2D:  
DISTRIBUTION OF O-B SHIP SPEED DIFFERENCES UNITS: MS<sup>-1</sup>  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: ALL OBSERVATIONS

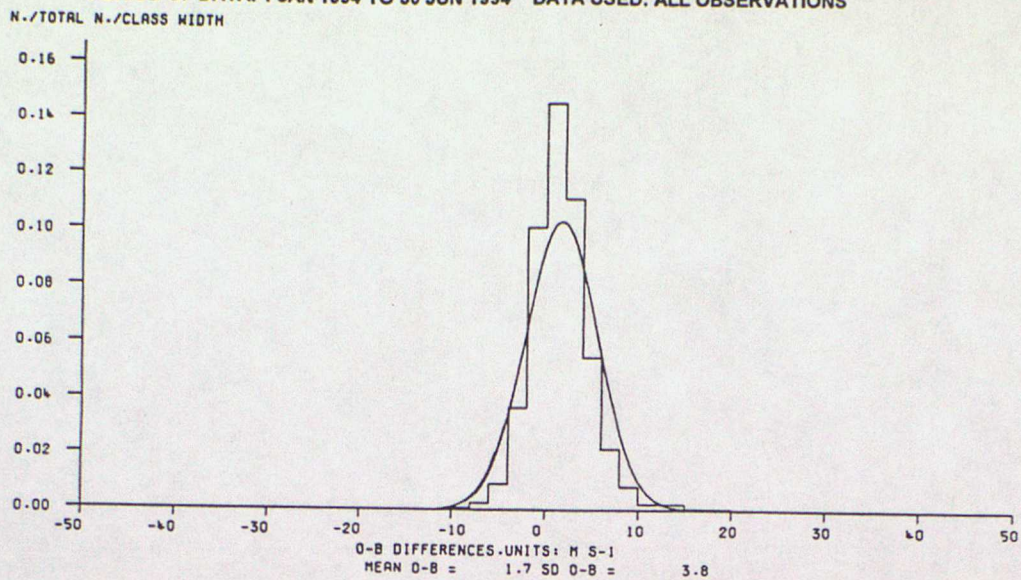


FIG 2E:  
DISTRIBUTION OF O-B SHIP SPEED DIFFERENCES UNITS: MS<sup>-1</sup>  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: FLAGGED OBSERVATIONS

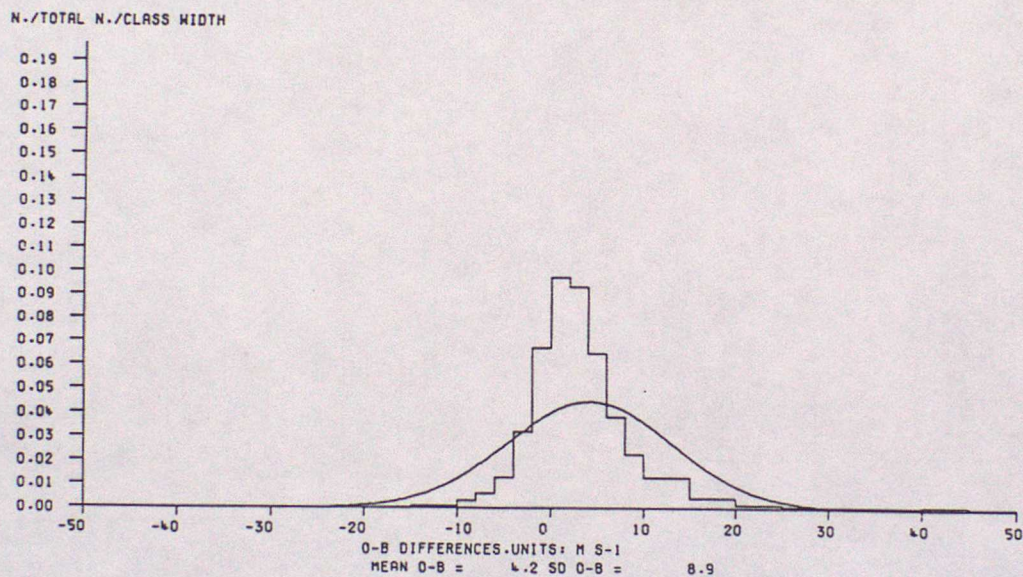


FIG 2F:  
DISTRIBUTION OF O-B SHIP SPEED DIFFERENCES UNITS: MS<sup>-1</sup>  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: UNFLAGGED OBSERVATIONS

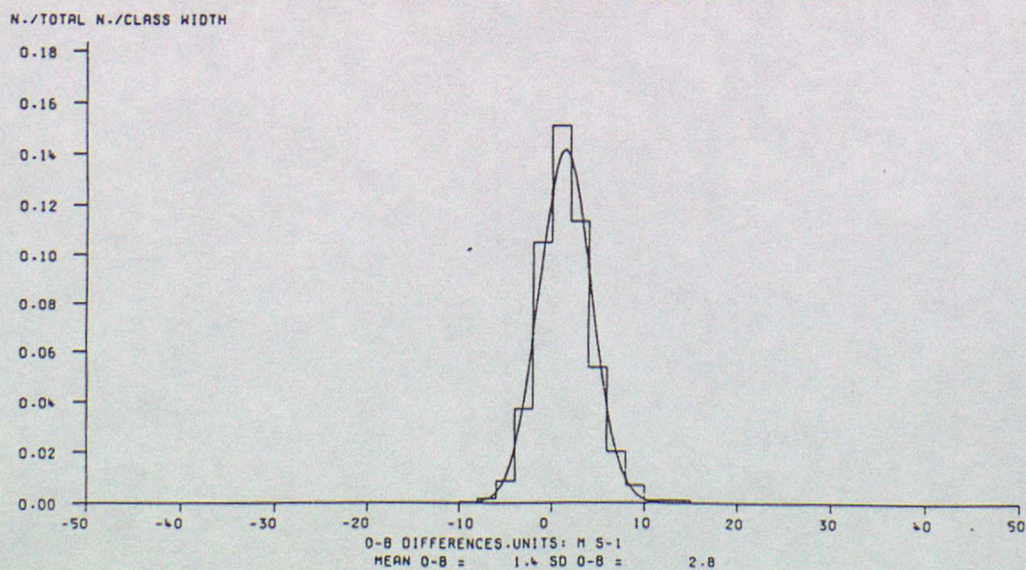




FIG 2G:  
DISTRIBUTION OF O-B SHIP DIRECTION DIFFERENCES UNITS: DEGREES  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: ALL OBSERVATIONS

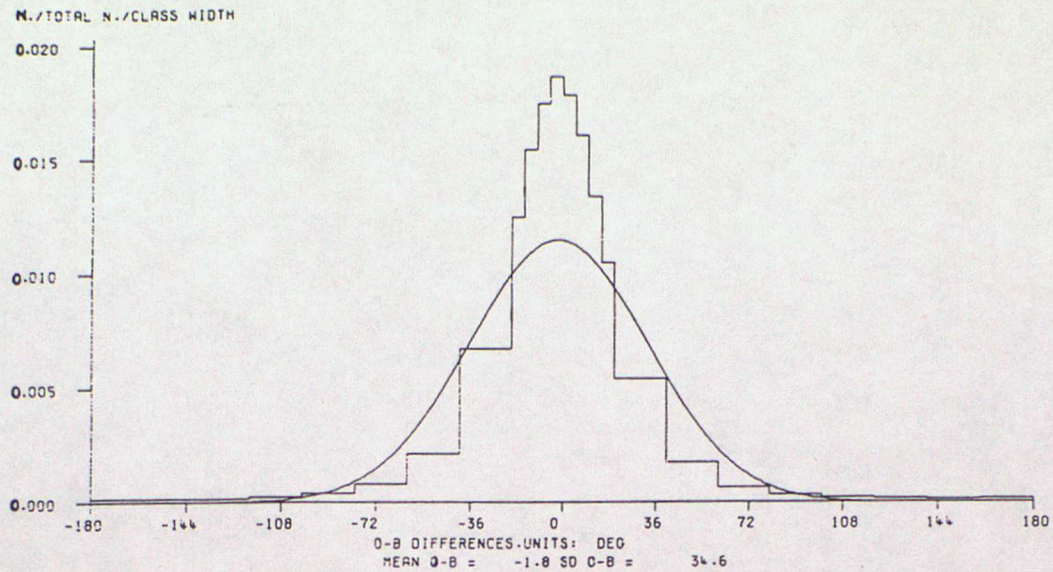


FIG 2H:  
DISTRIBUTION OF O-B SHIP DIRECTION DIFFERENCES UNITS: DEGREES  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: FLAGGED OBSERVATIONS

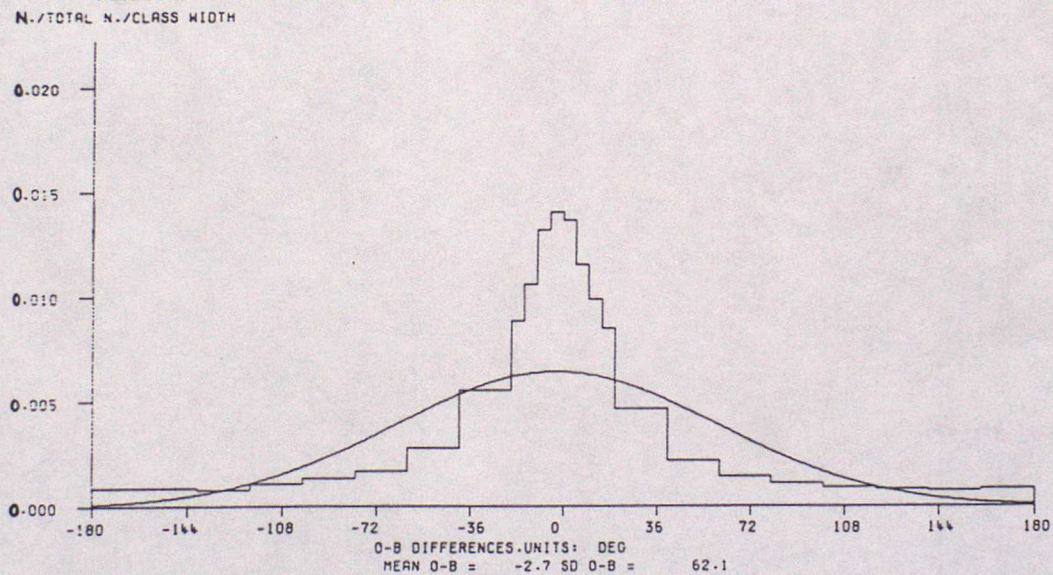


FIG 2J:  
DISTRIBUTION OF O-B SHIP DIRECTION DIFFERENCES UNITS: DEGREES  
PERIOD OF DATA: 1 JAN 1994 TO 30 JUN 1994 DATA USED: UNFLAGGED OBSERVATIONS

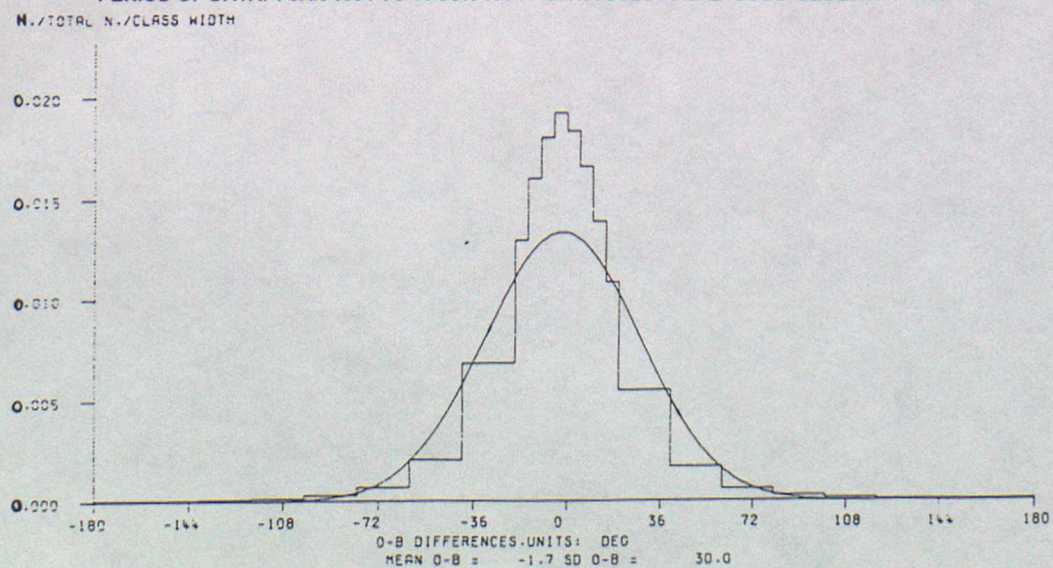




FIG 3: BIAS OF SHIP PRESSURE 0-B. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
 CONTOURS DRAWN TO 10 DEGREE BOXES IF N. OF OBS 10  
 AREAS SHADED HAVE BIAS OF MAGNITUDE GREATER THAN 0.5 HPA

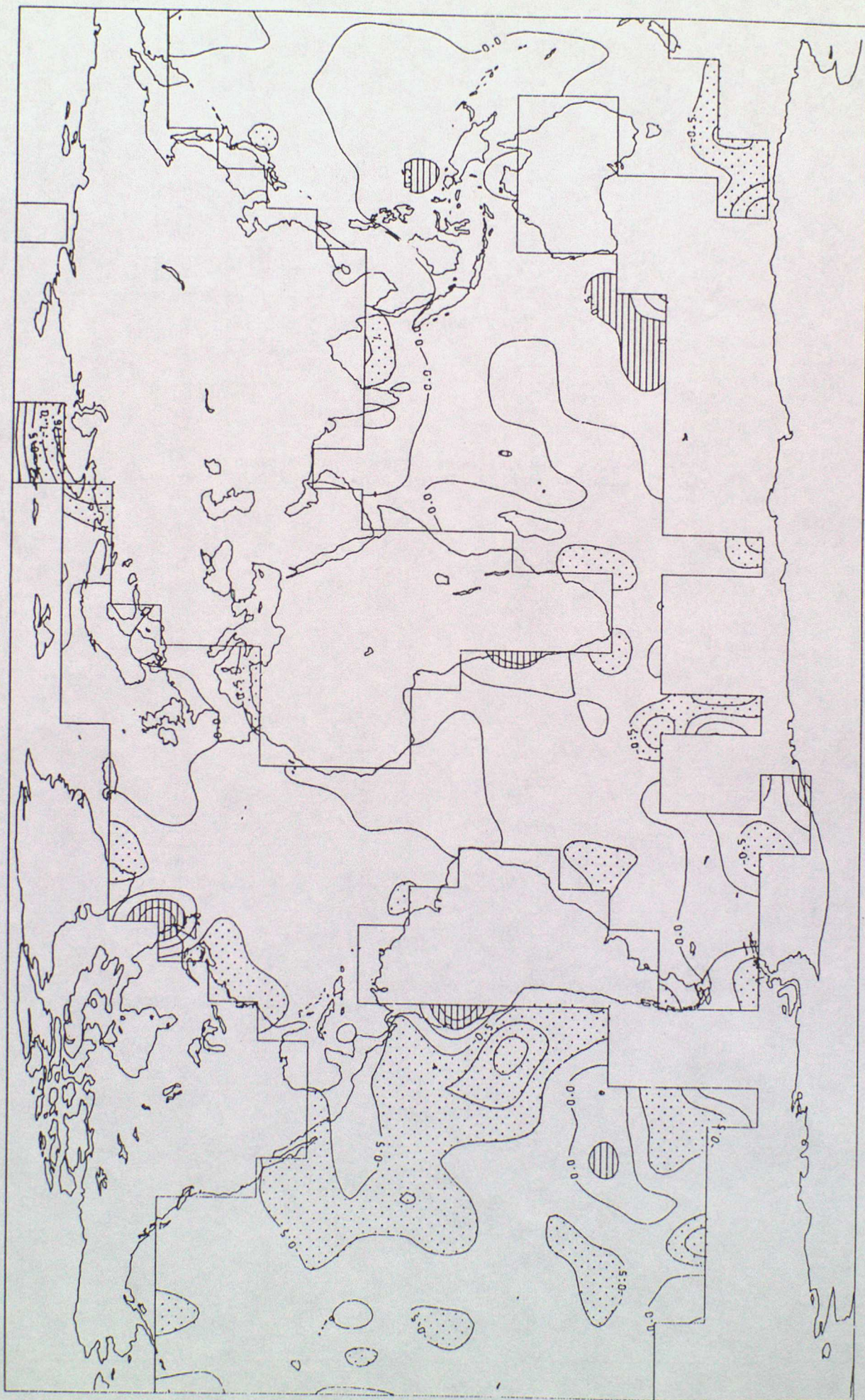




FIG 4: S.D. OF SHIP PRESSURE 0-8. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
 CONTOURS DRAWN TO 10 DEGREE BOXES IF N. OF OBS 10  
 AREAS SHADED HAVE STANDARD DEVIATION GREATER THAN 2.0HPA

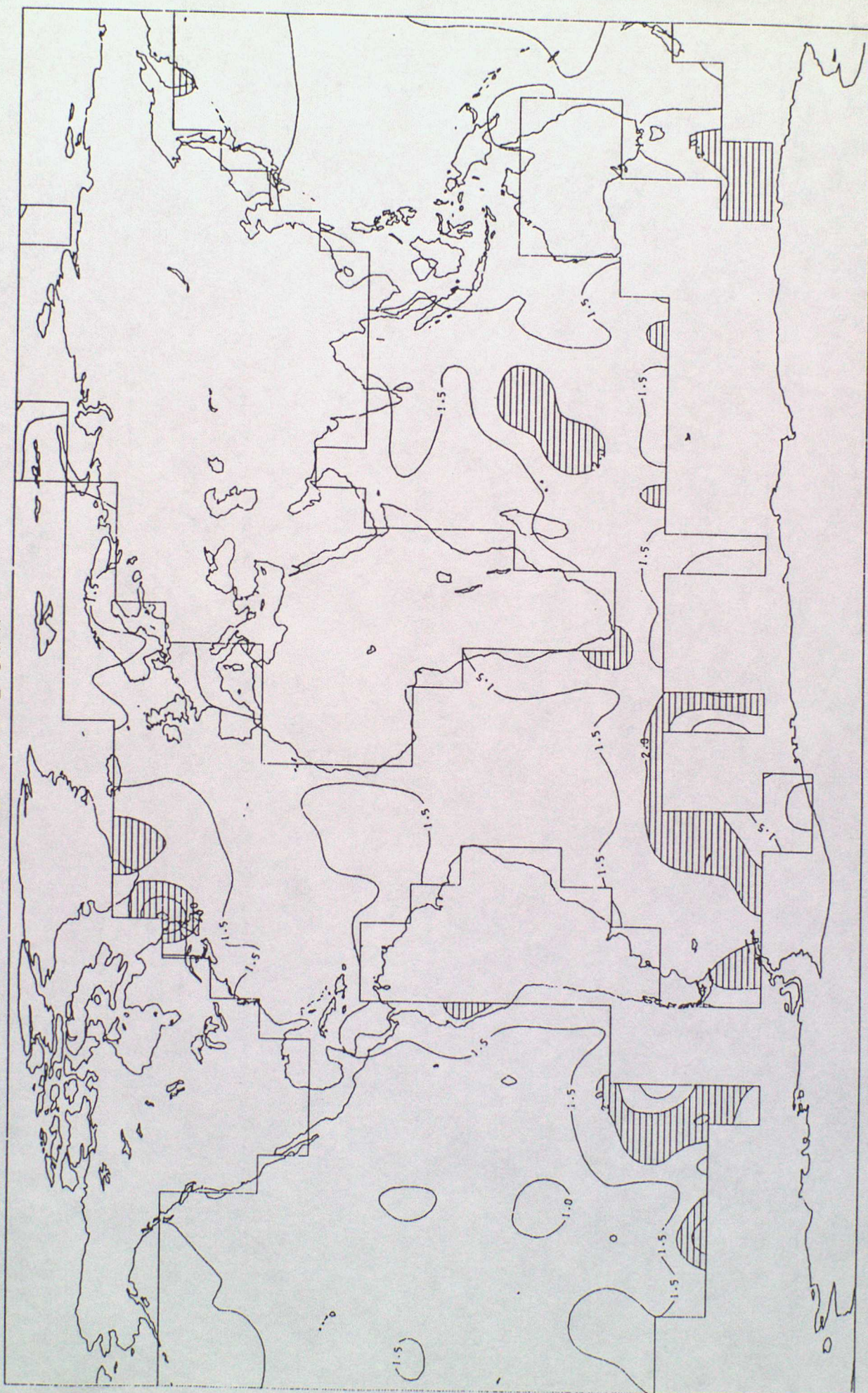




FIG 5:  
 PLOT OF NUMBER OF SHIP PRESSURE OBS. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL INCLUDED

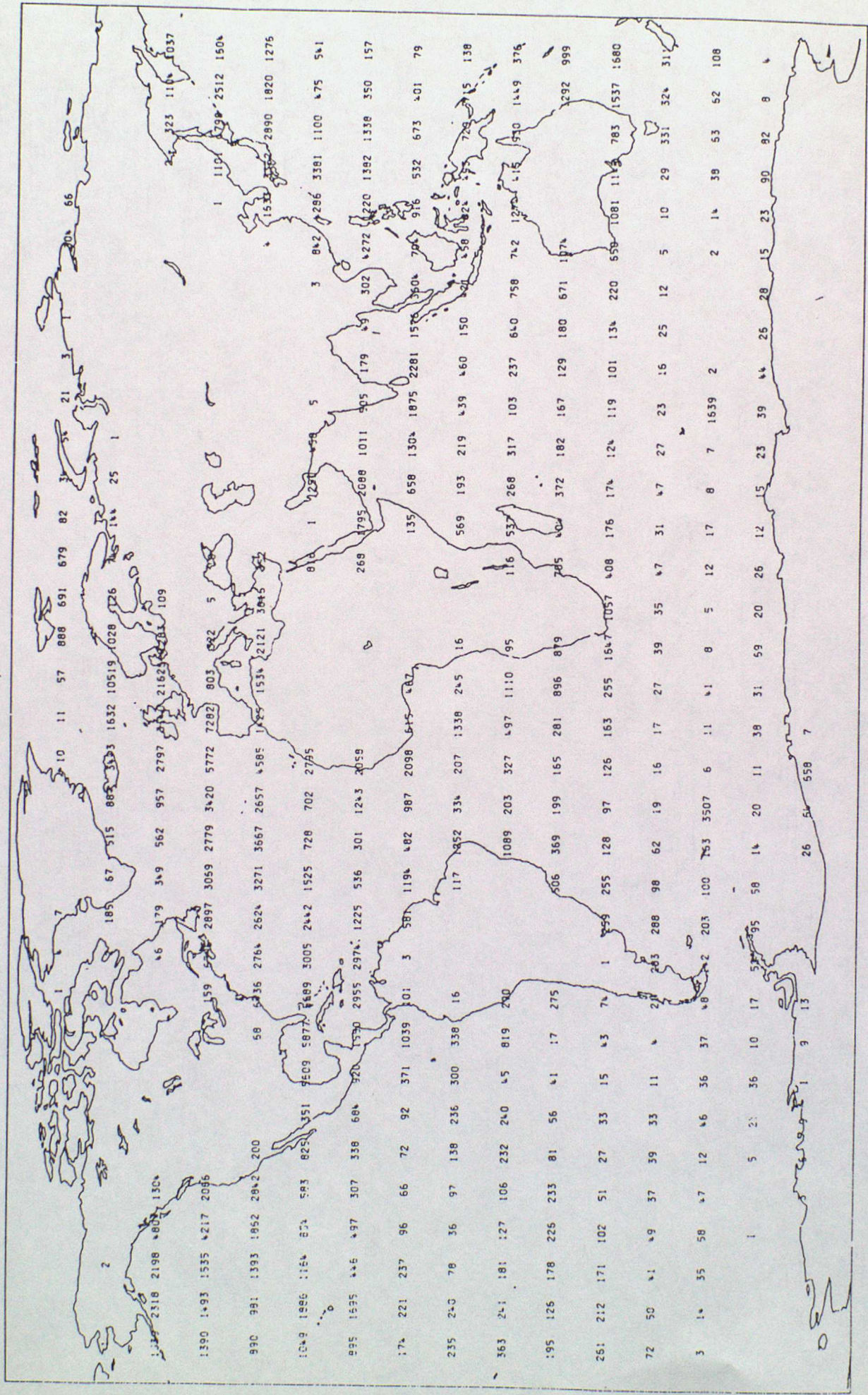




FIG 6: BIAS OF SHIP 0-B WIND SPEED IN MS-1. PERIOD: JAN TO JUN 1994  
ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
CONTOURS DRAWN TO 10 DEGREE BOXES IF N. OF OBS 10  
AREAS SHADED HAVE BIAS OF MAGNITUDE GREATER THAN 2.0MS-1

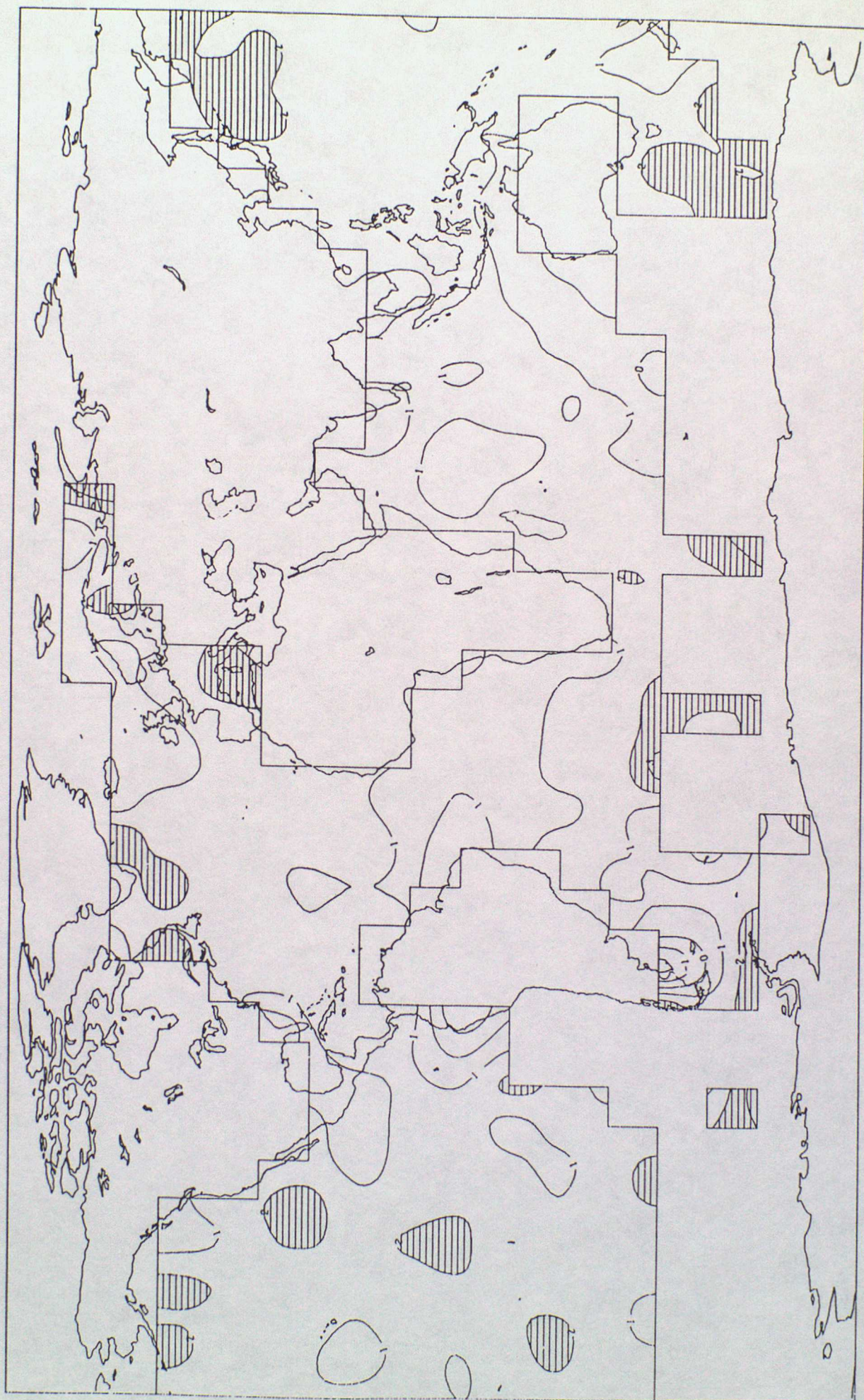
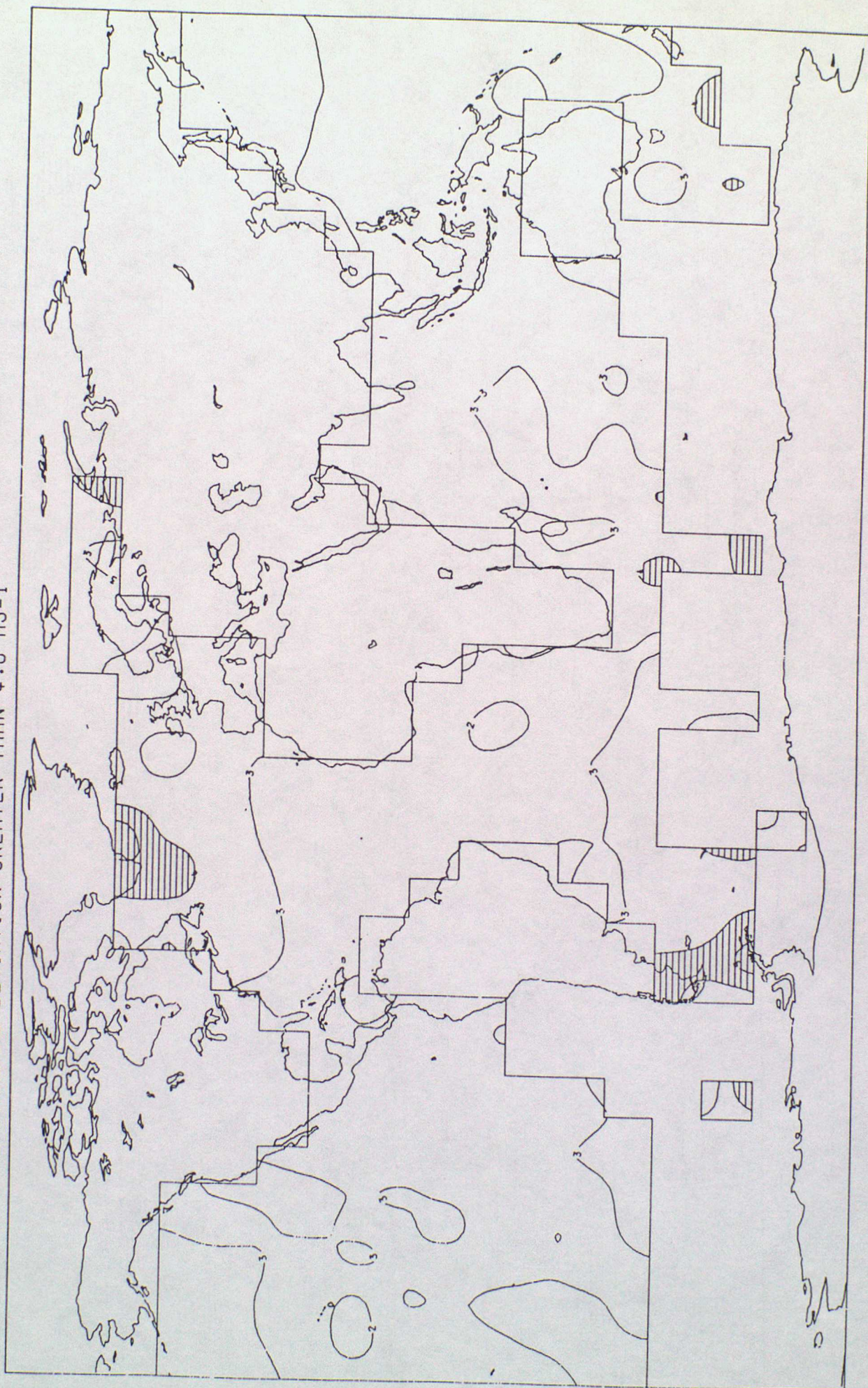




FIG 7: S.D. OF SHIP 0-B WIND SPEED IN MS-1. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
 CONTOURS DRAWN TO 10 DEGREE BOXES IF N. OF OBS 10  
 AREAS SHADED HAVE STANDARD DEVIATION GREATER THAN 4.0 MS-1





PLOT OF NUMBER OF SHIP WIND SPEED OBS. PERIOD: JAN TO JUN 1994  
ONLY OBSERVATIONS PASSING QUALITY CONTROL INCLUDED

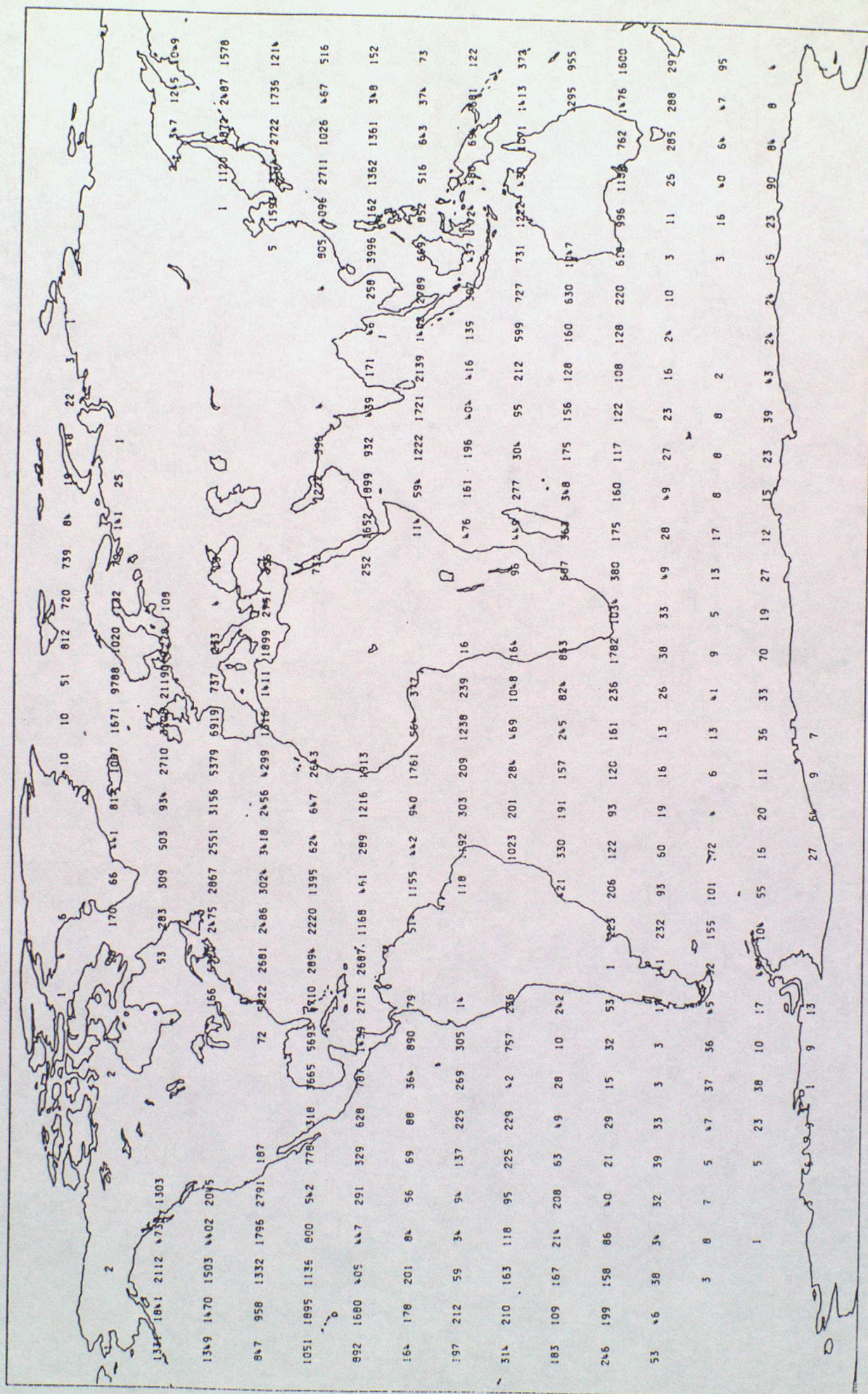




FIG 9: BIAS OF SHIP 0-B WIND DIRECTION IN DEG. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
 CONTOURS DRAWN TO 10 DEGREE BOXES IF N. OF OBS 10  
 AREAS SHADED HAVE BIAS OF MAGNITUDE GREATER THAN 10 DEG

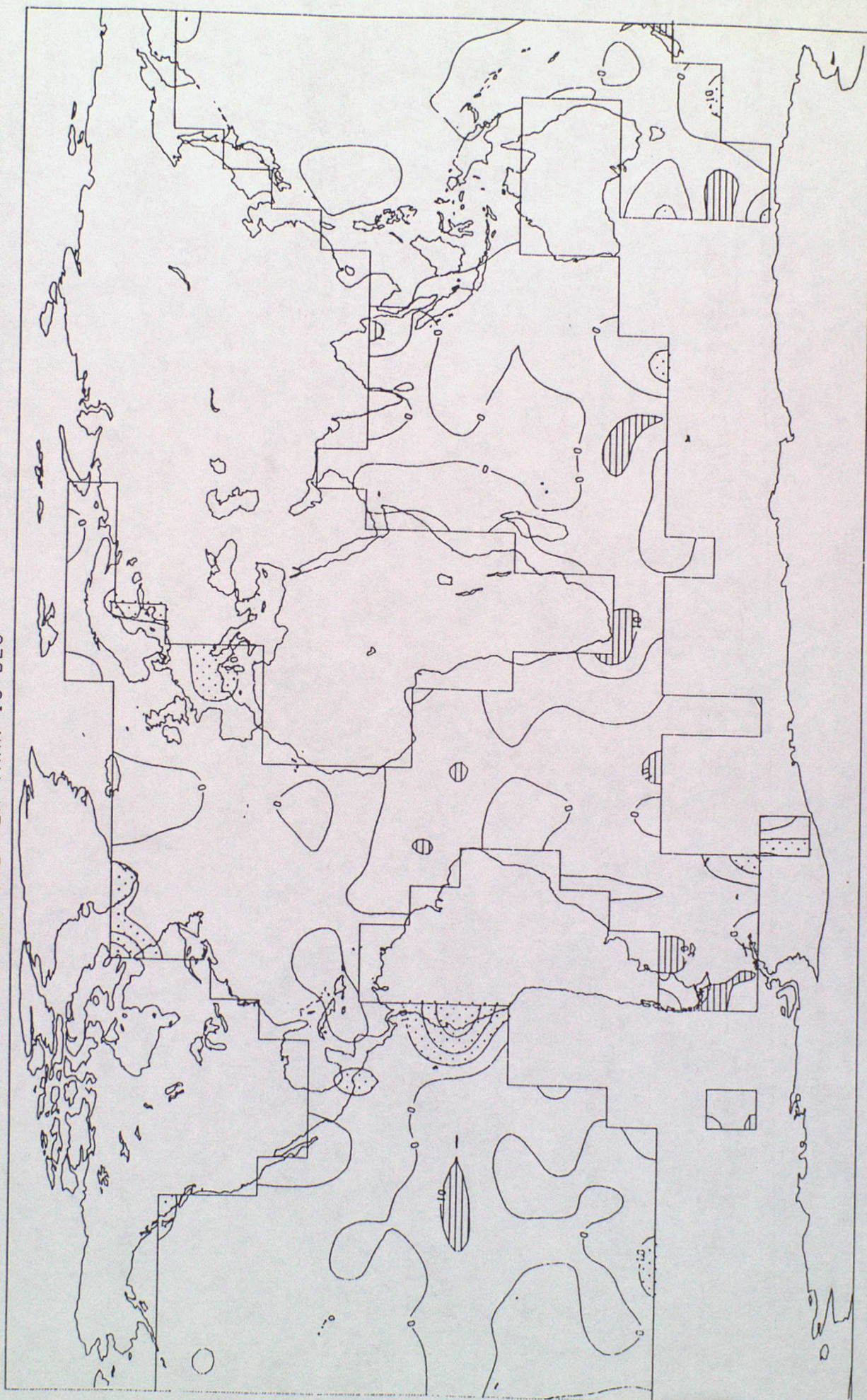




FIG 10: S.D. OF SHIP 0-B WIND DIRECTION IN DEG. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
 CONTOURS DRAWN TO 10 DEGREE BOXES IF N. OF OBS 10  
 AREAS SHADED HAVE STANDARD DEVIATION GREATER THAN 40 DEG

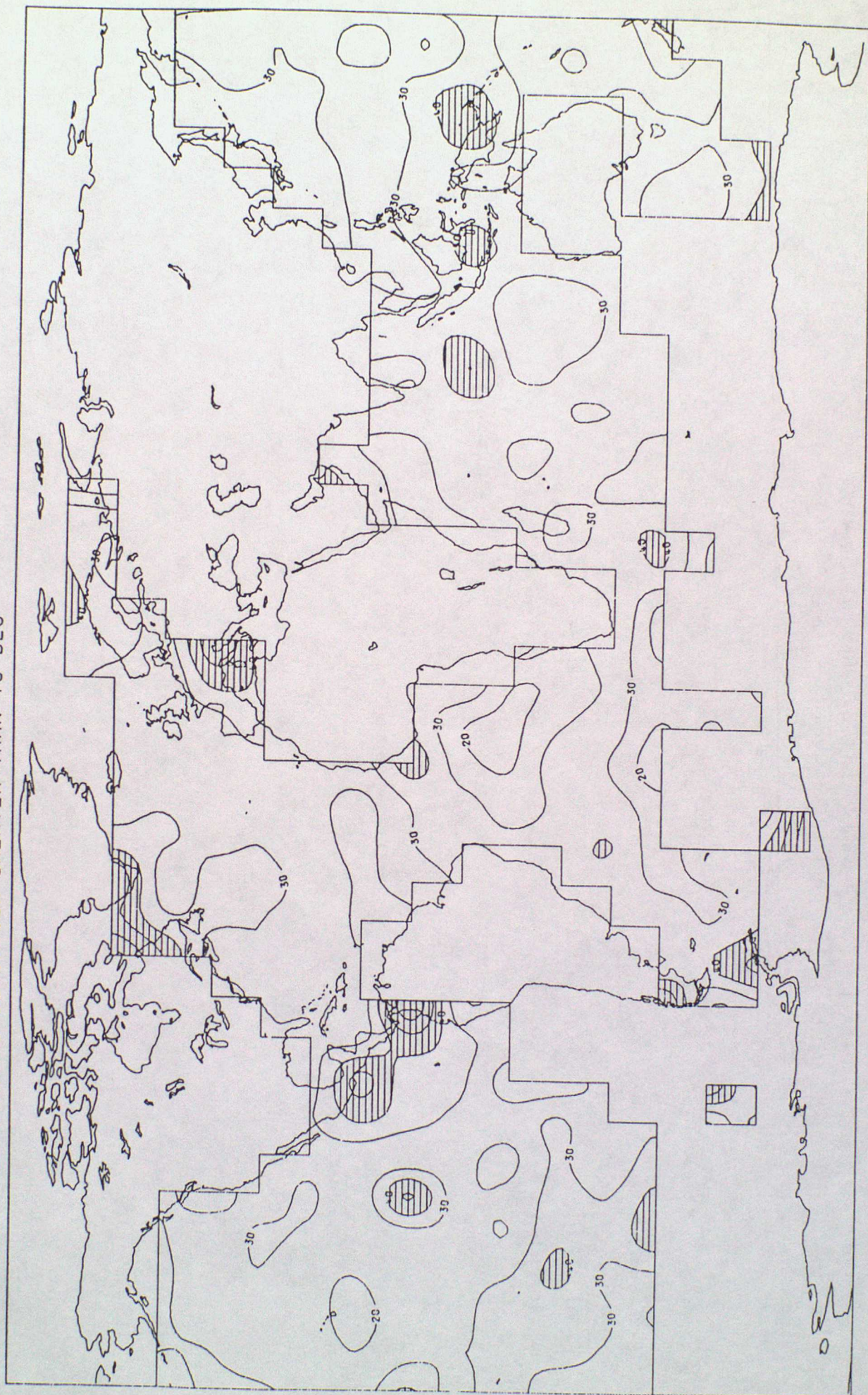
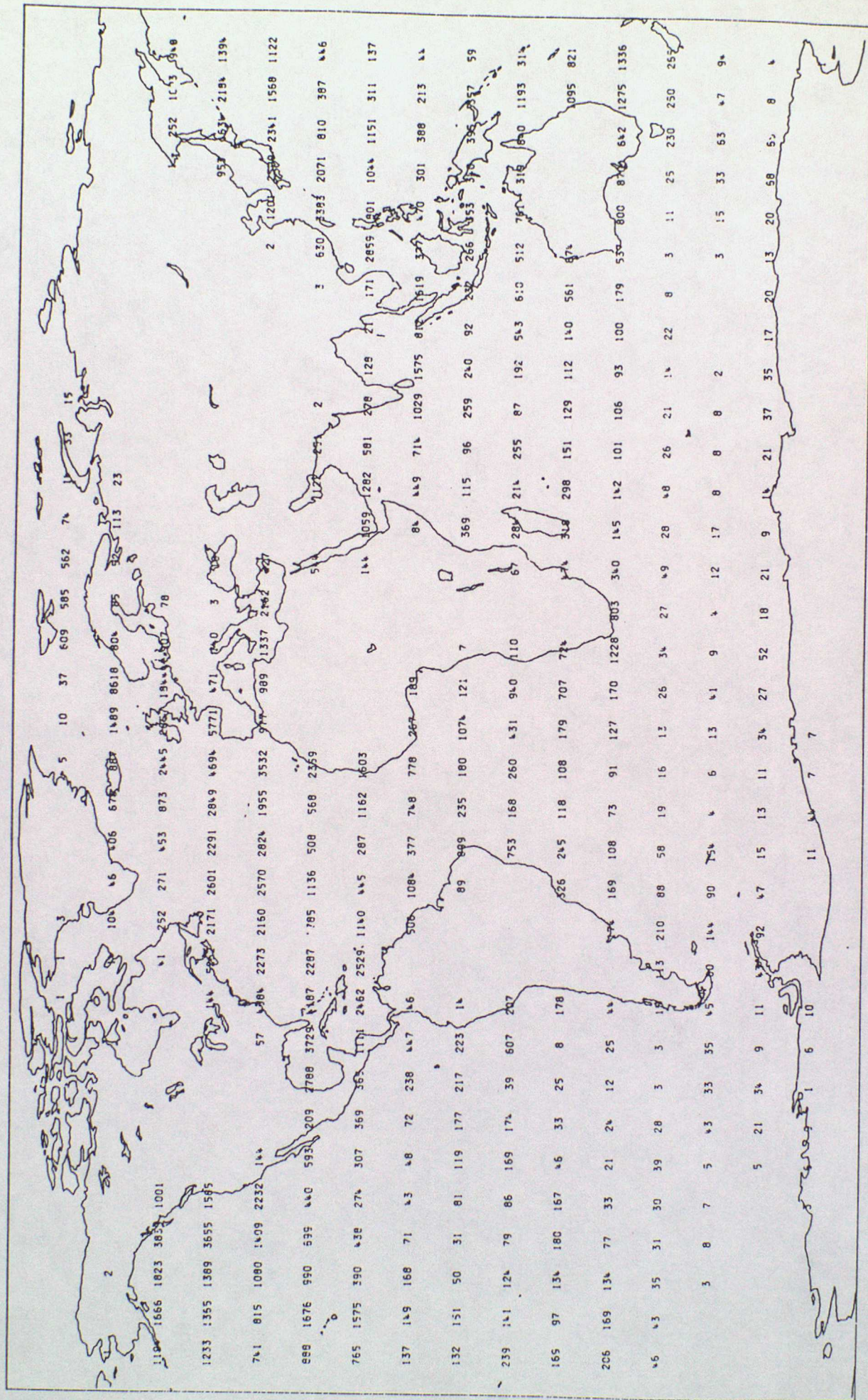




FIG 10:  
 PLOT OF NUMBER OF SHIP WIND DIRECTION OBS. PERIOD: JAN TO JUN 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL INCLUDED





# SEA SURFACE TEMPERATURE STATISTICS FOR EACH OBSERVATION TYPE, FOR NORTHERN AND SOUTHERN HEMISPHERES, JANUARY TO JUNE 1994

NUMBER OF OBSERVATIONS

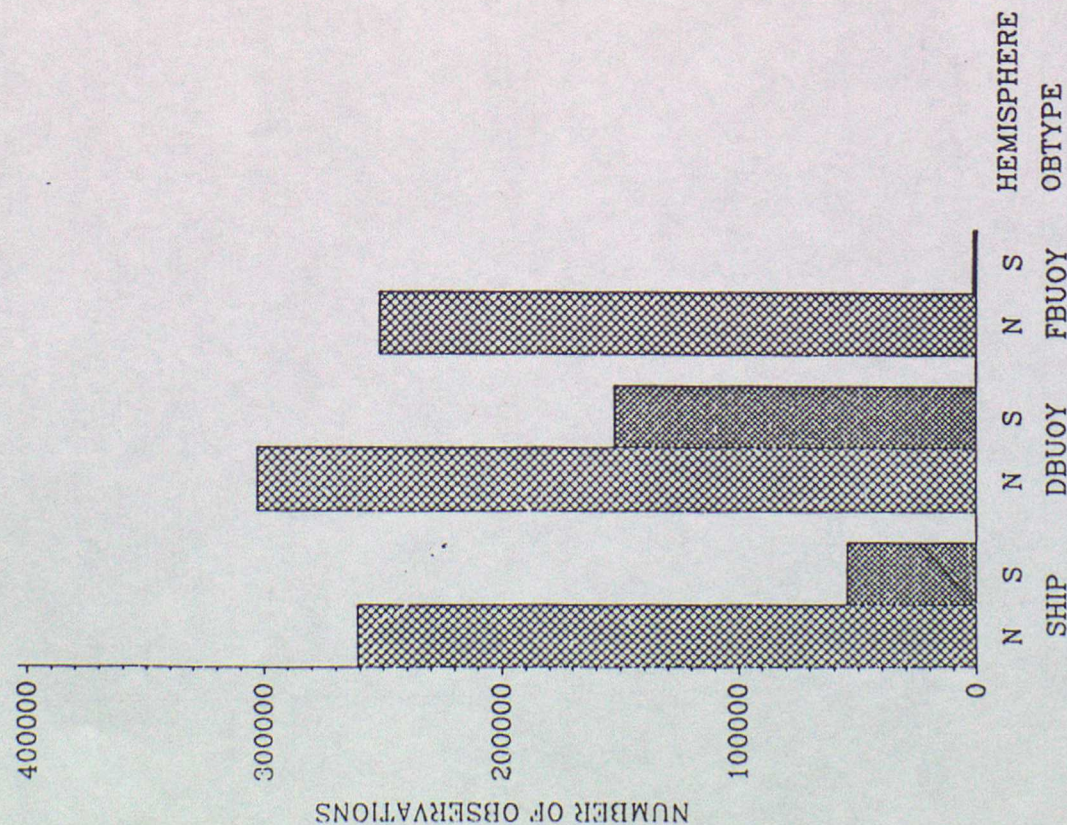


FIGURE 12(A)

MEAN OBSERVATION-ANALYSIS

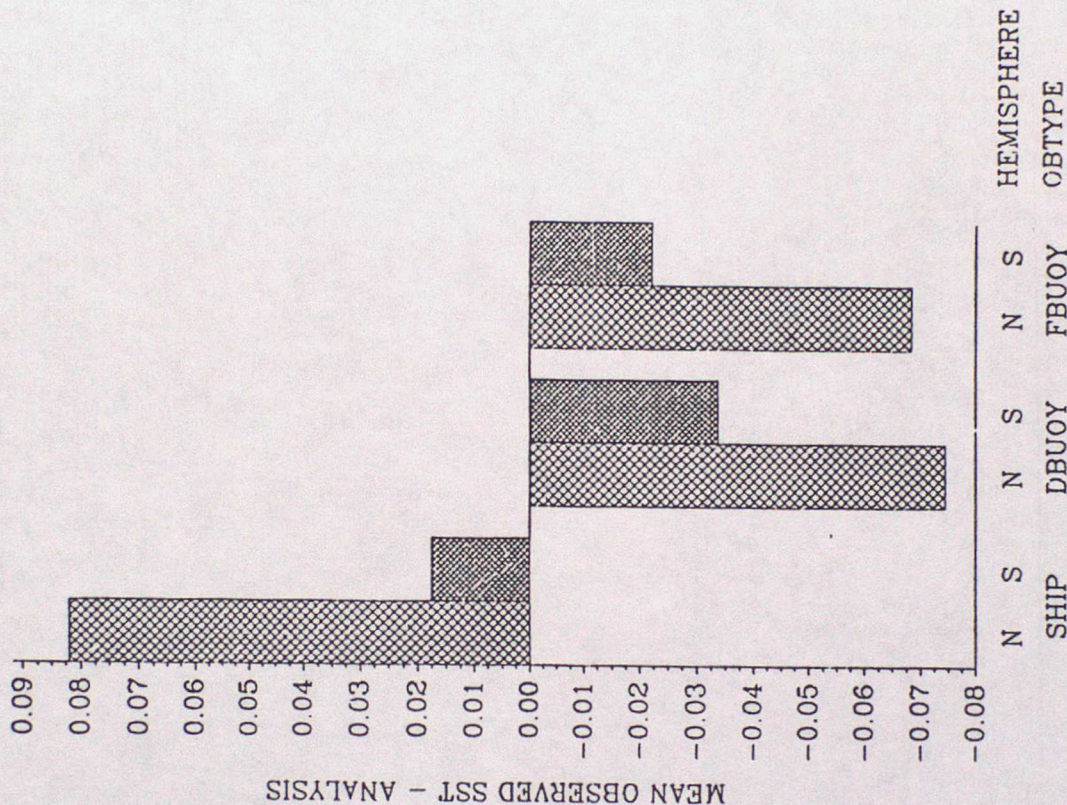


FIGURE 12(B)

SD OBSERVATION-ANALYSIS

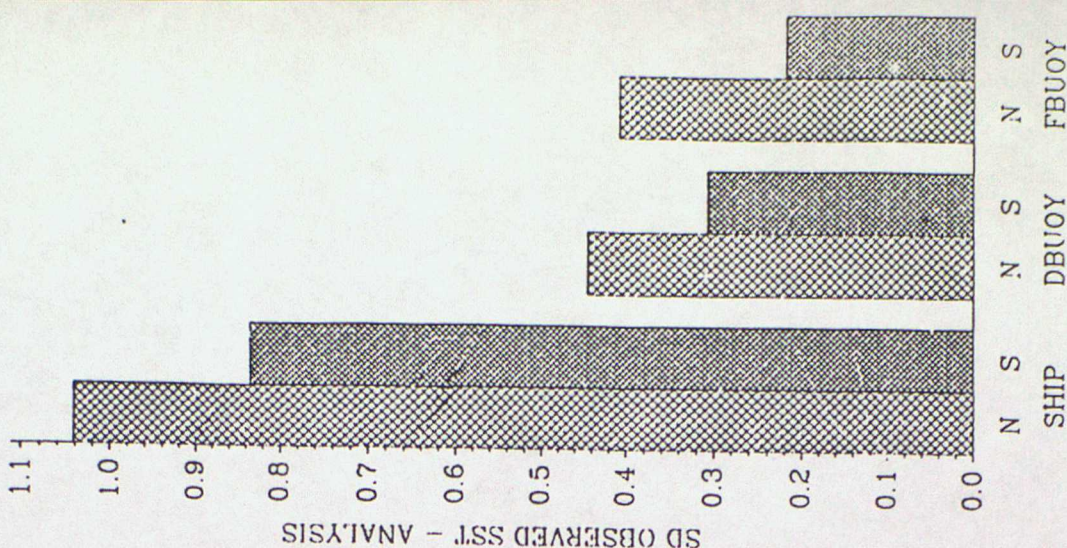


FIGURE 12(C)



FIG 13: BIAS OF SHIP SEA SURFACE TEMPERATURES (0-A) IN DEG C  
 DATES: JANUARY - JUNE 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
 CONTOURS PLOTTED AT INTERVALS OF 0.2 DEG C

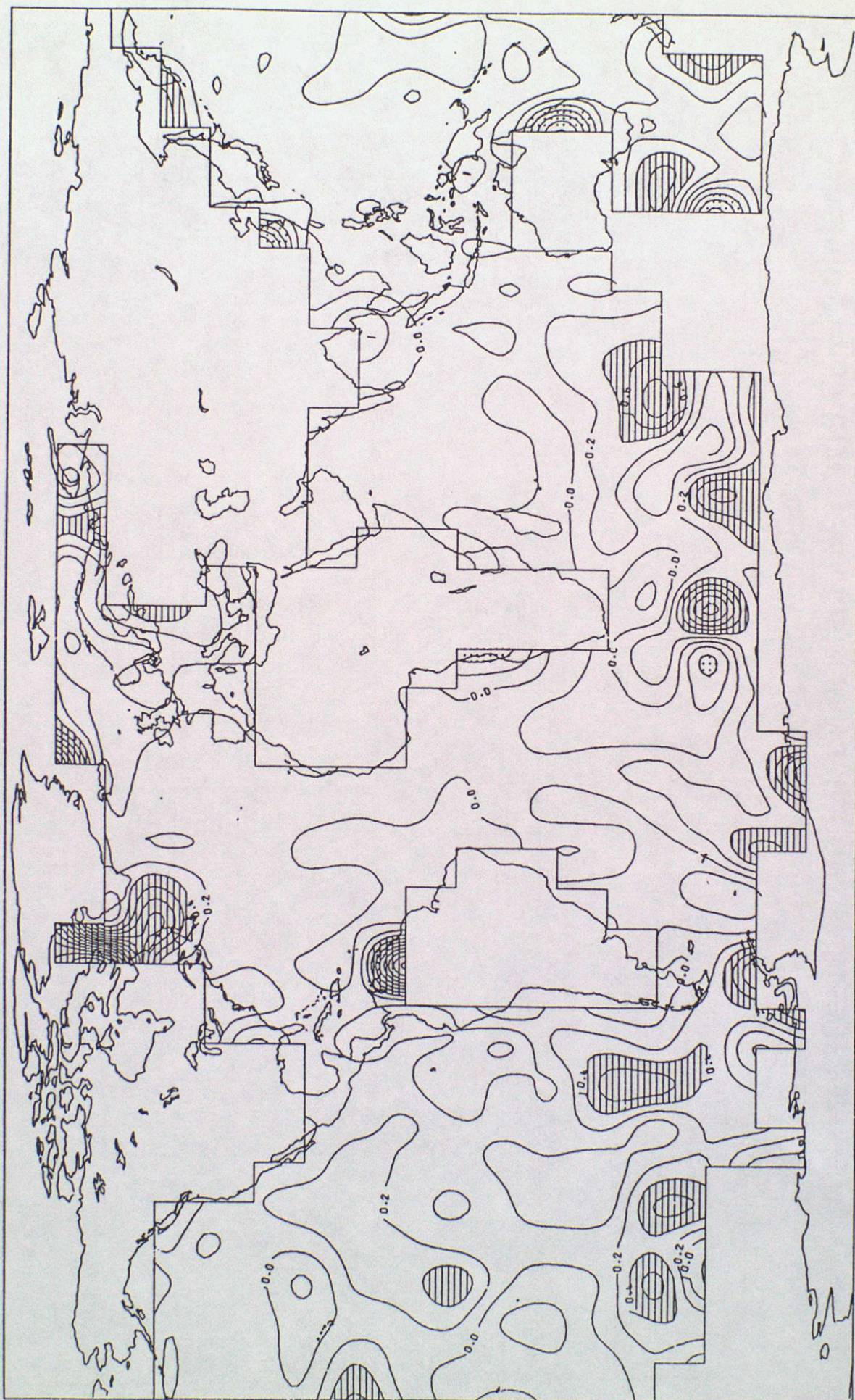




FIG 14: S.D. OF SHIP SEA SURFACE TEMPERATURES (O-A) IN DEG C  
DATES: JANUARY - JUNE 1994  
ONLY OBSERVATIONS PASSING QUALITY CONTROL USED IN STATISTICS  
CONTOURS PLOTTED AT INTERVALS OF 0.2 DEG C

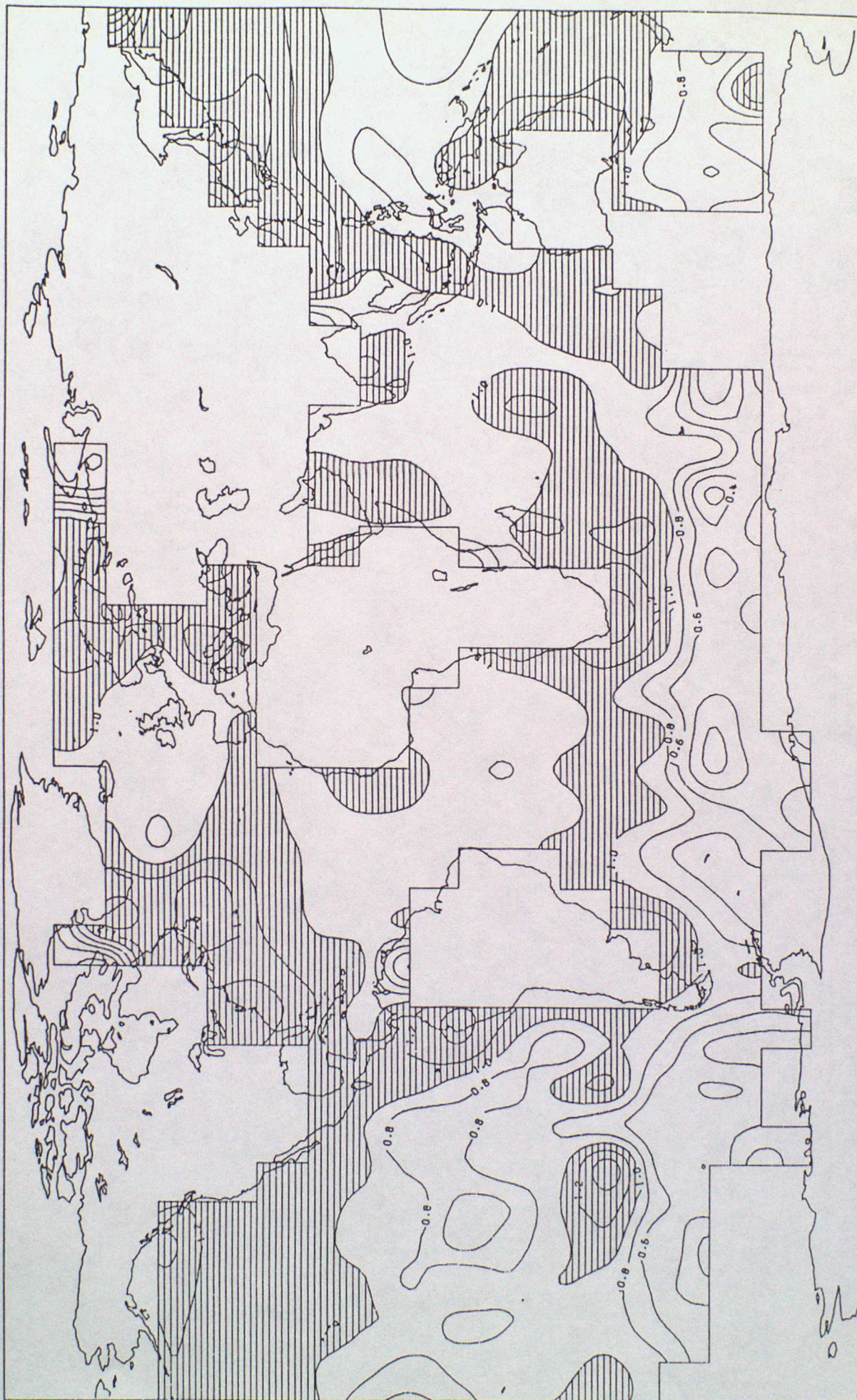




FIG 15:  
 NUMBER OF SHIP SEA-SURFACE TEMPERATURE OBSERVATIONS  
 DATE: JANUARY - JUNE 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL ARE INCLUDED

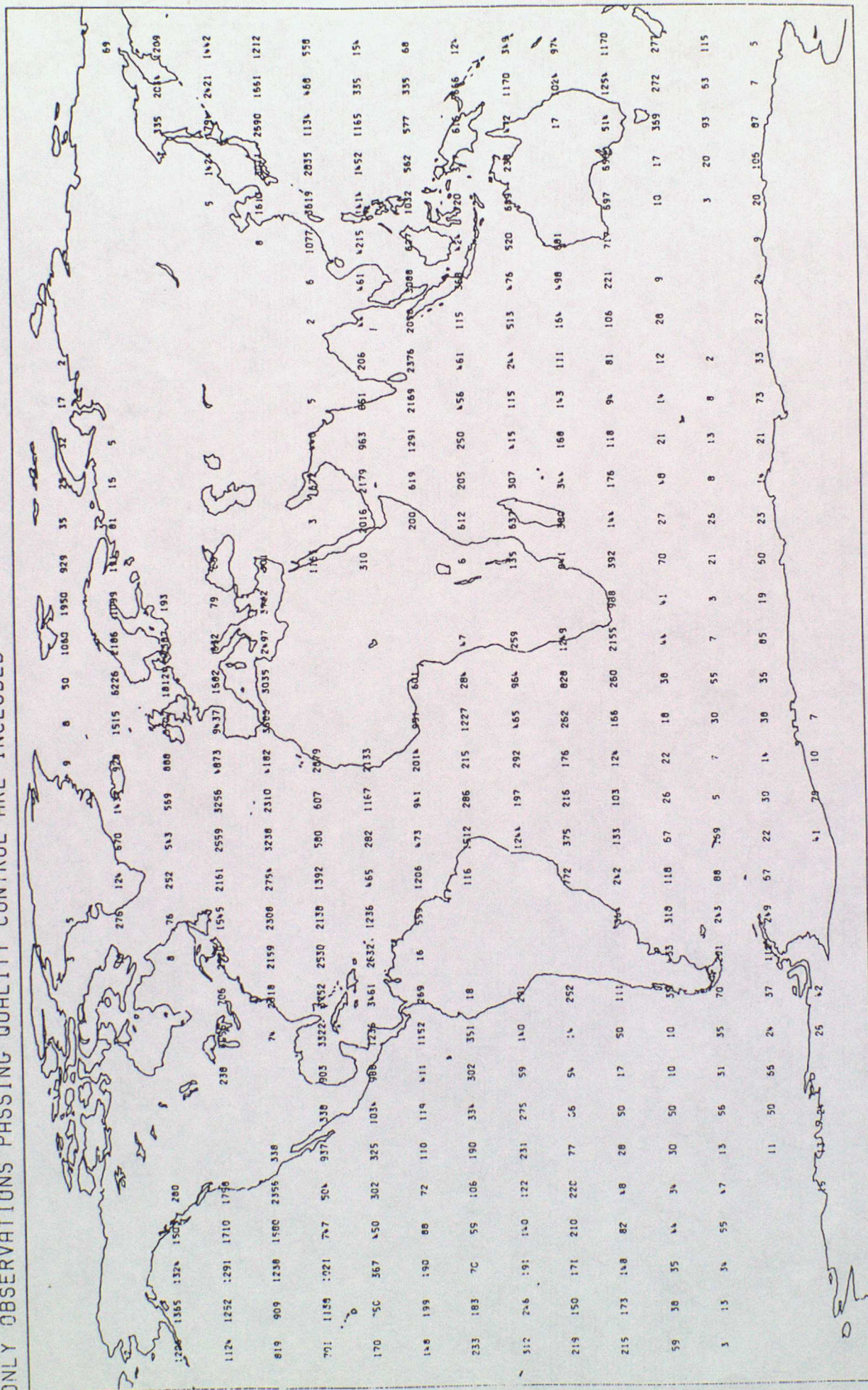
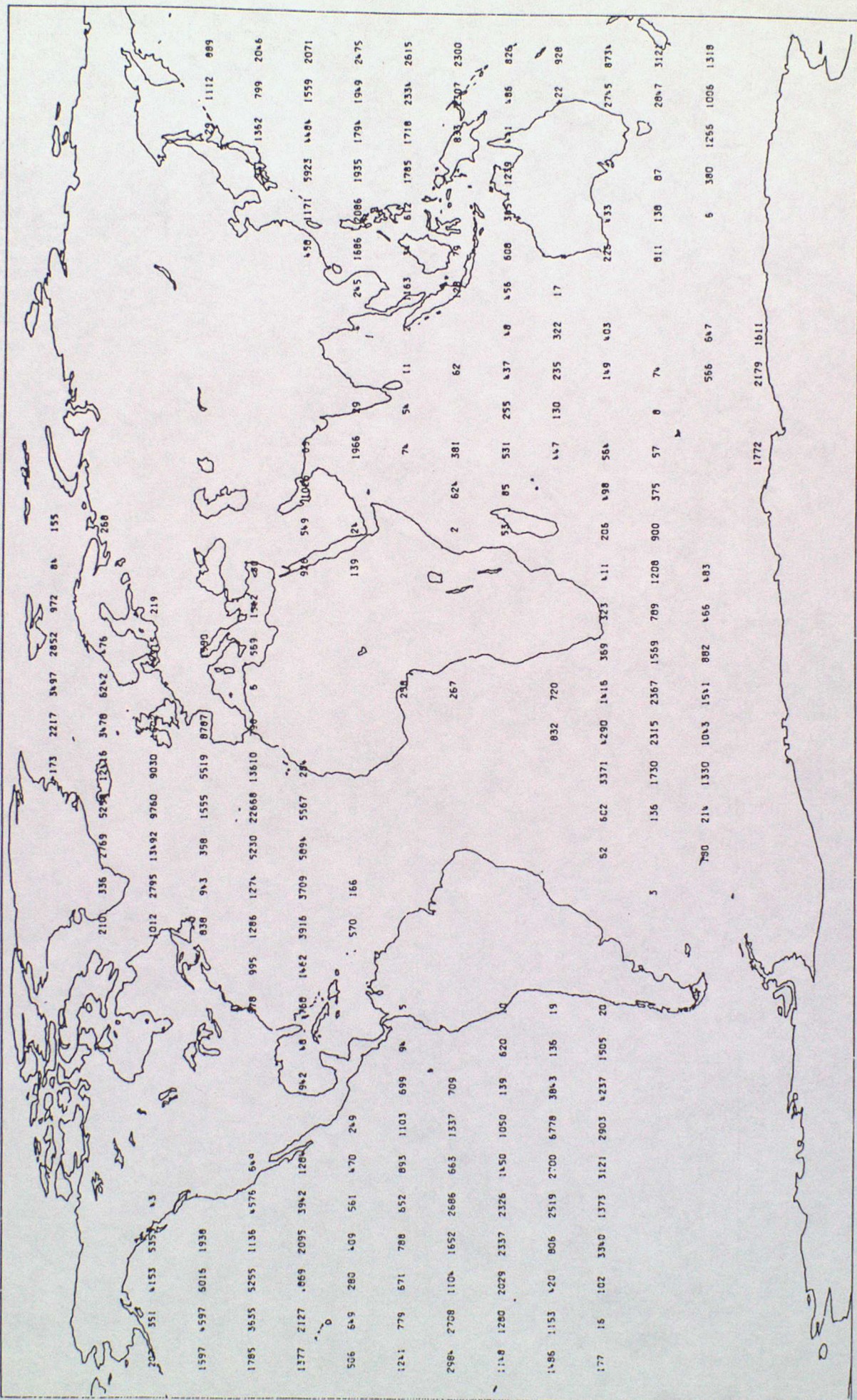








FIG 17:  
 NUMBER OF DRIFTING BUOY SEA-SURFACE TEMPERATURE OBSERVATIONS  
 DATE: JANUARY - JUNE 1994  
 ONLY OBSERVATIONS PASSING QUALITY CONTROL ARE INCLUDED





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

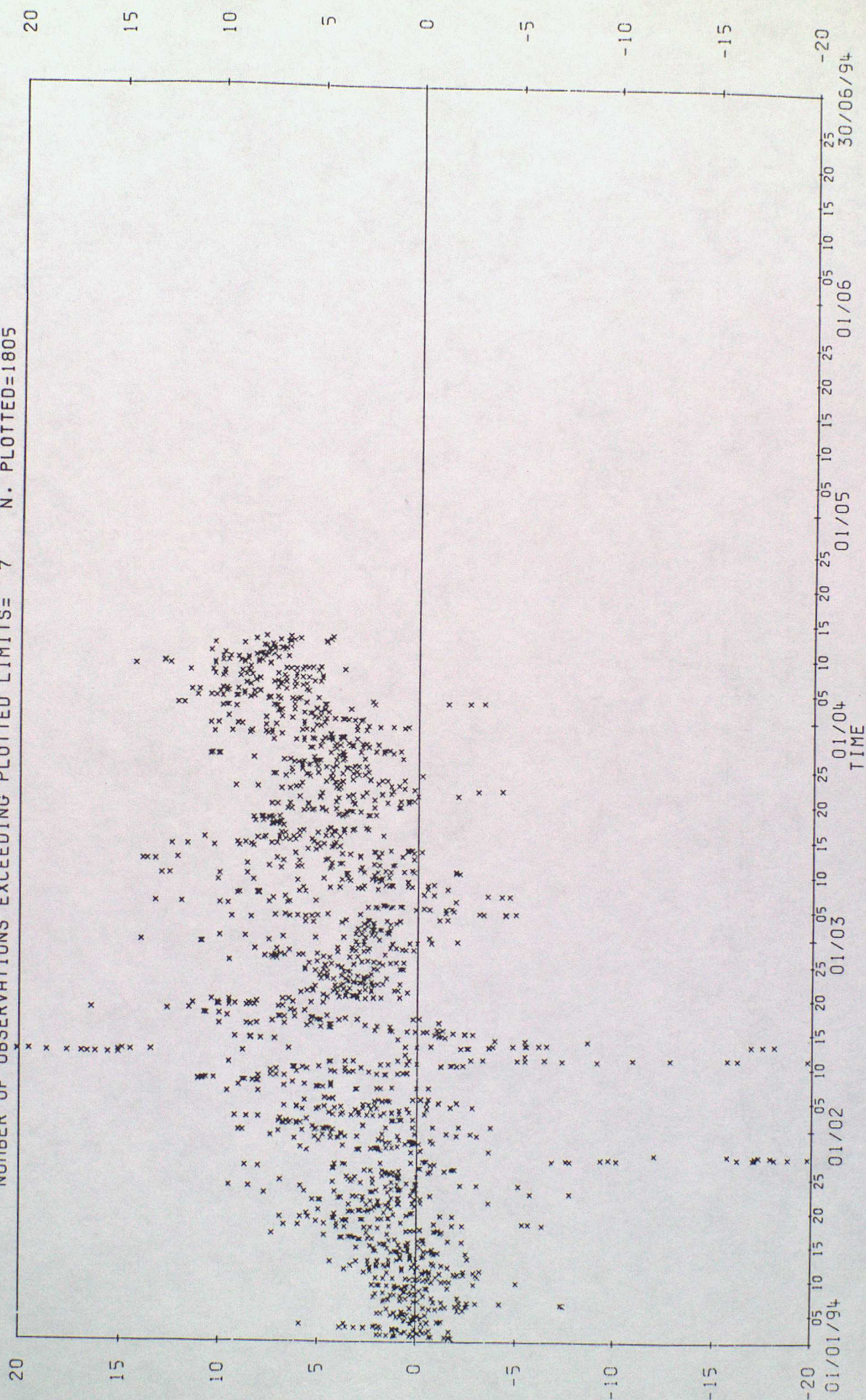
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 25561

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 7 N. PLOTTED=1805





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

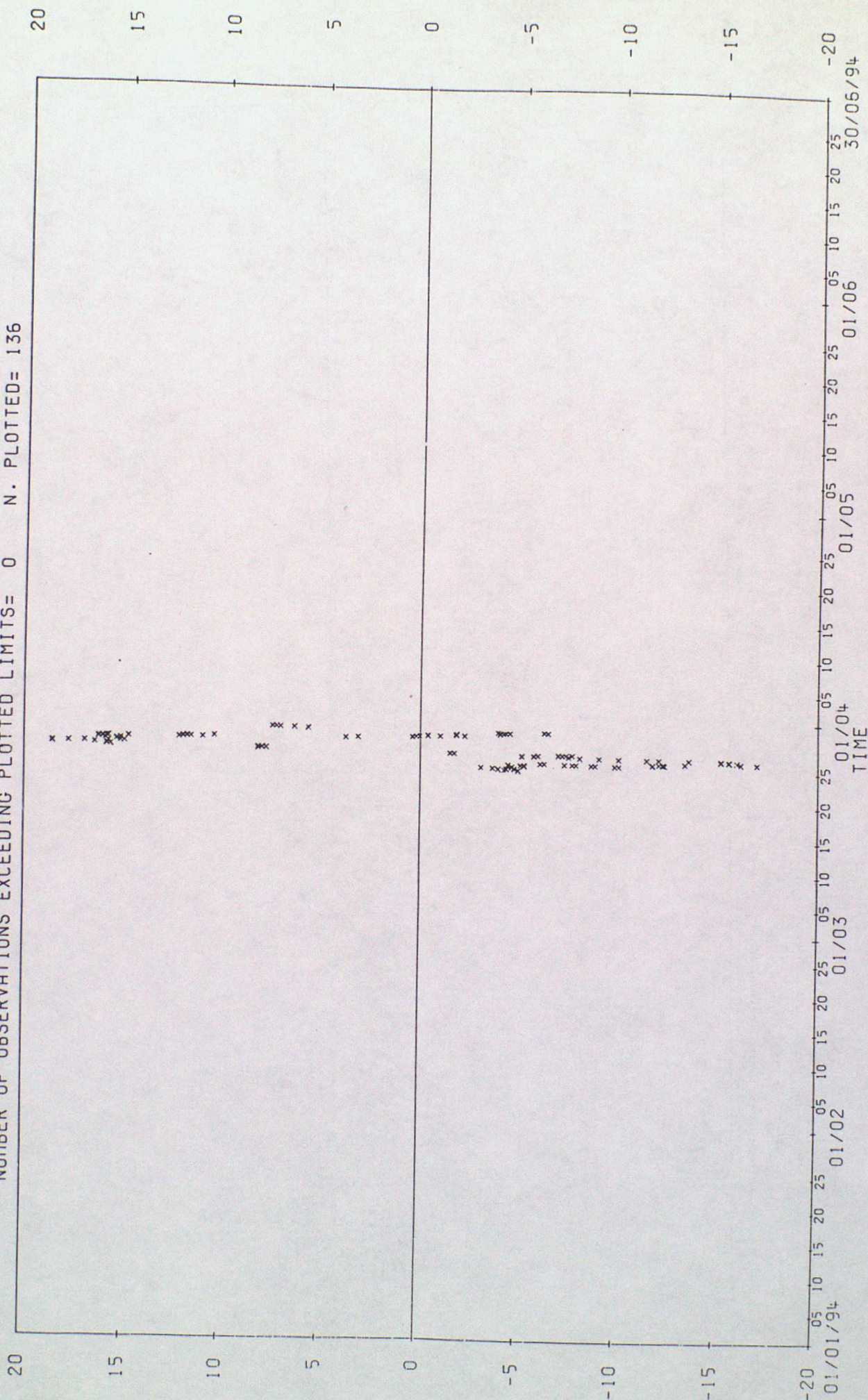
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44616

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 136





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

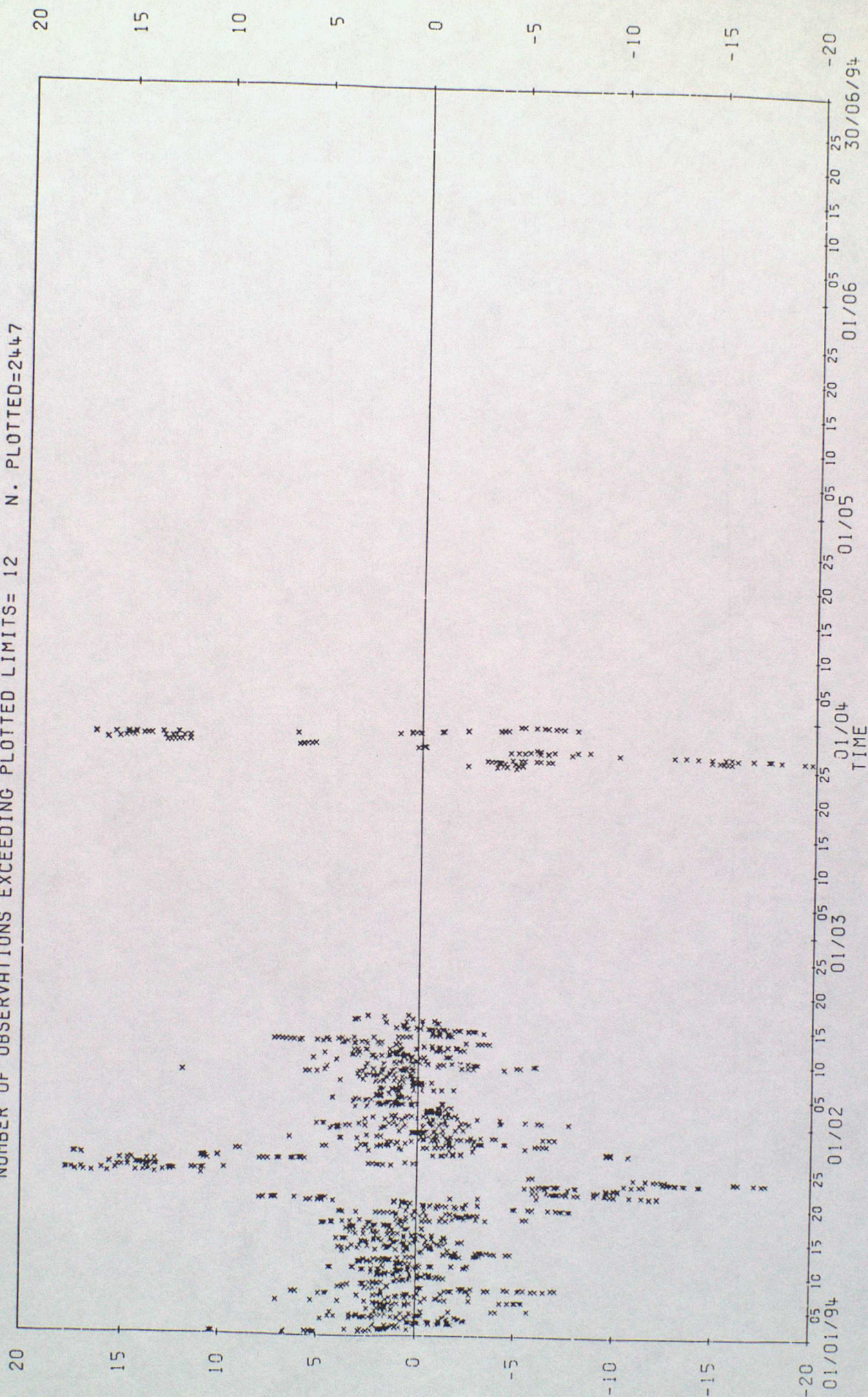
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44728

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 12 N. PLOTTED=2447

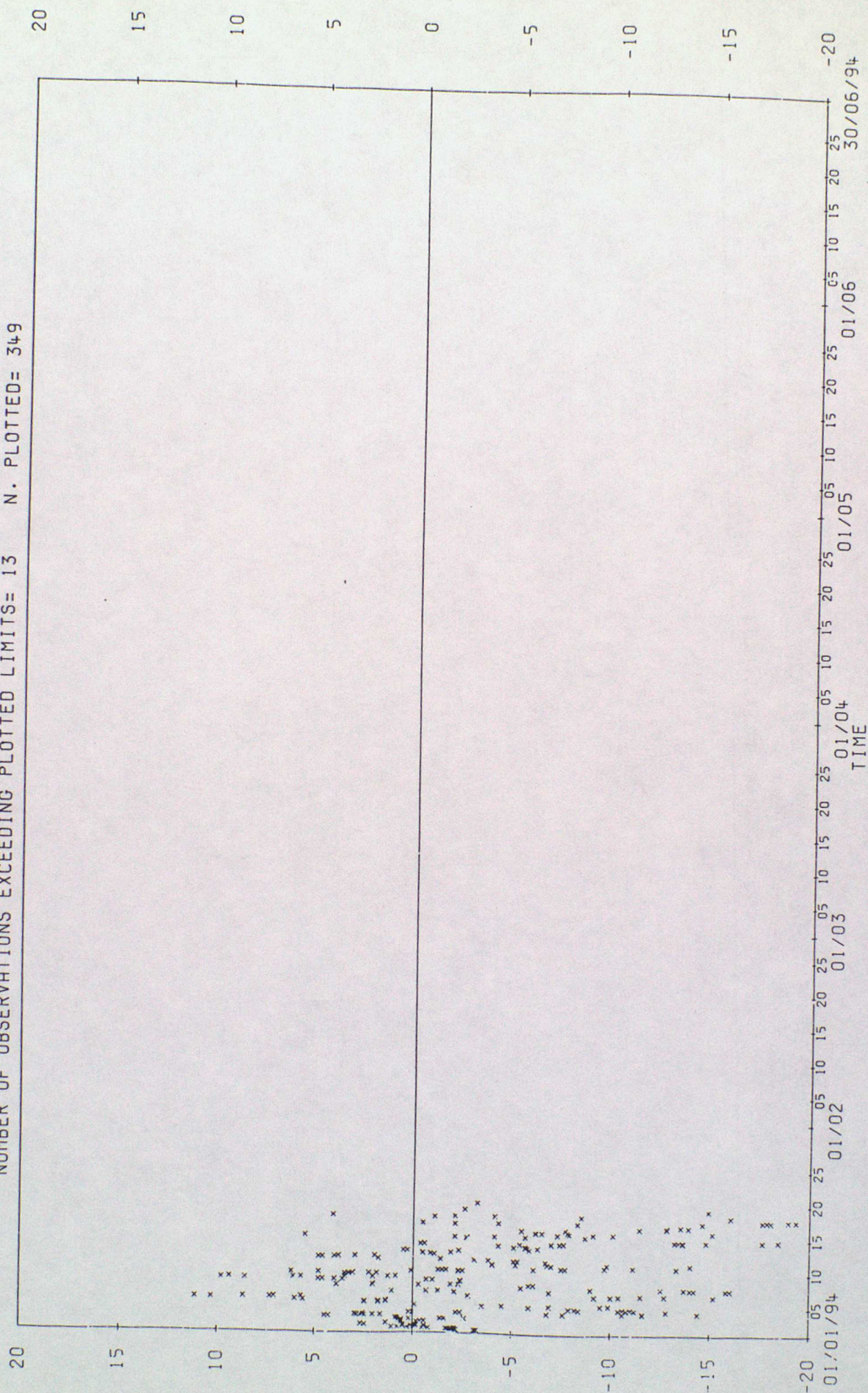




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44775  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 13 N. PLOTTED= 349

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

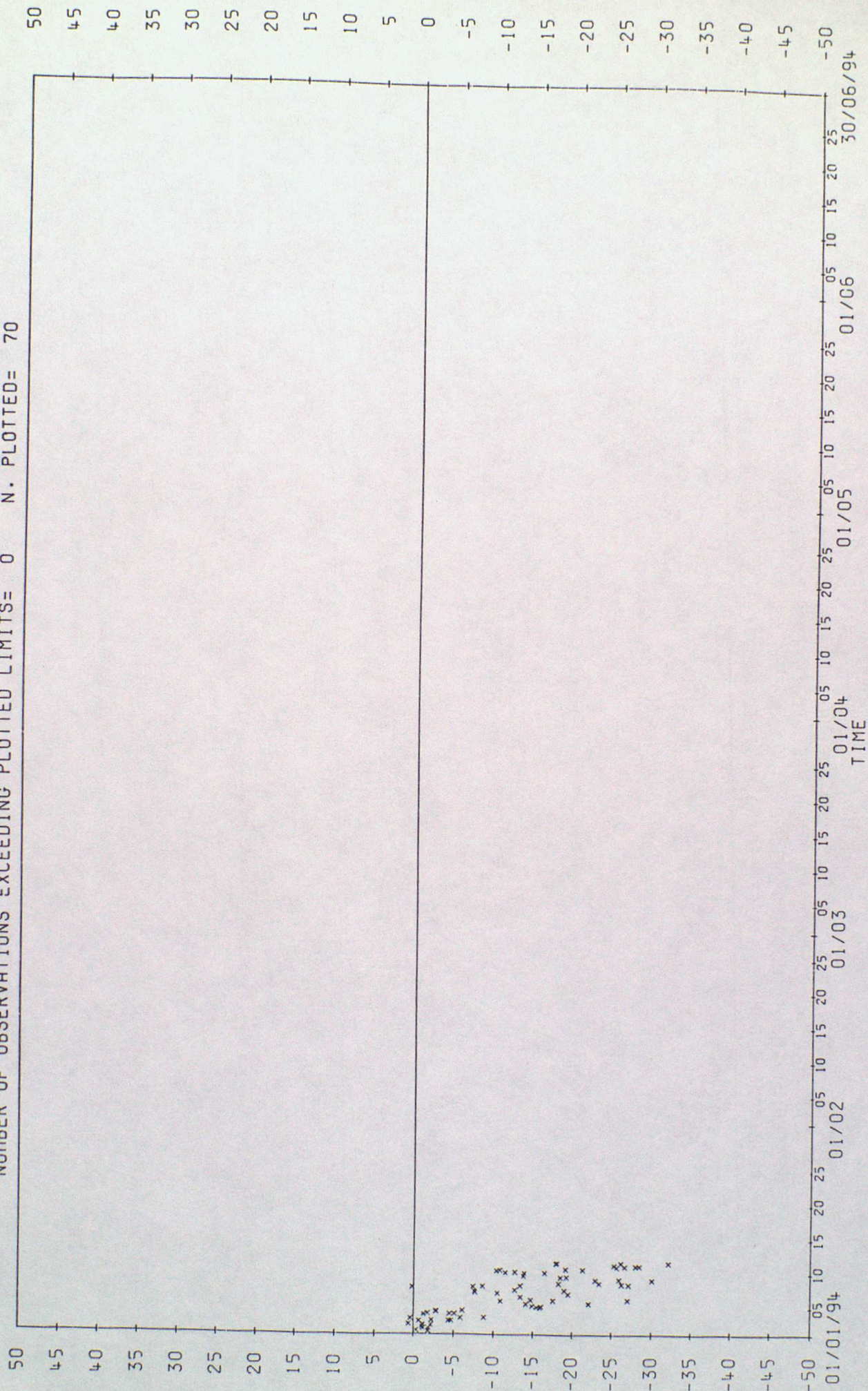
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 46638

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 70





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

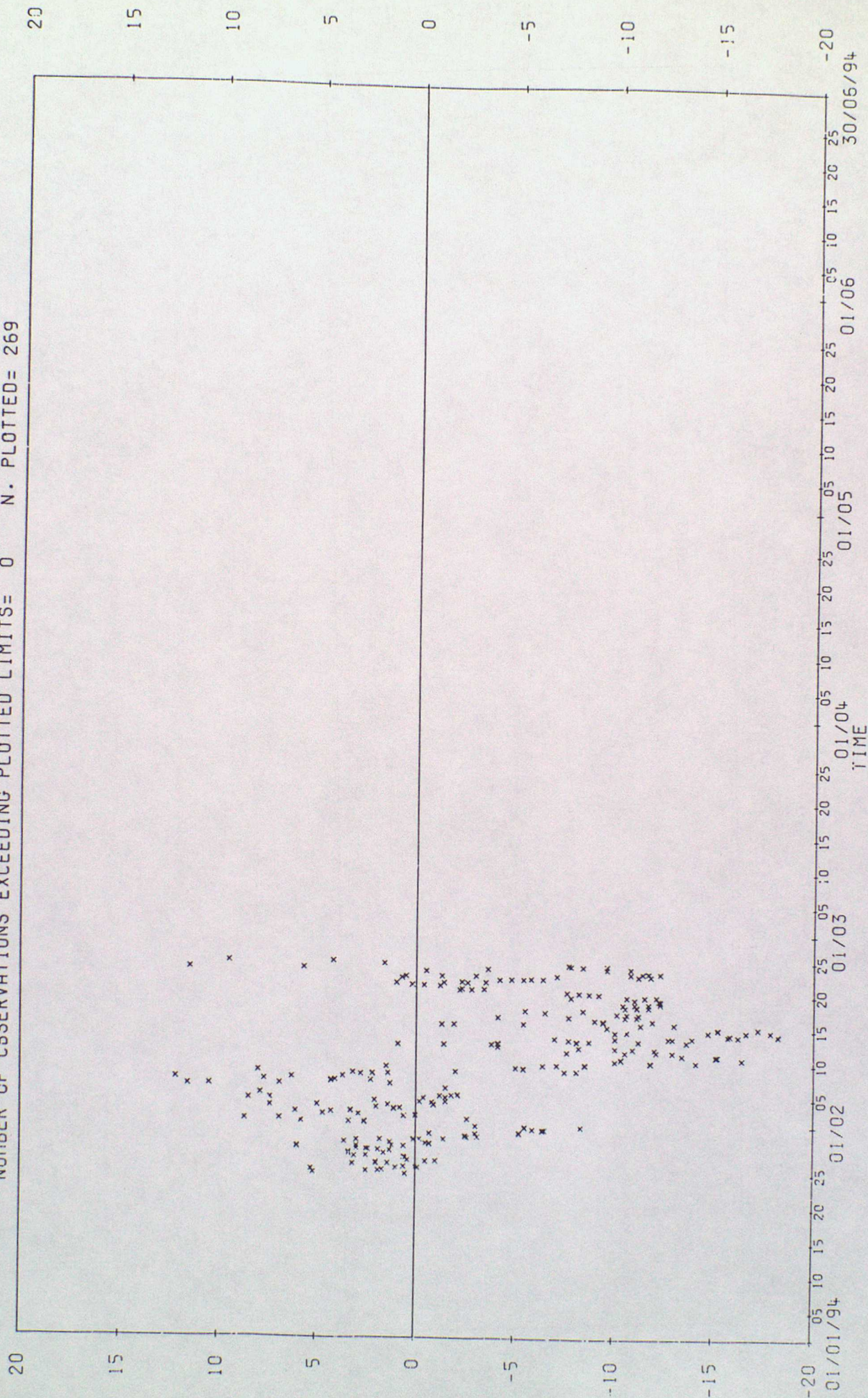
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 52632

0-B

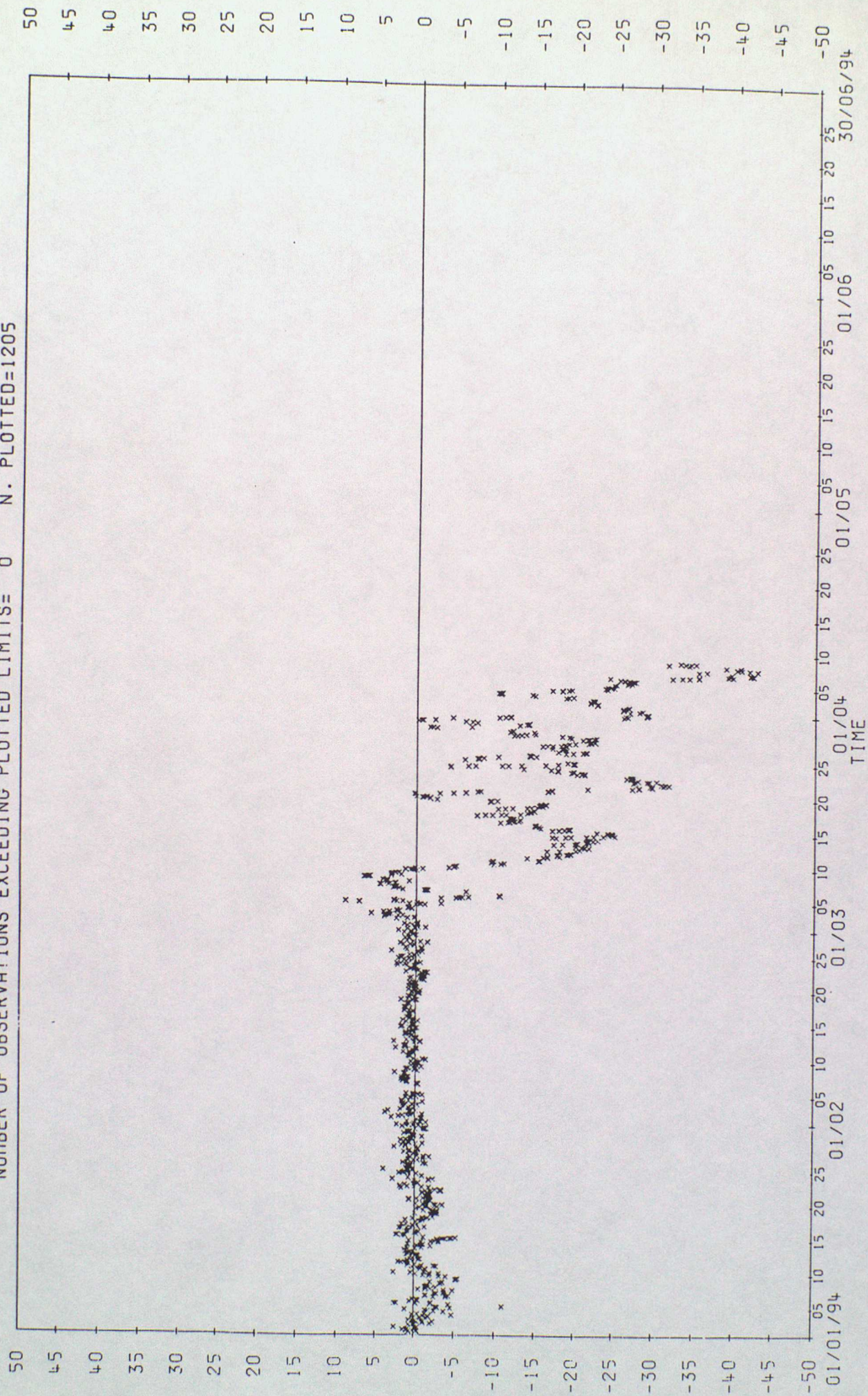
VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 269





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-5) FOR IDENTIFIER: 56509 0-B  
VARIABLE : MSLP IN UNITS OF HPA  
NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED=1205





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

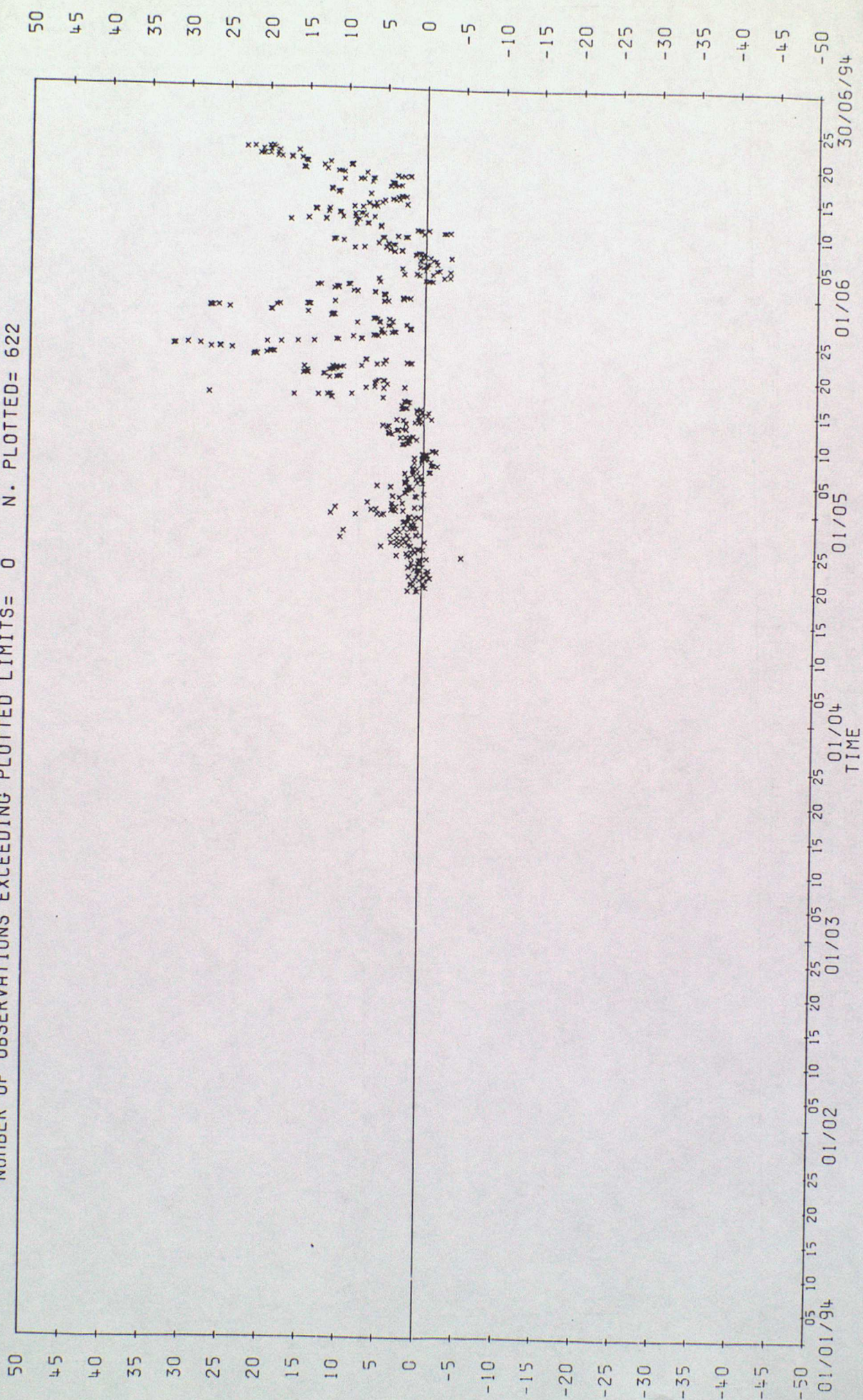
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 56515

0-B

VARIABLE : MSLP IN UNITS OF HPA

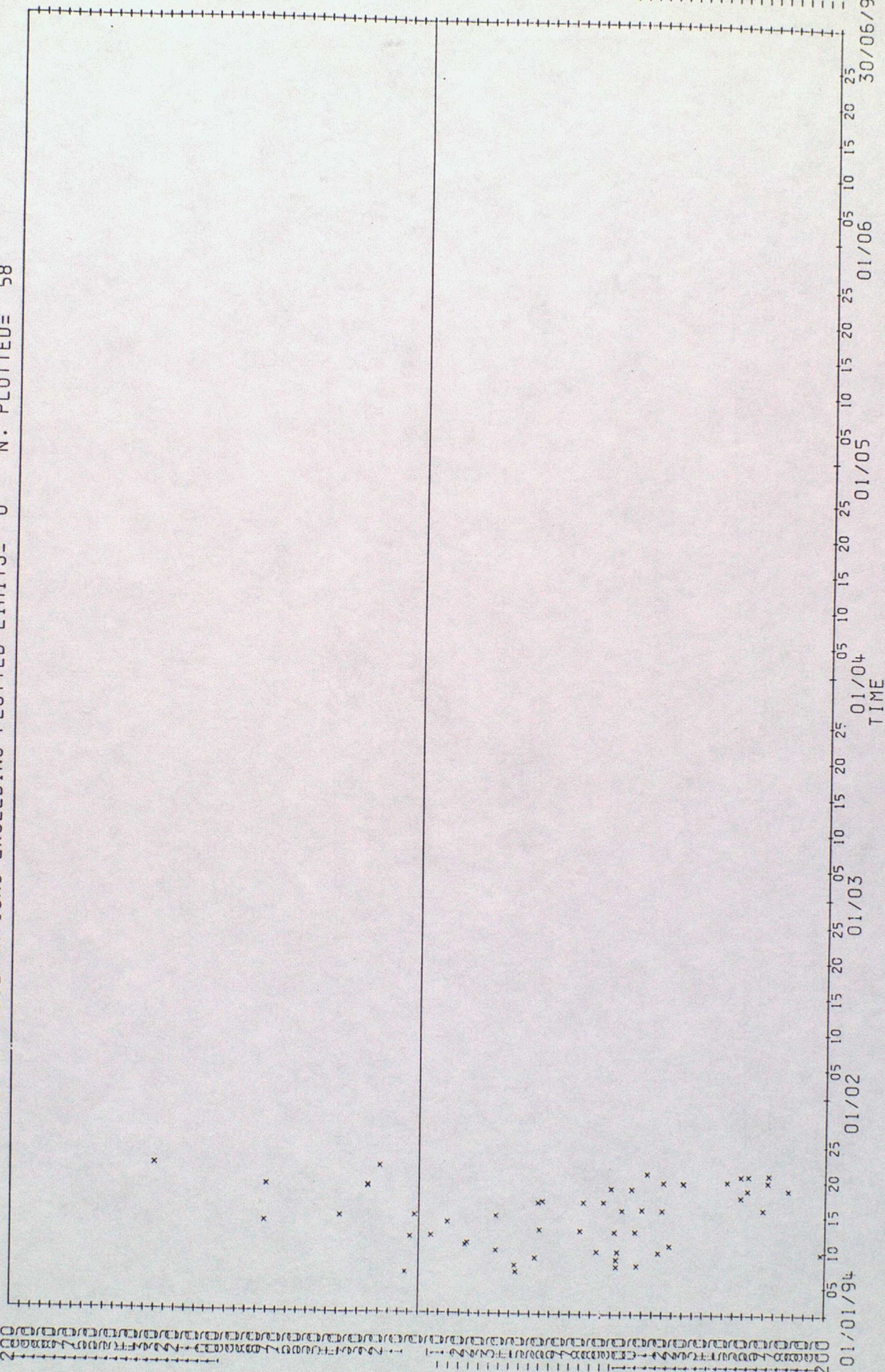
NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 622





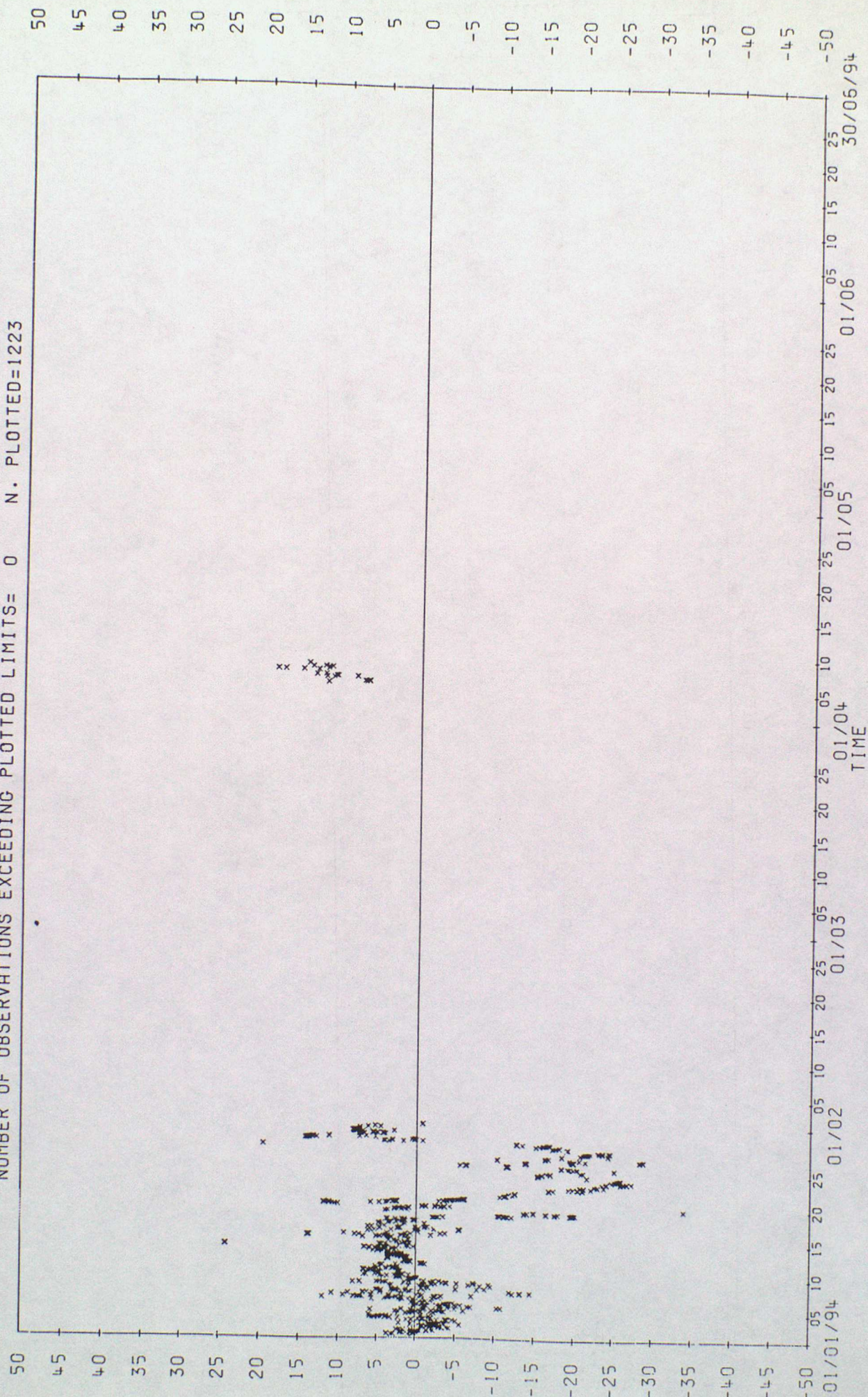
0-8

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS=	0	N. PLOTTED=	58
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0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 65581  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED=1223  
 0-B





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

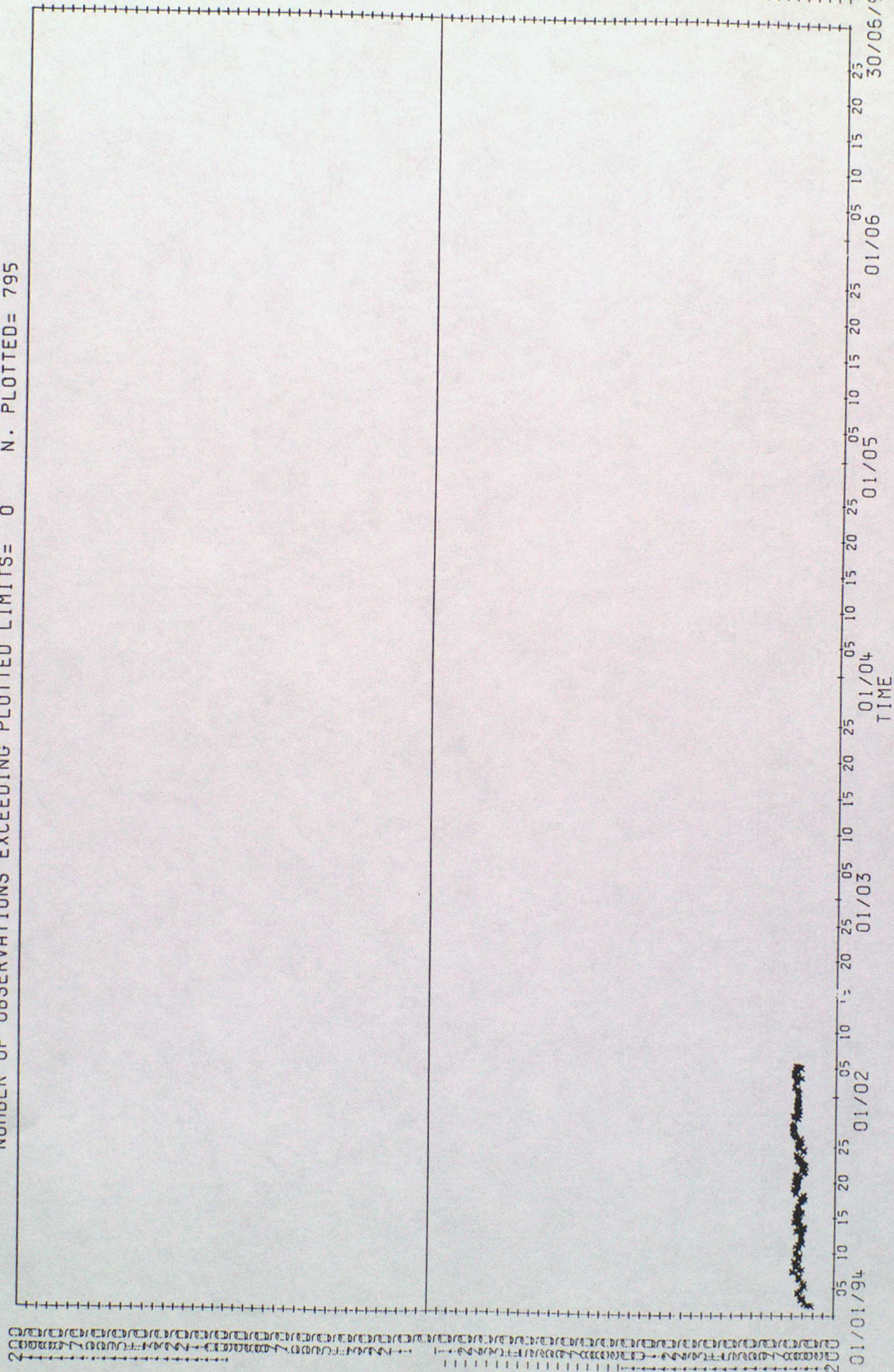
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 71003

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 795

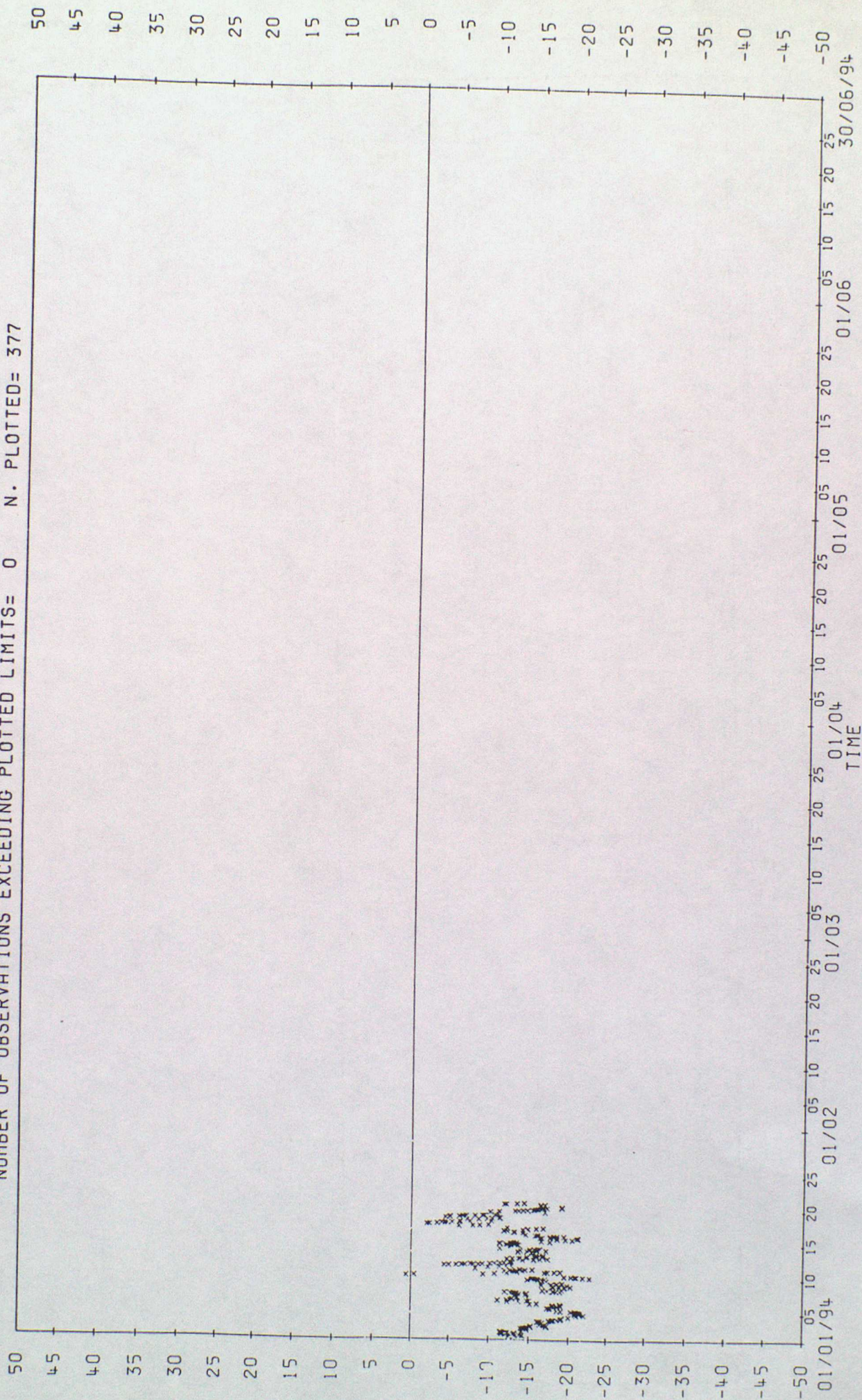




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 71557  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 377

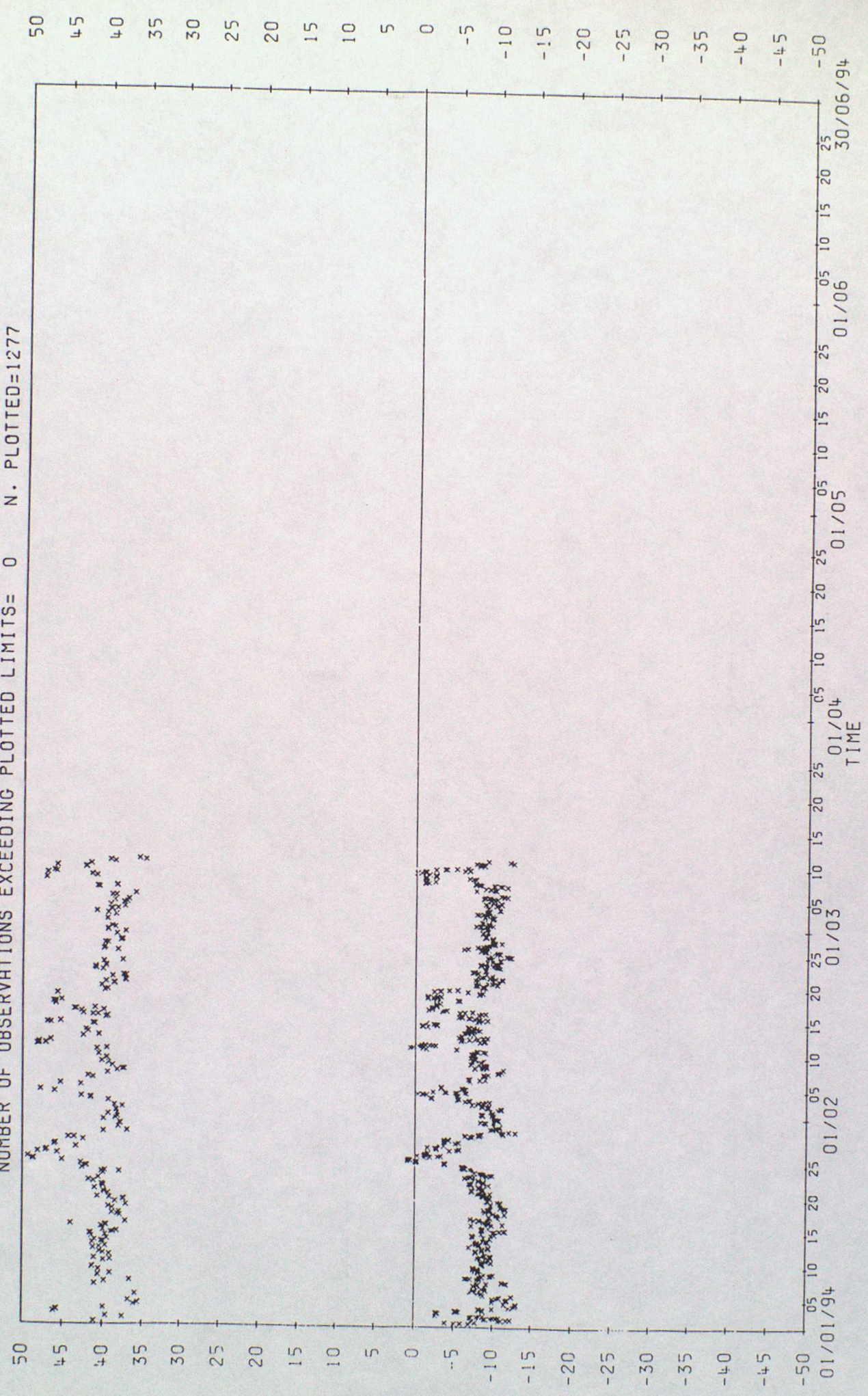
0-B

0-B





0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 74002  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED=1277  
 0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

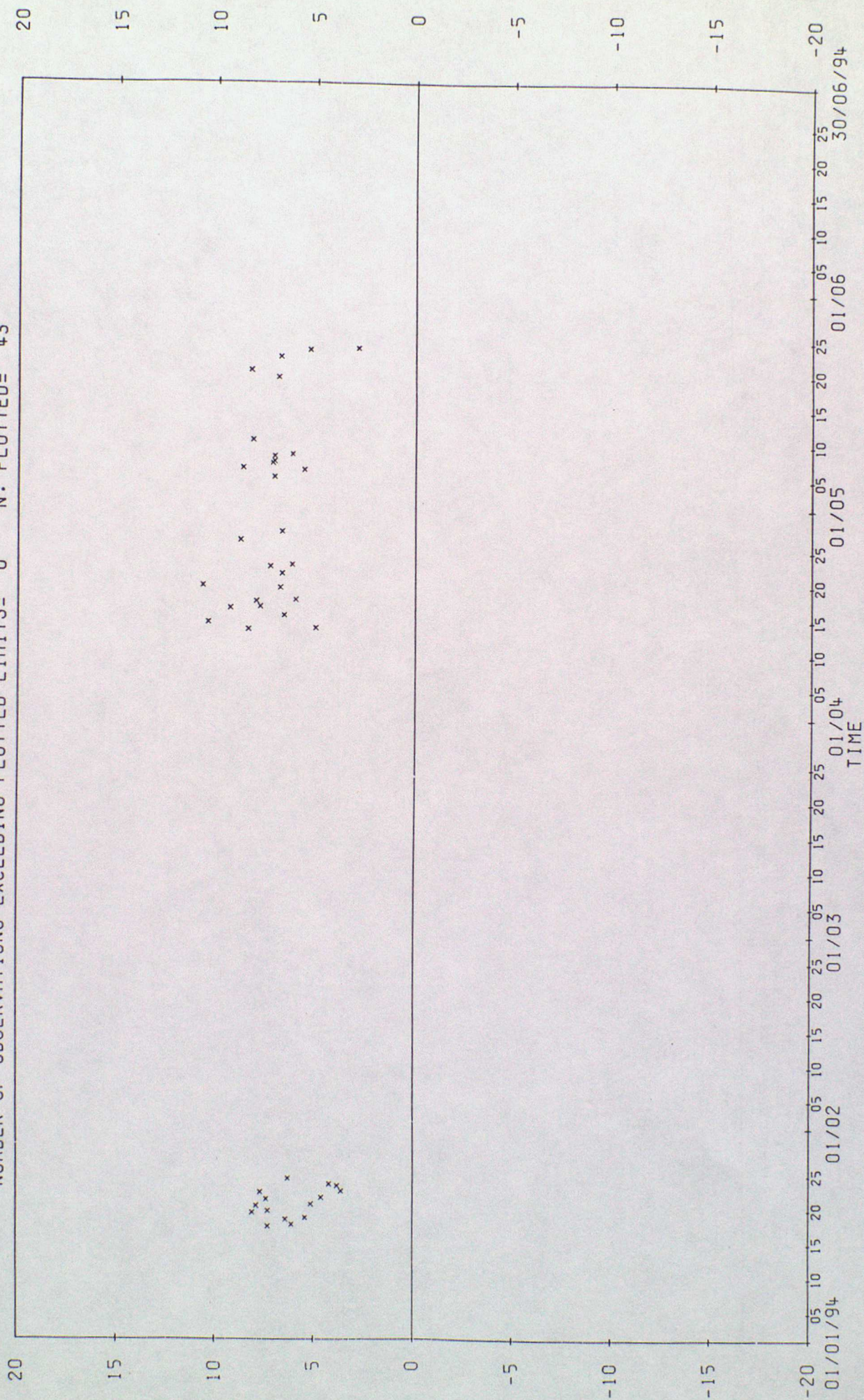
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ATRK

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 43

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

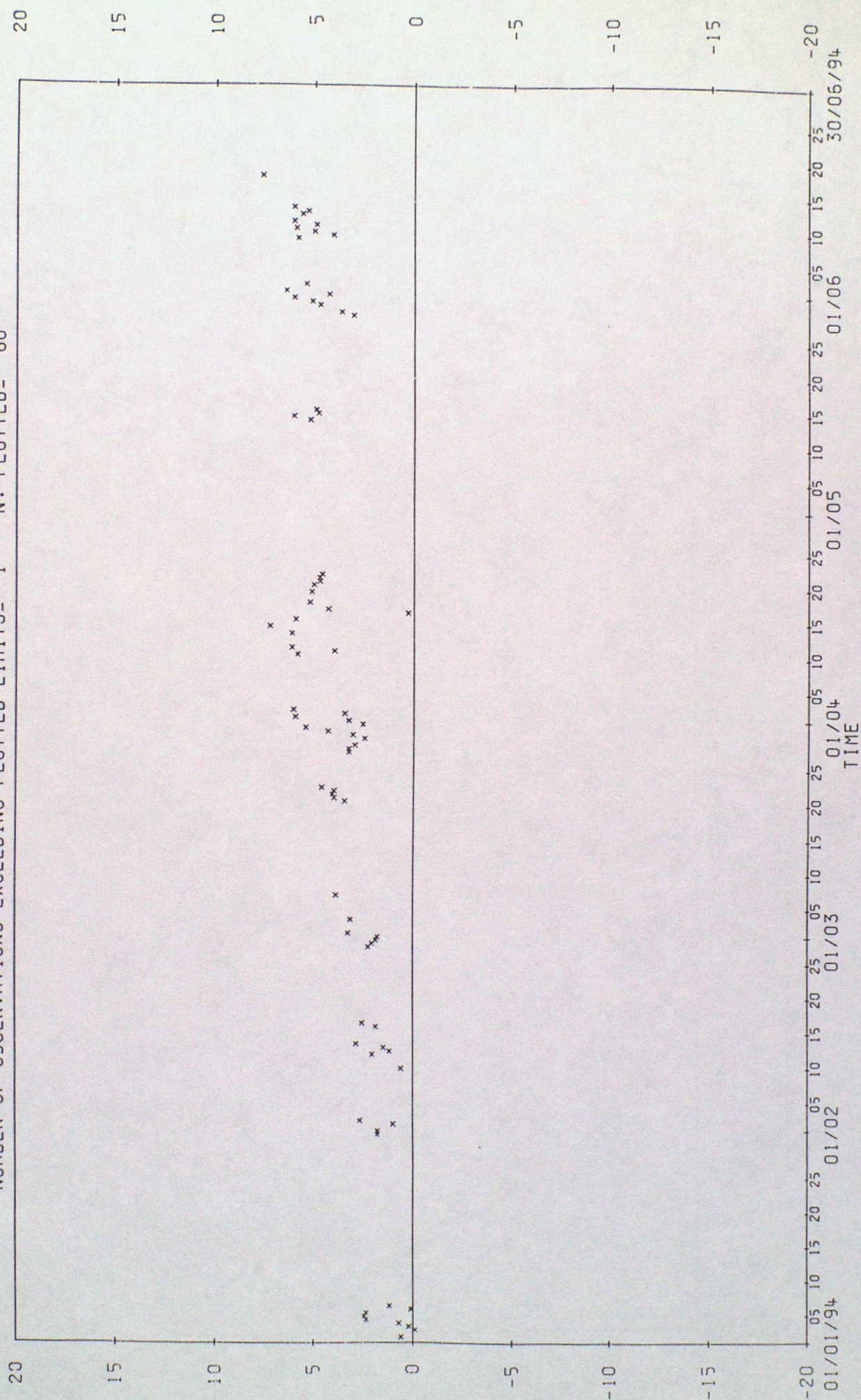
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: ATSR

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 80

0-B

0-B

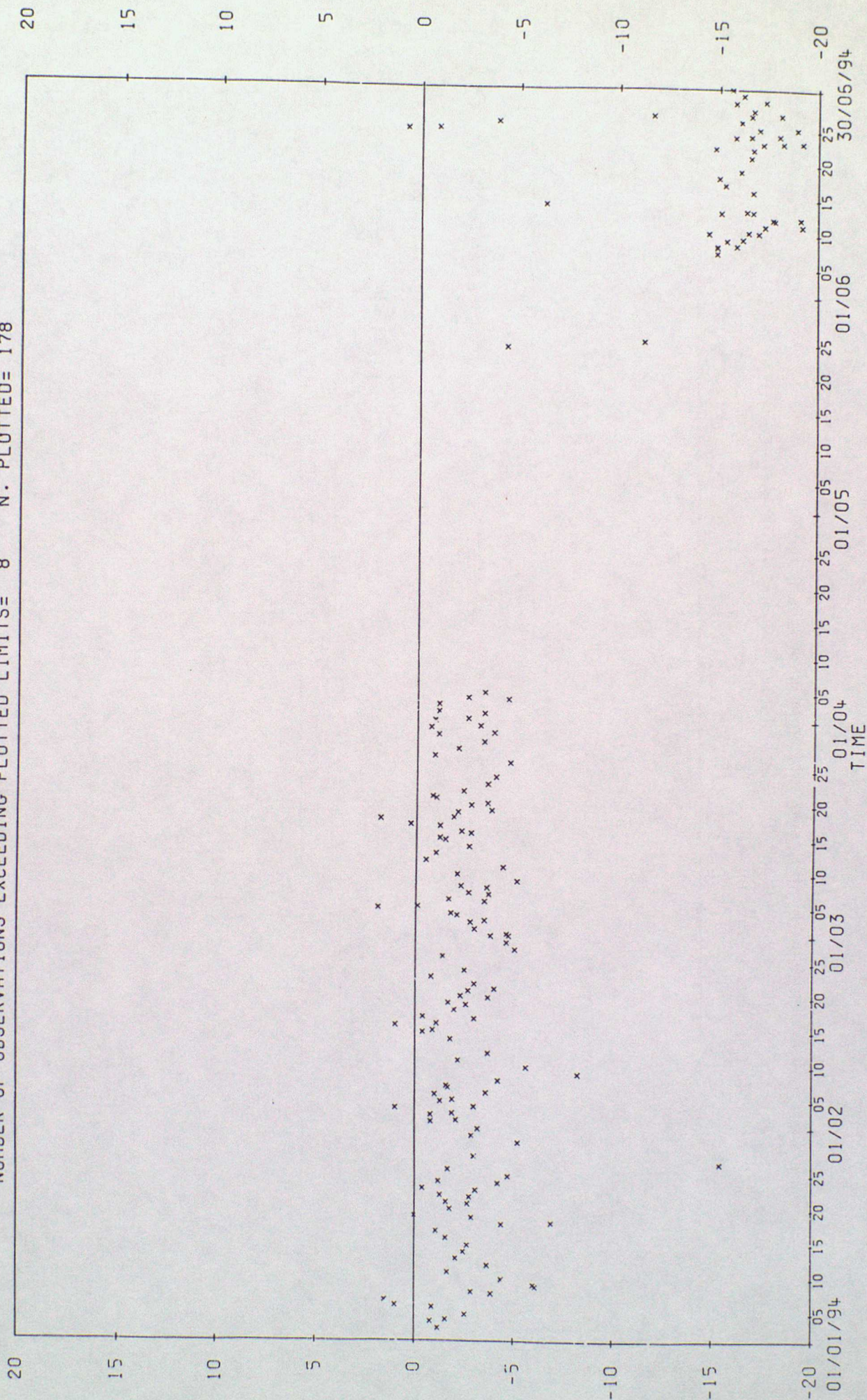




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: CF03491  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 8 N. PLOTTED= 178

0-B

0-B



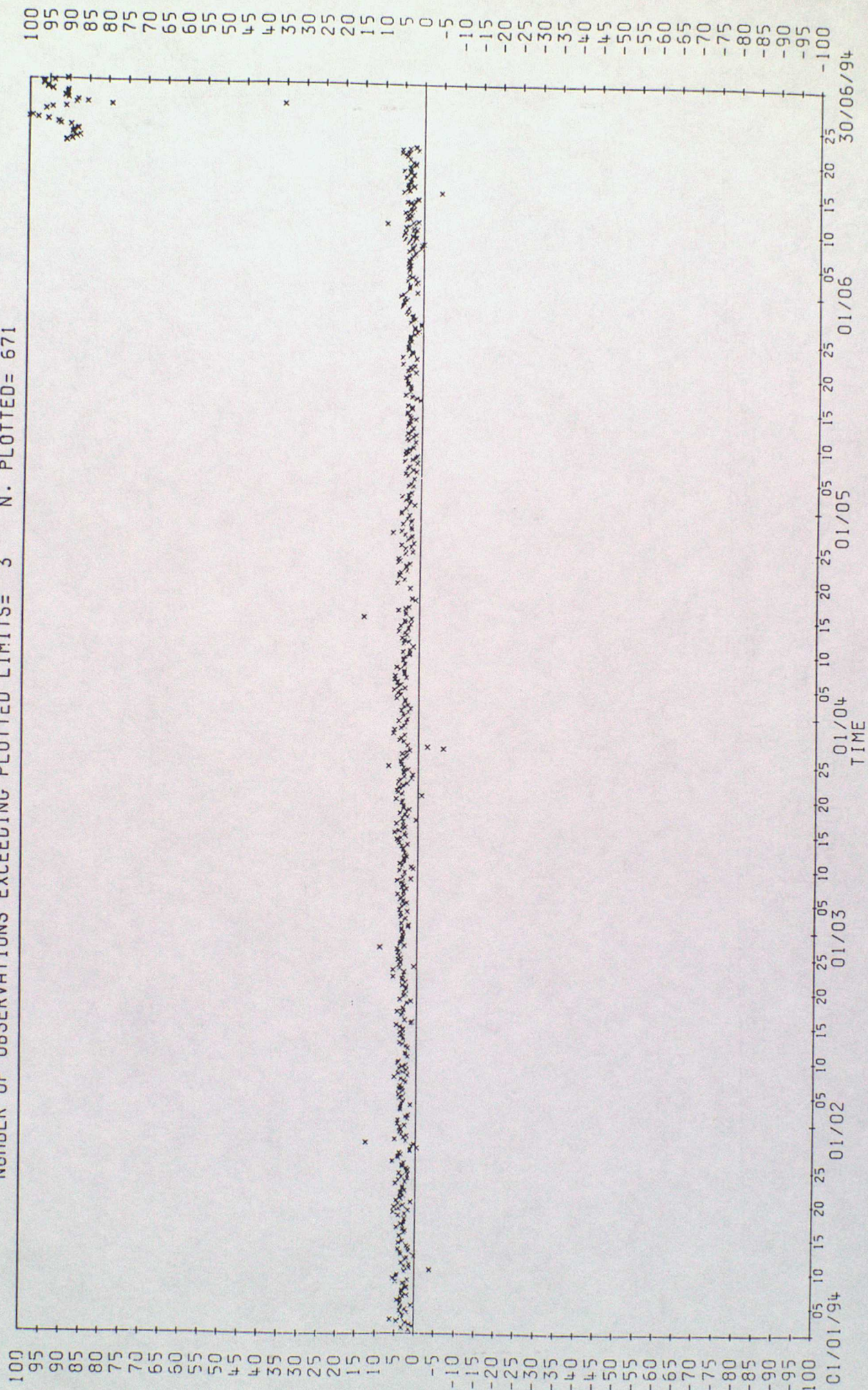
TIME



BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: CG2960  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 3 N. PLOTTED= 671

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

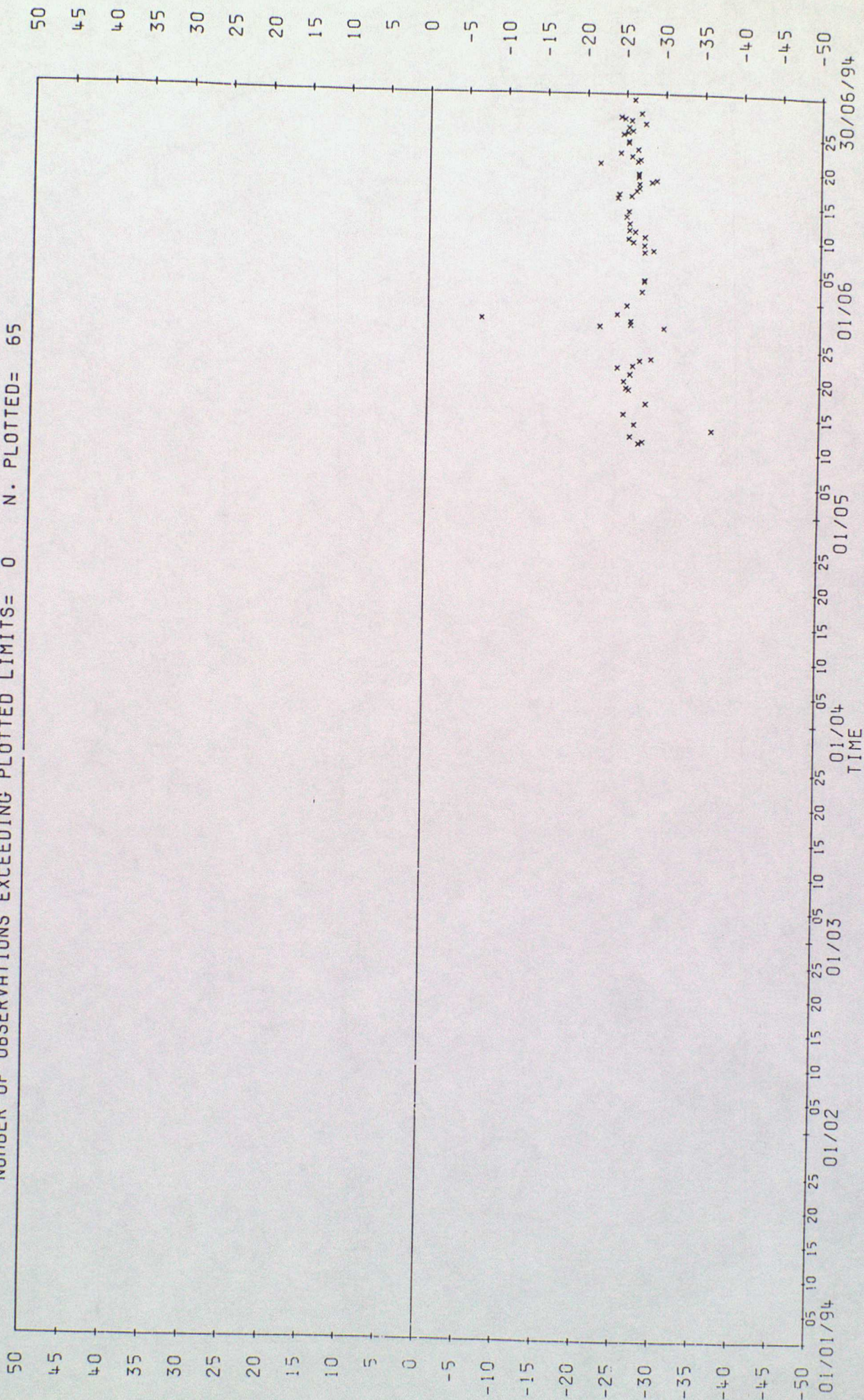
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: CZ9742

0-B

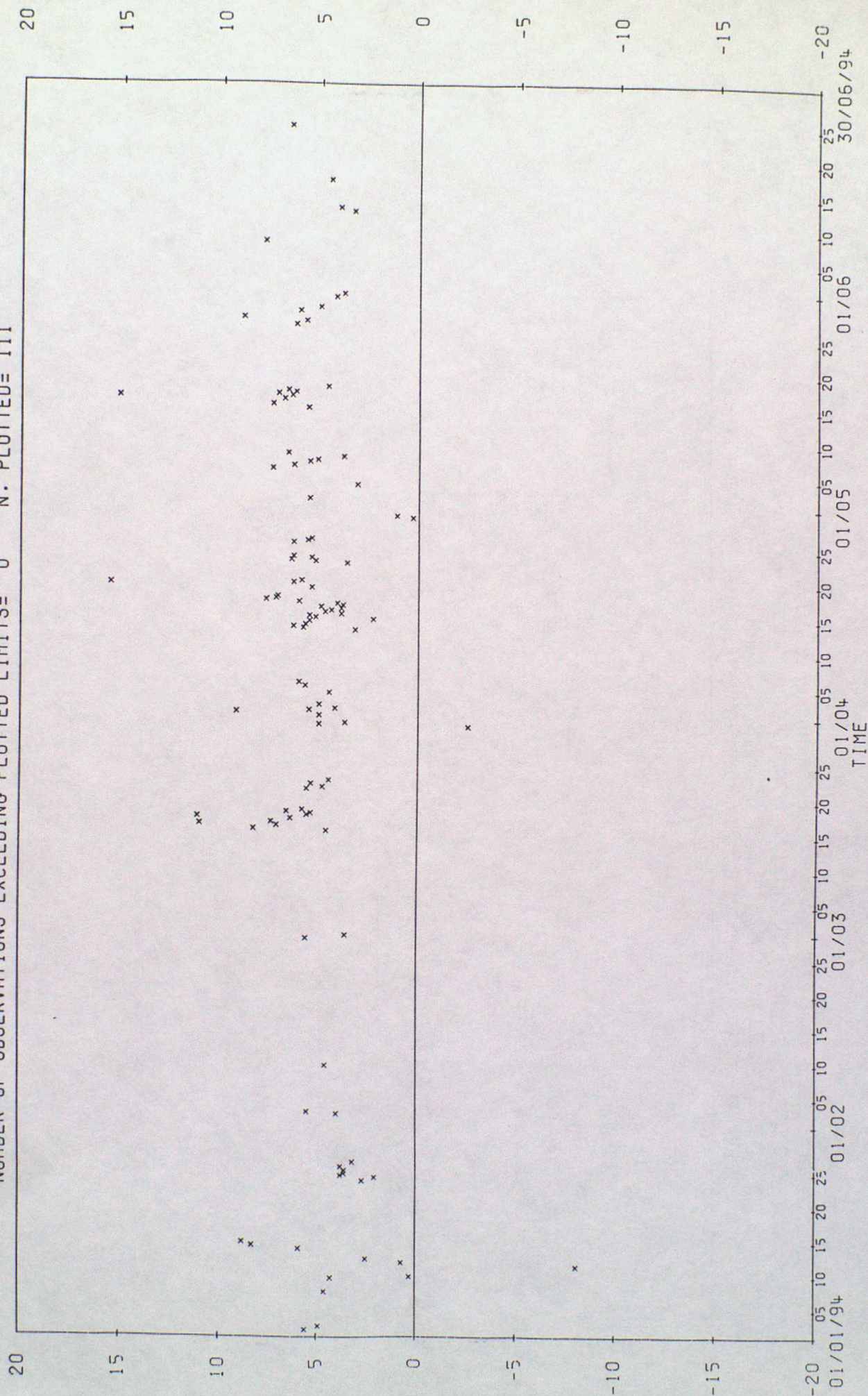
VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 65





0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: C68T8  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 111  
 0-B



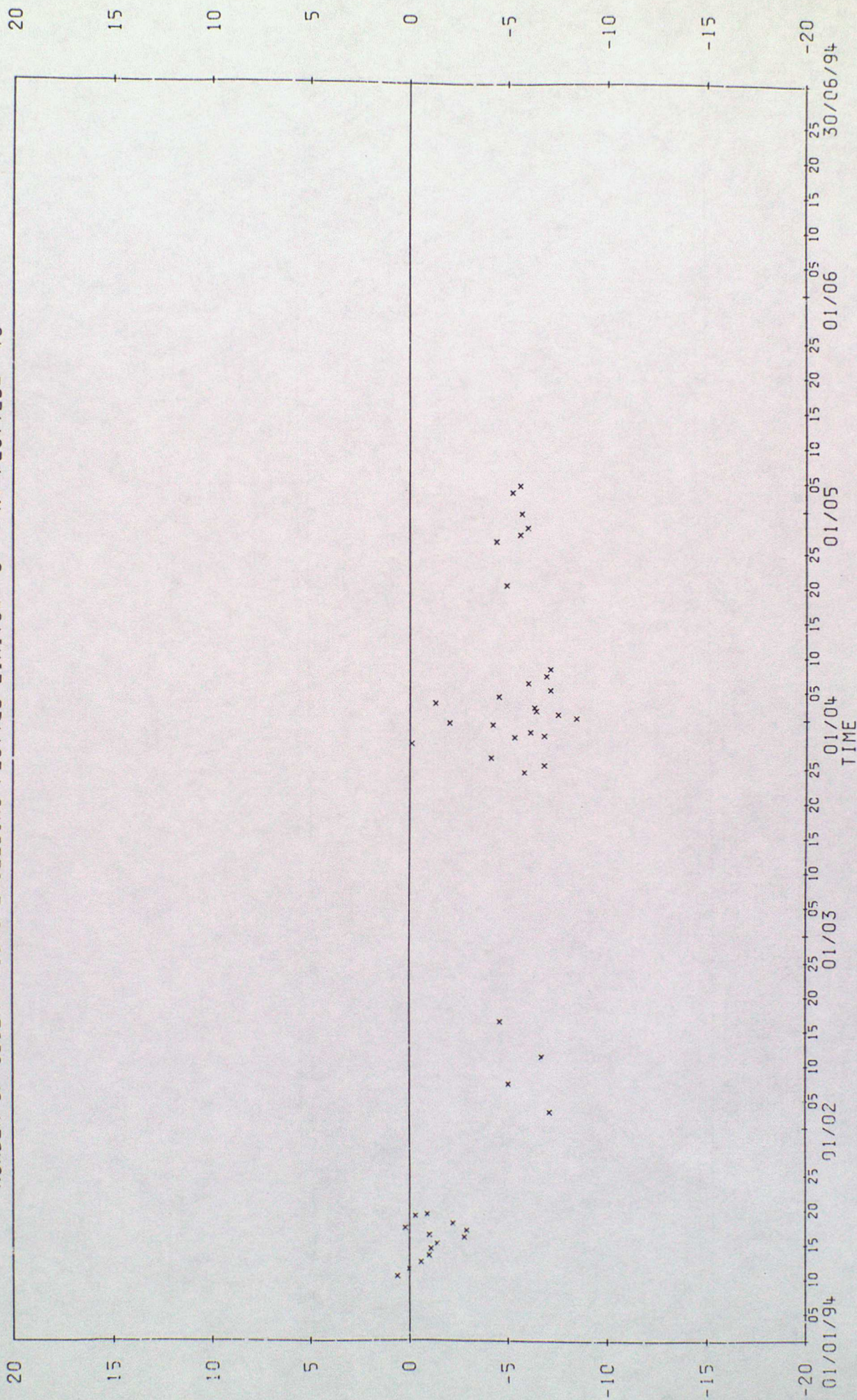


# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: C6FA6 0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 43





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

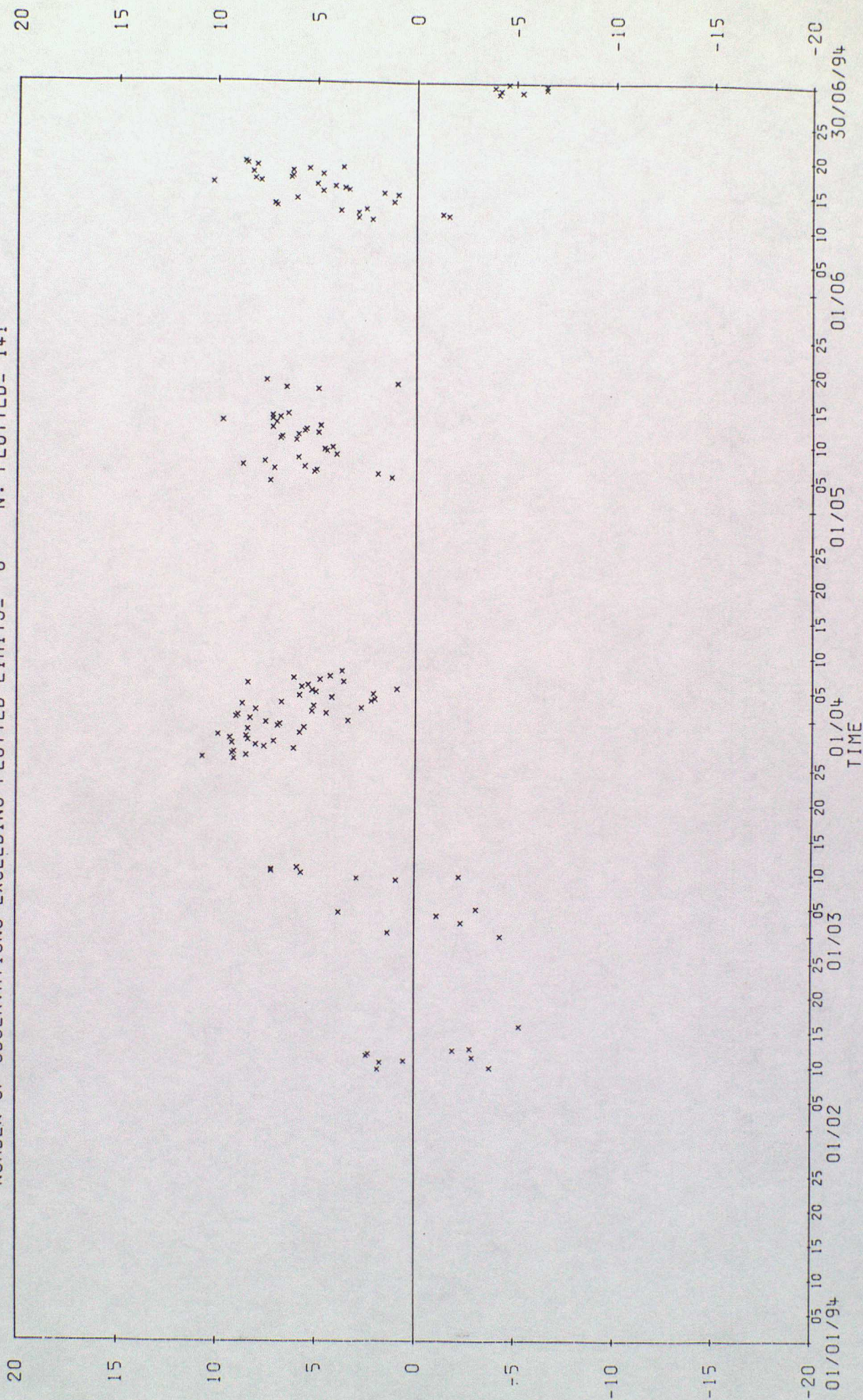
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: C6KB6

0-B

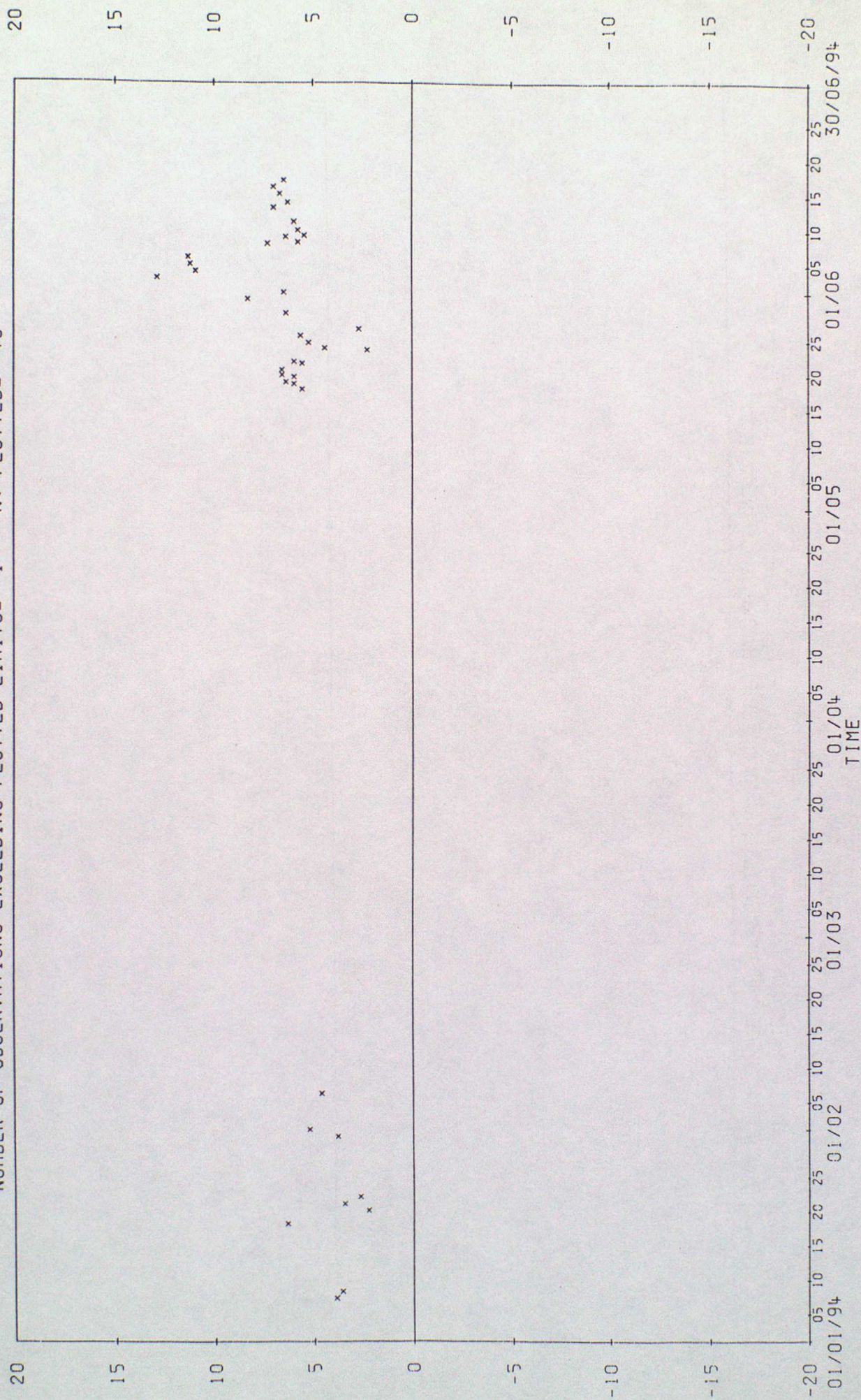
VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 141





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: C6KQ9 0-B  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 40





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

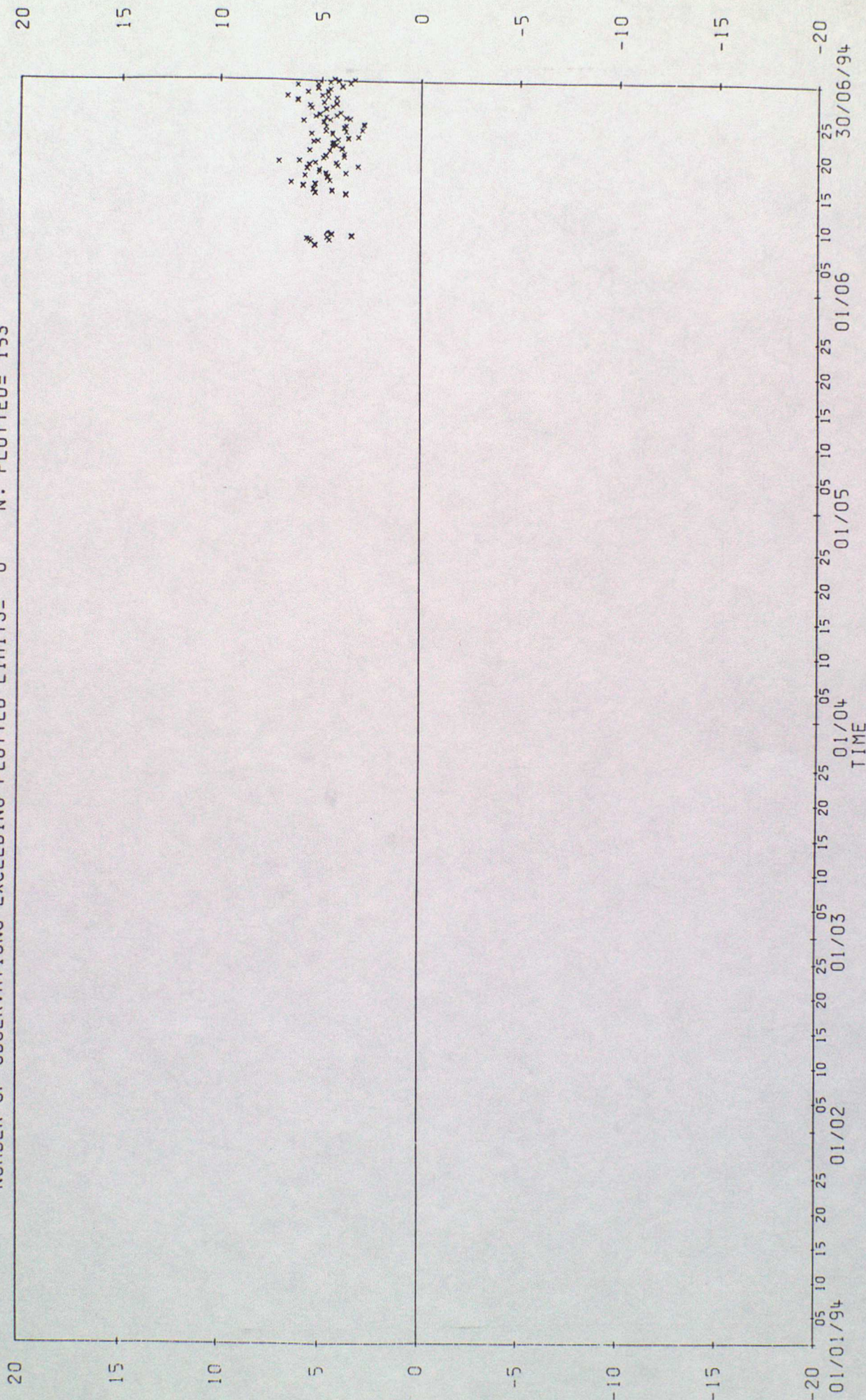
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: DVRF

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 153

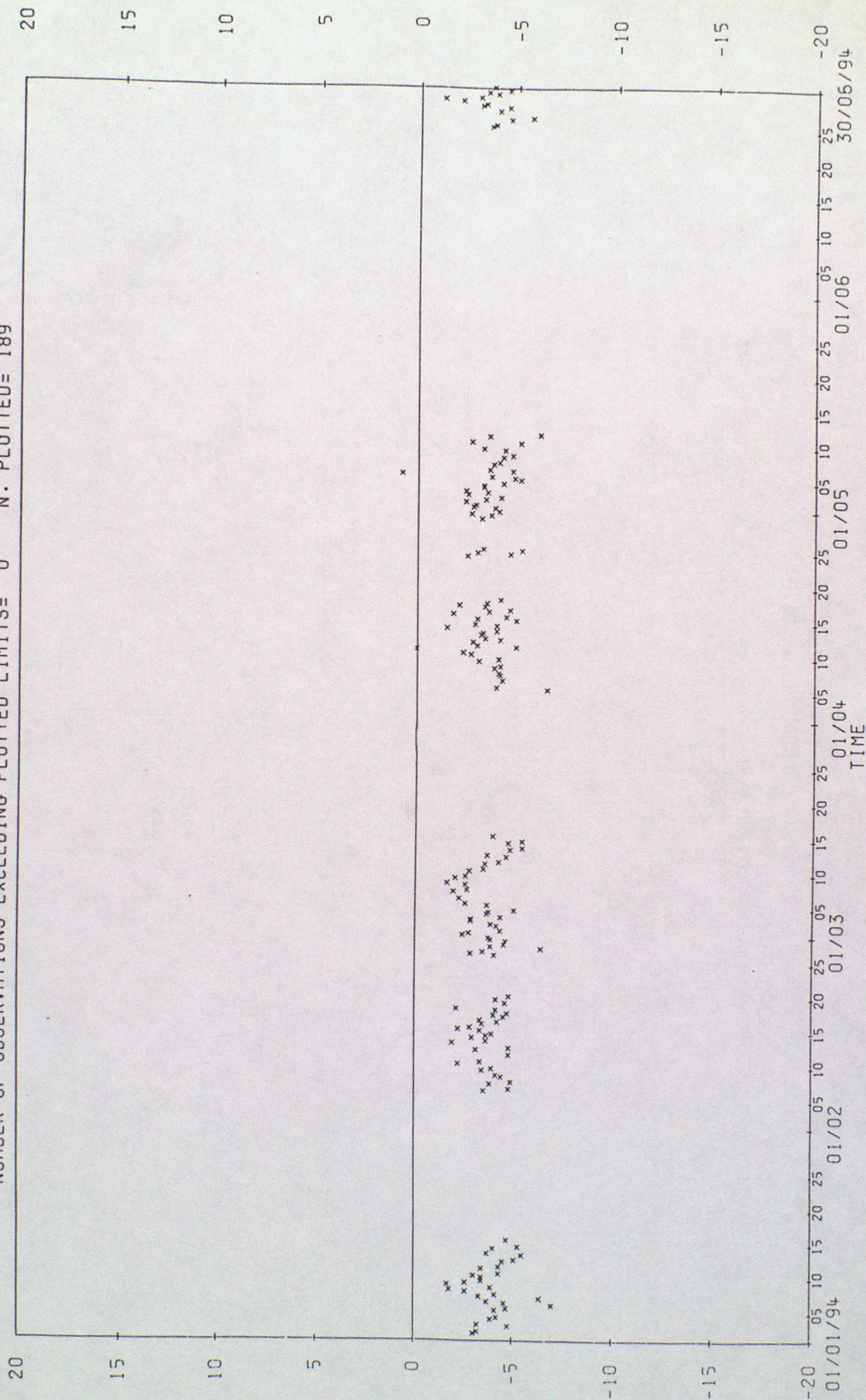




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: DZSB  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 189

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

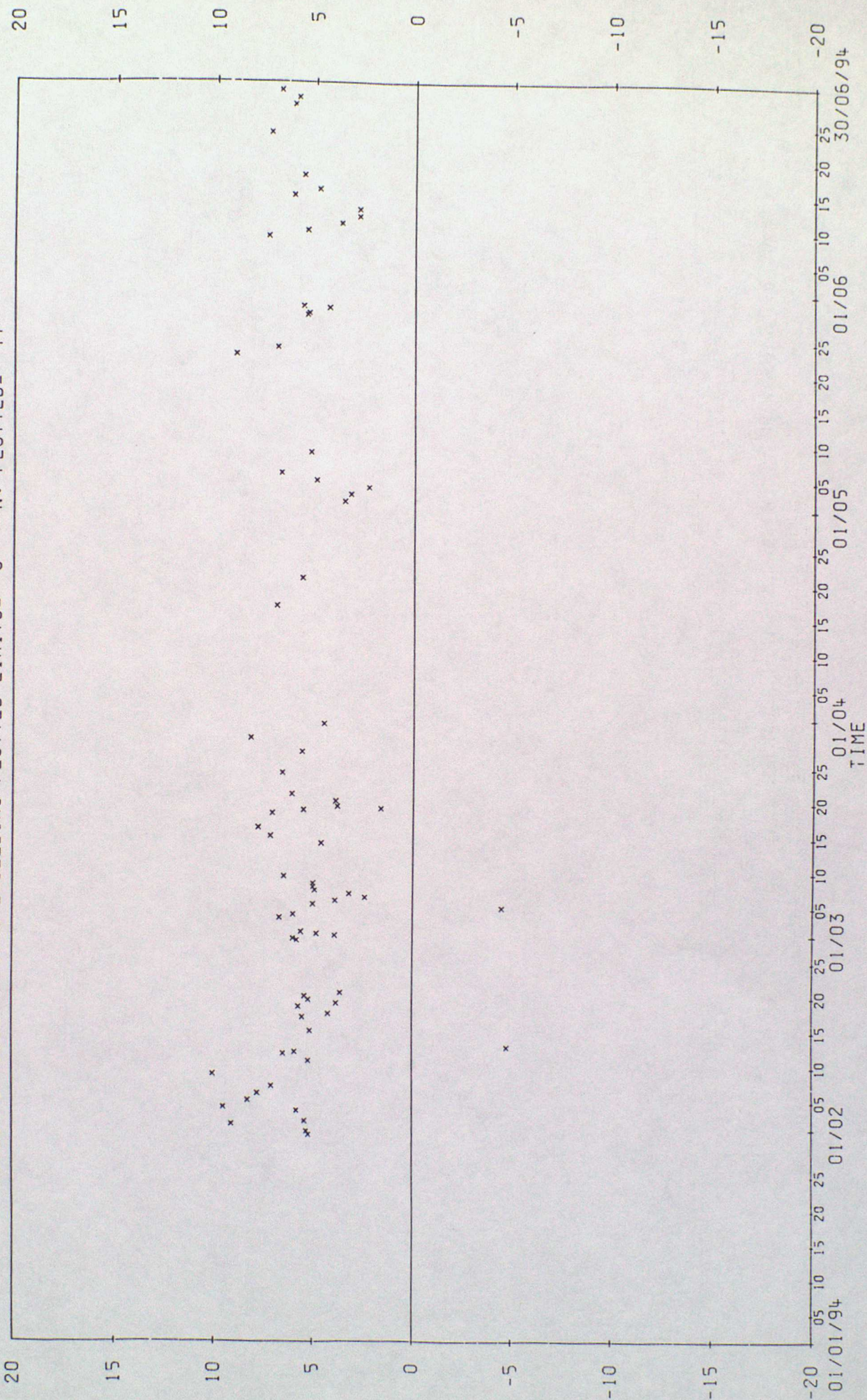
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 05NE

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 77

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

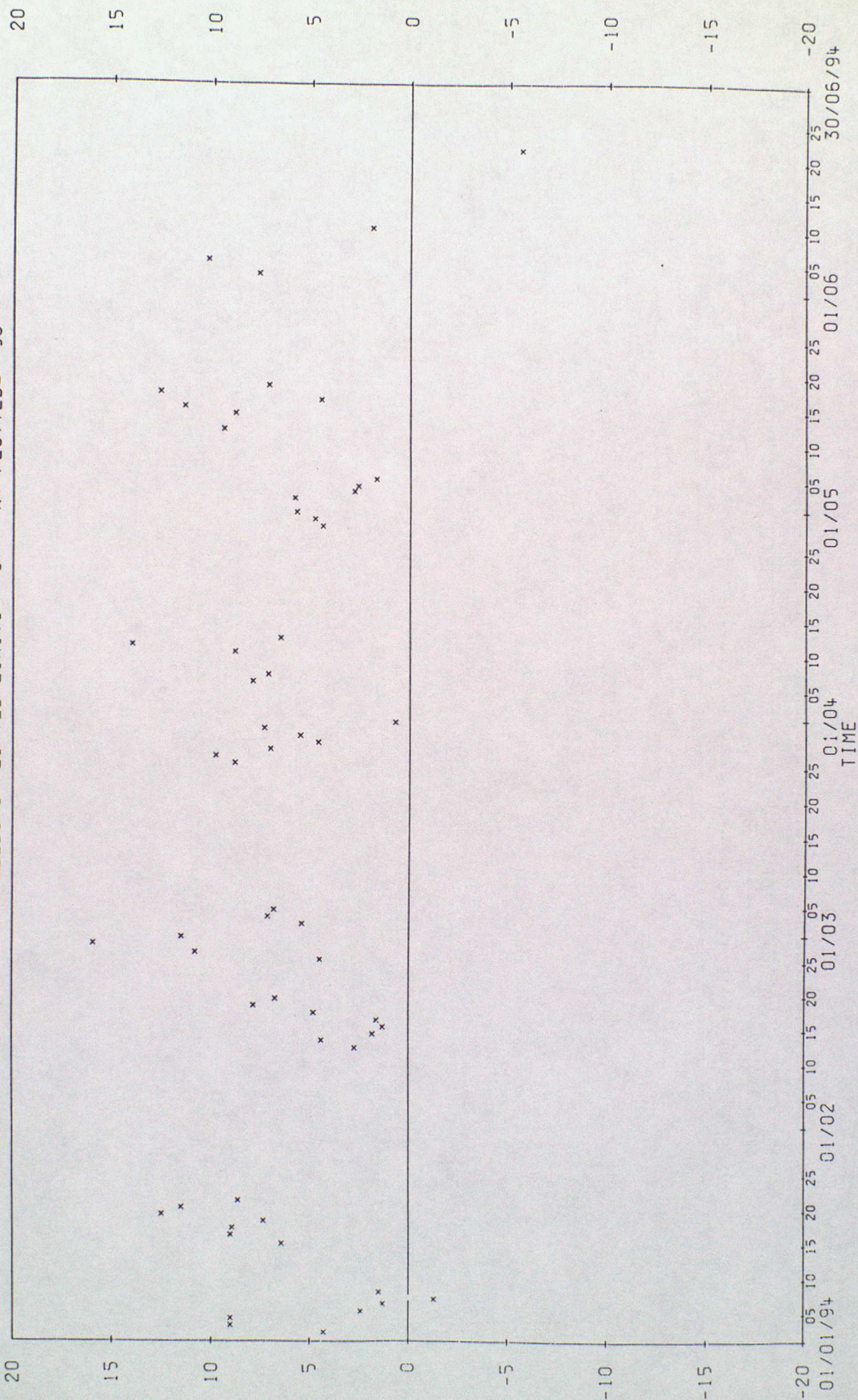
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 09ZZ

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 58

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

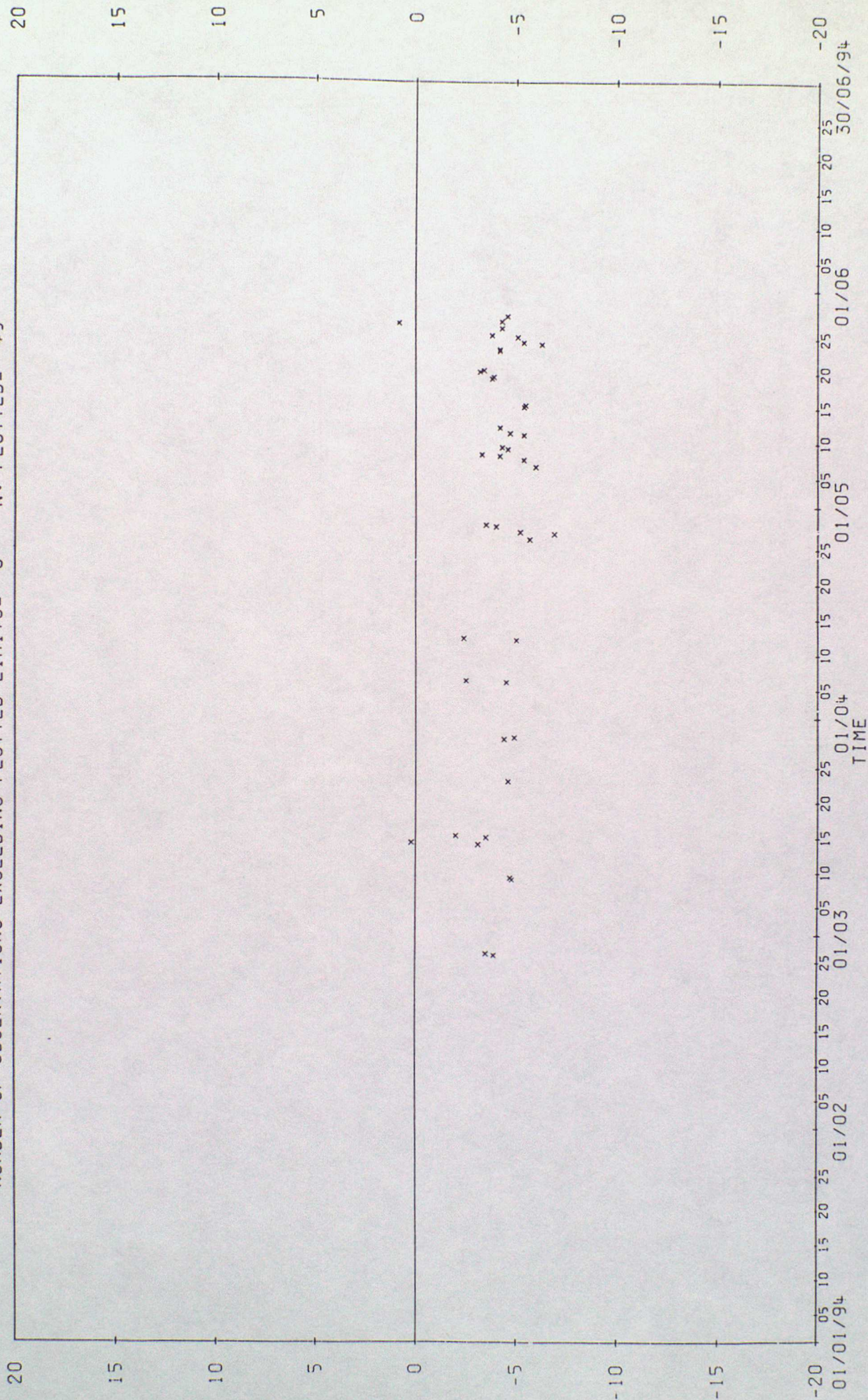
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELG12

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 45

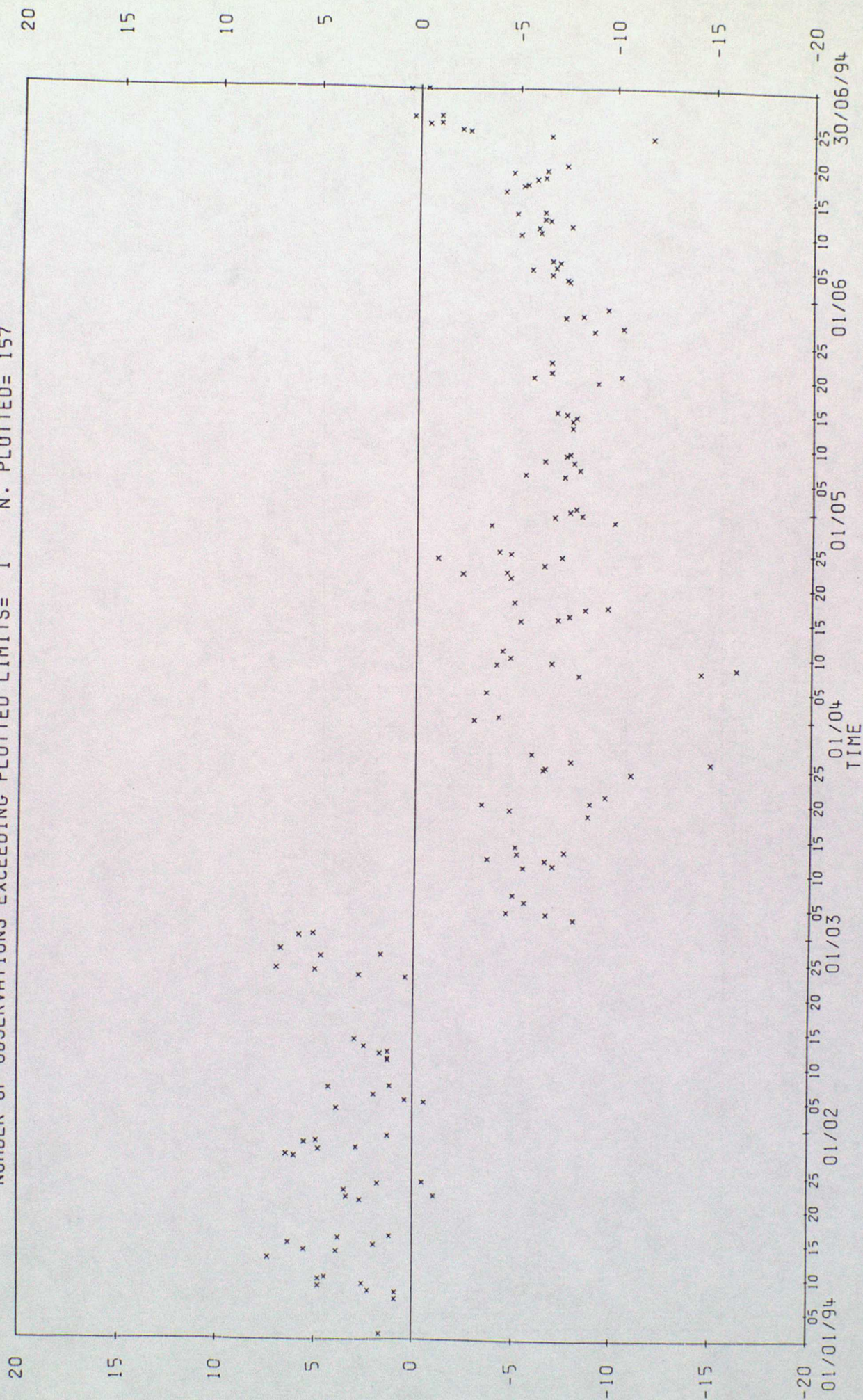




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELIU4  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 157

0-B

0-B

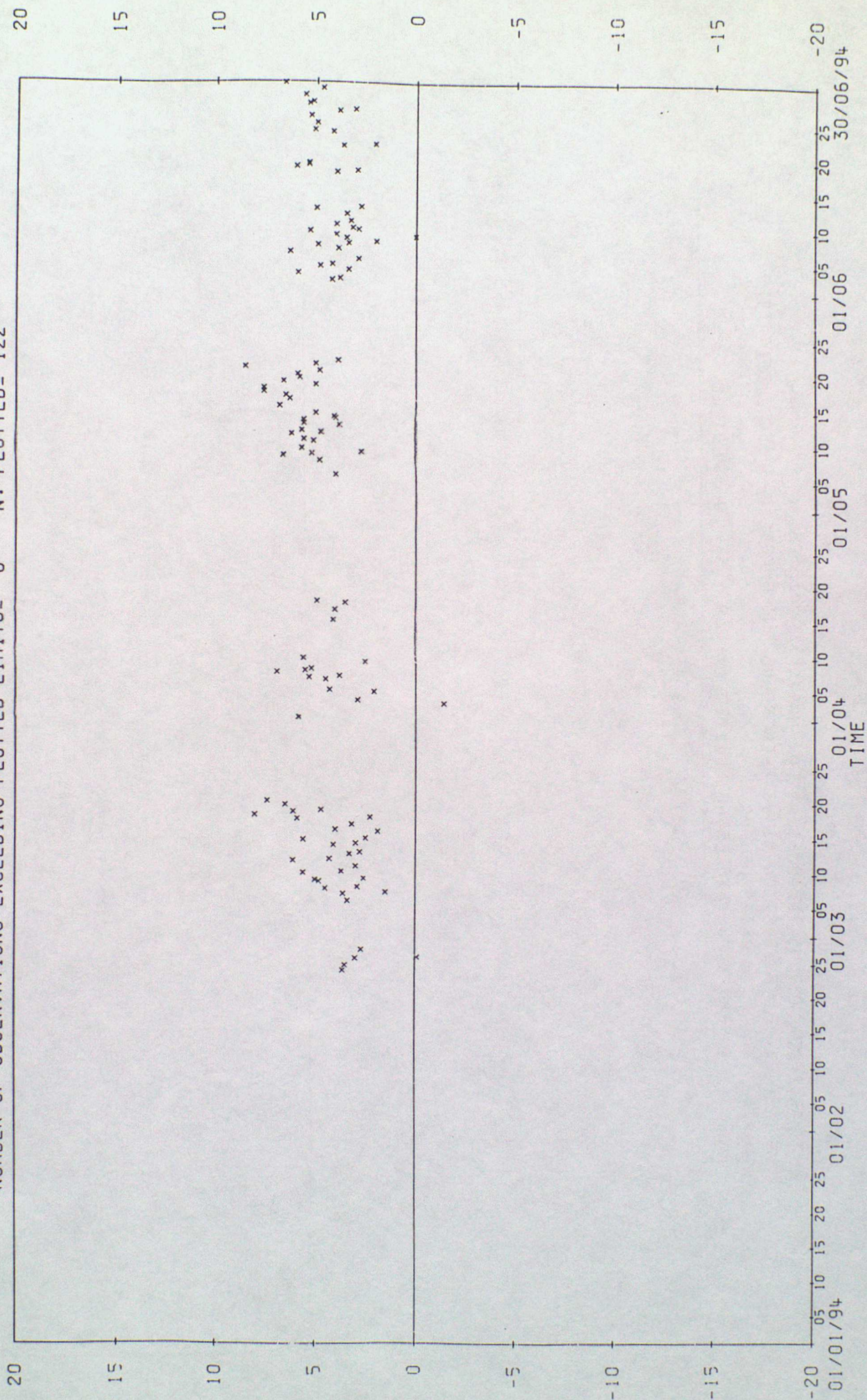




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELND2  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 122

0-B

0-B

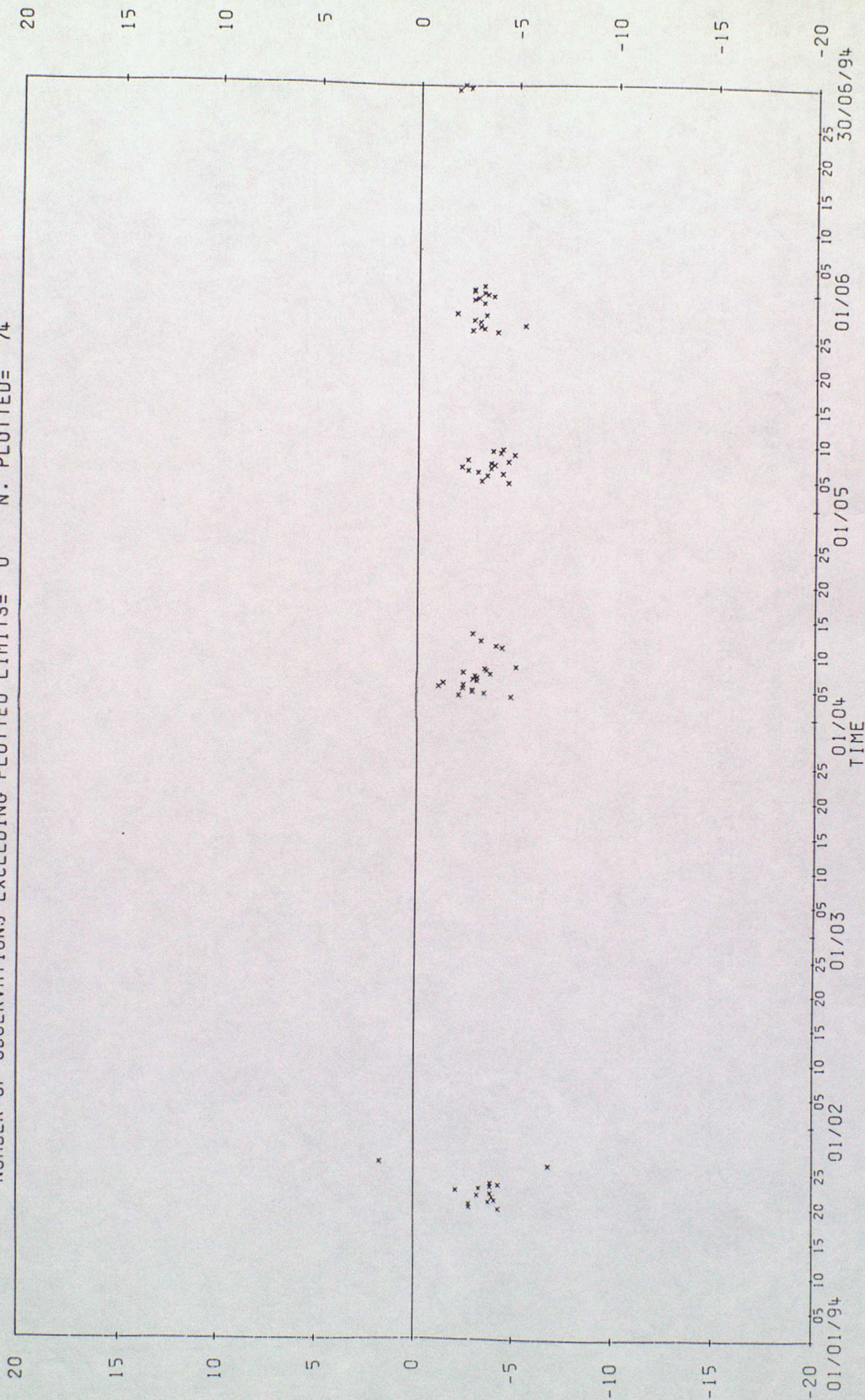




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELPZ3  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 74

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

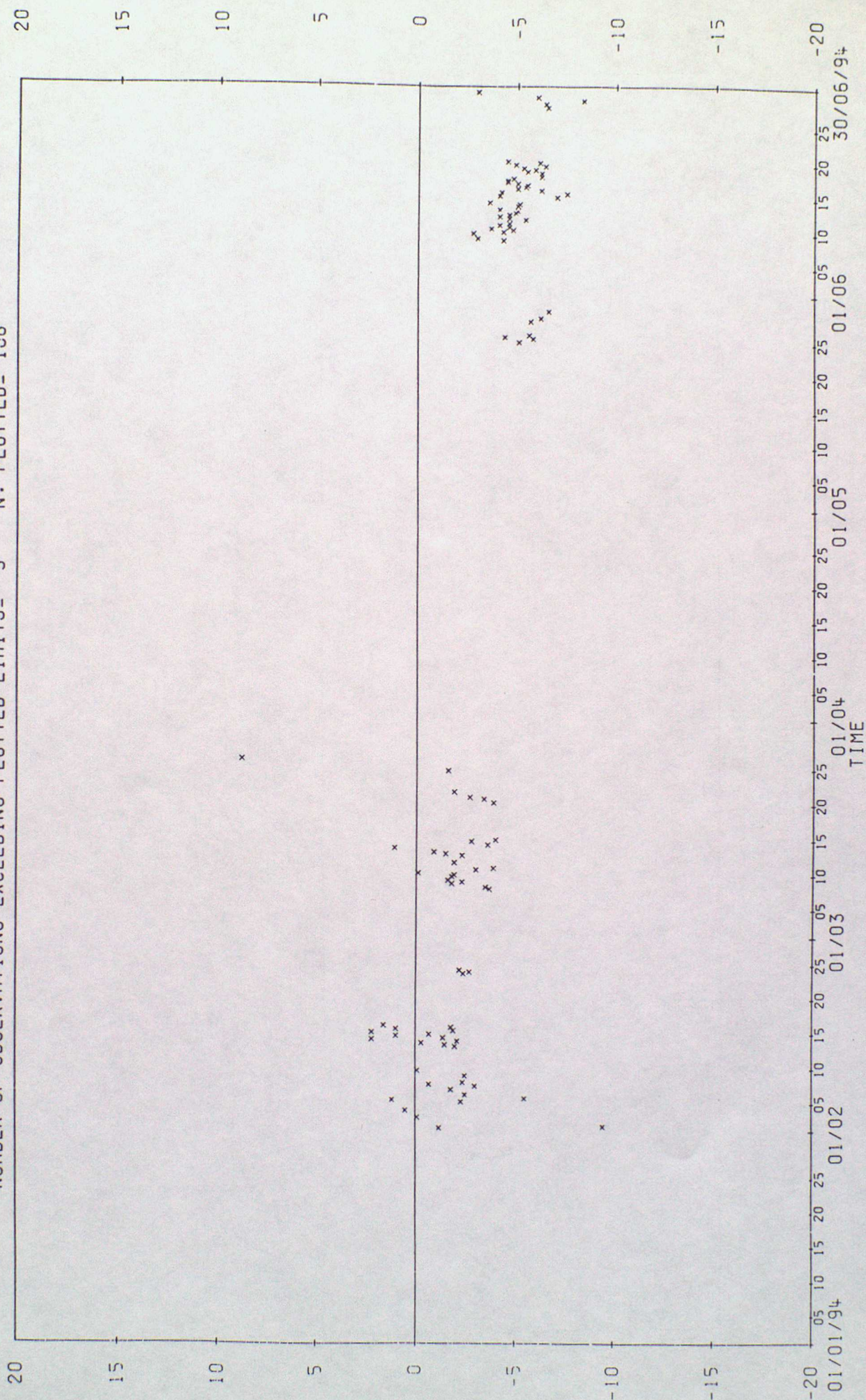
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ESDI

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 3 N. PLOTTED= 106

0-B

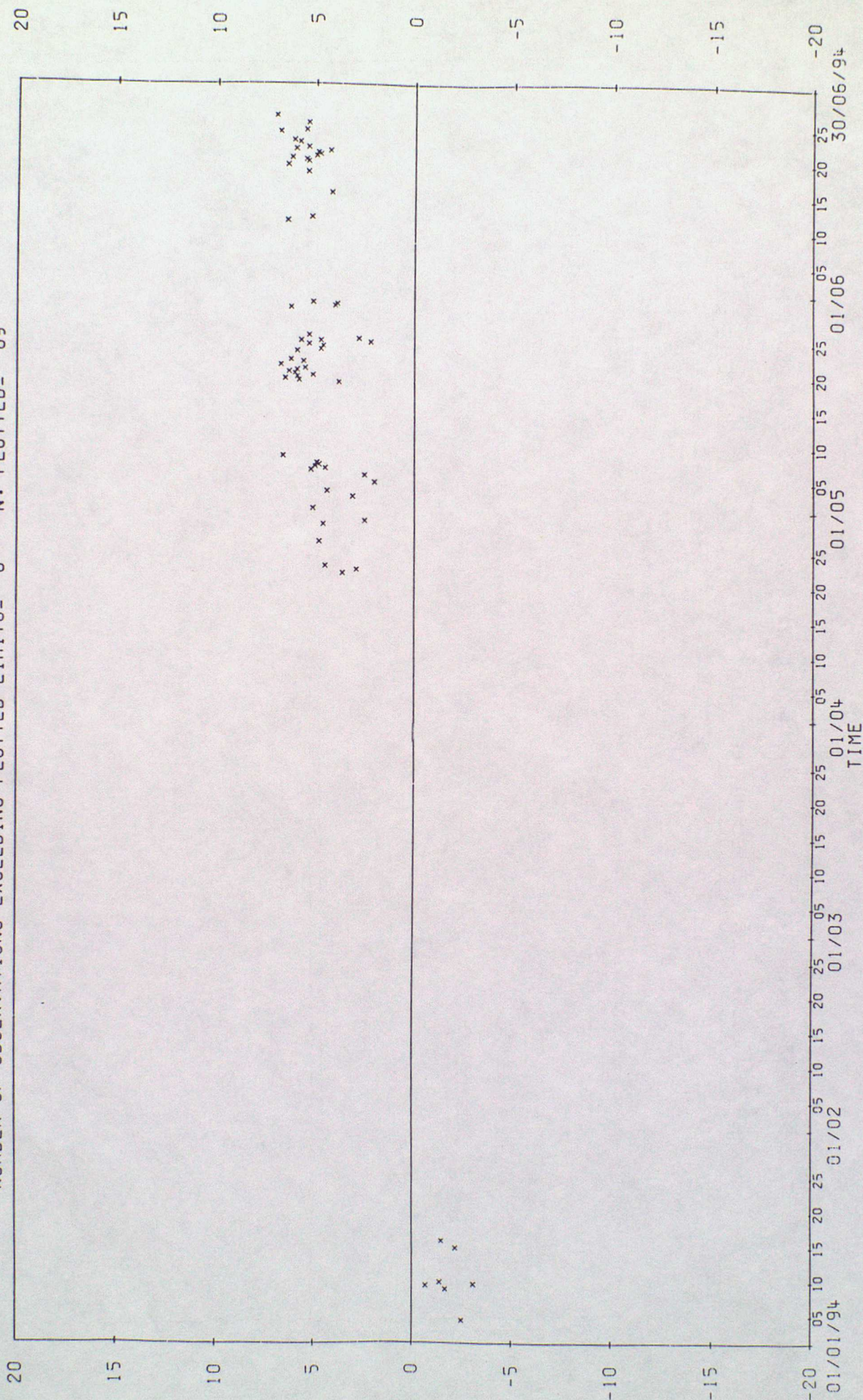




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: EUAF  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 69

O-B

O-B

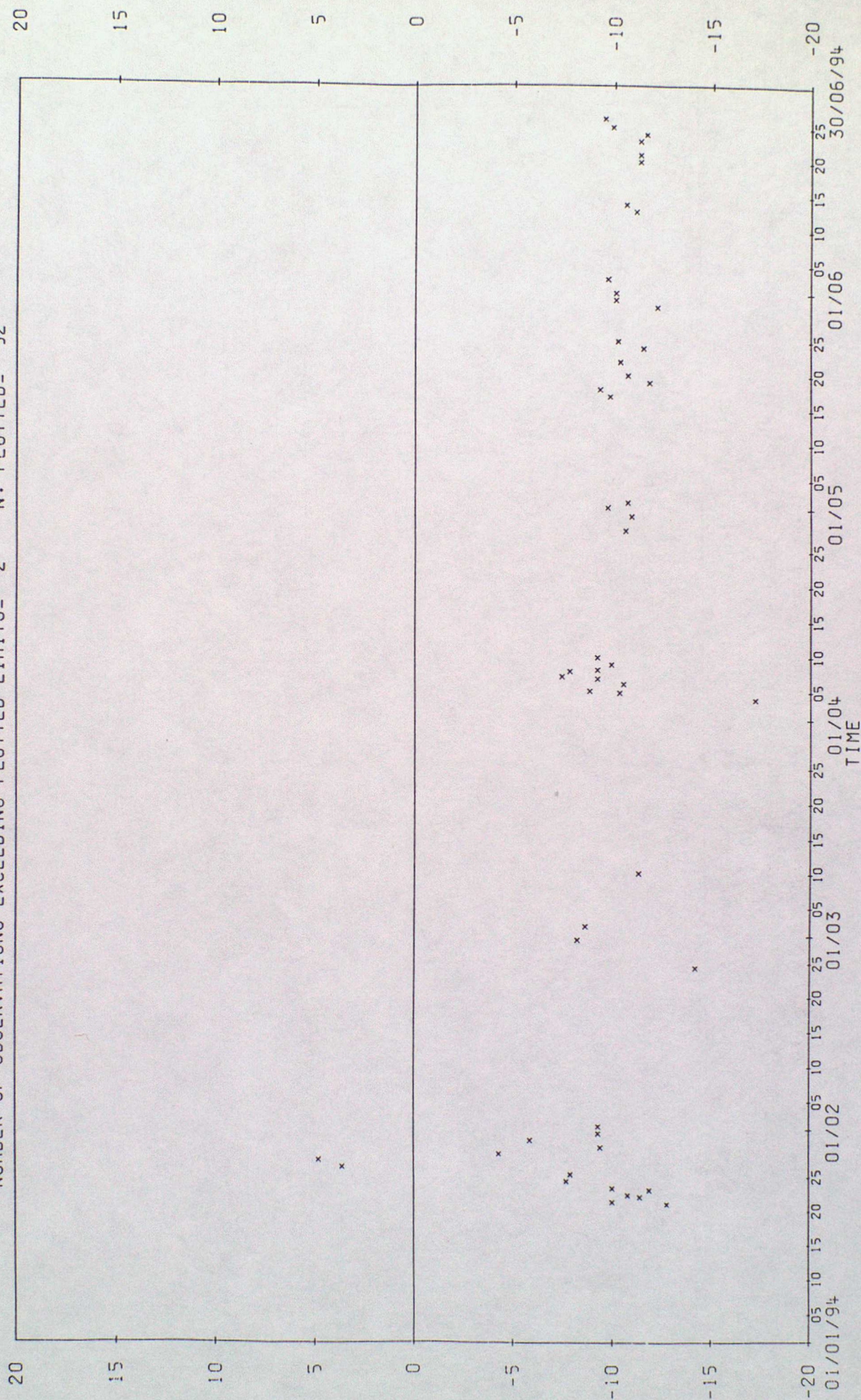




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: KRHZ  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 2 N. PLOTTED= 52

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

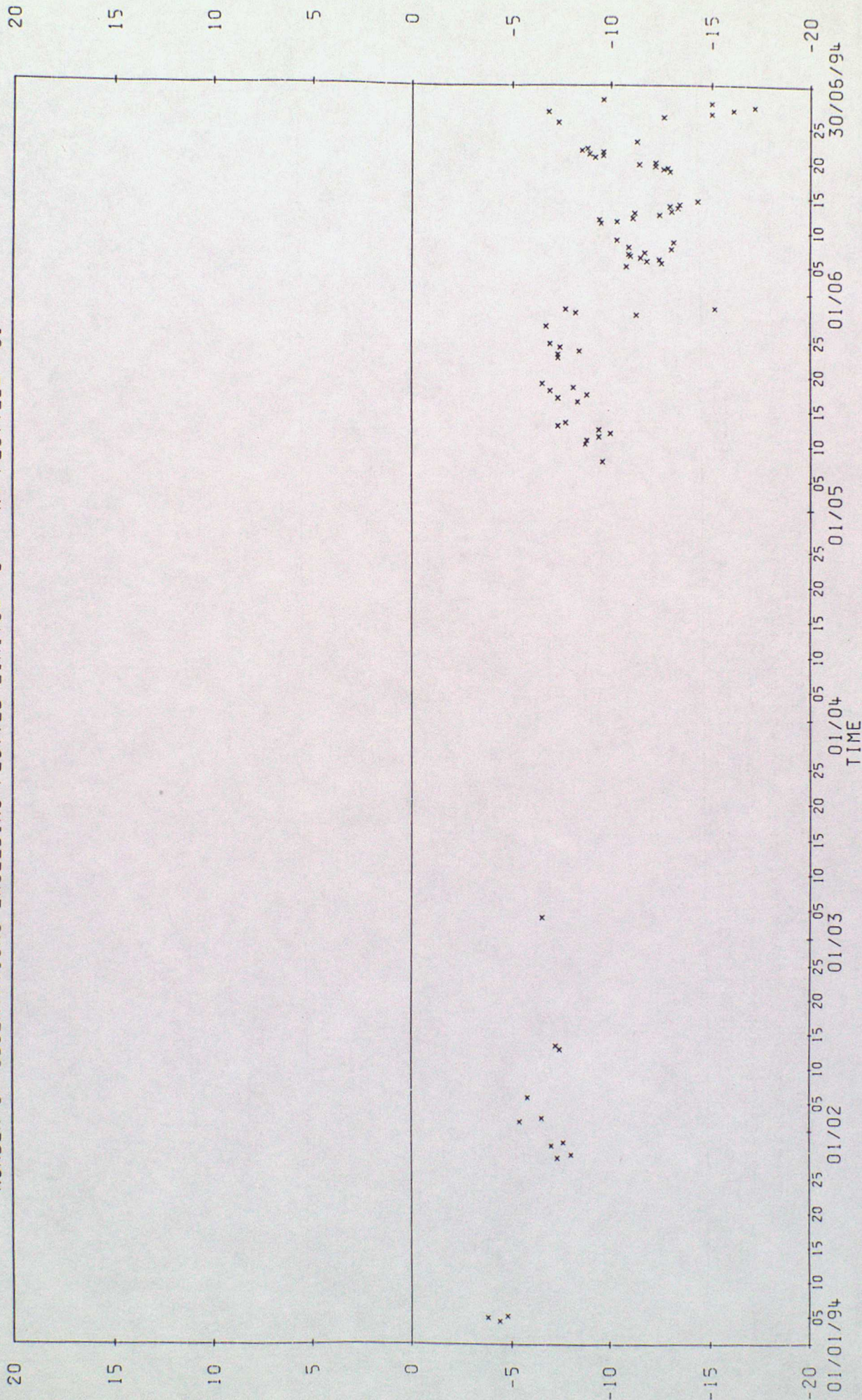
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: KXDB

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 81

0-B

0-B

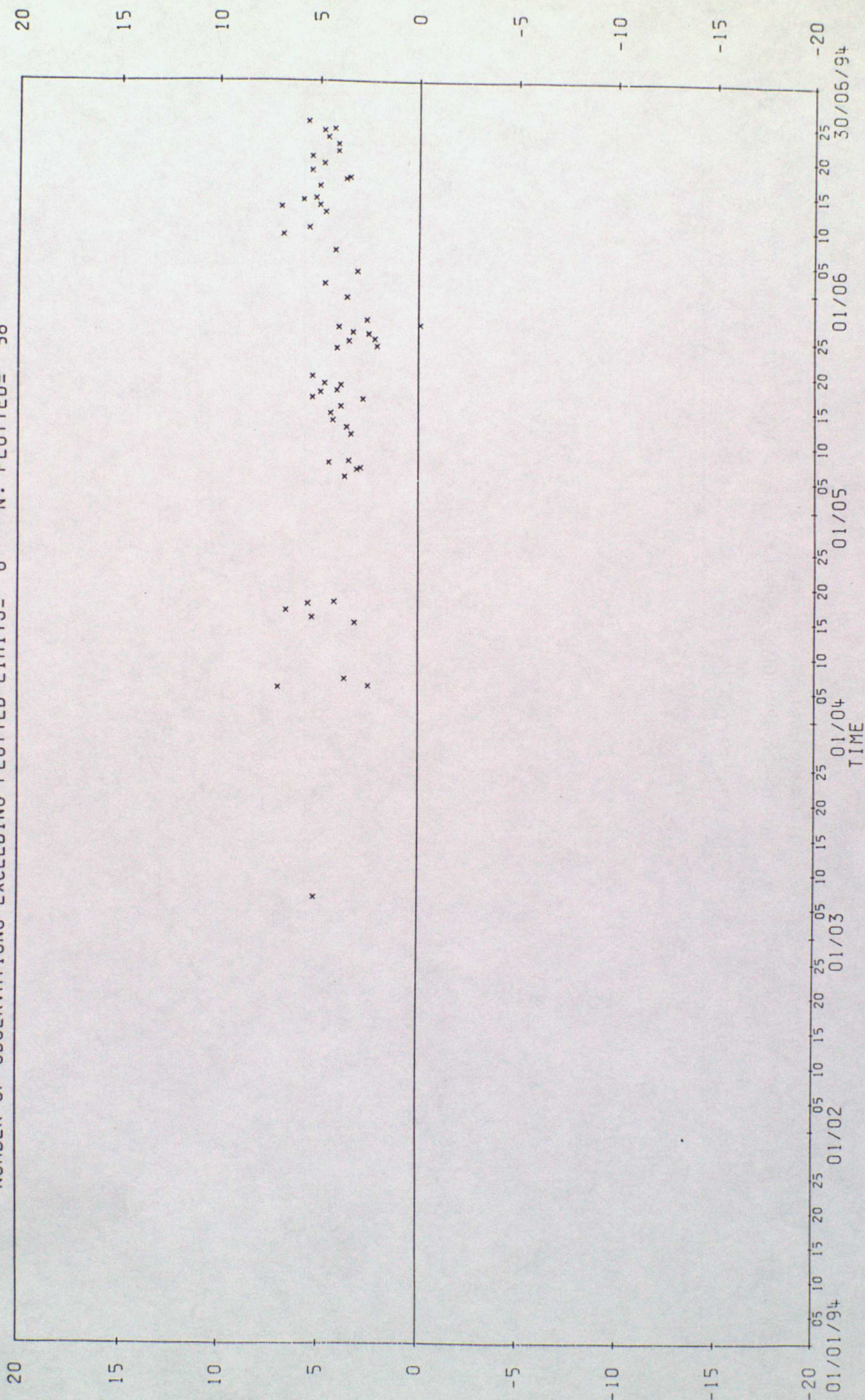




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: LAMT4  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 58

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

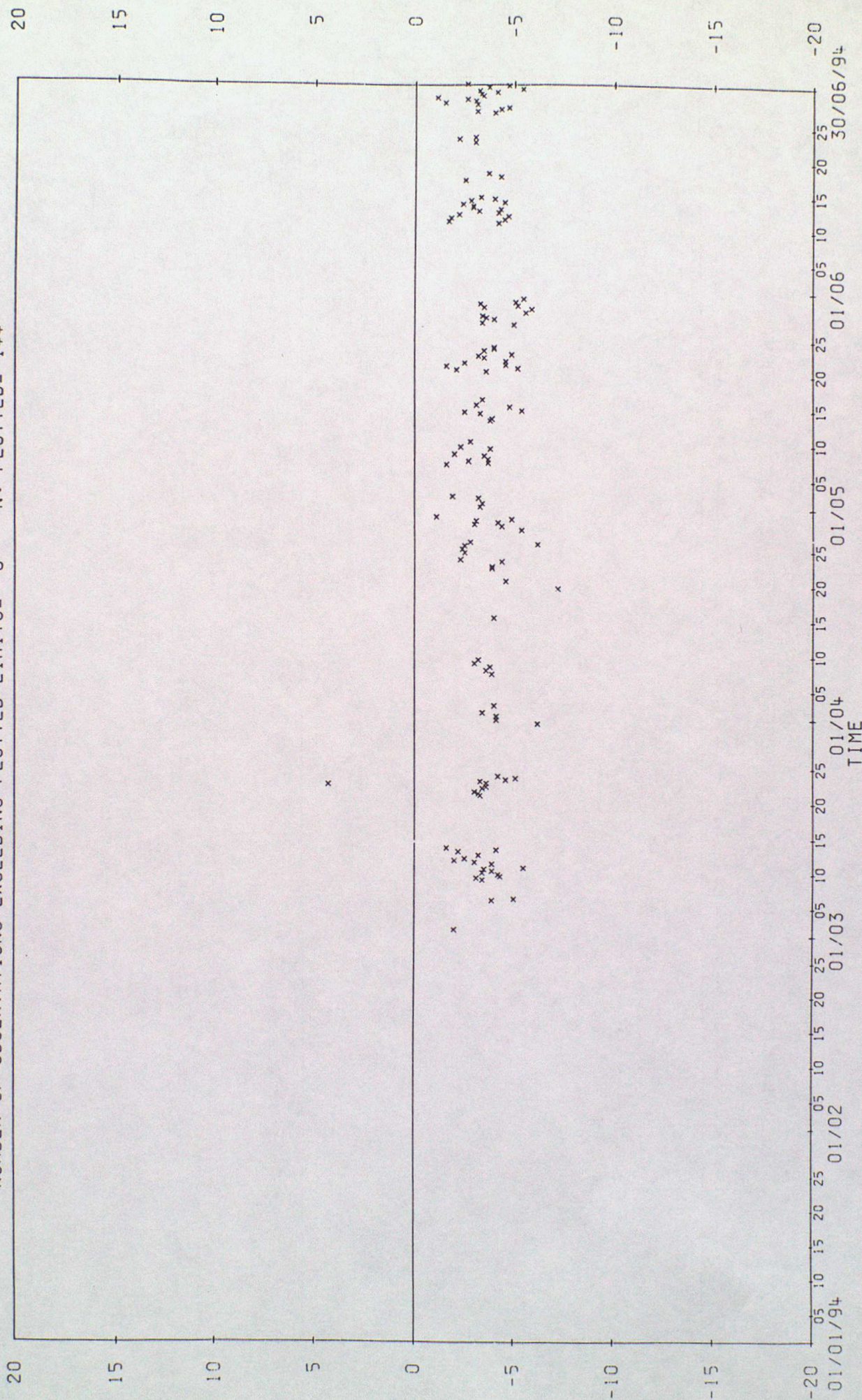
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: PEMA

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 144

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

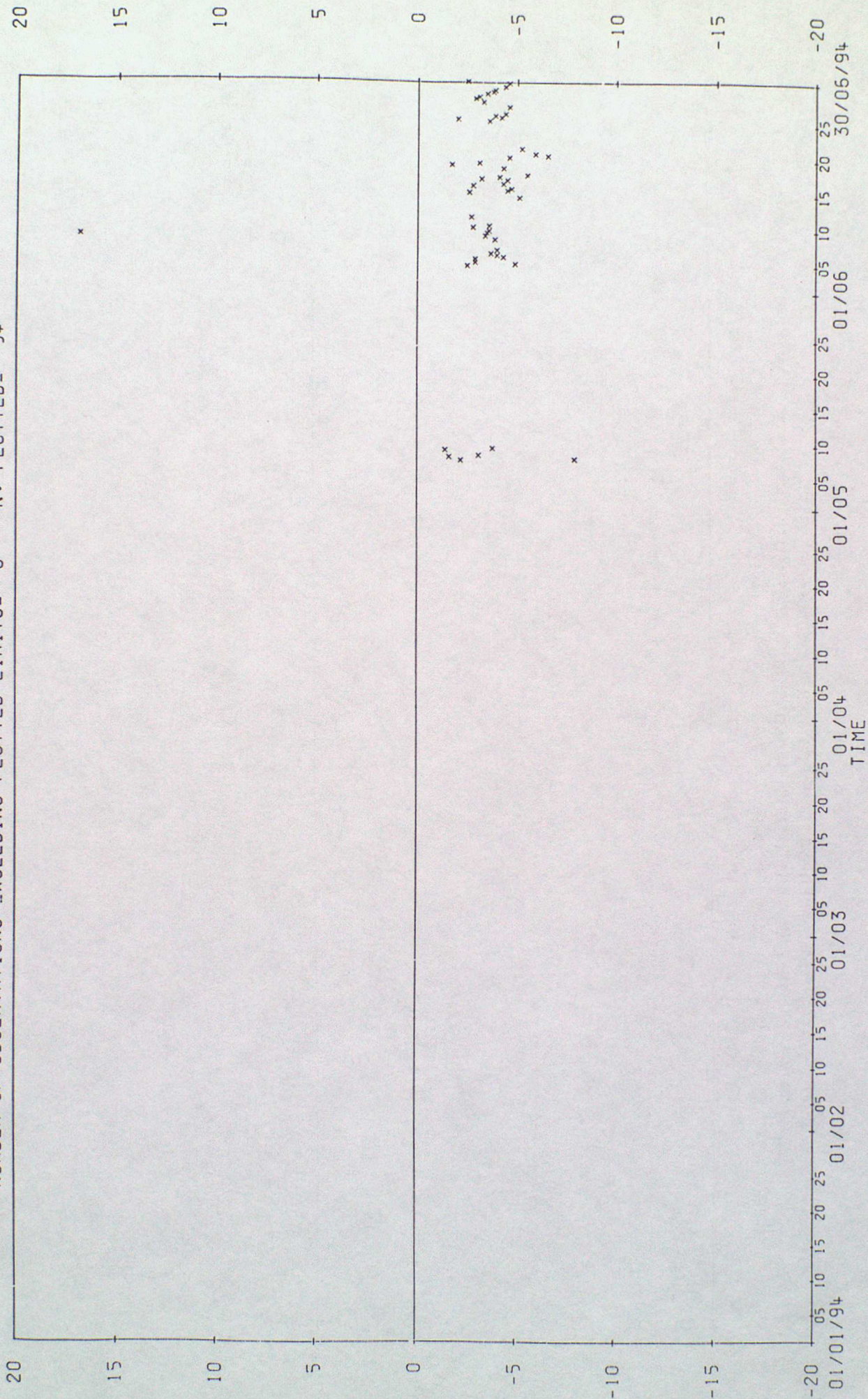
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: PENQ

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 54





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

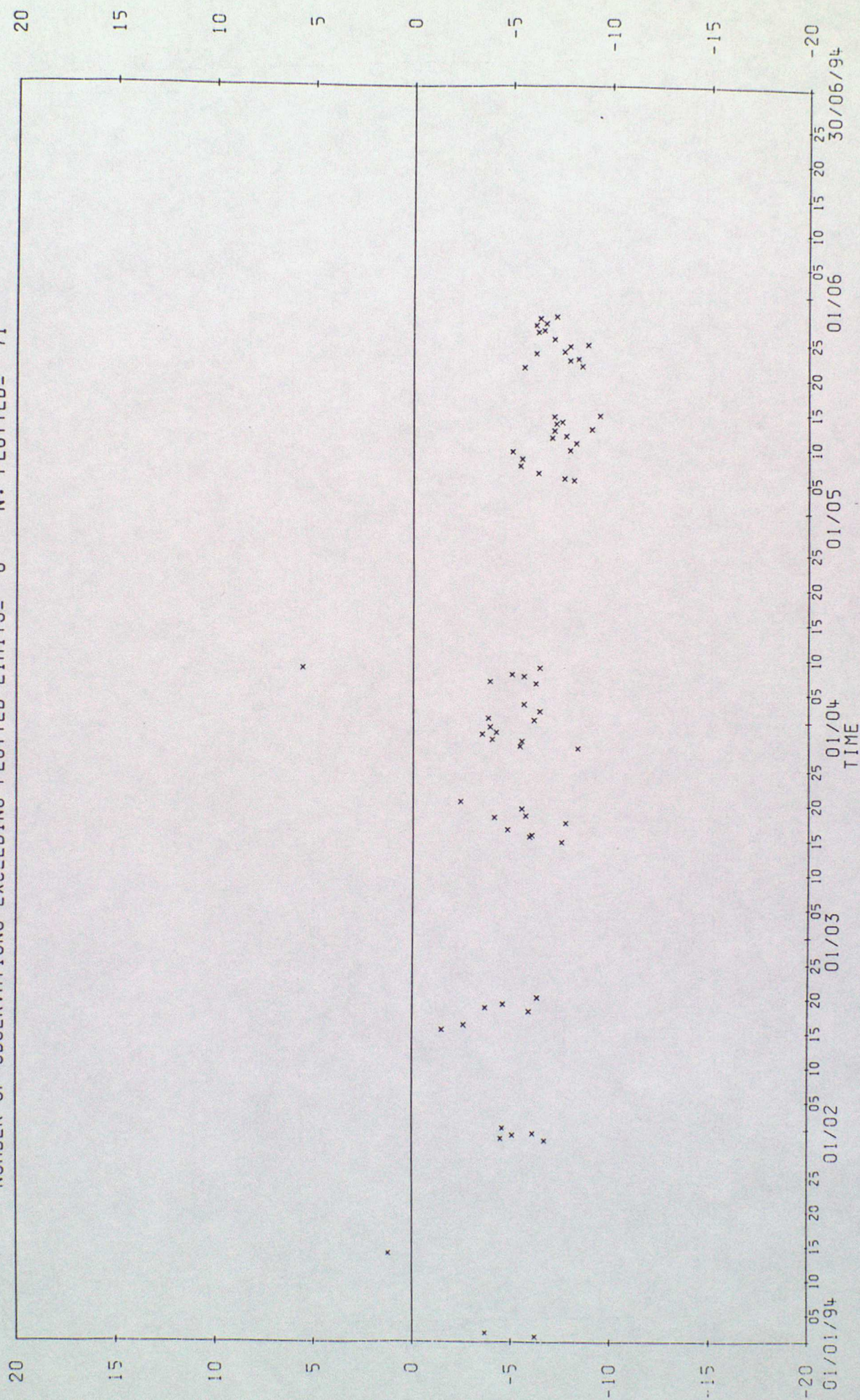
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: P3ZL4

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 71

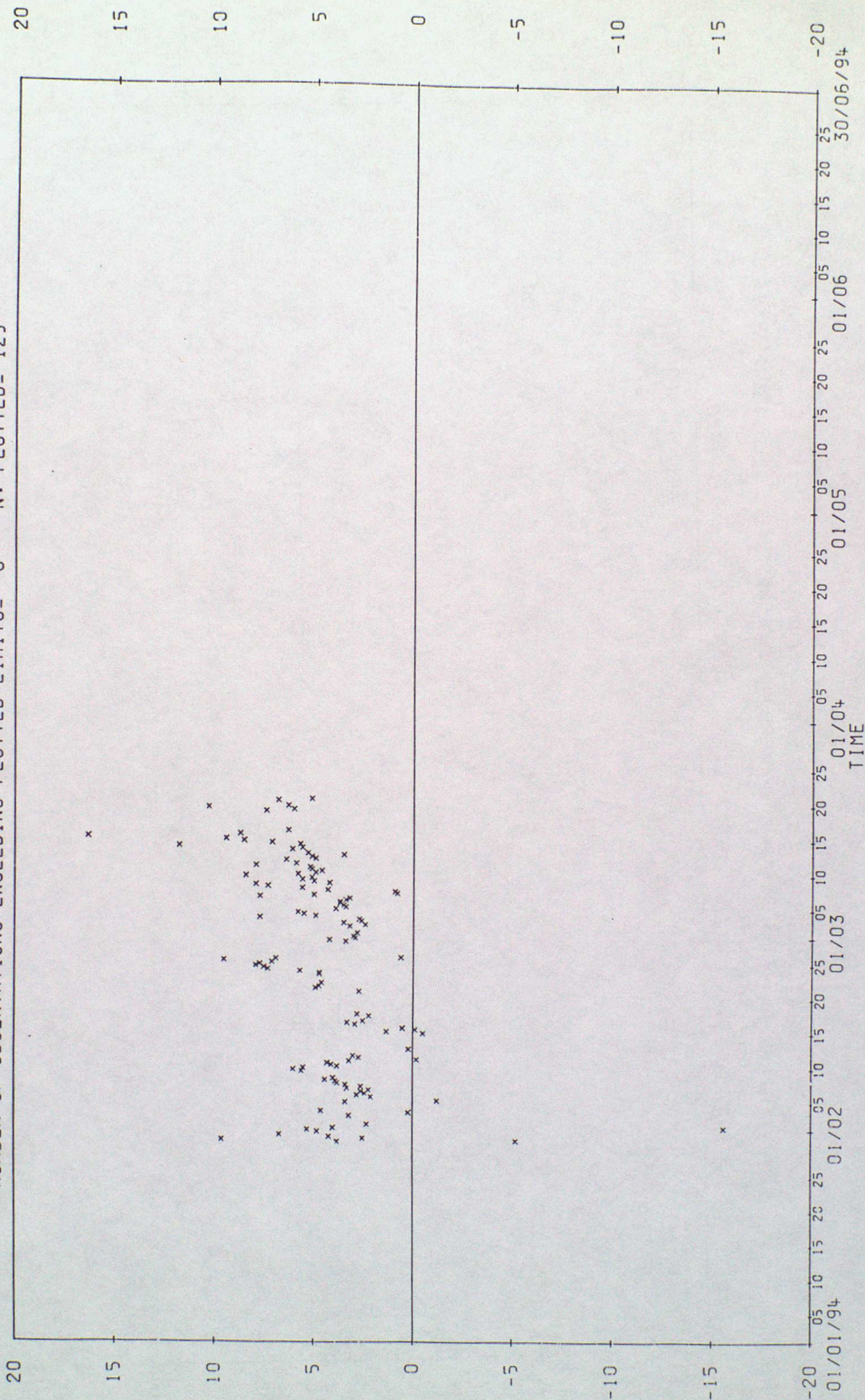
0-B

0-B





0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: SCYN  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 125  
 0-B





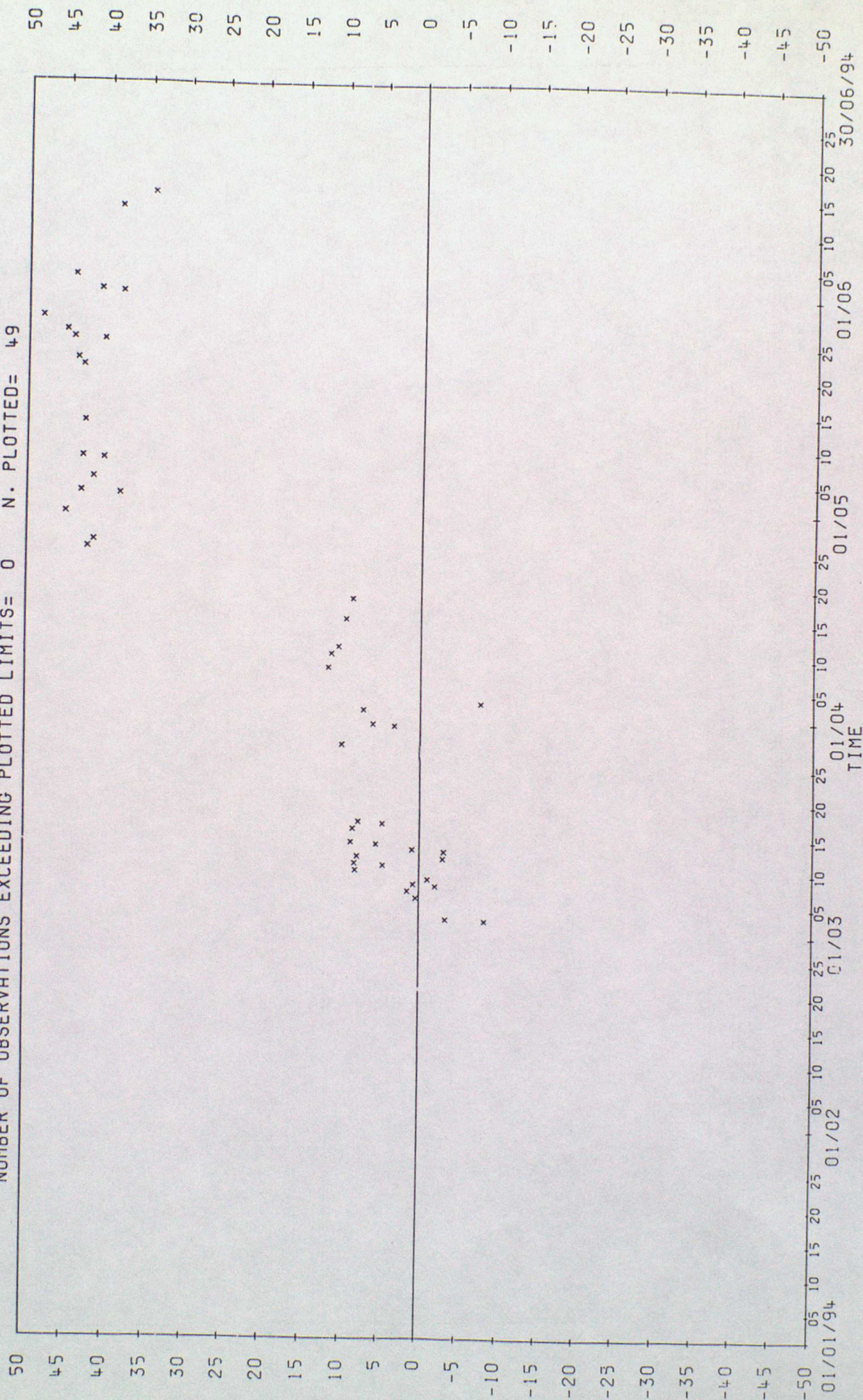
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UBHT  
 VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 49

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

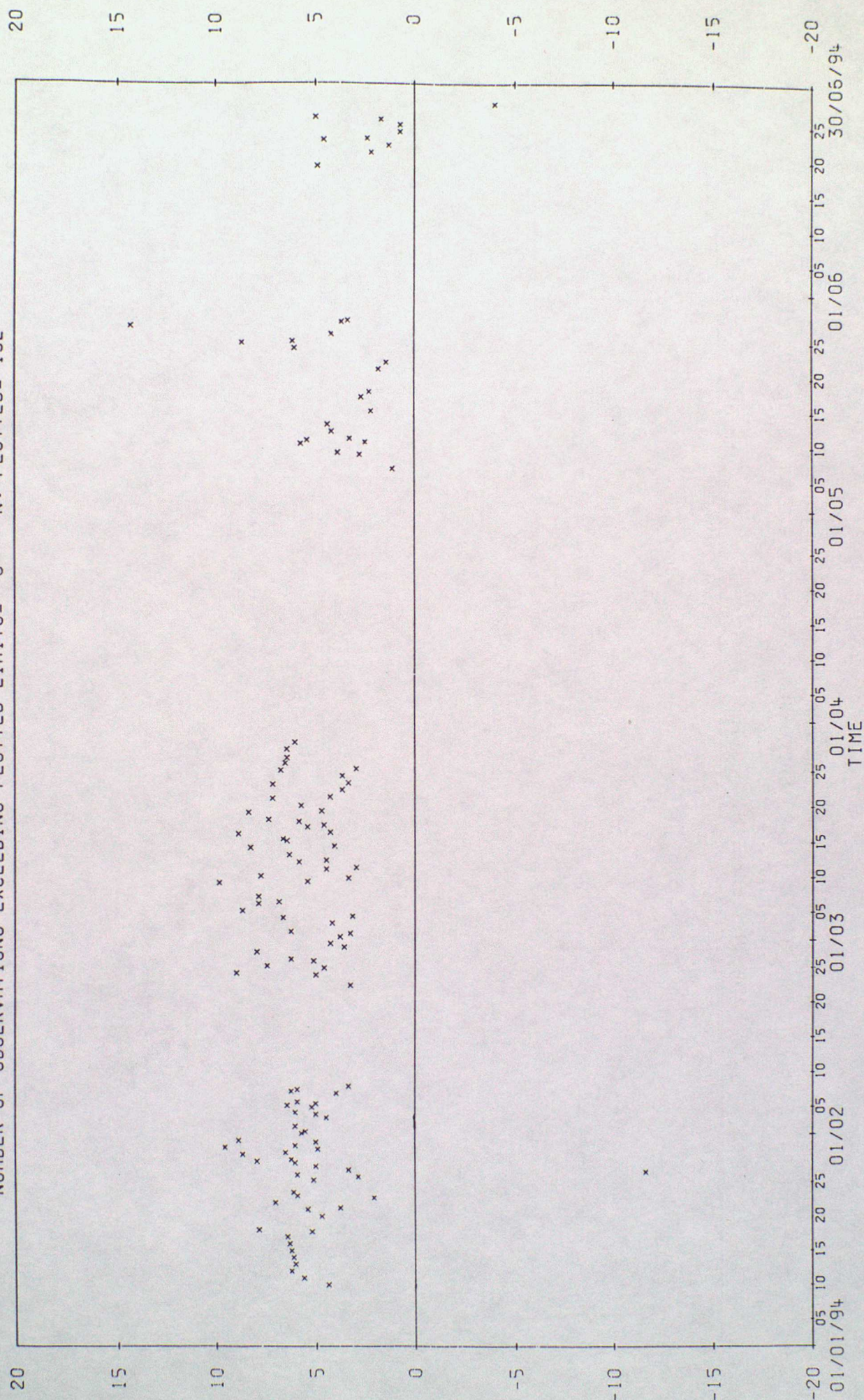
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UHUN

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 132

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

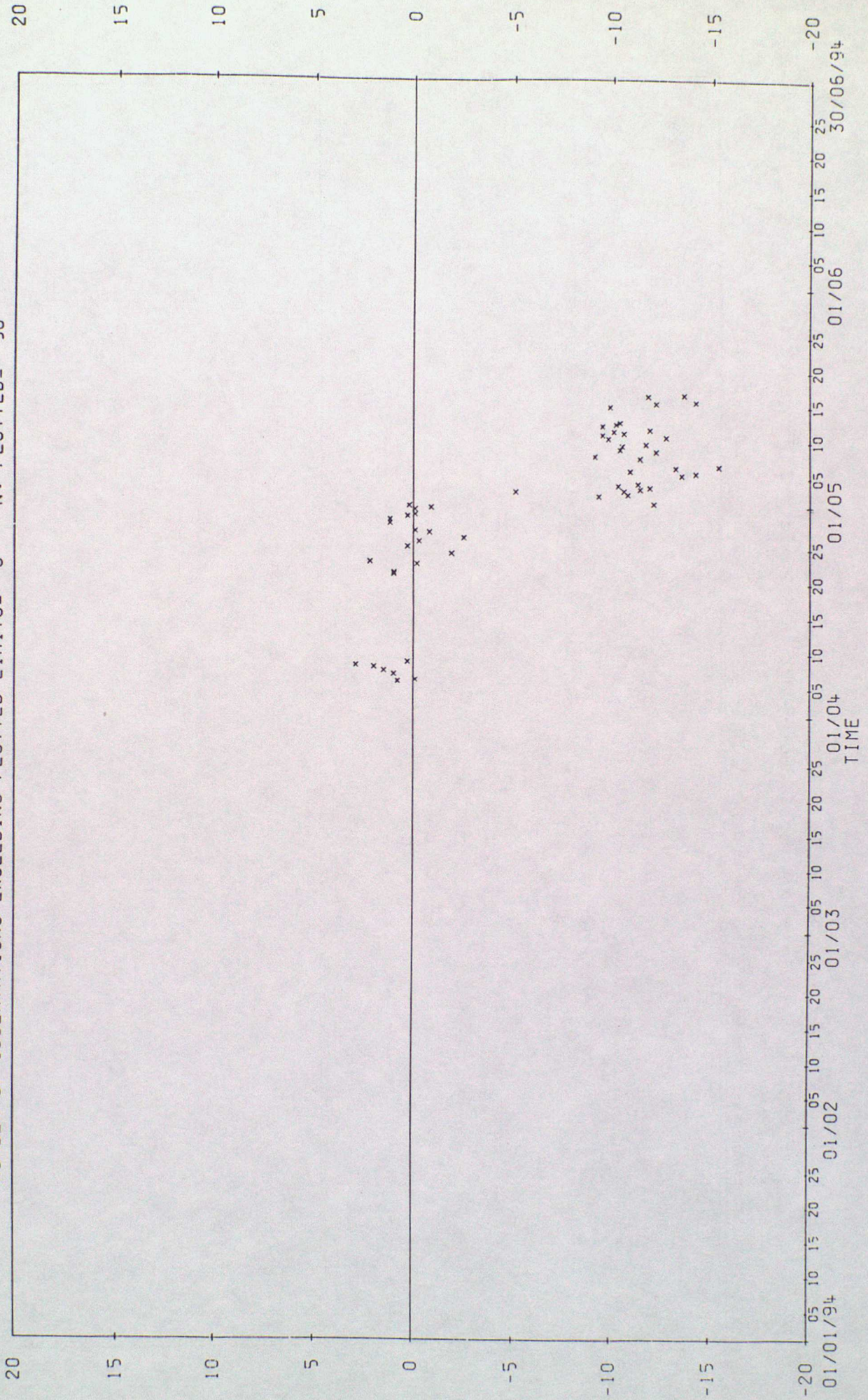
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UHZK

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 58

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

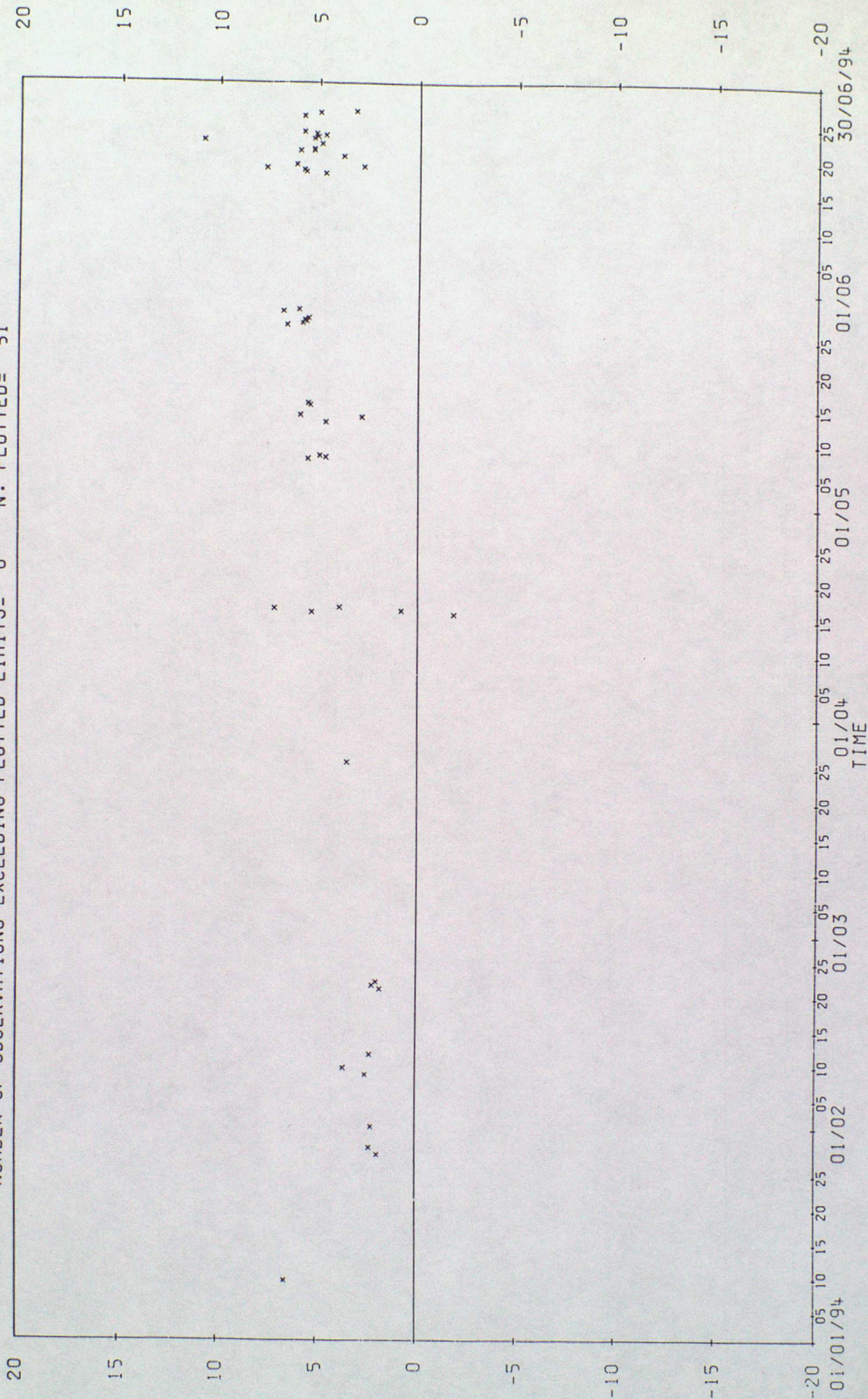
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UKTV

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 51





0-B

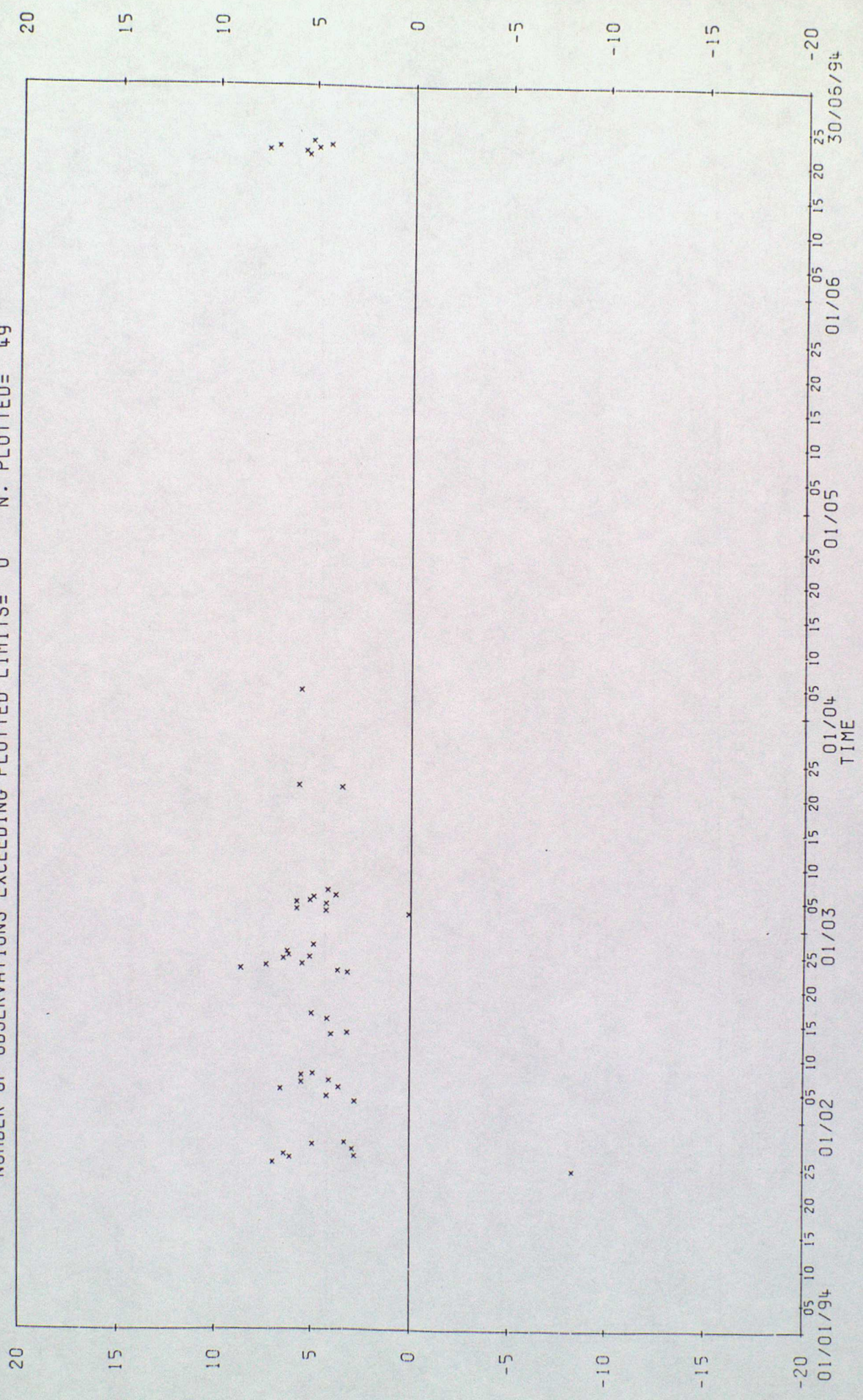
BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UNWJ

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 49

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

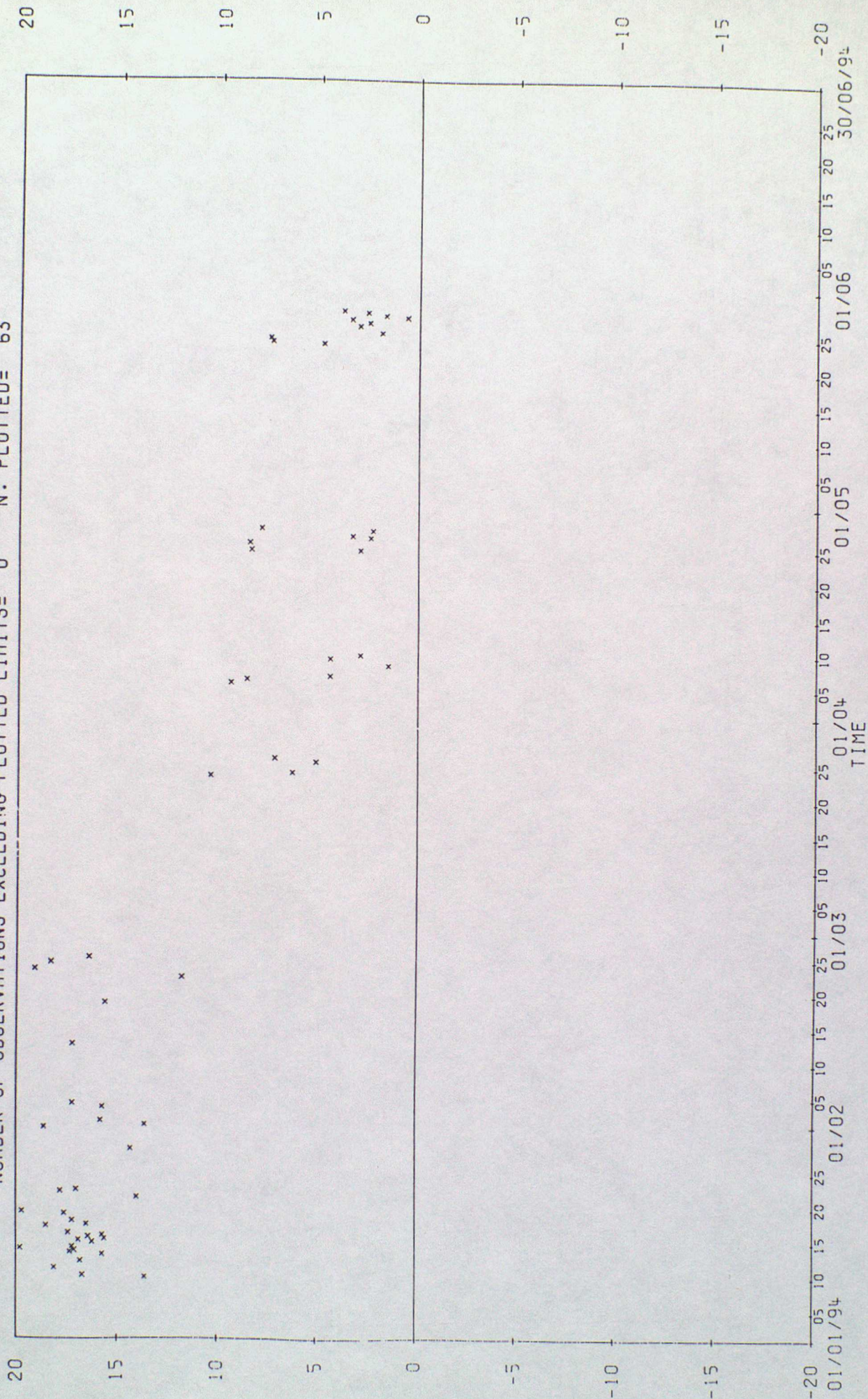
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UOVE

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 63

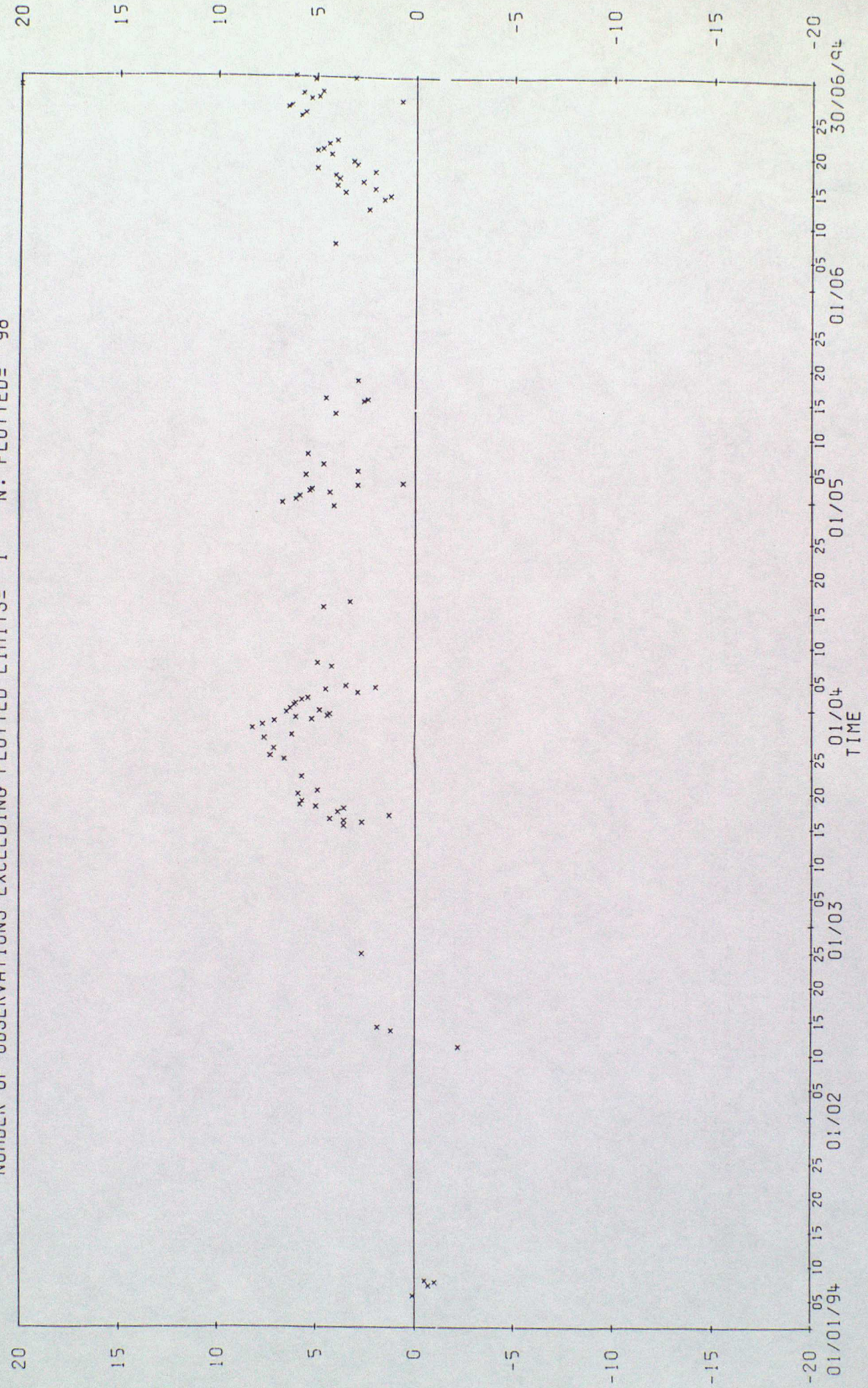




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: UPIU  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 98

O-B

O-B



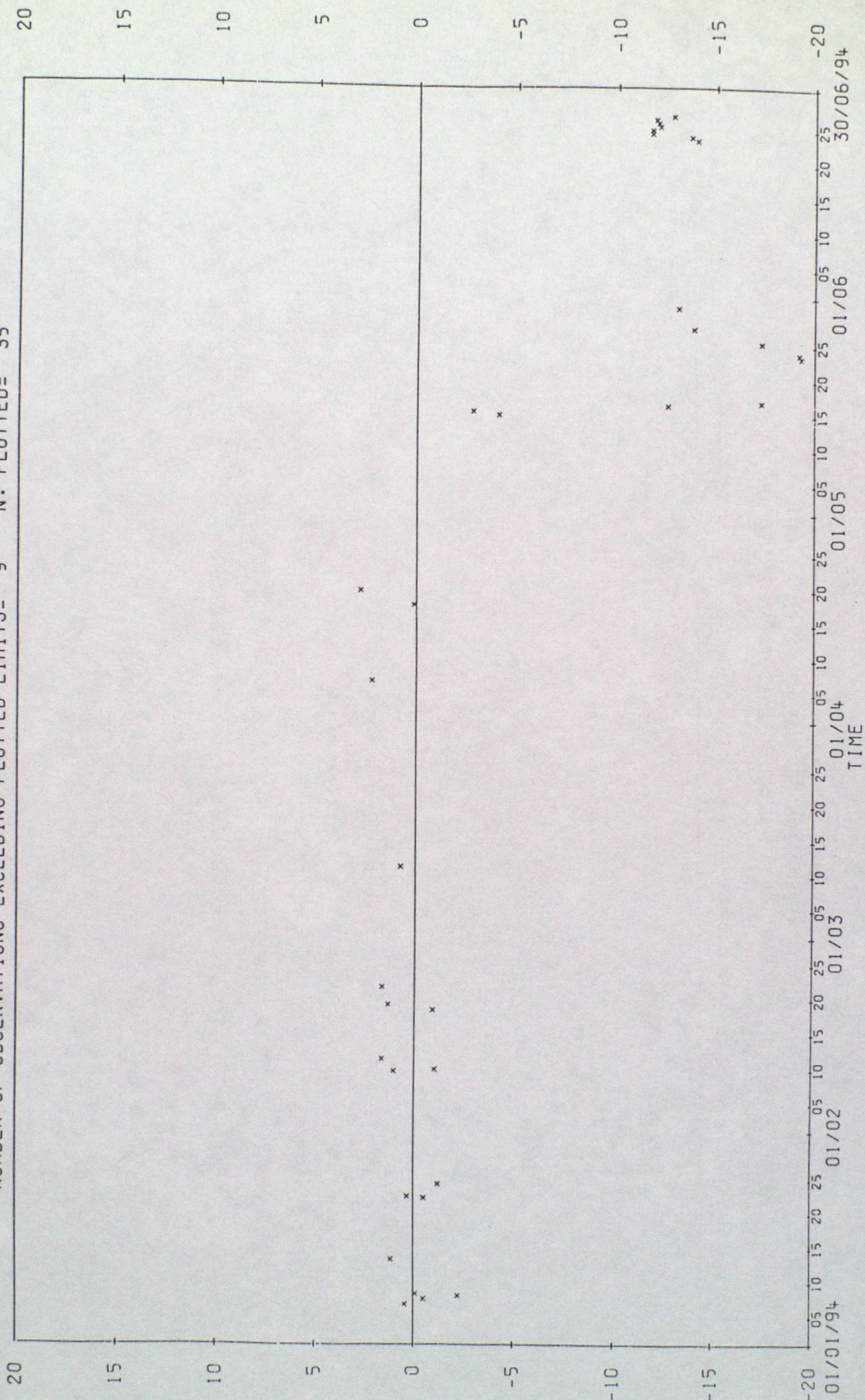


# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: USBZ 0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 9 N. PLOTTED= 35





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

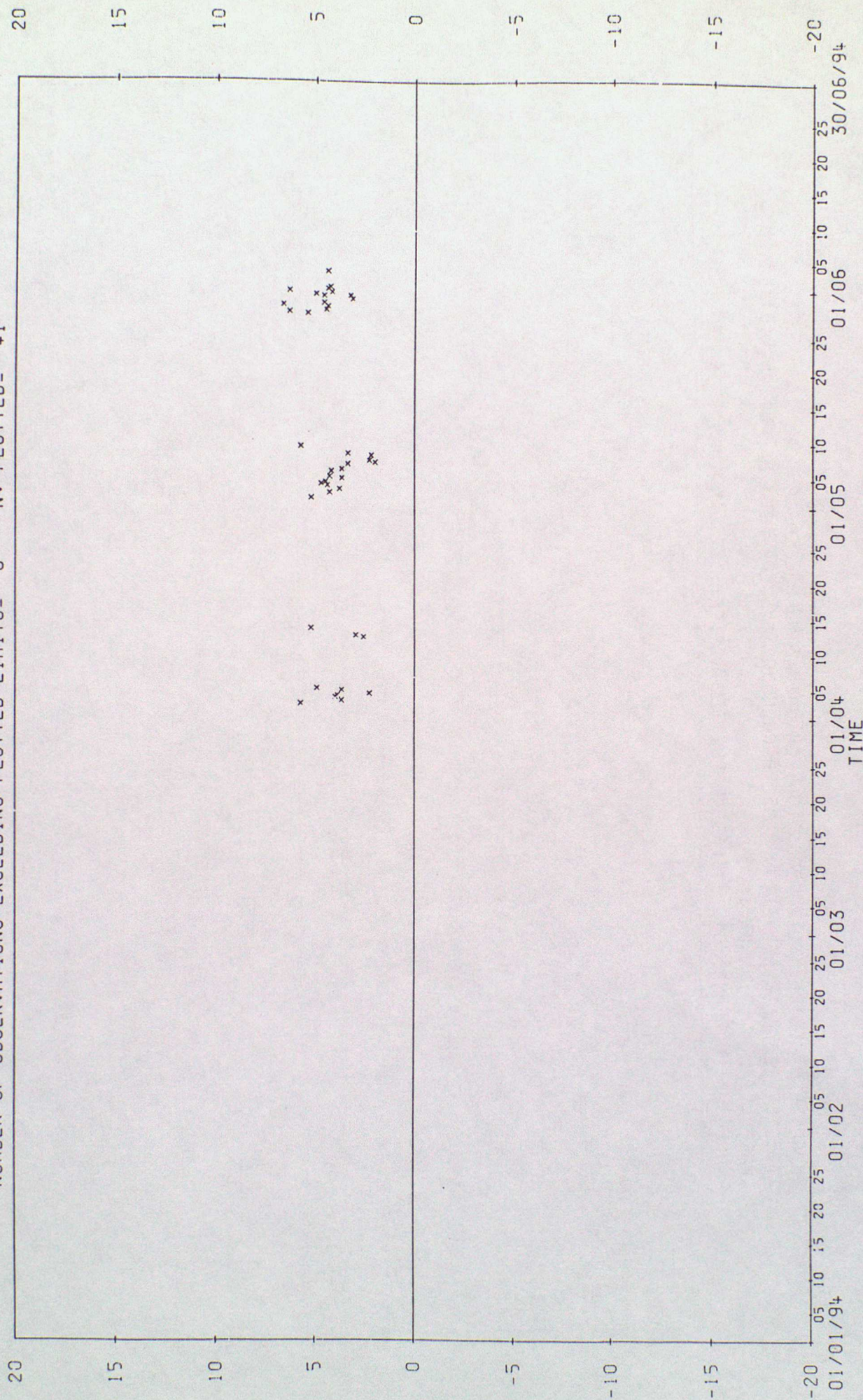
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UULE

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 41

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

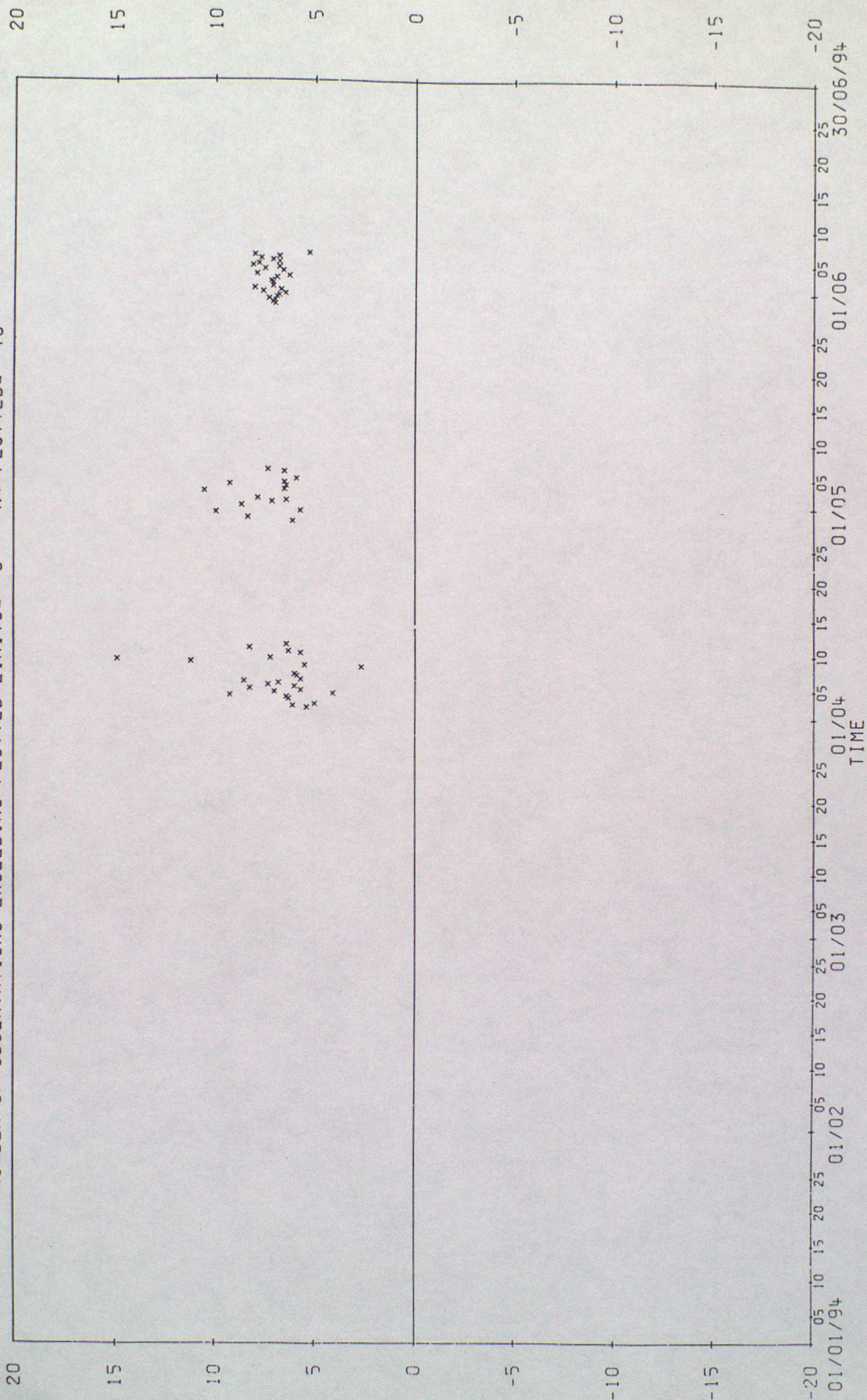
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UU00

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 70

0-B

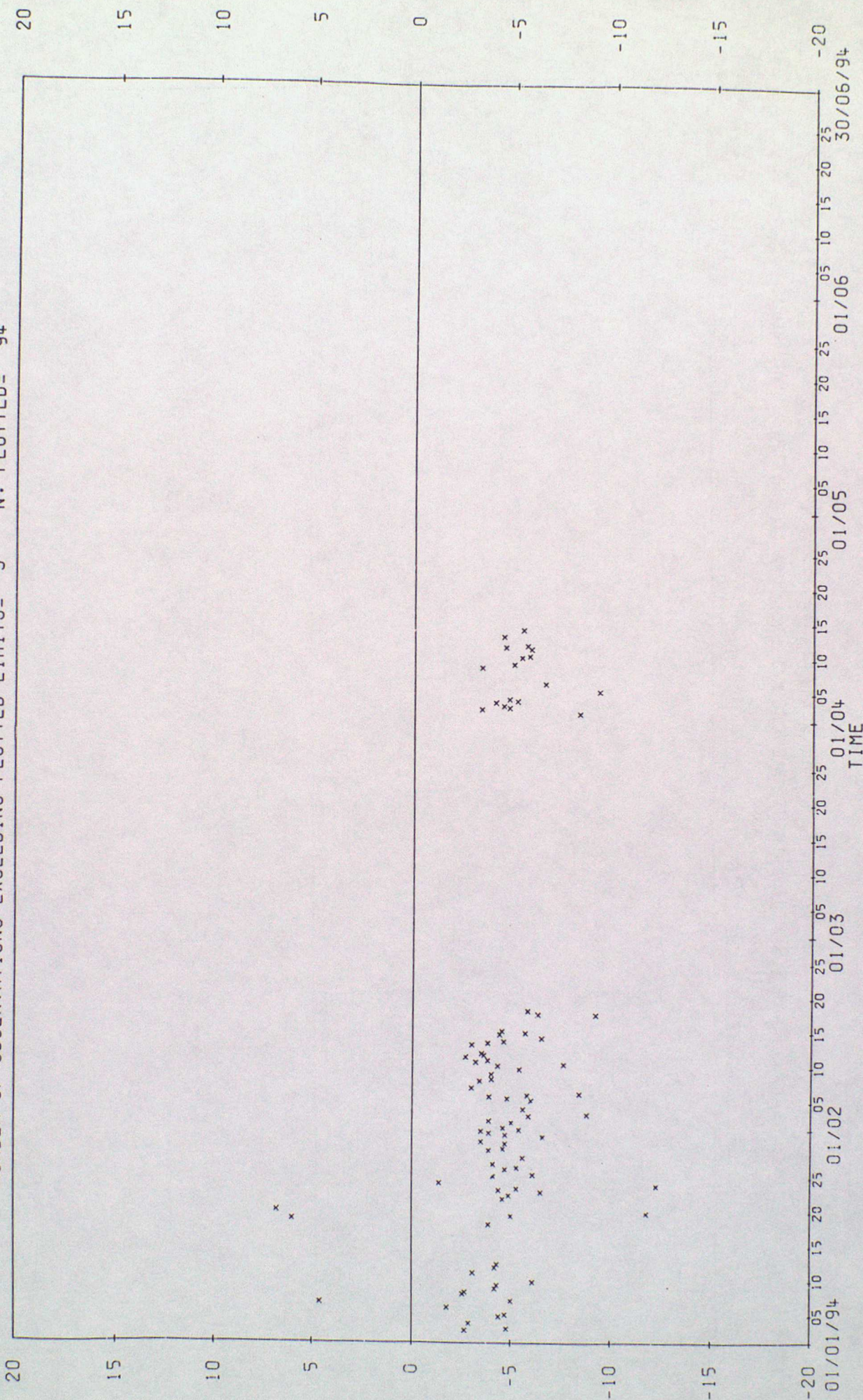




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UYJL  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 3 N. PLOTTED= 94

0-B

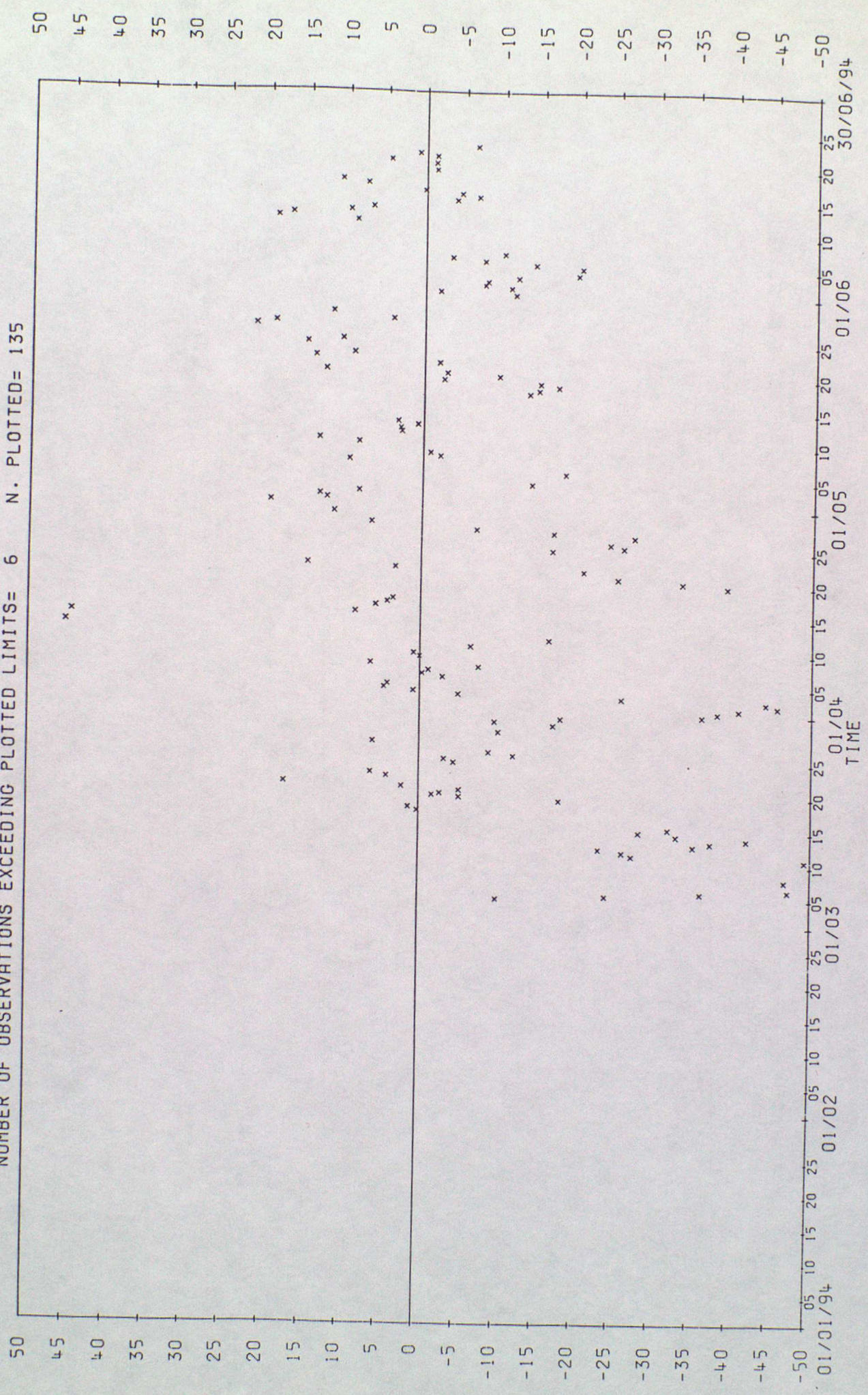
0-B





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UYKD  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 6 N. PLOTTED= 135

0-B



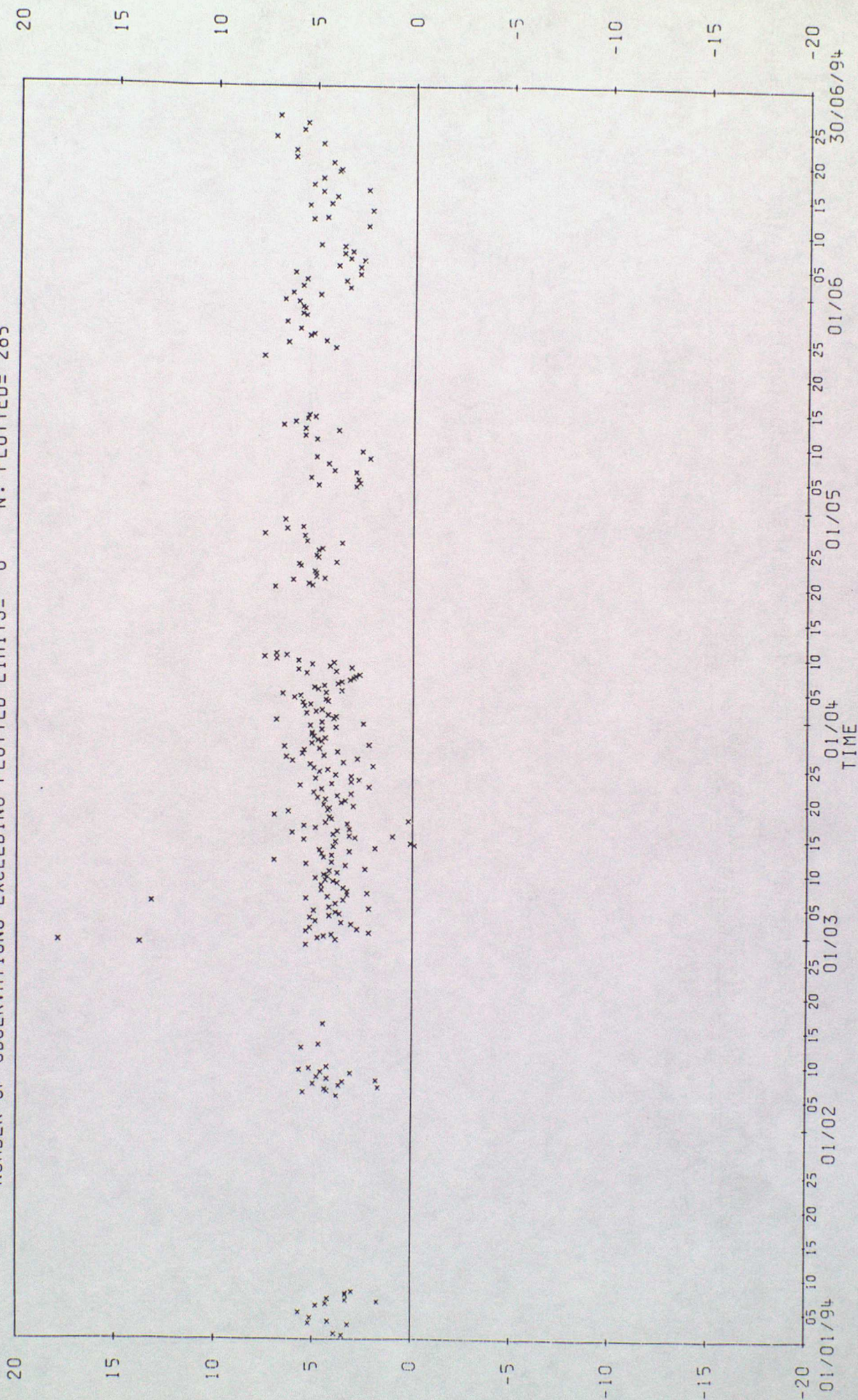
0-B



BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: VRUA4  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 285

O-B

O-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

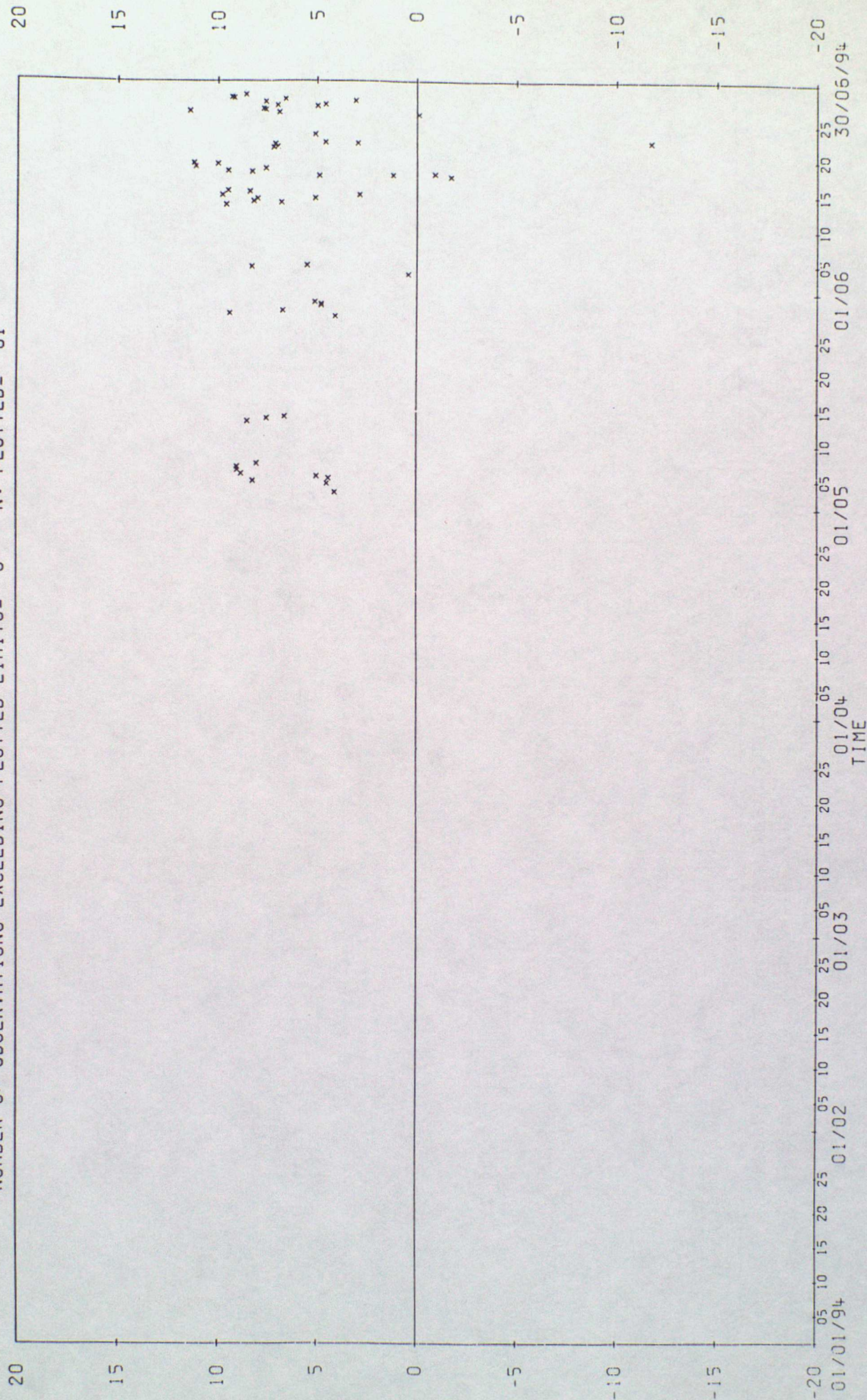
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: WC85820

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 61





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

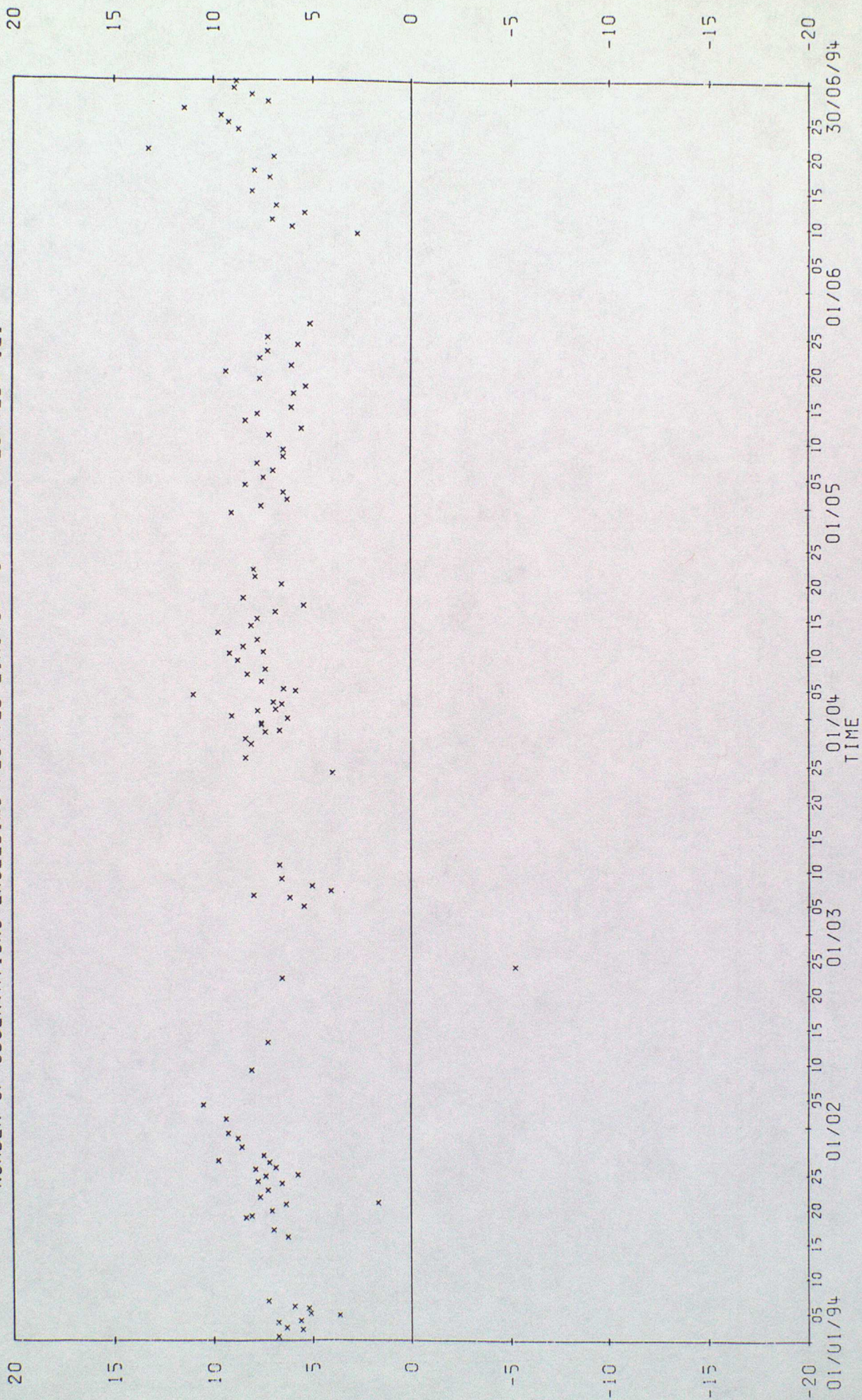
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: WCZB

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 121





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

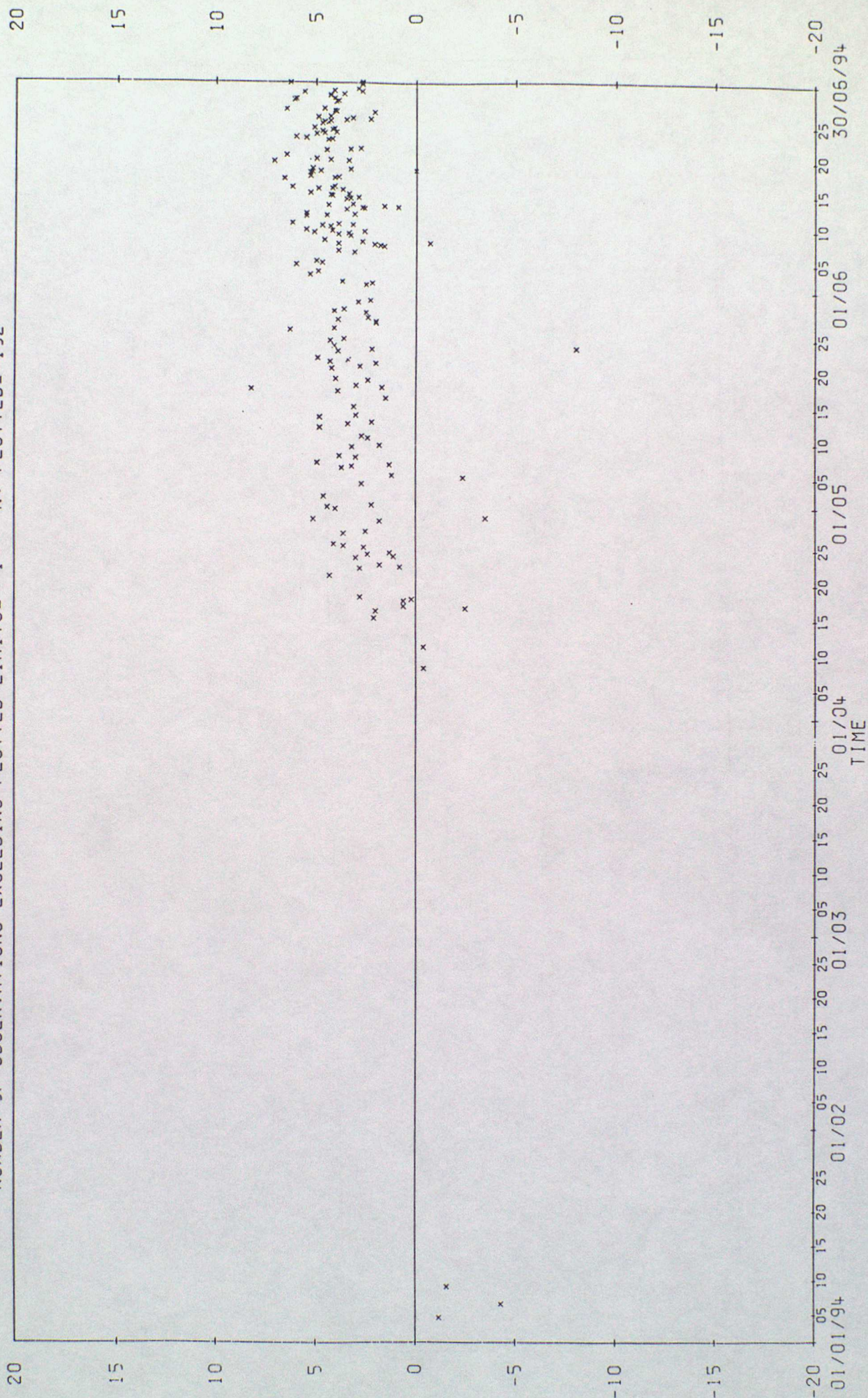
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: WYR4481

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 192

0-B

0-B

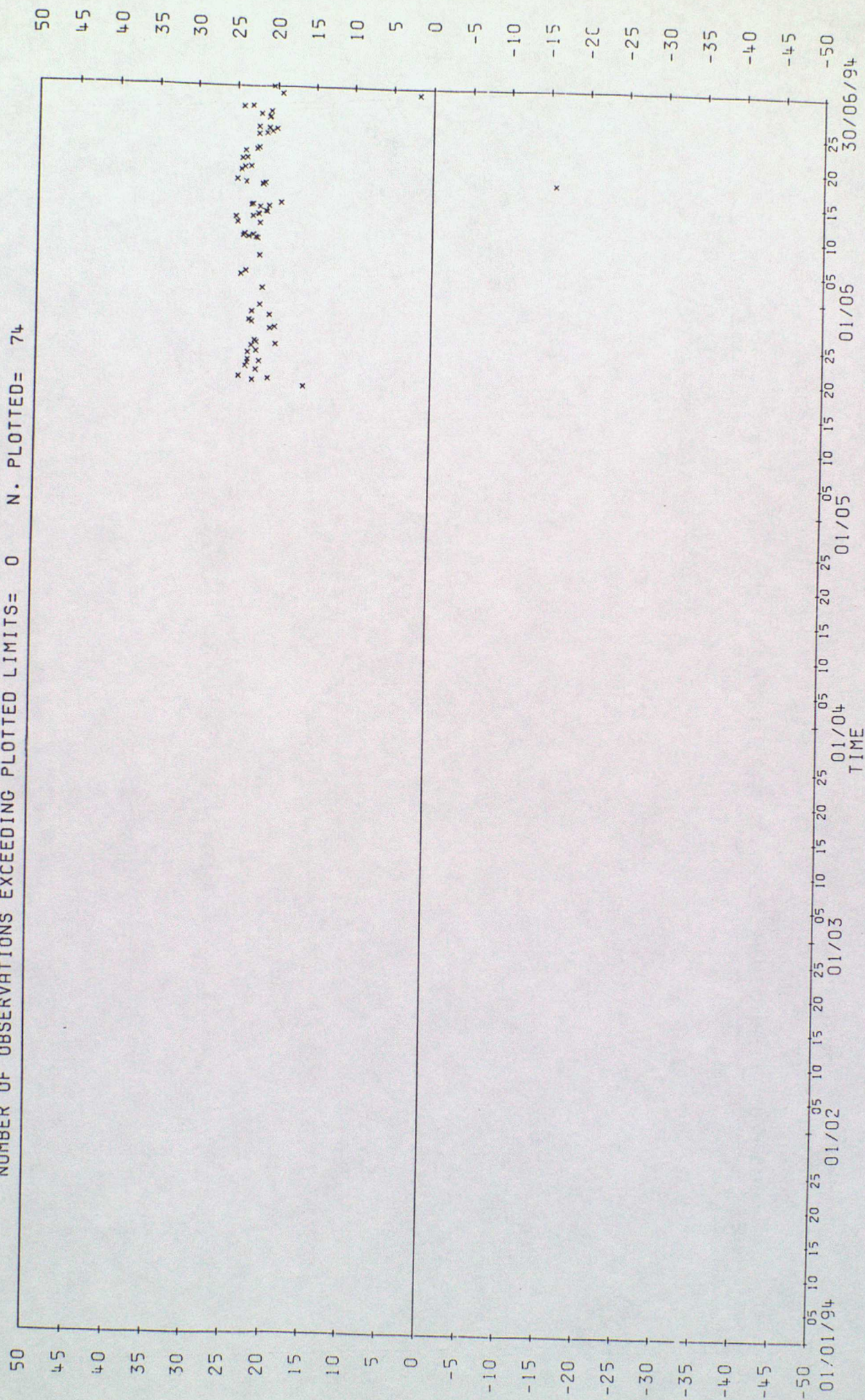




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: WZE4928  
 VARIABLE : MSLP IN UNITS OF HPA  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 74

O-B

O-B



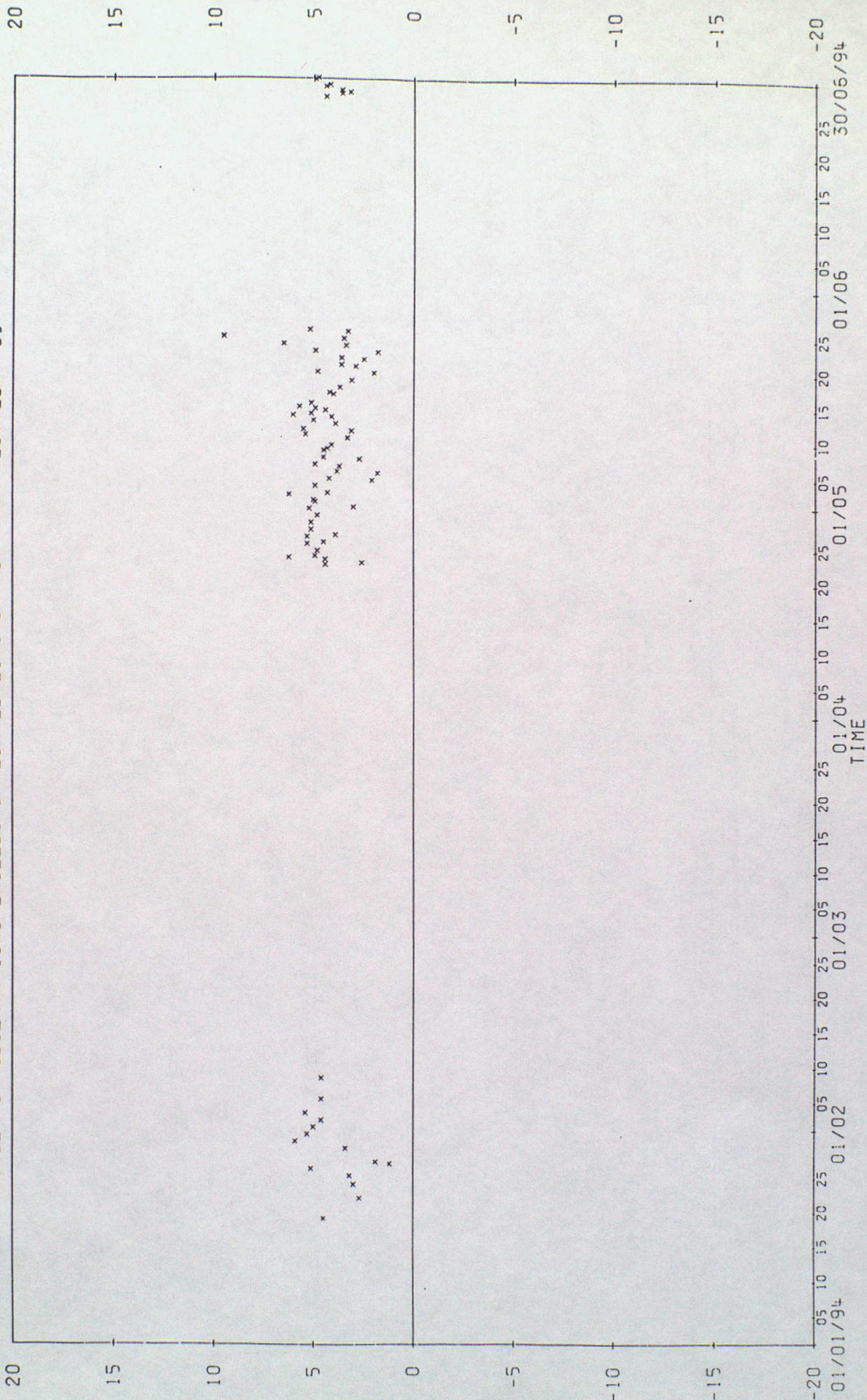


# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ZBWP 0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 85





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

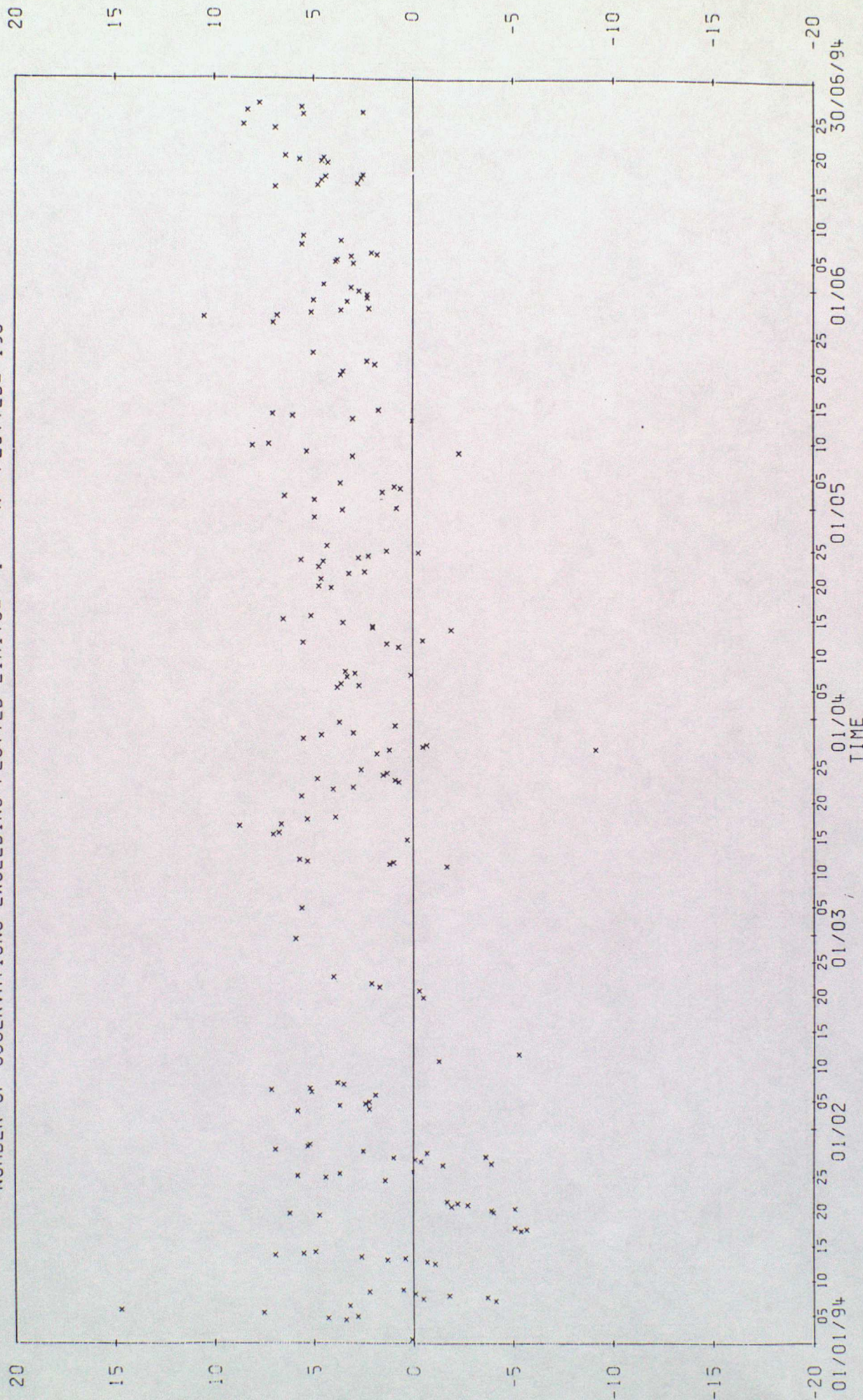
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ZCAM9

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 196

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

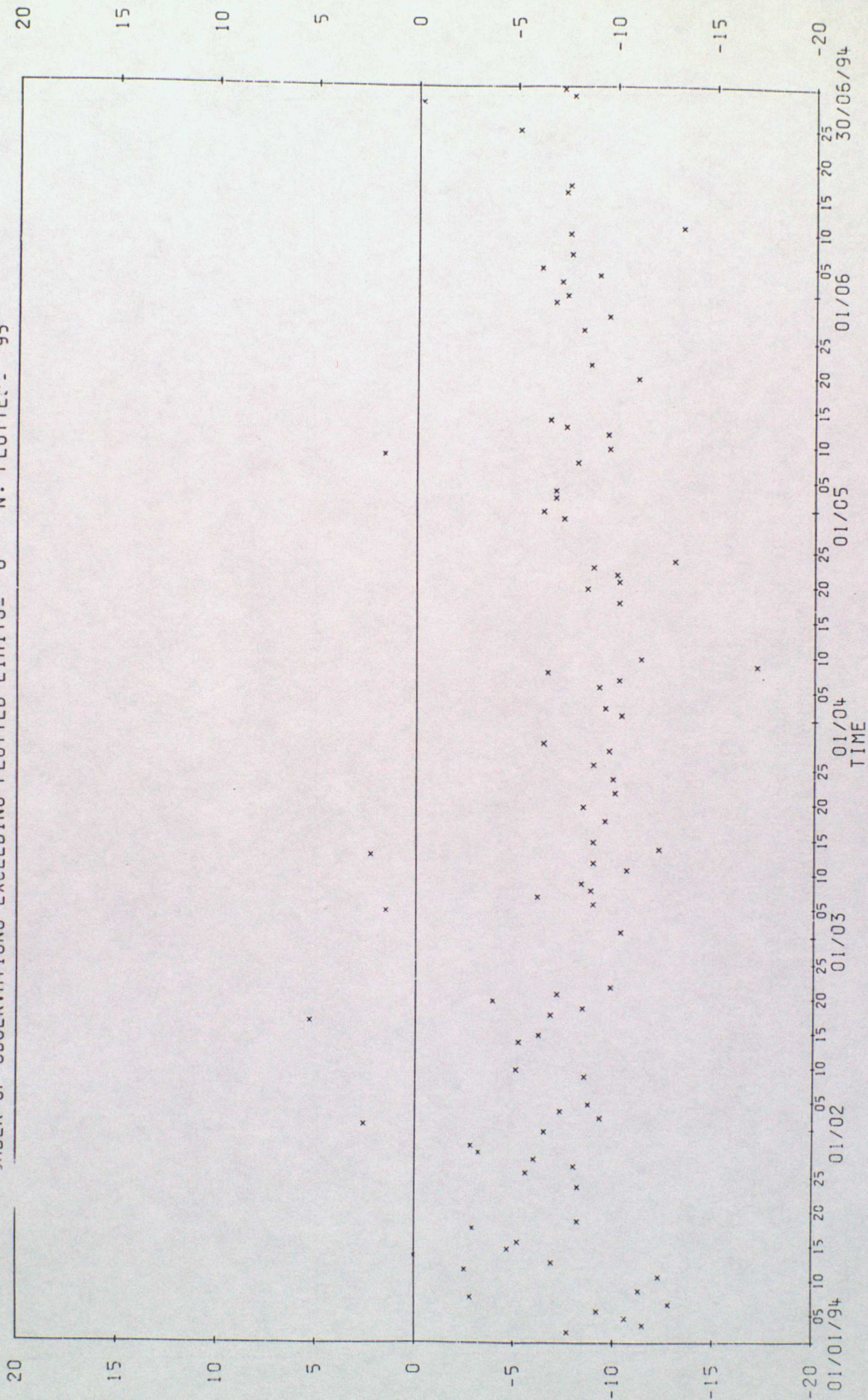
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ZSBK

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED: 95

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

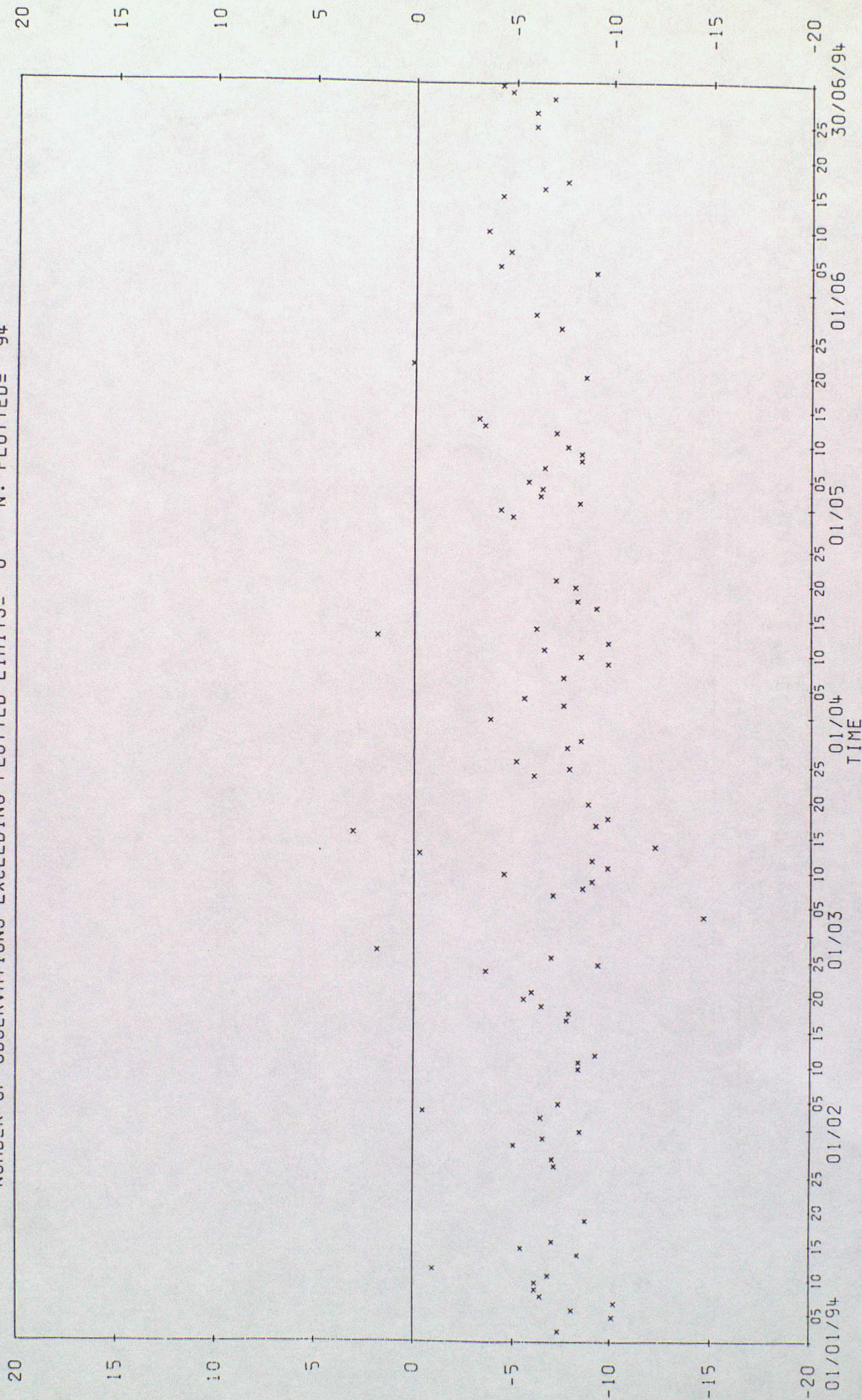
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ZTCO

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 94

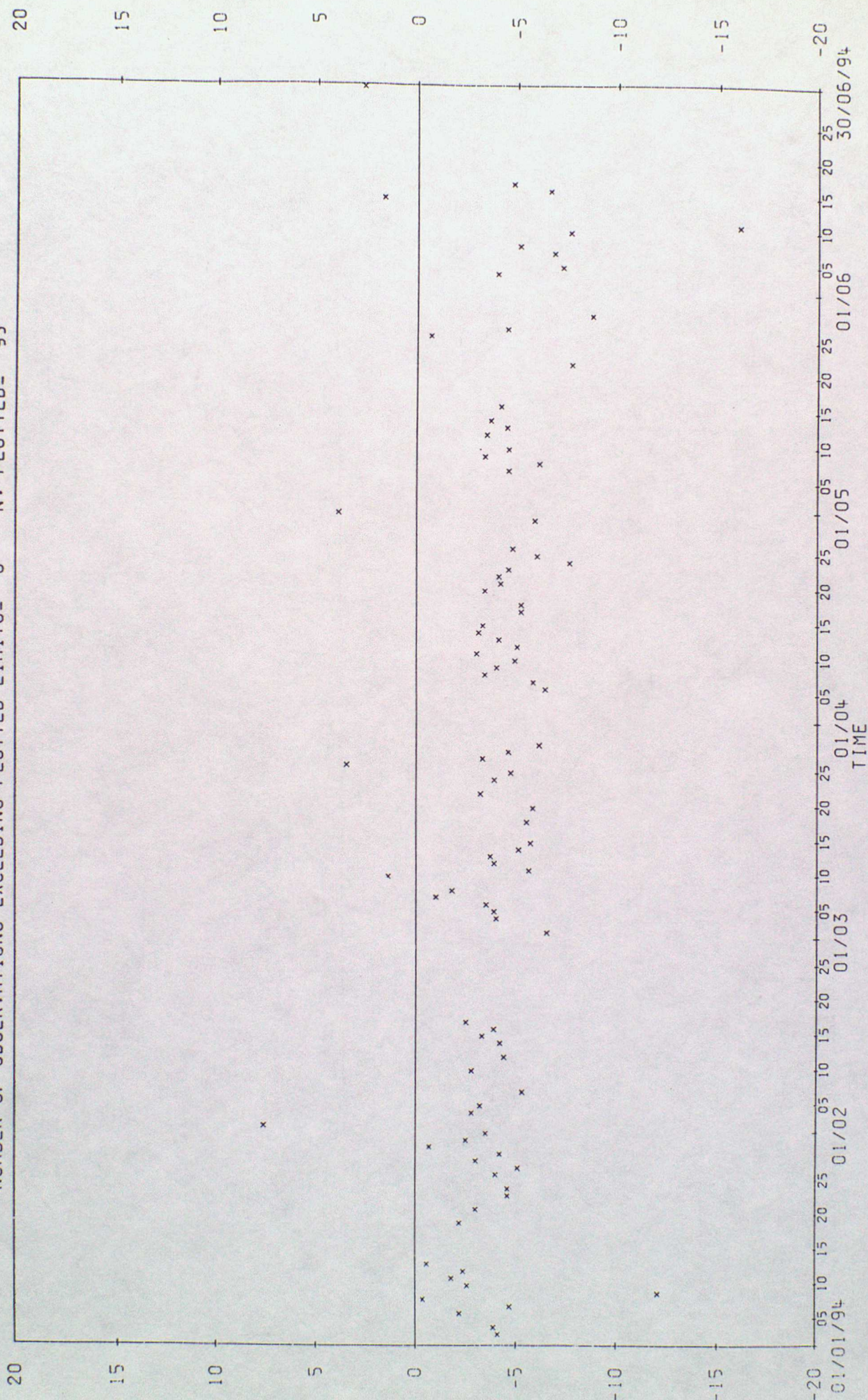




## 0-3

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: ZTHP  
VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 95





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

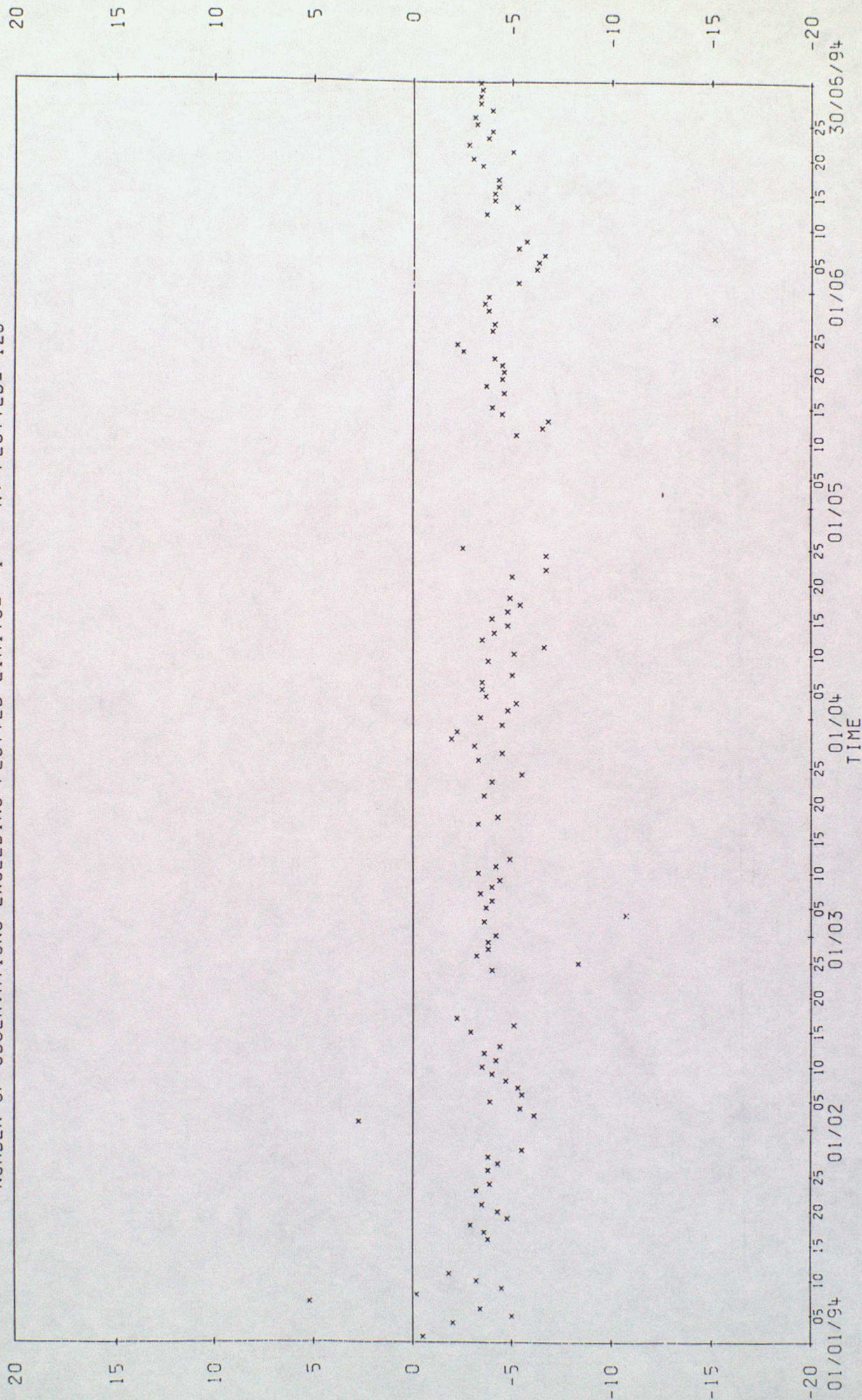
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3EAYS

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 128

0-B

0-B





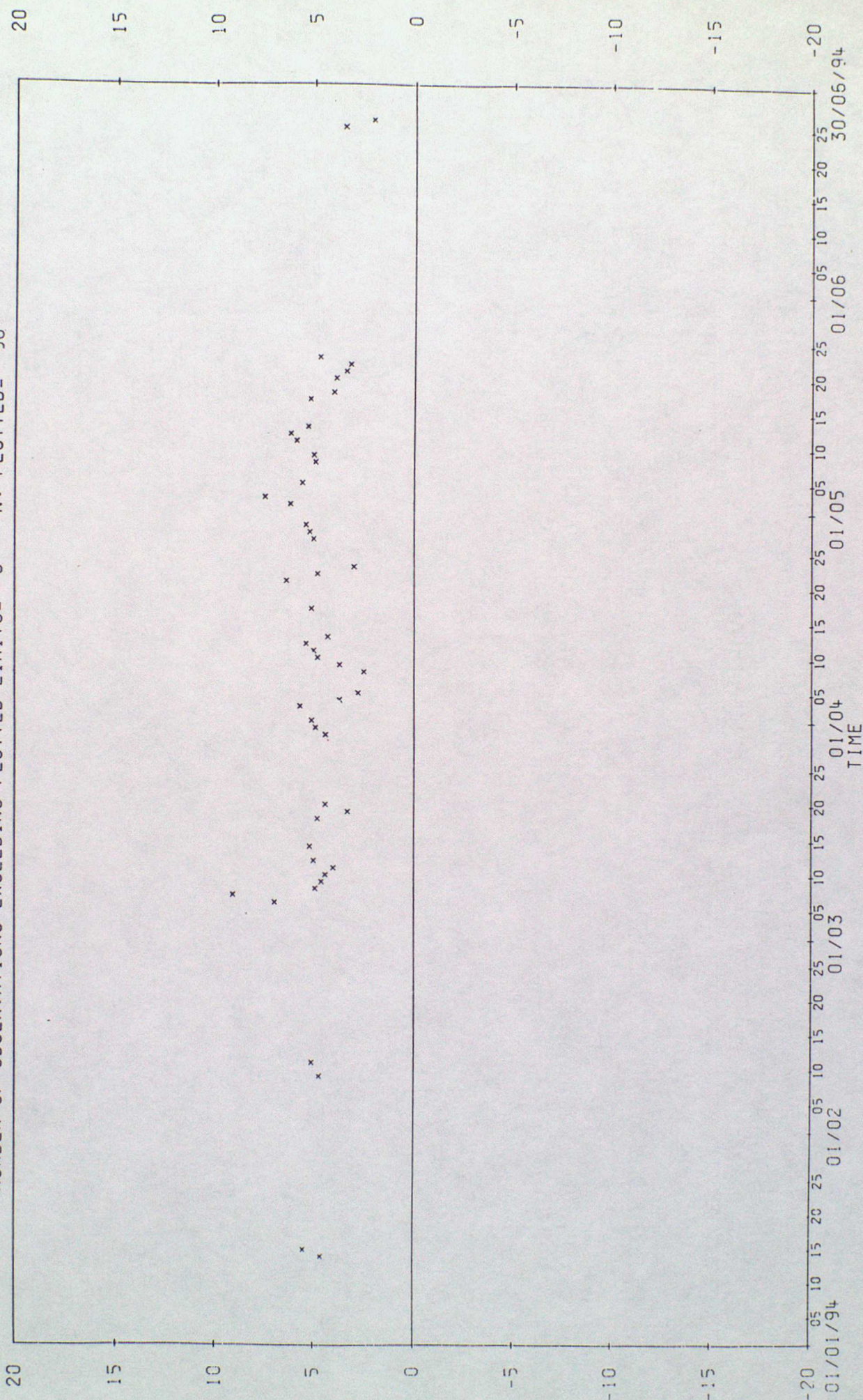
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3EJH6

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 50





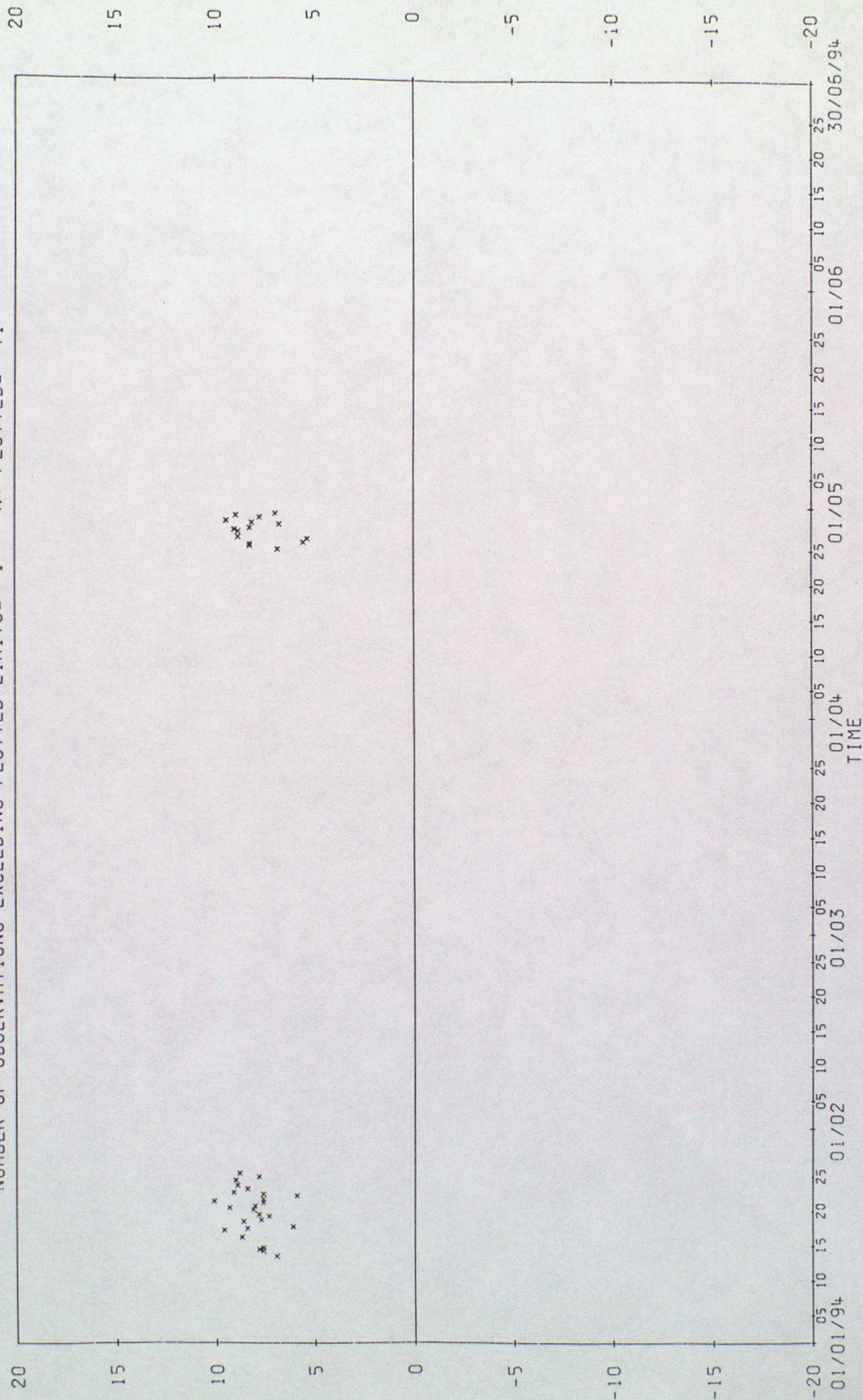
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3ELS2

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 41





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

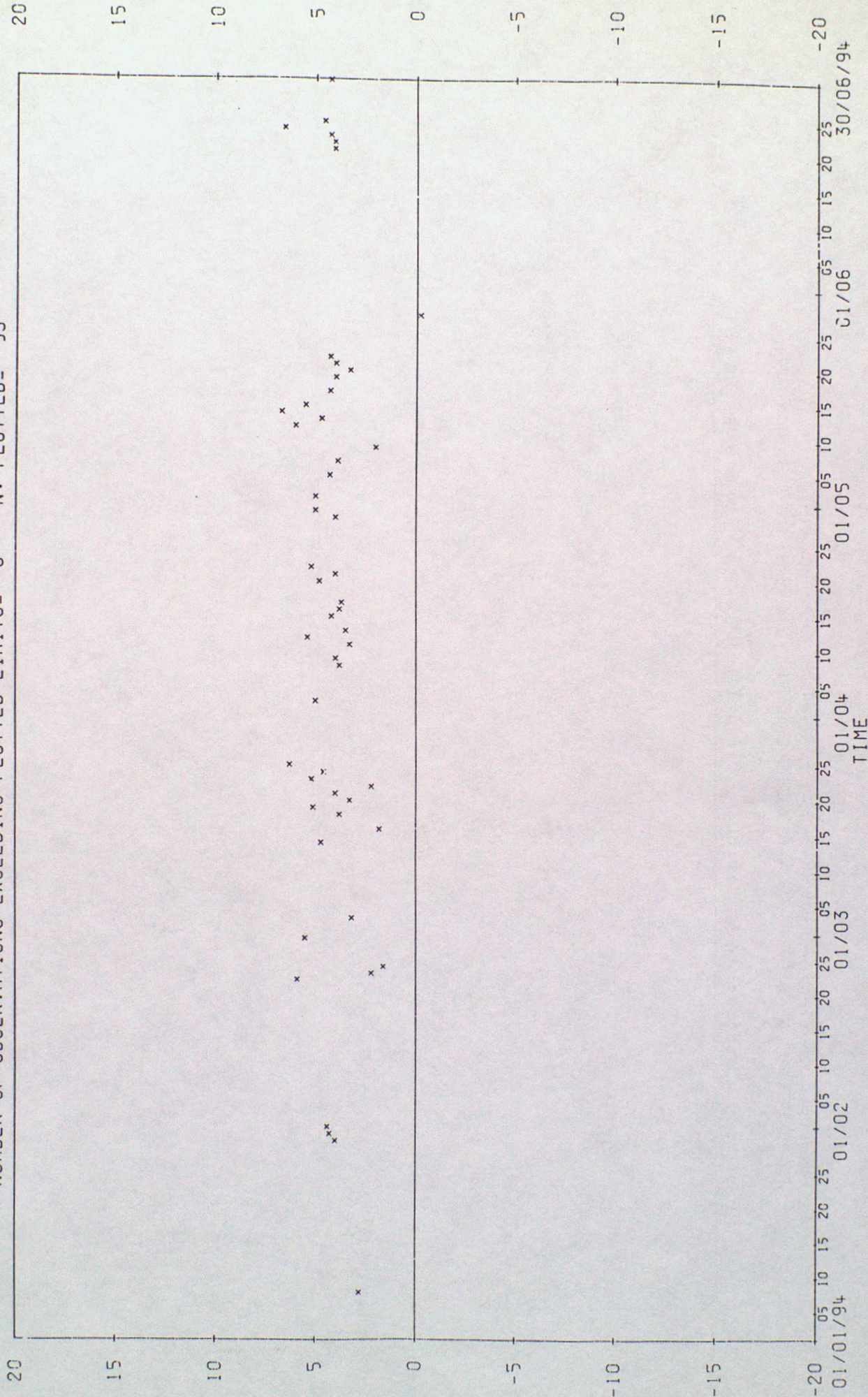
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3EWV5

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 53

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

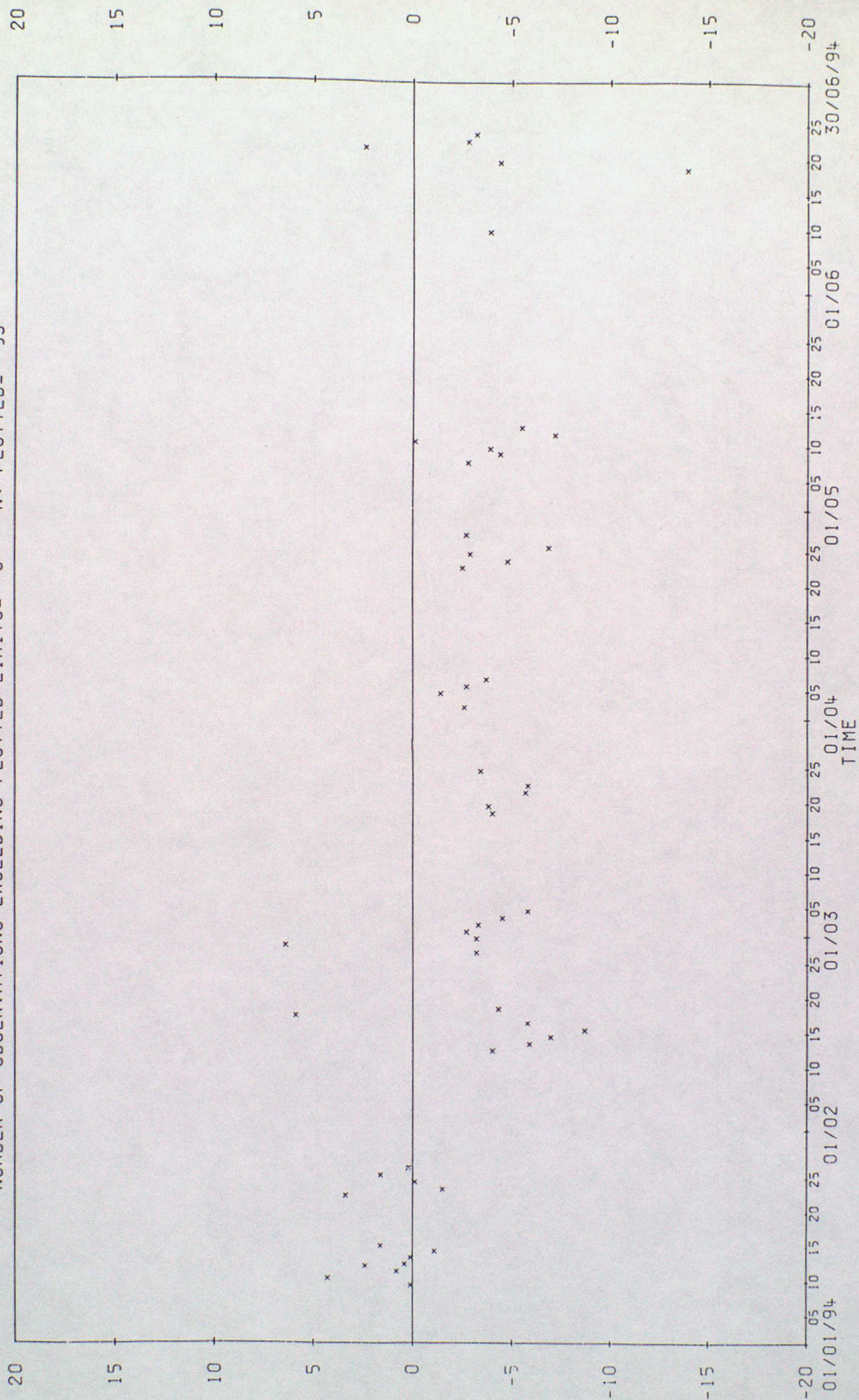
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: 3EYL9

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 53

0-B

0-B



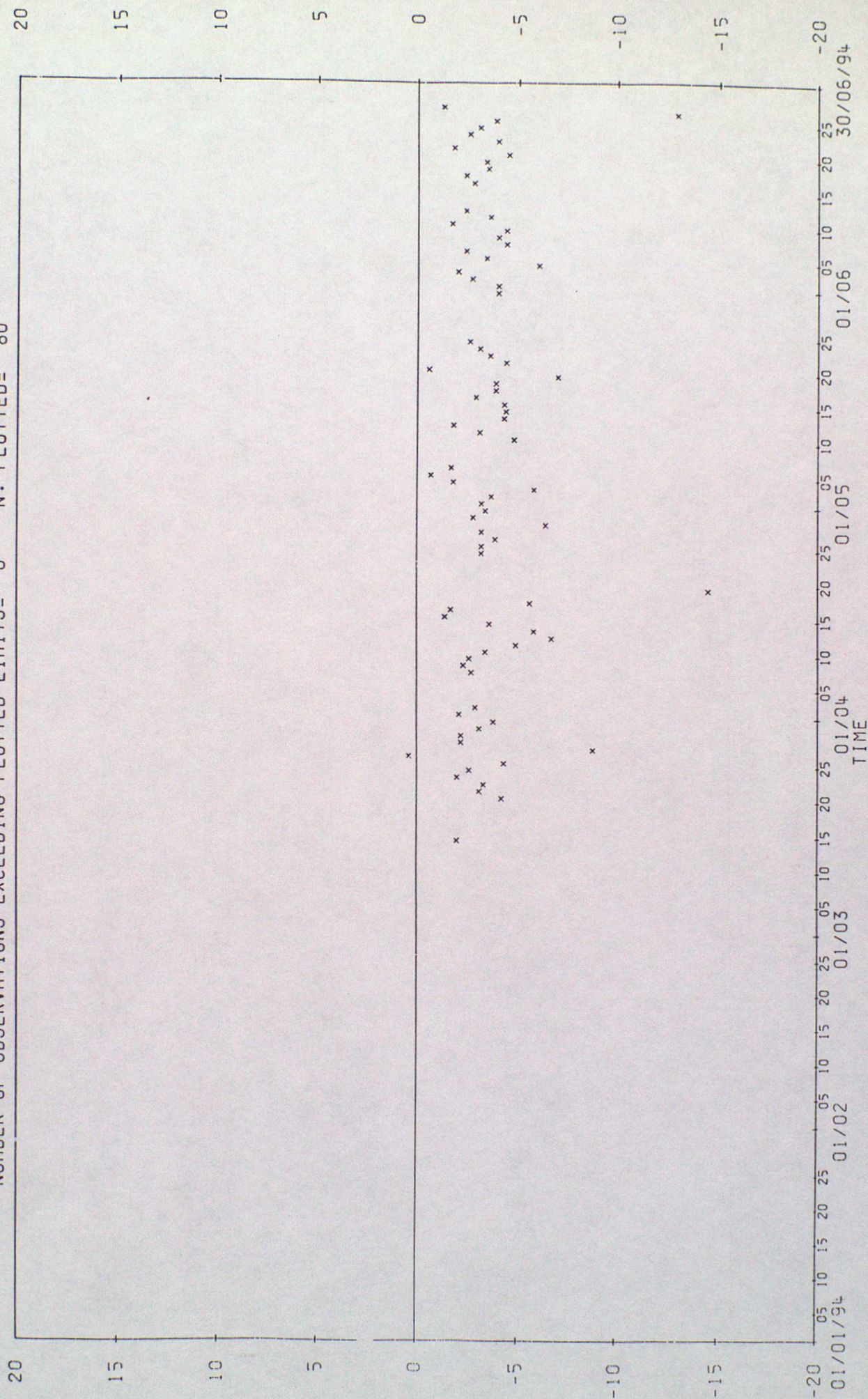


# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3EYY8 0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 80





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

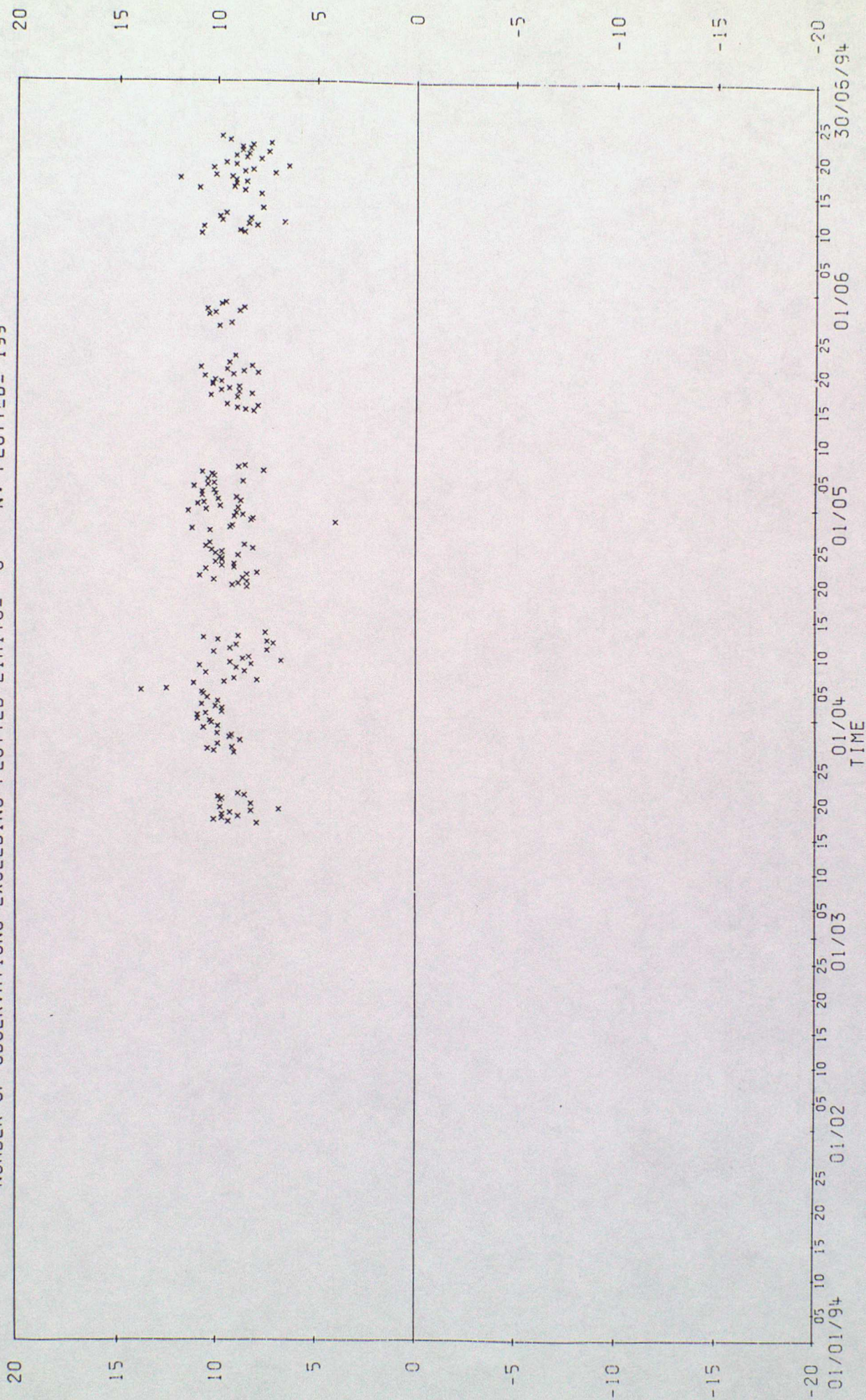
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3FBK

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 199





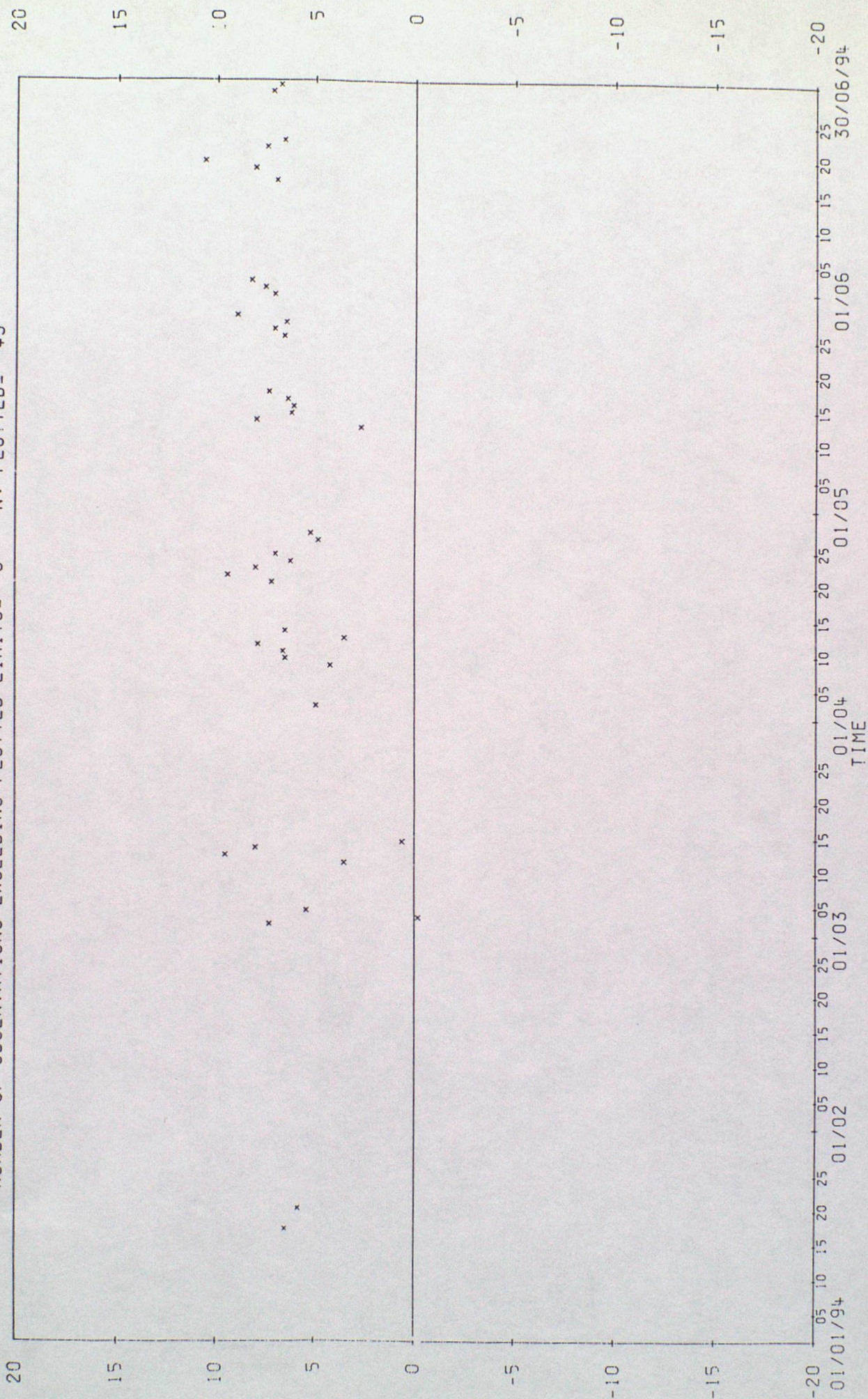
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3FCU3

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 43





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

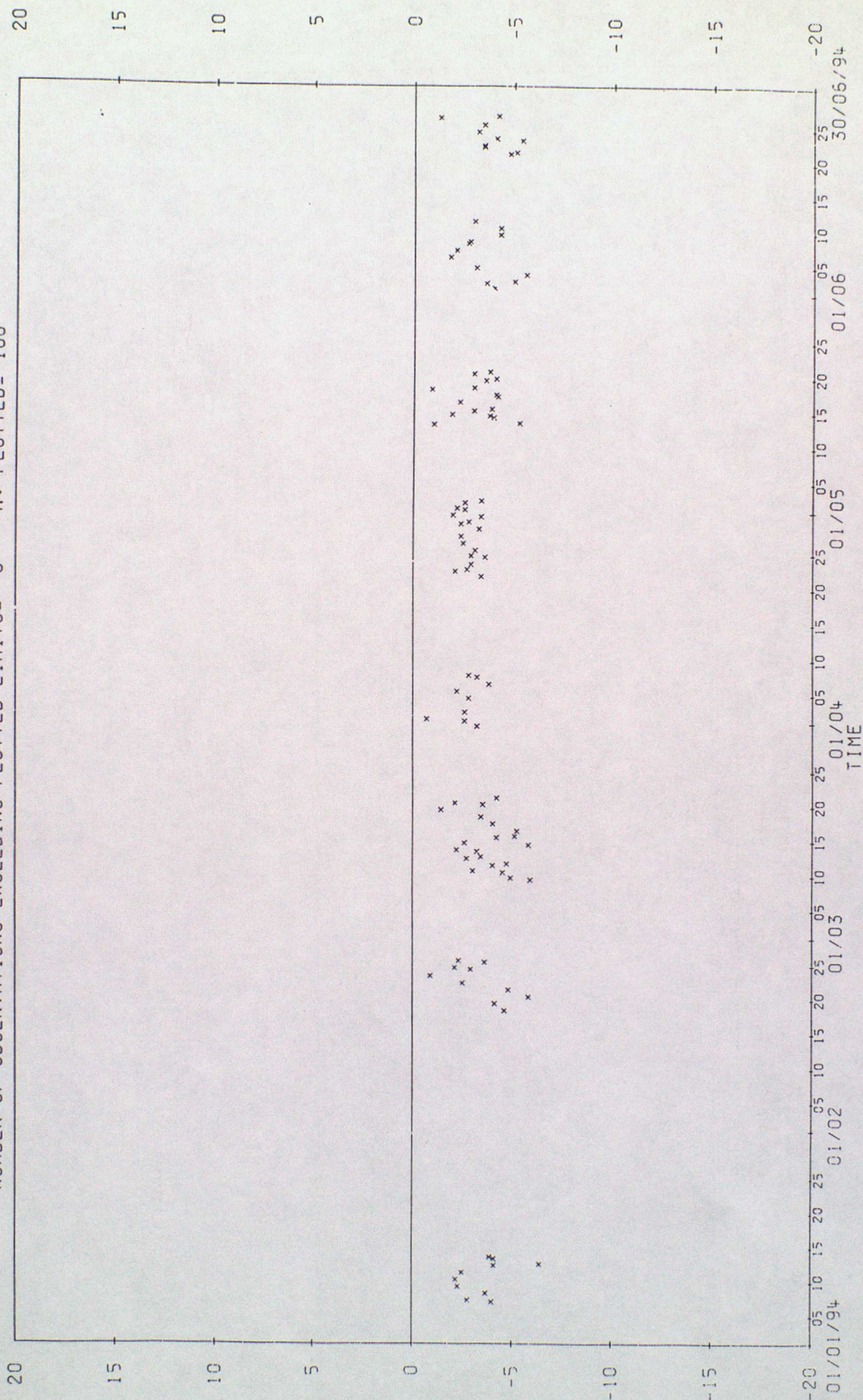
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: 3FGI3

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 106

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

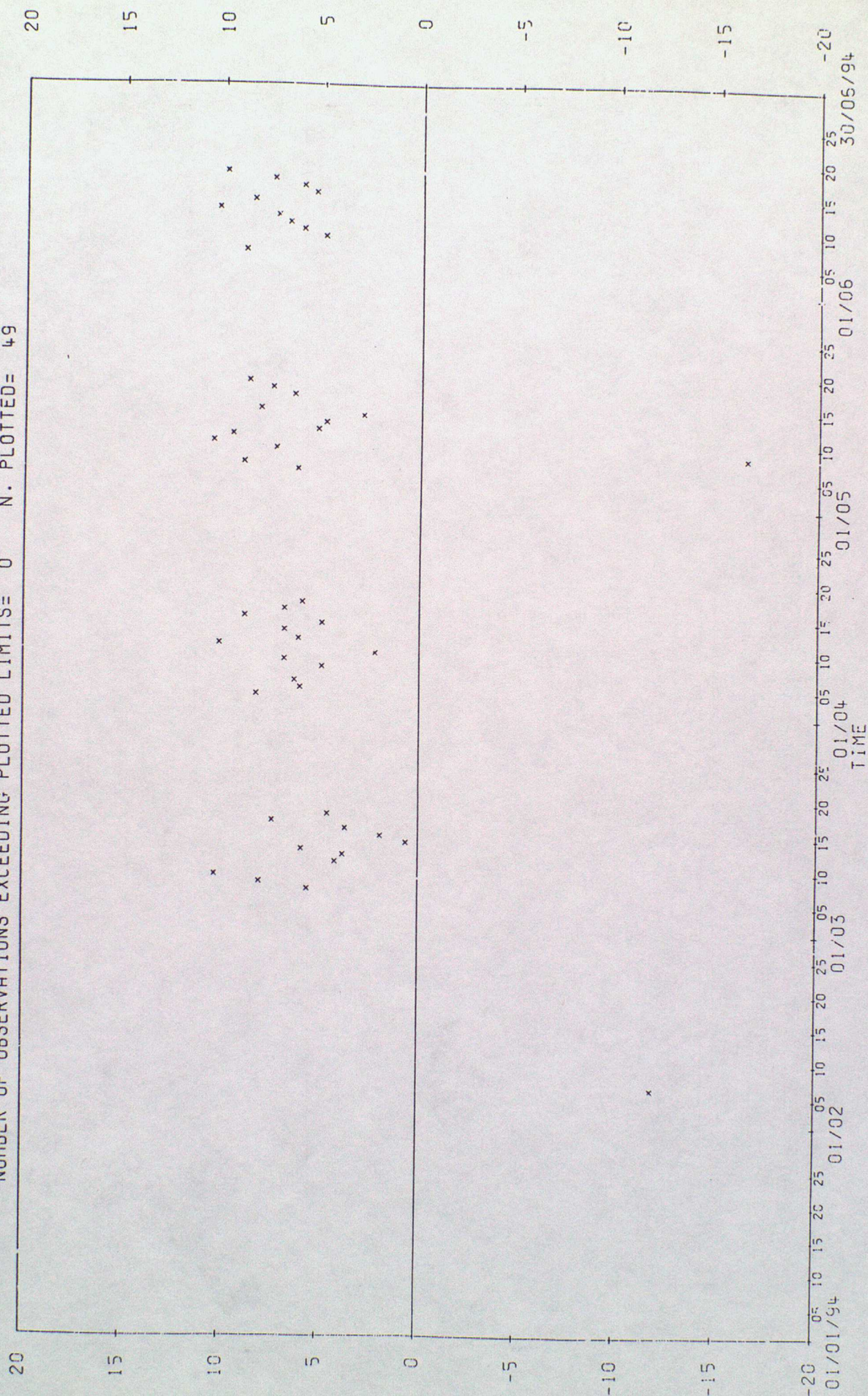
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 3FSB3

0-B

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 49





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

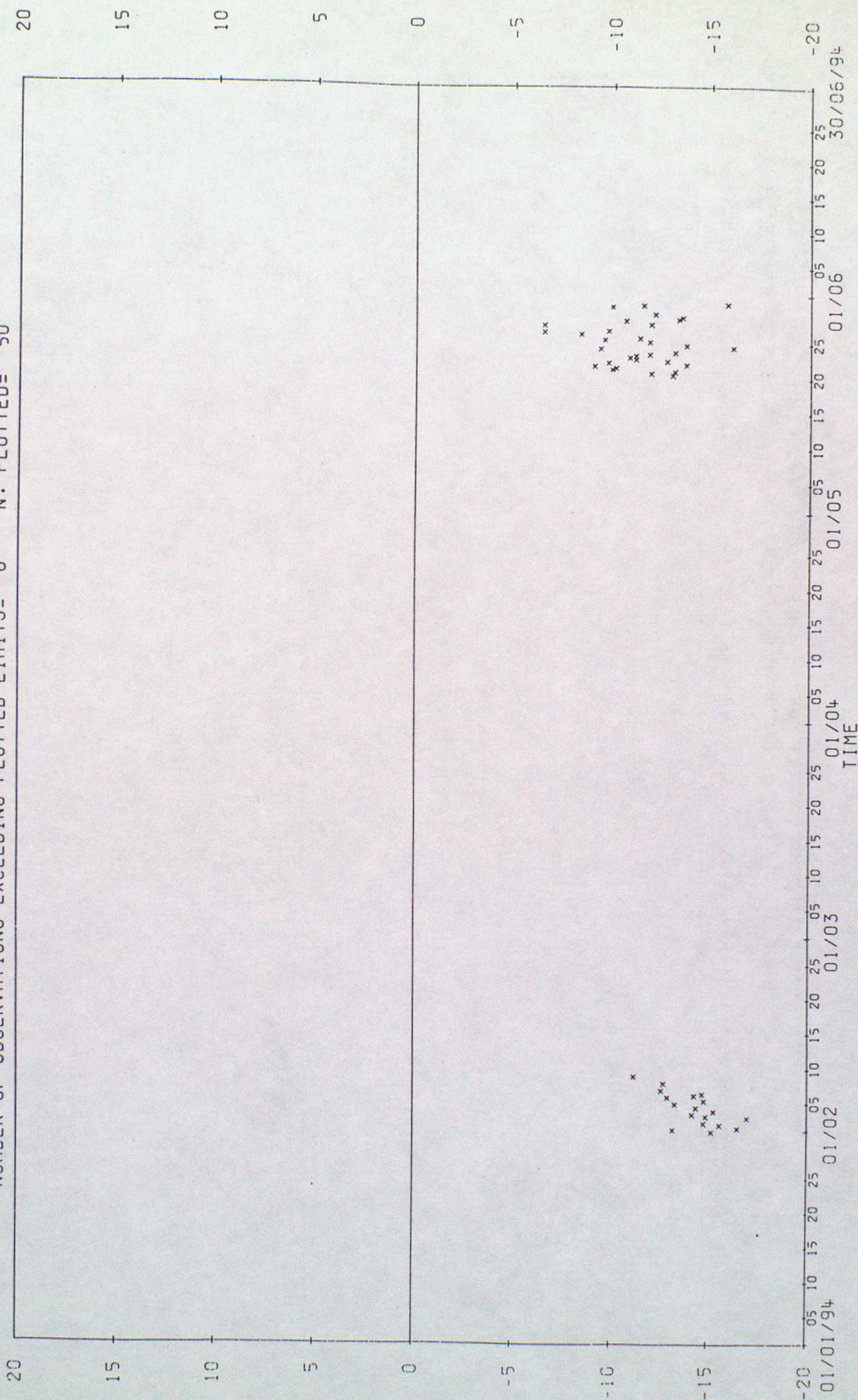
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 5LCK

VARIABLE : MSLP IN UNITS OF HPA

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 50

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

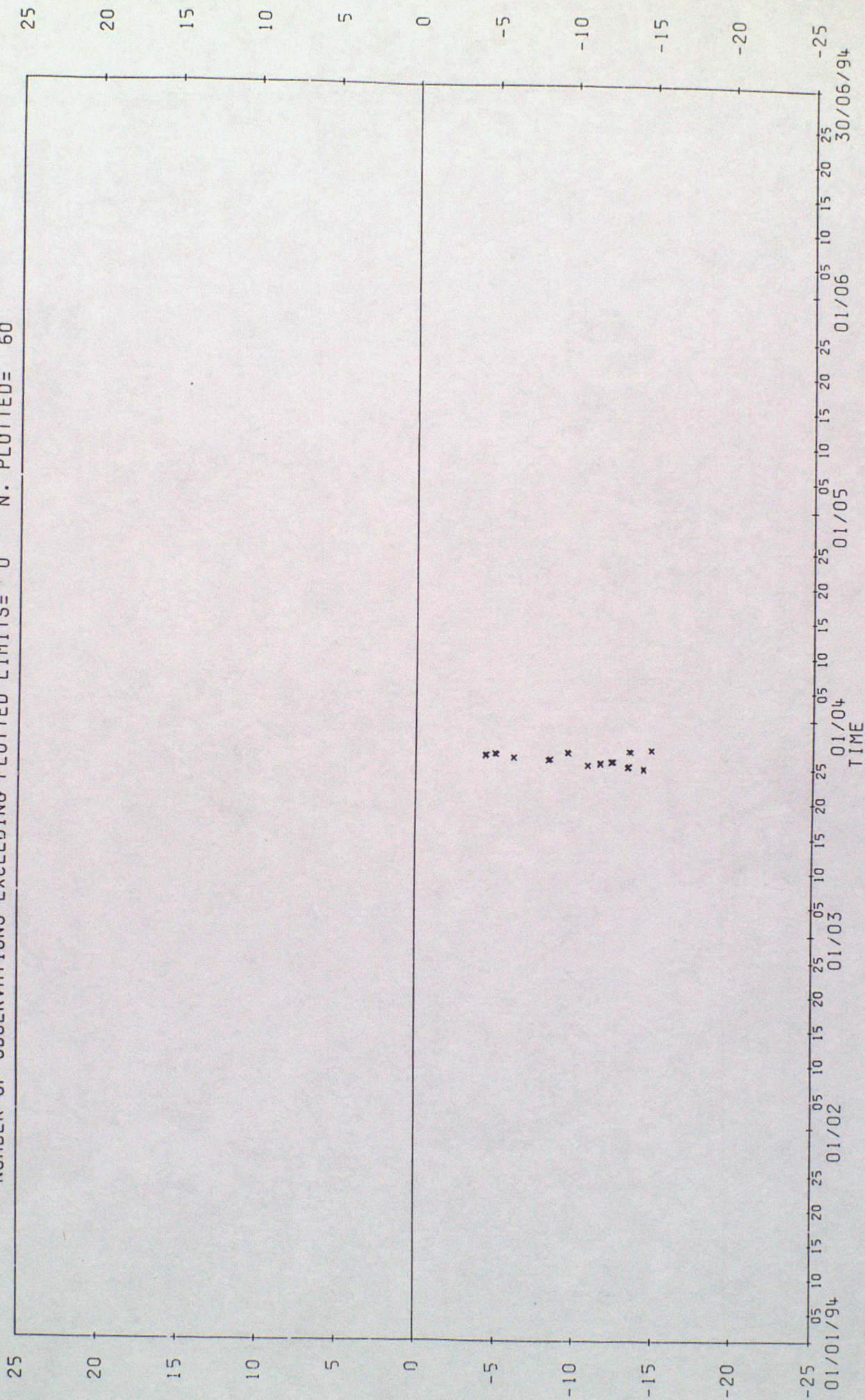
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44616

0-B

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 60





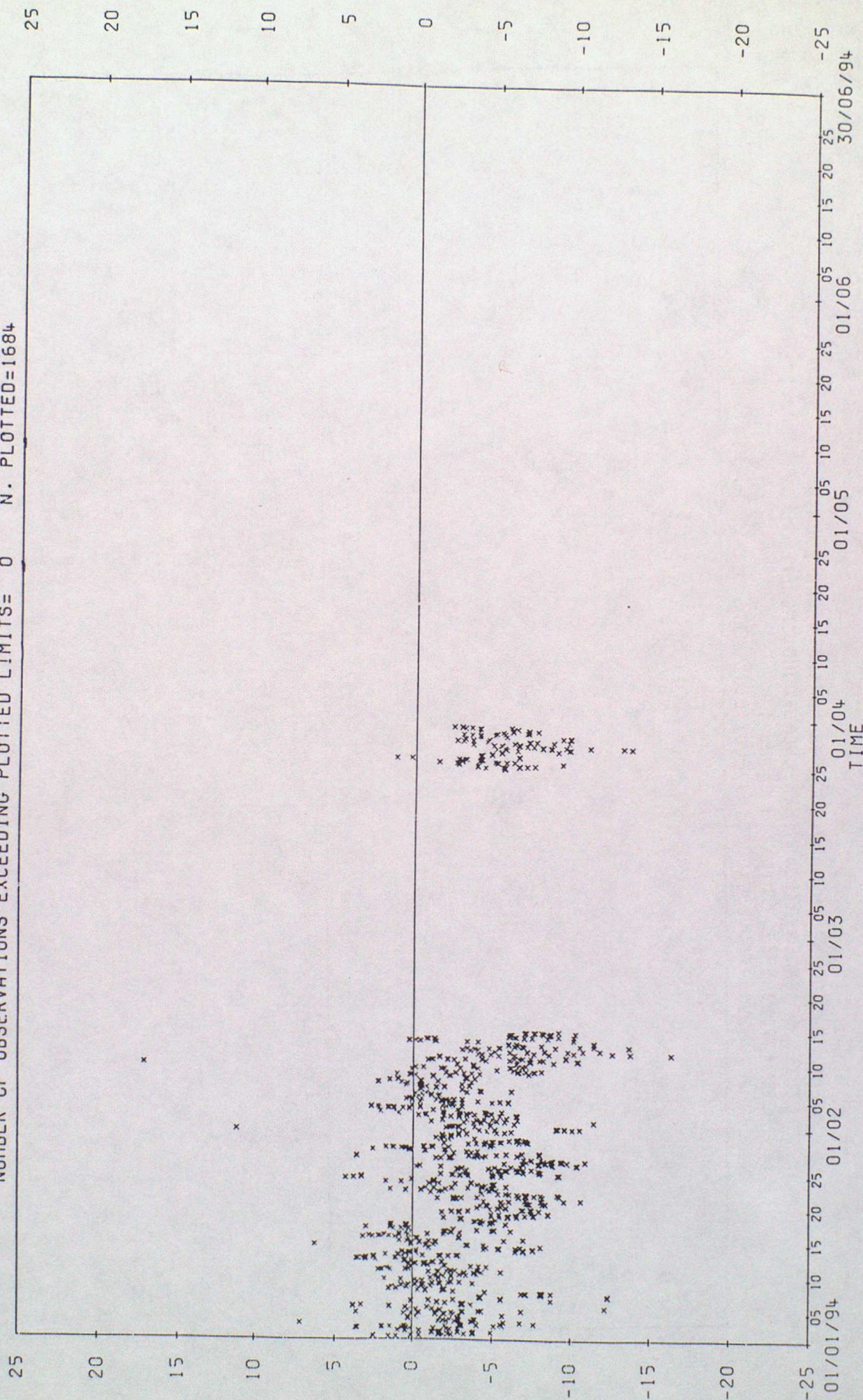
BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44728

0-B

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED=1684

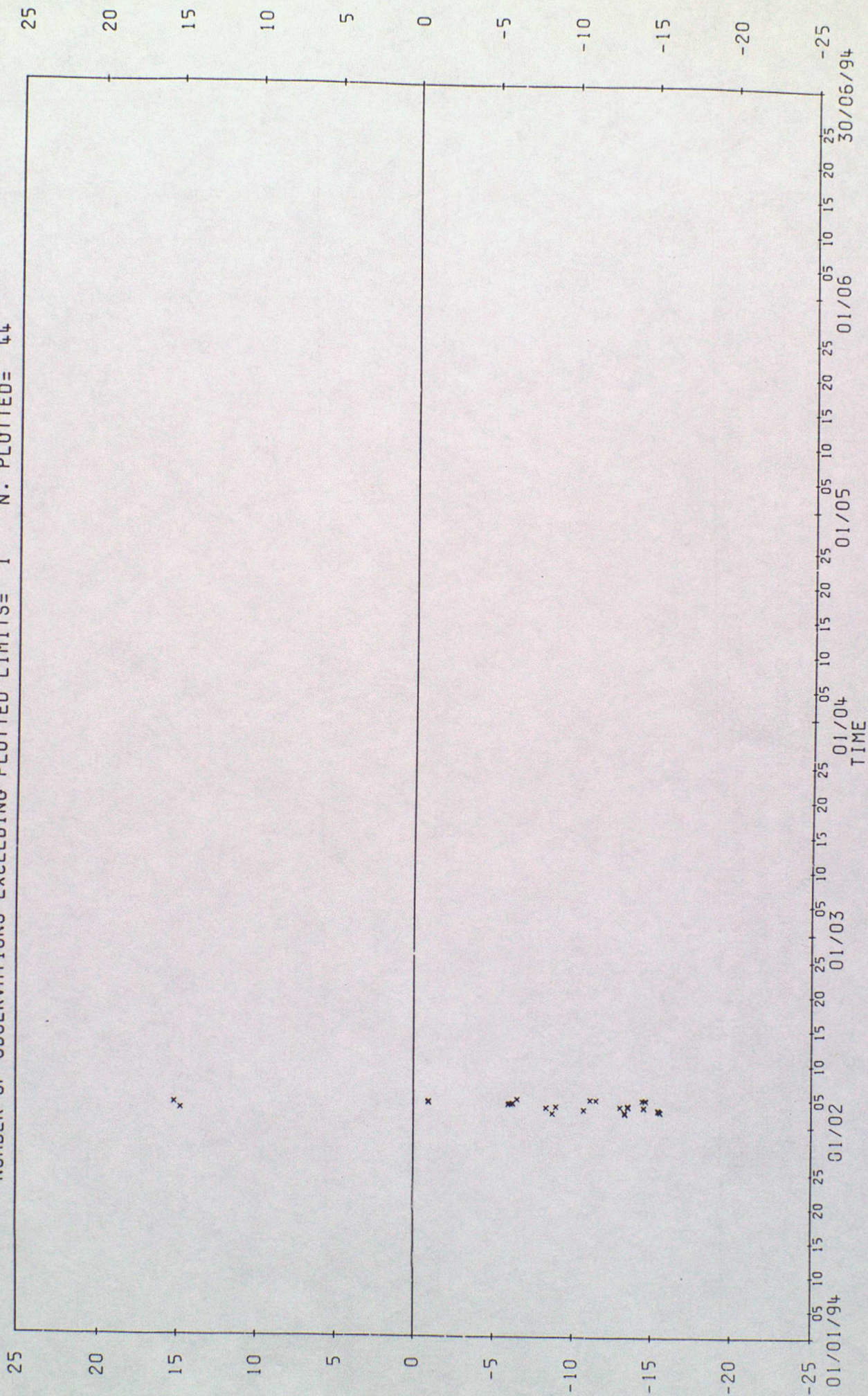




## 0-8

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-8) FOR IDENTIFIER: 44742  
VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS=	1	N. PLOTTED=	44

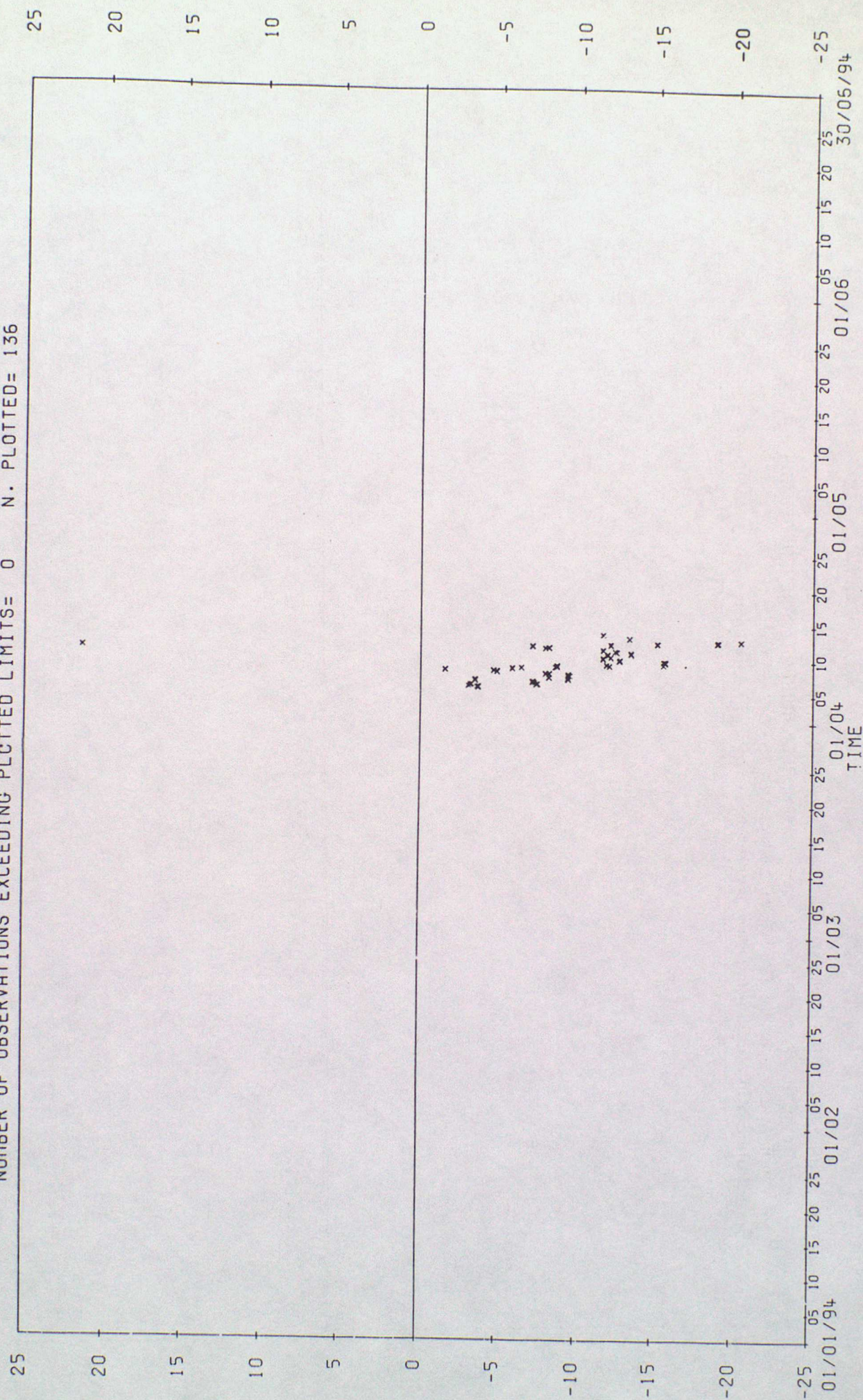




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44768  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 136

0-B

0-B



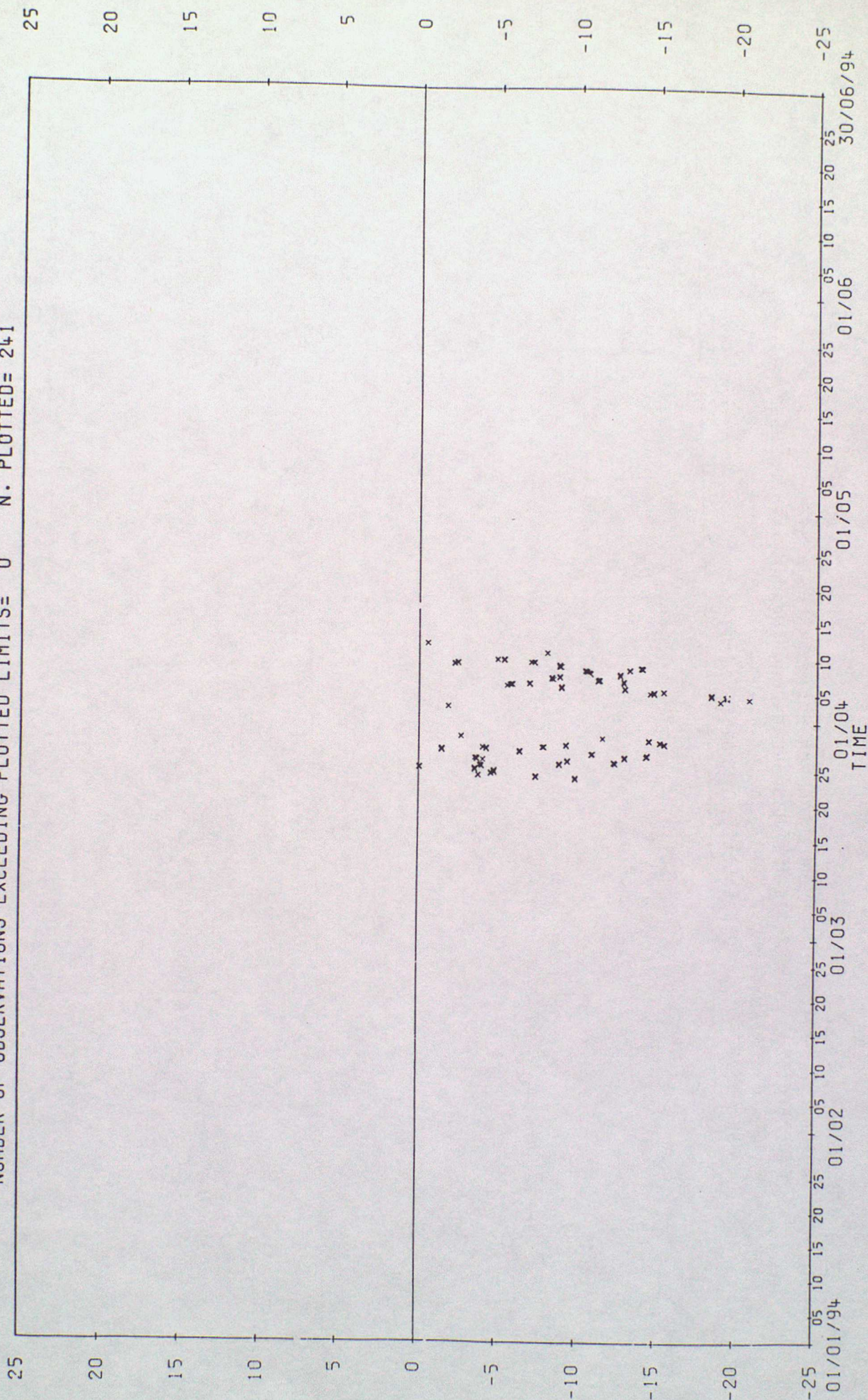


# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-8) FOR IDENTIFIER: 44769 0-8

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 241

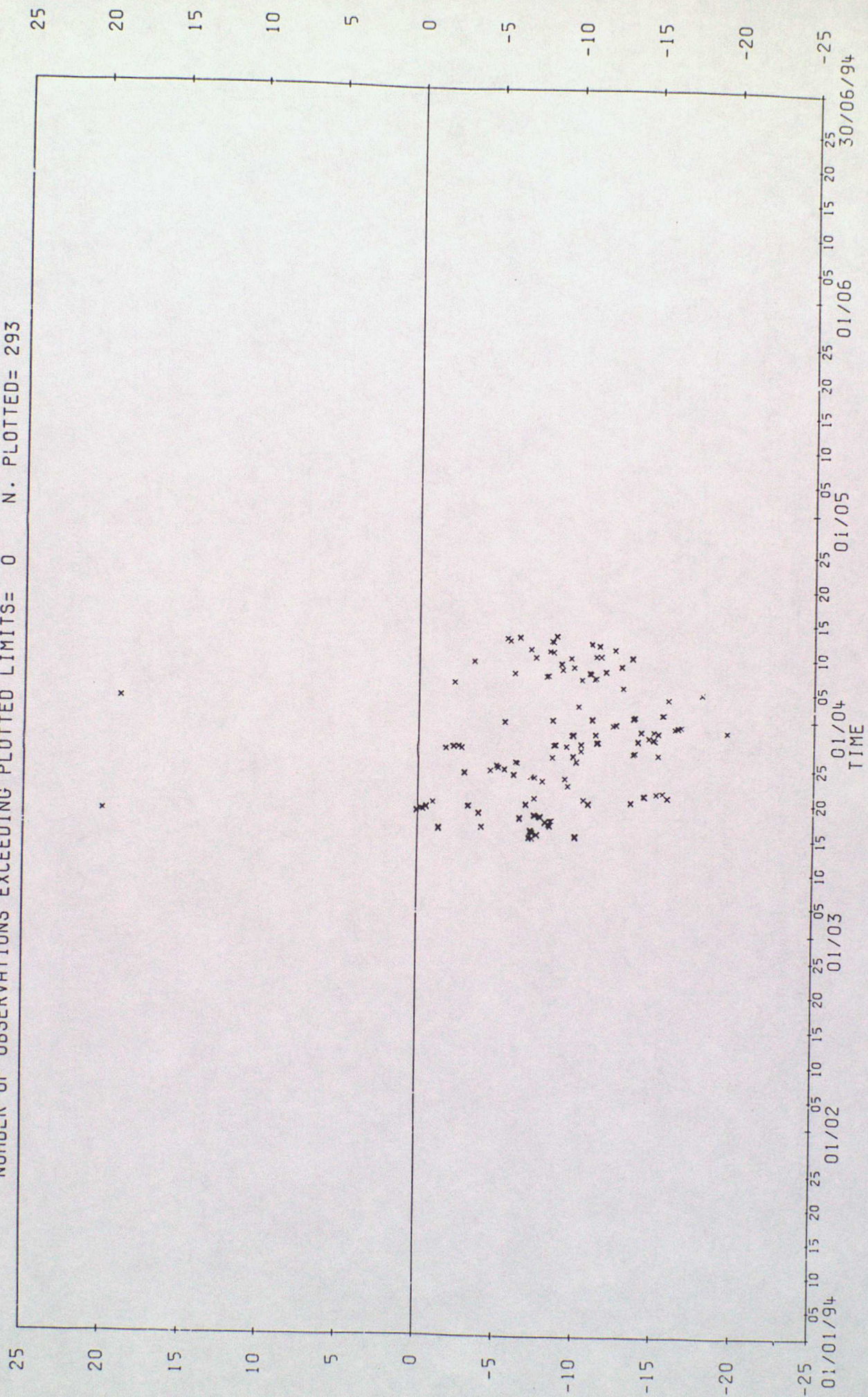




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44771  
VARIABLE : WIND SPEED IN UNITS OF MS-1  
NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 293

0-B

0-B

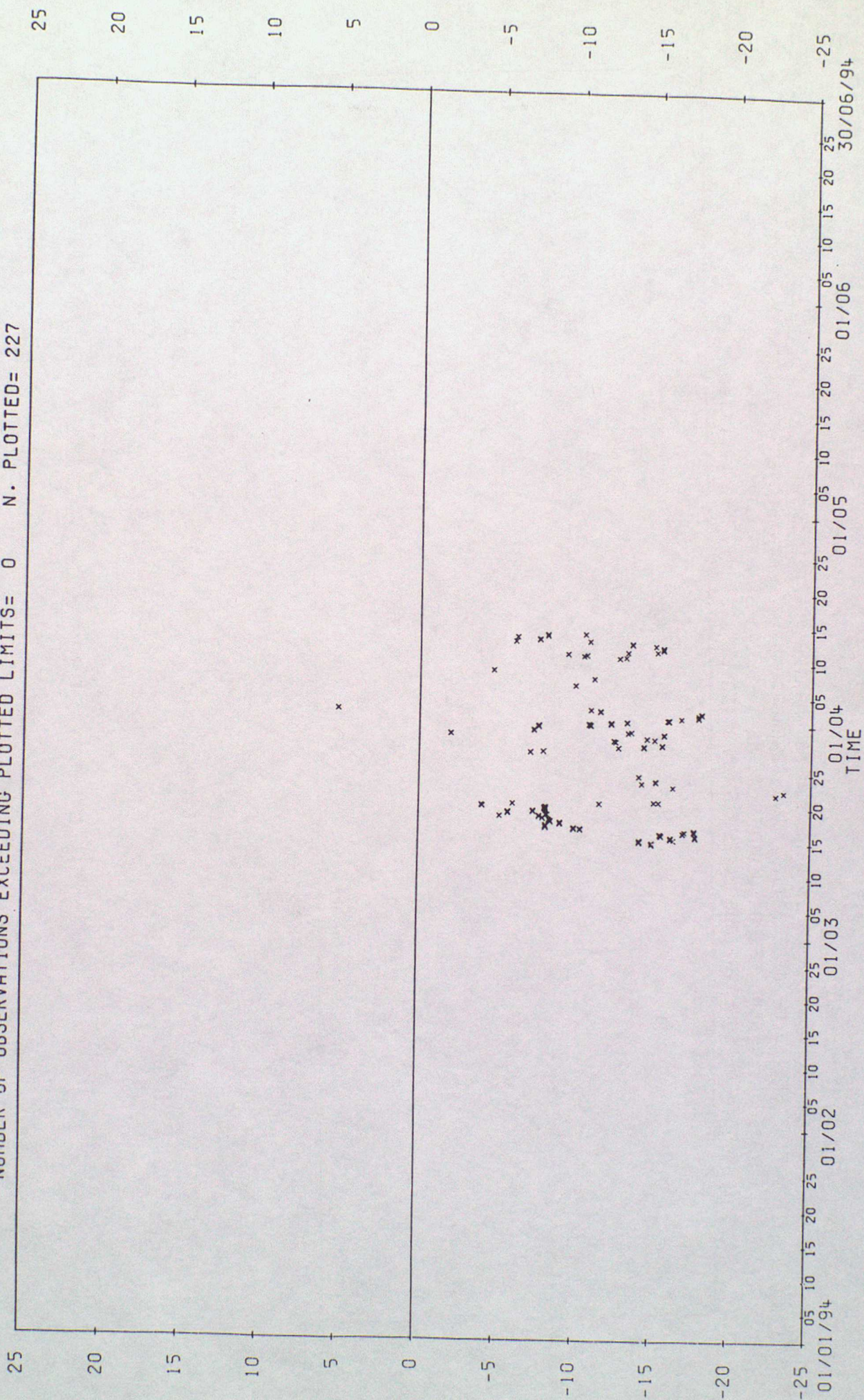




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: 62696  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 227

O-B

O-B

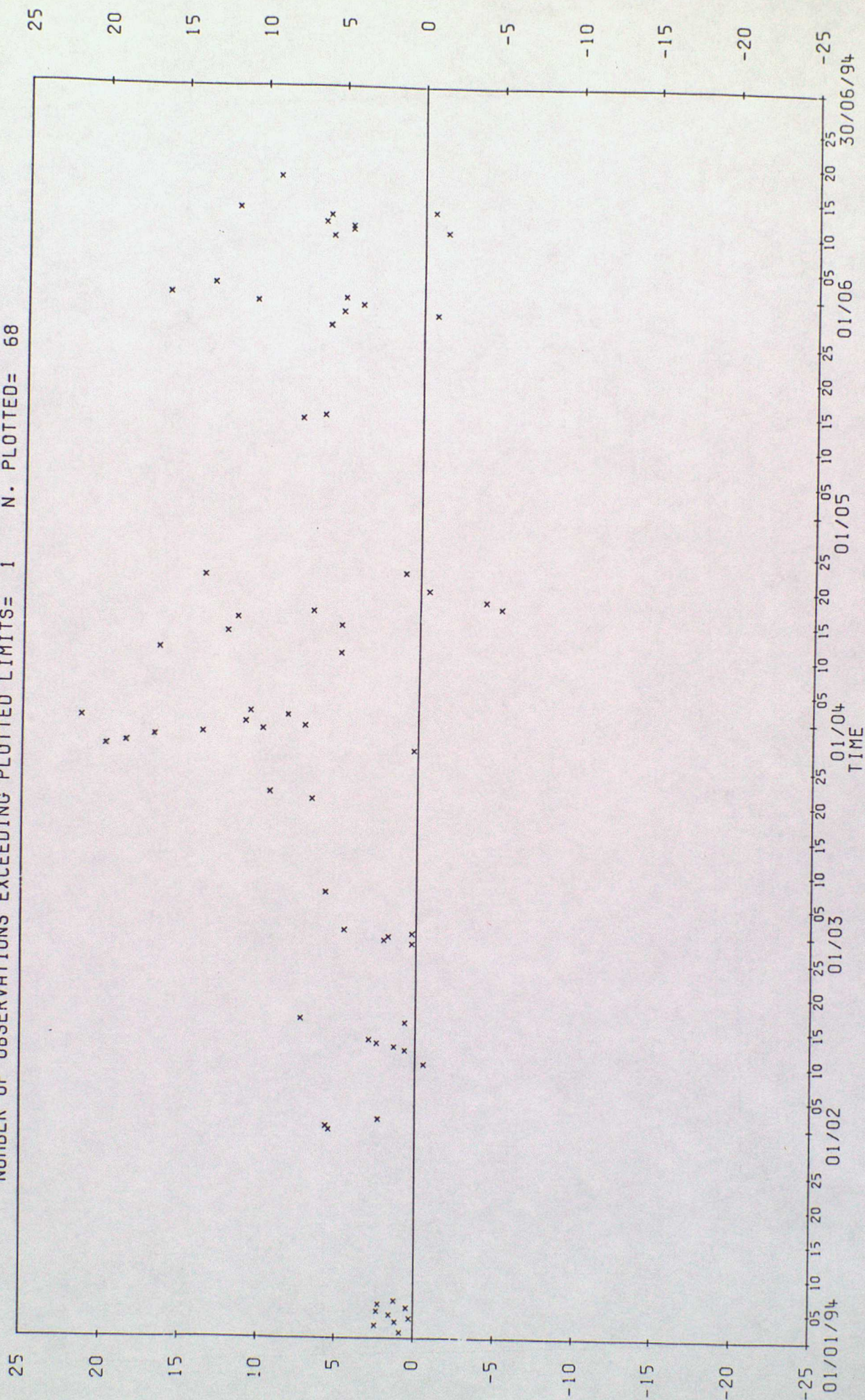




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: ATSR  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 68

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

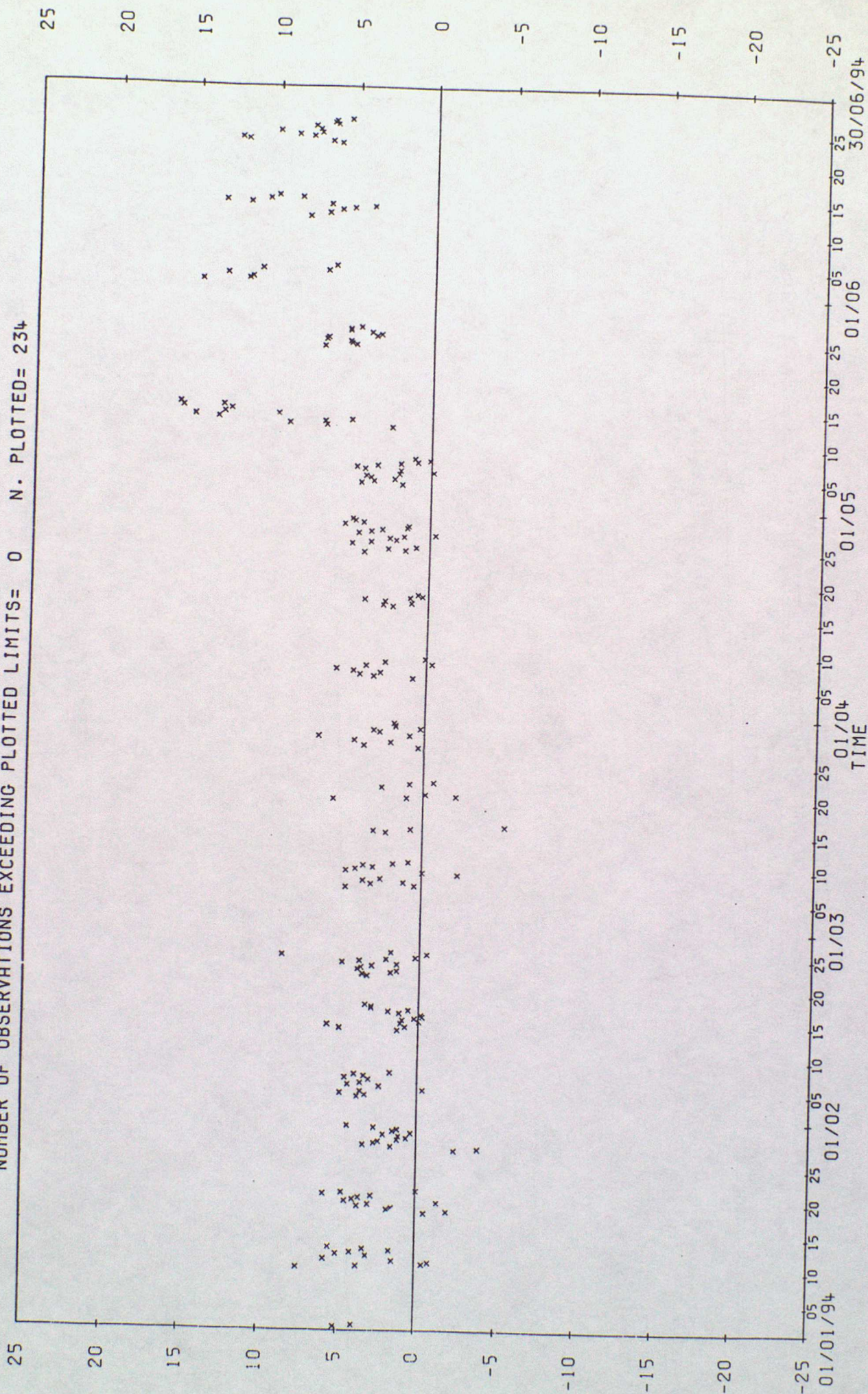
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: C6DY8

0-B

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 234





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

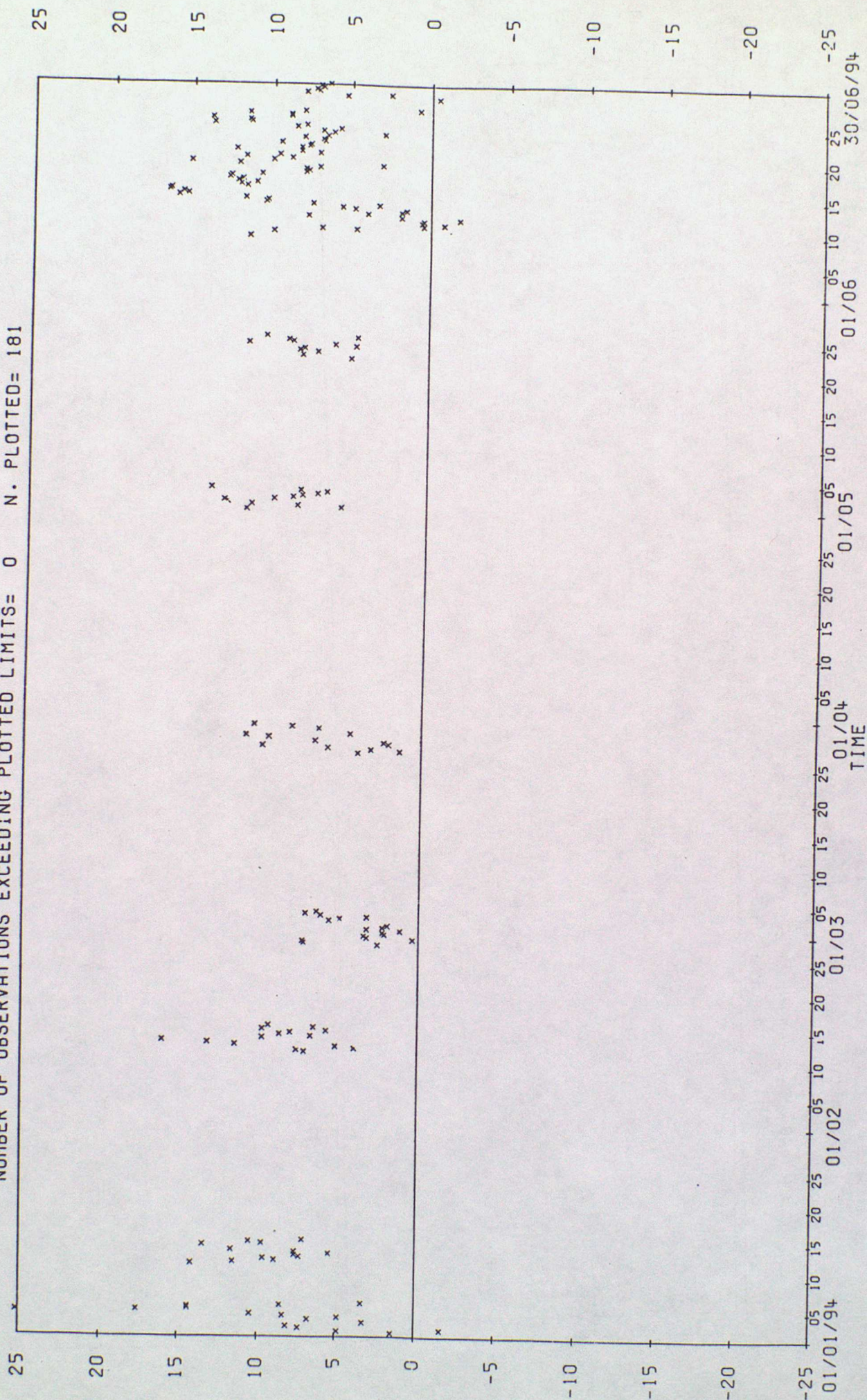
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: C6KF2

0-B

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 181

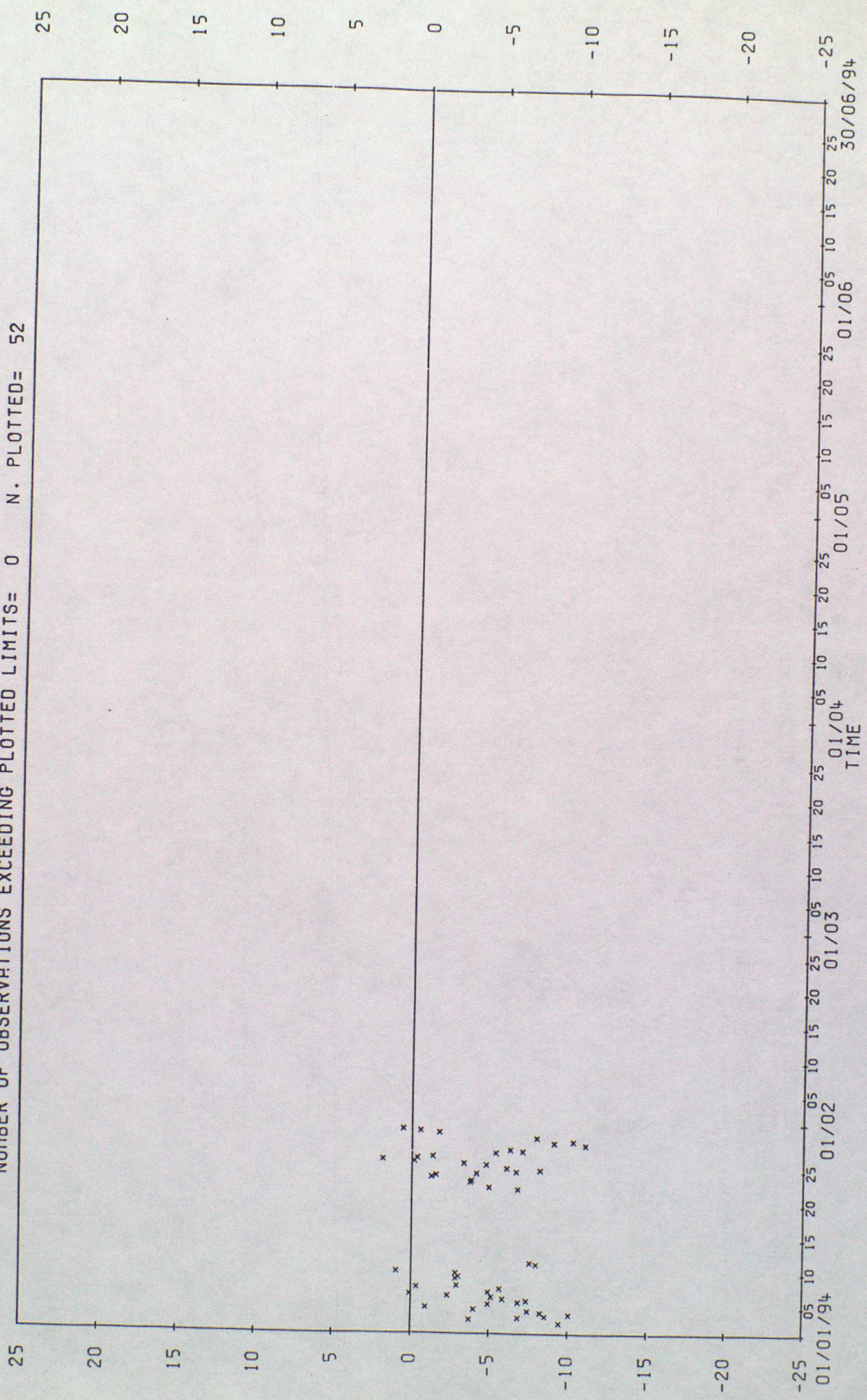




BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELIH8  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 52

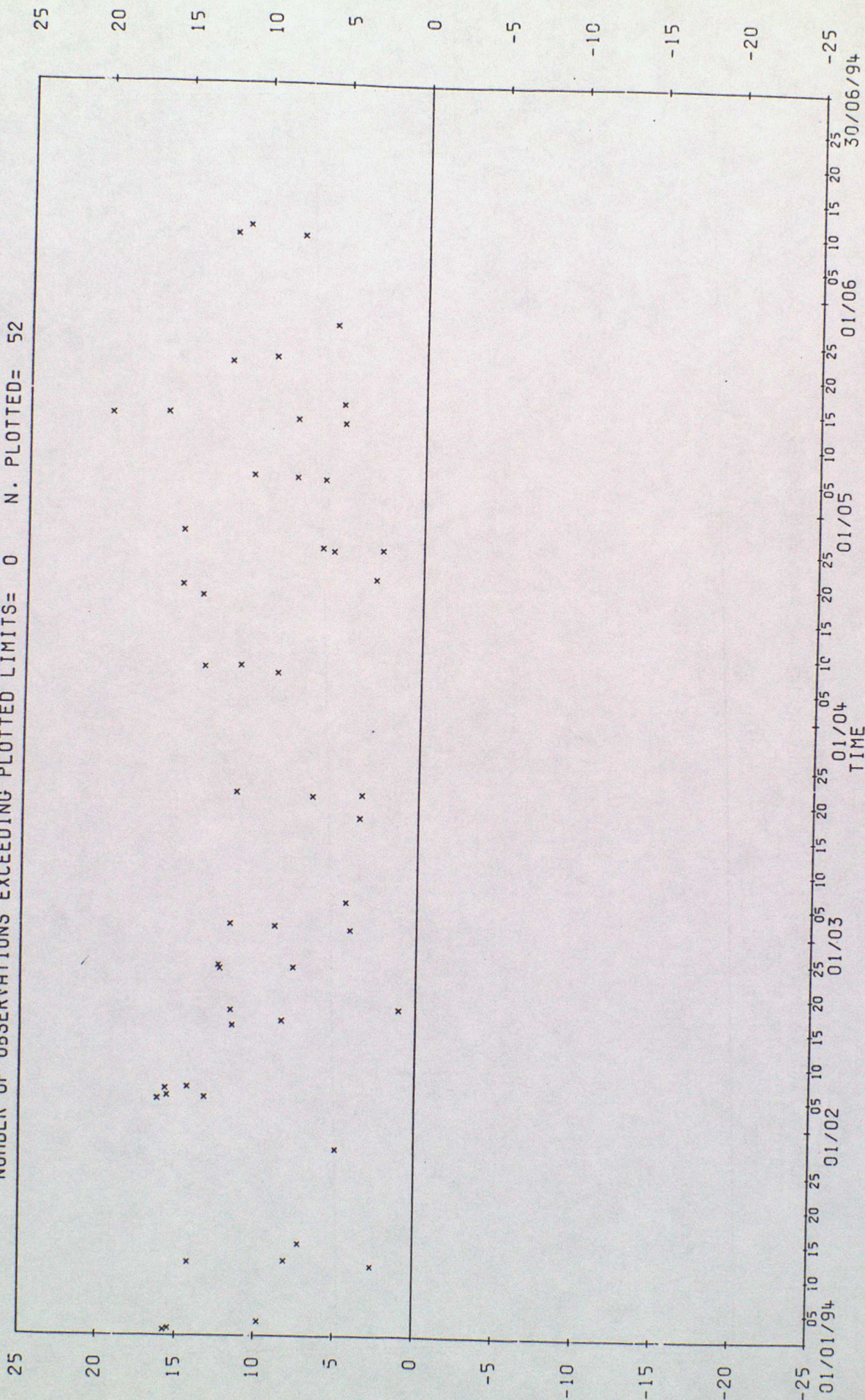
0-B

0-B





0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELLE  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 52  
 0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

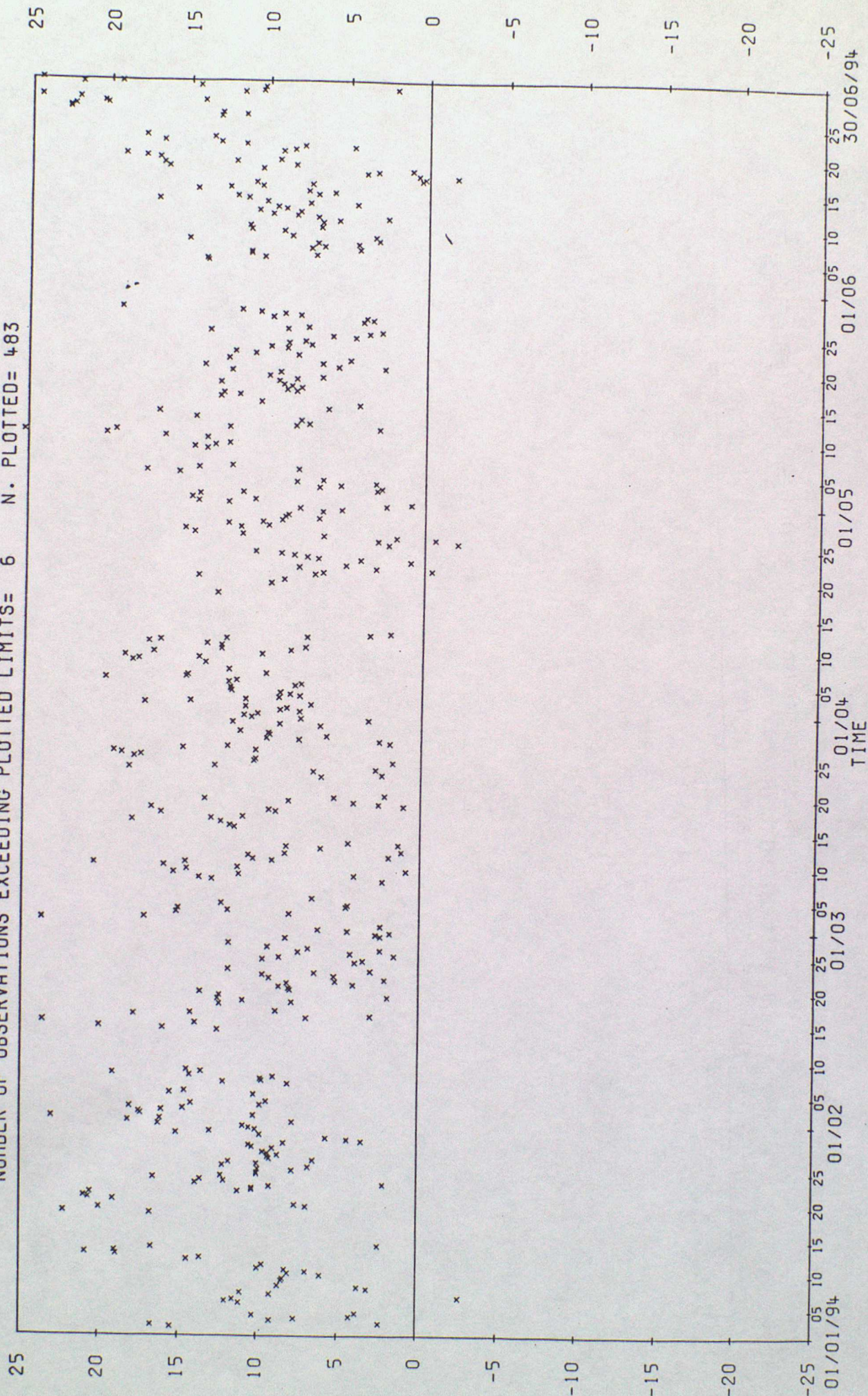
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: ELLE9

0-B

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 6 N. PLOTTED= 483





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

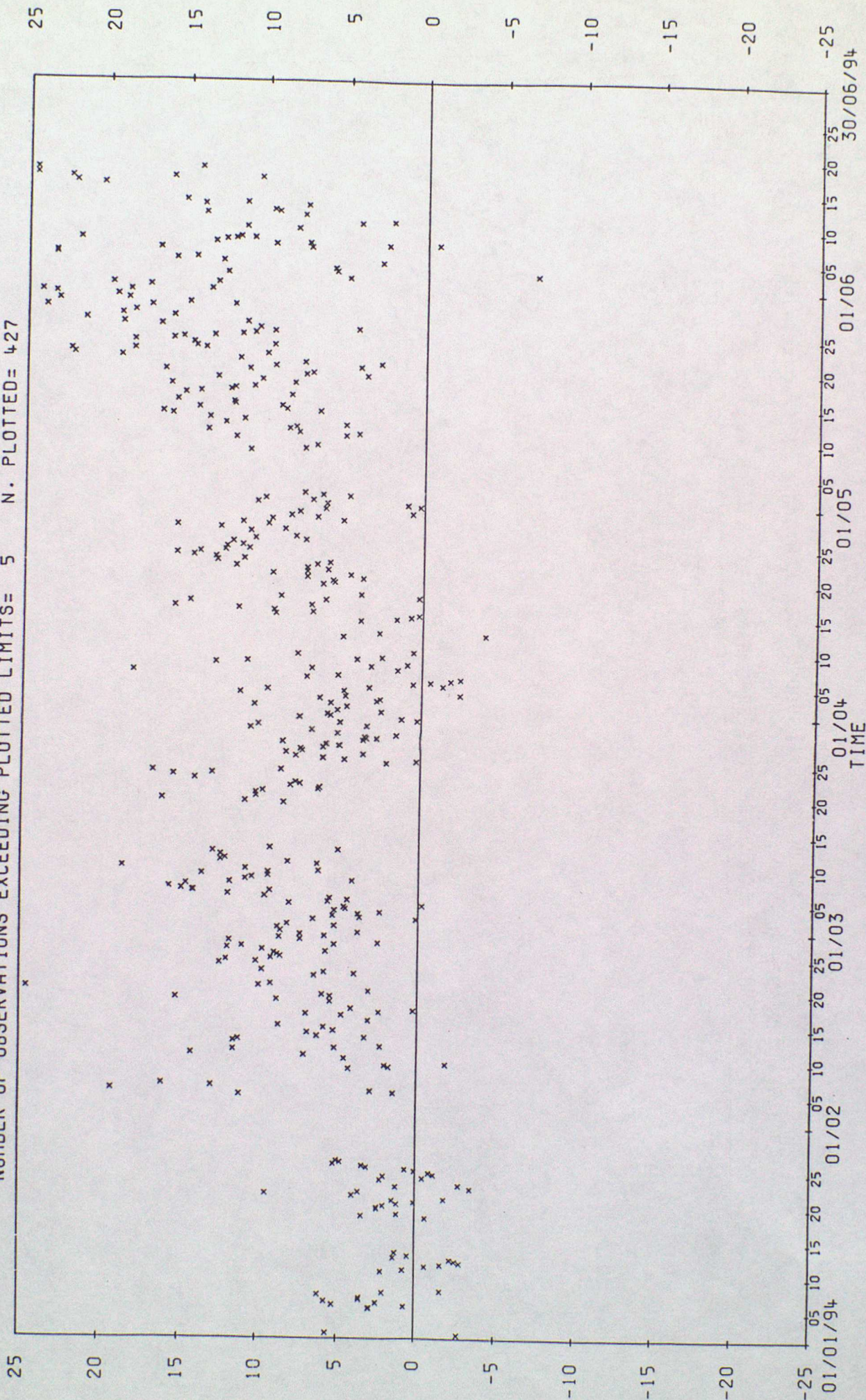
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: FNIH

0-B

VARIABLE : WIND SPEED IN UNITS OF MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 5 N. PLOTTED= 427





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

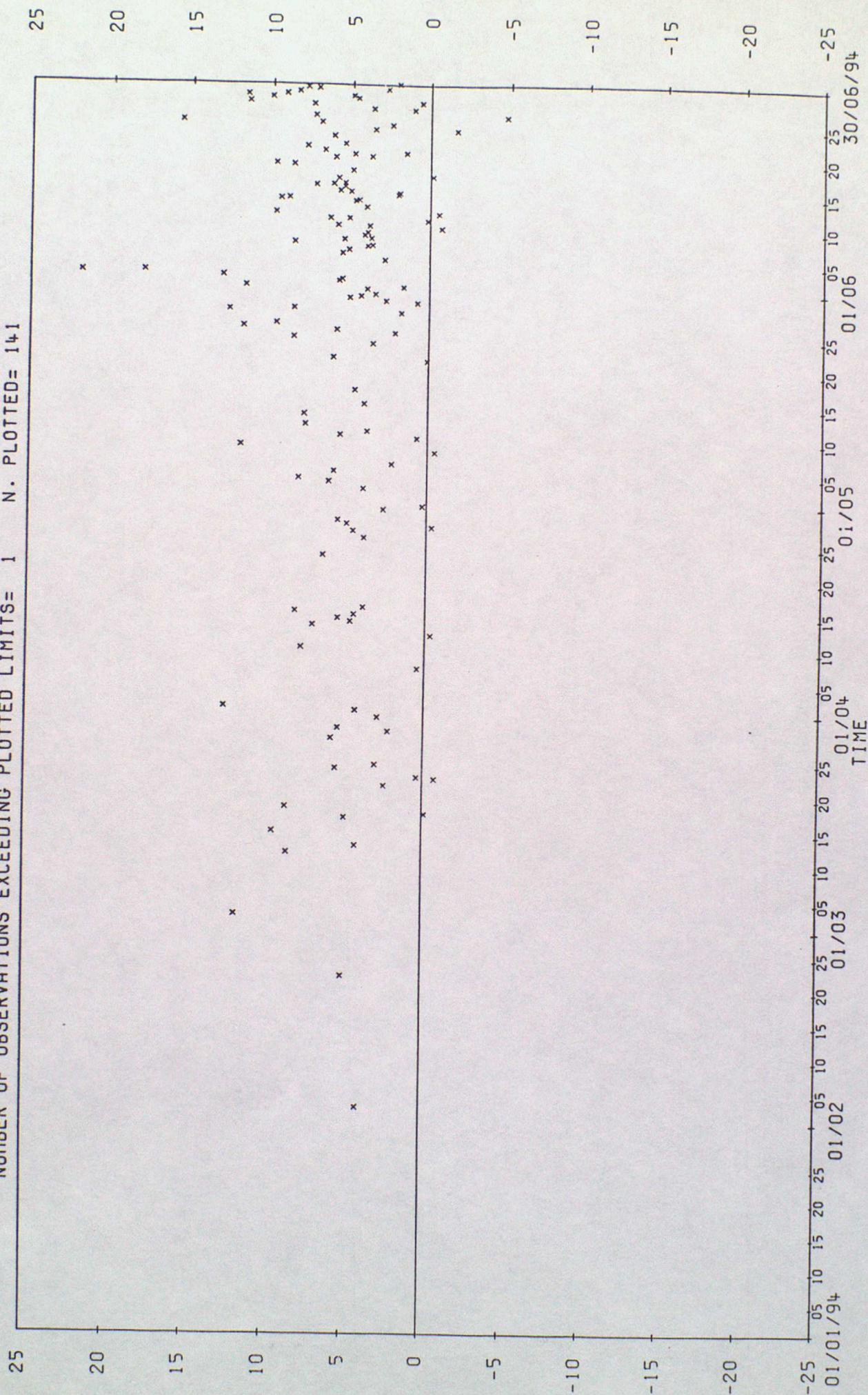
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: FNVA

VARIABLE : WIND SPEED IN UNITS OF MS-1

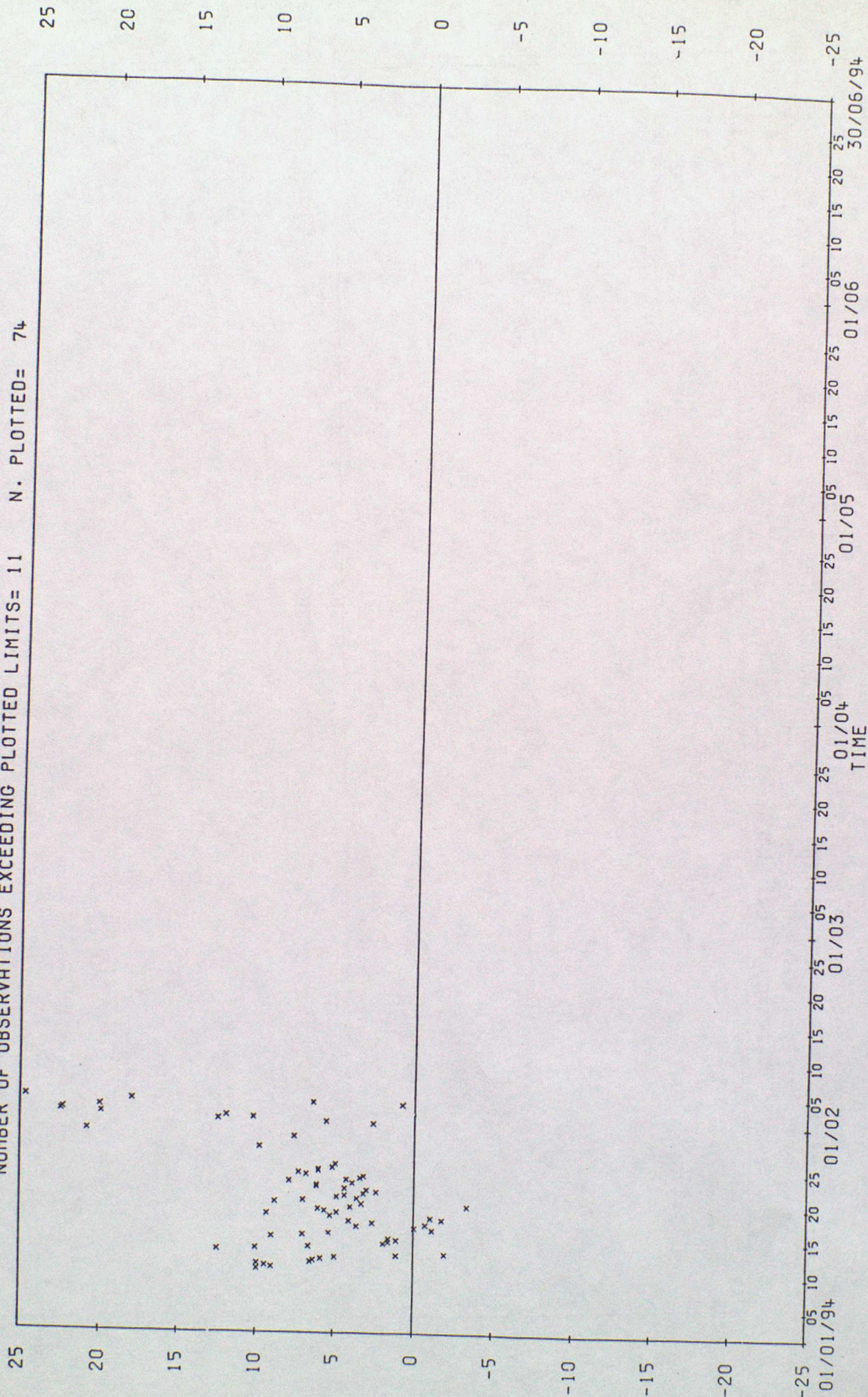
0-B

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 141



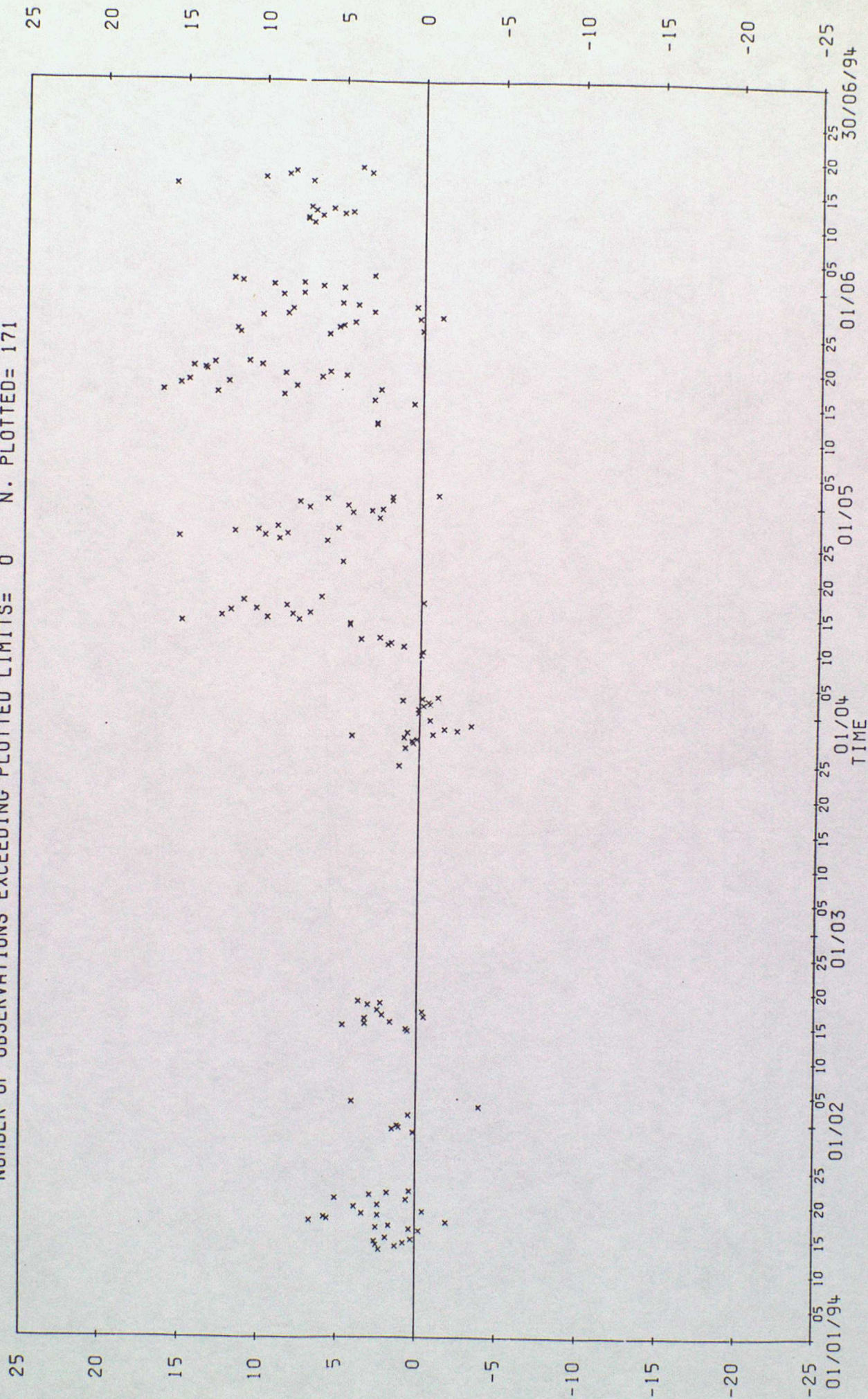


0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: GOMV  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 11 N. PLOTTED= 74  
 0-B





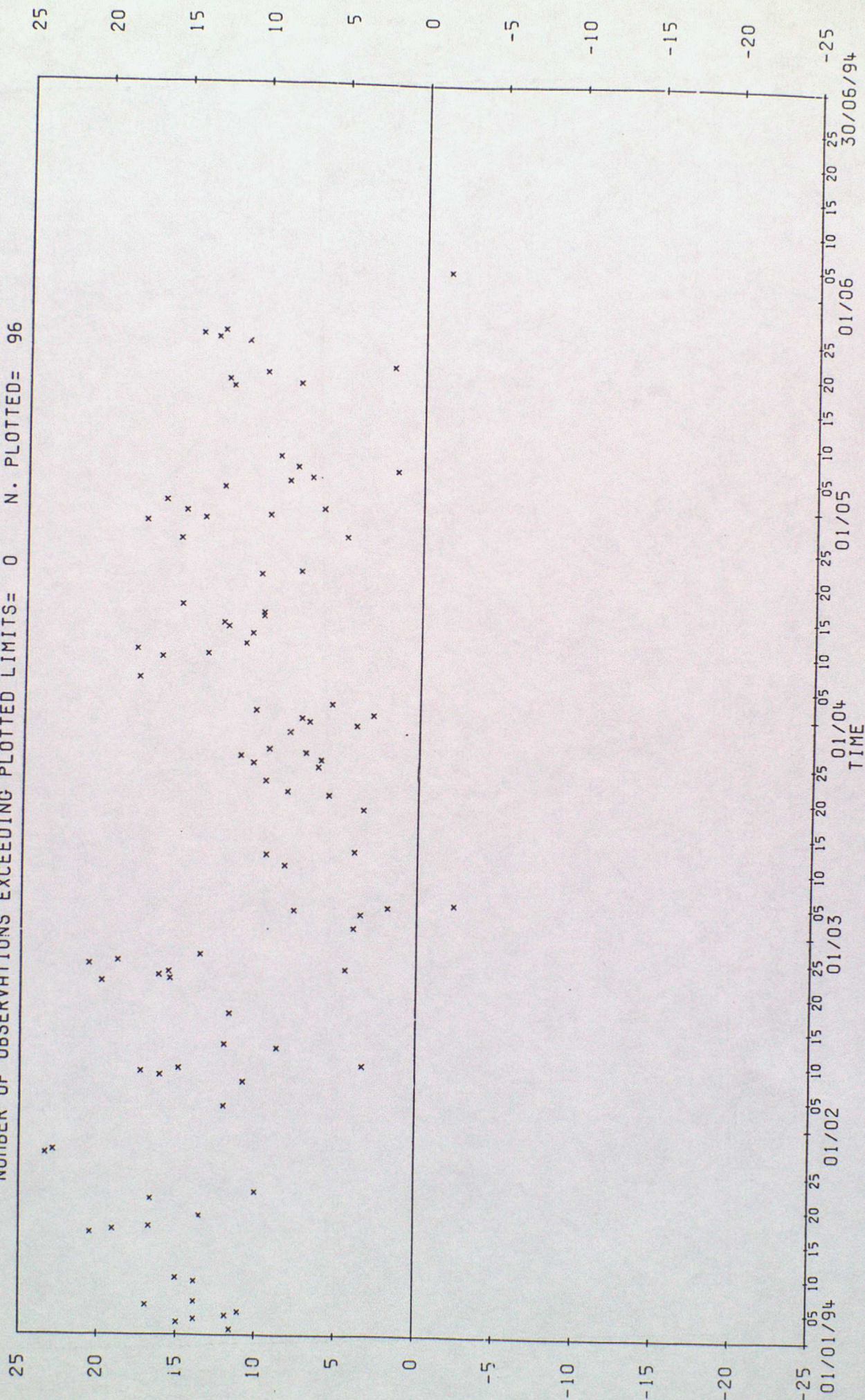
0-B  
BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: PFRX  
VARIABLE : WIND SPEED IN UNITS OF MS-1  
NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 171  
0-B





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(O-B) FOR IDENTIFIER: PJJK  
VARIABLE : WIND SPEED IN UNITS OF MS-1

N. PLOTTED= 96





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

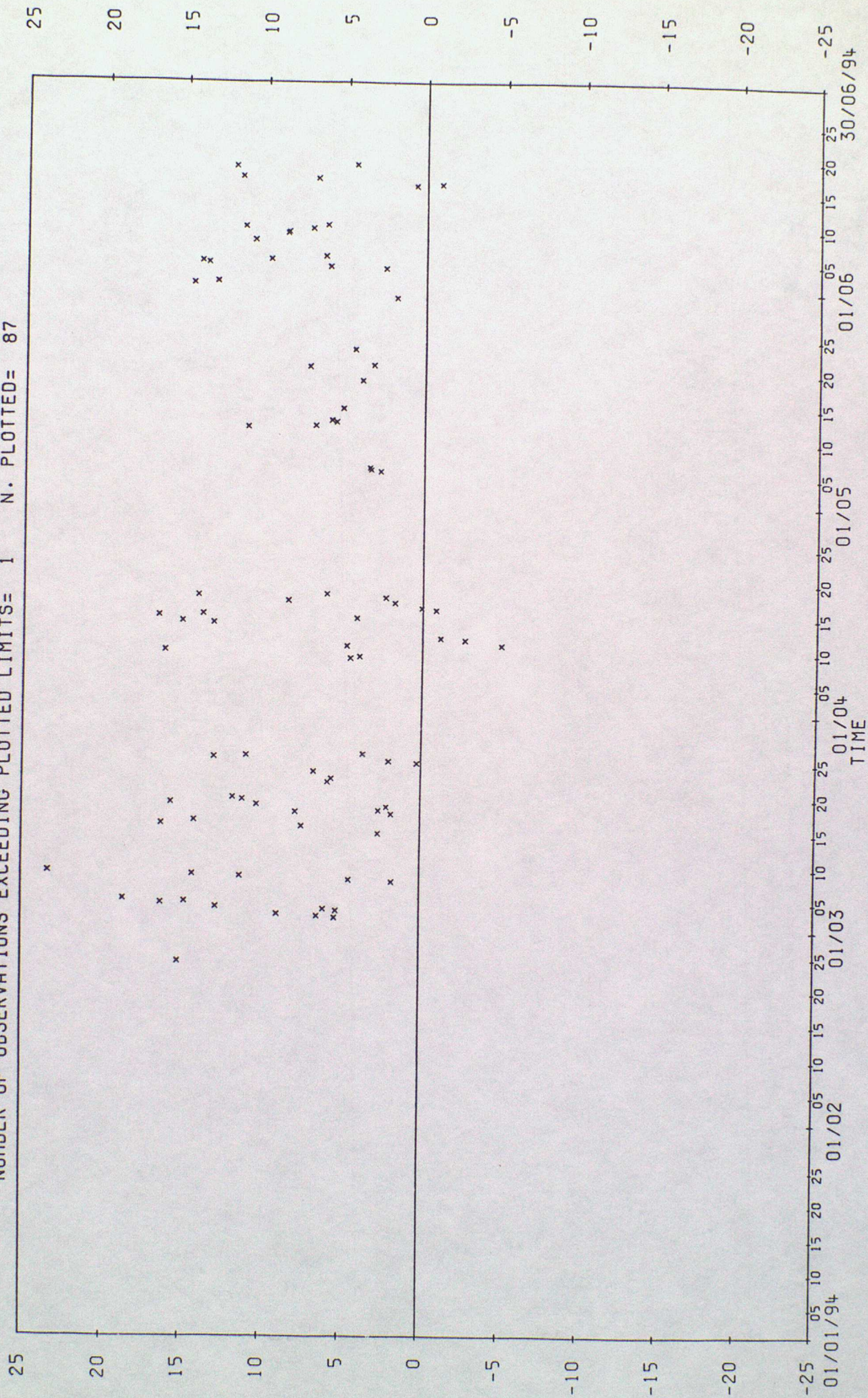
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: SXY

VARIABLE : WIND SPEED IN UNITS OF MS-1

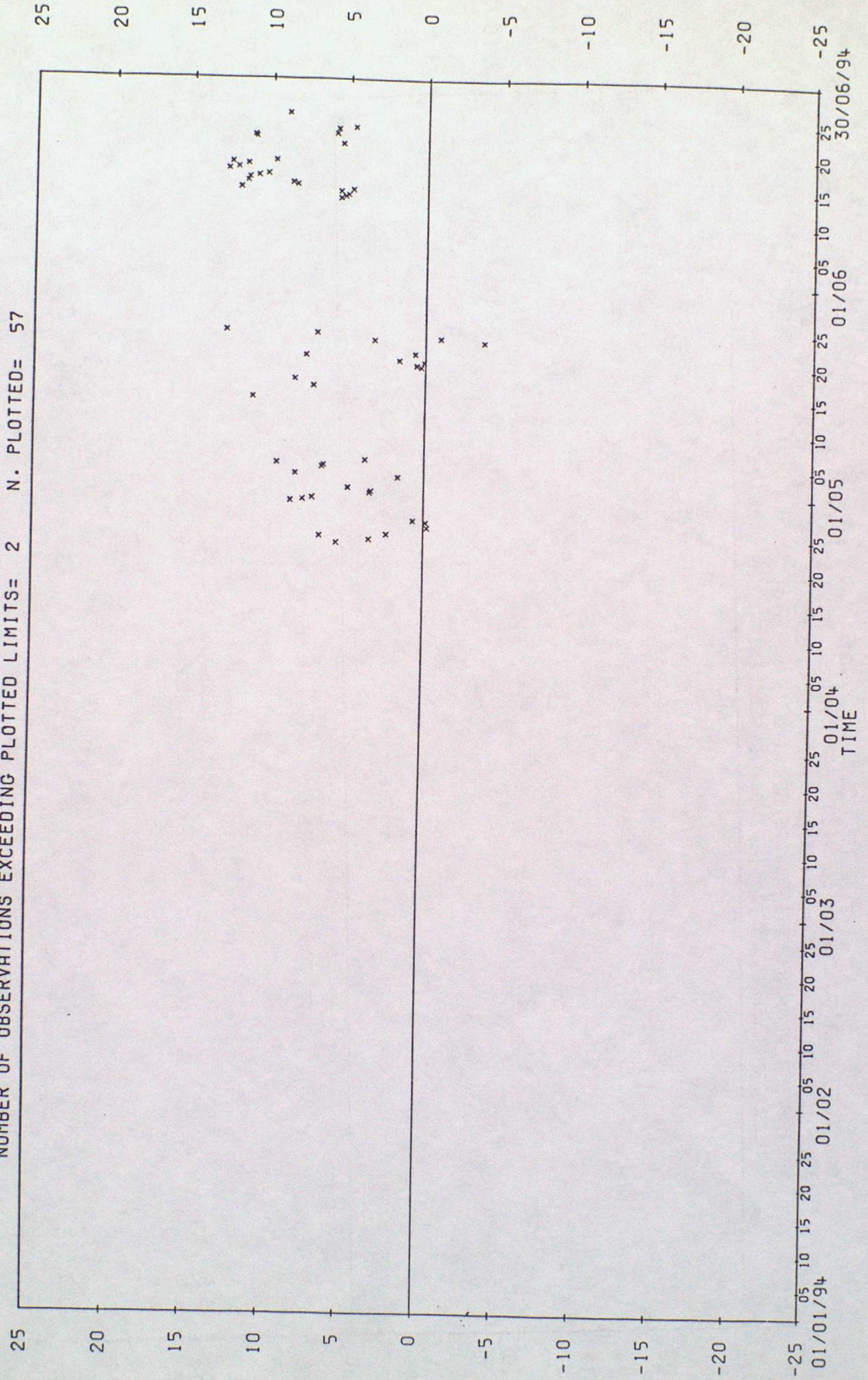
NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 87

0-B



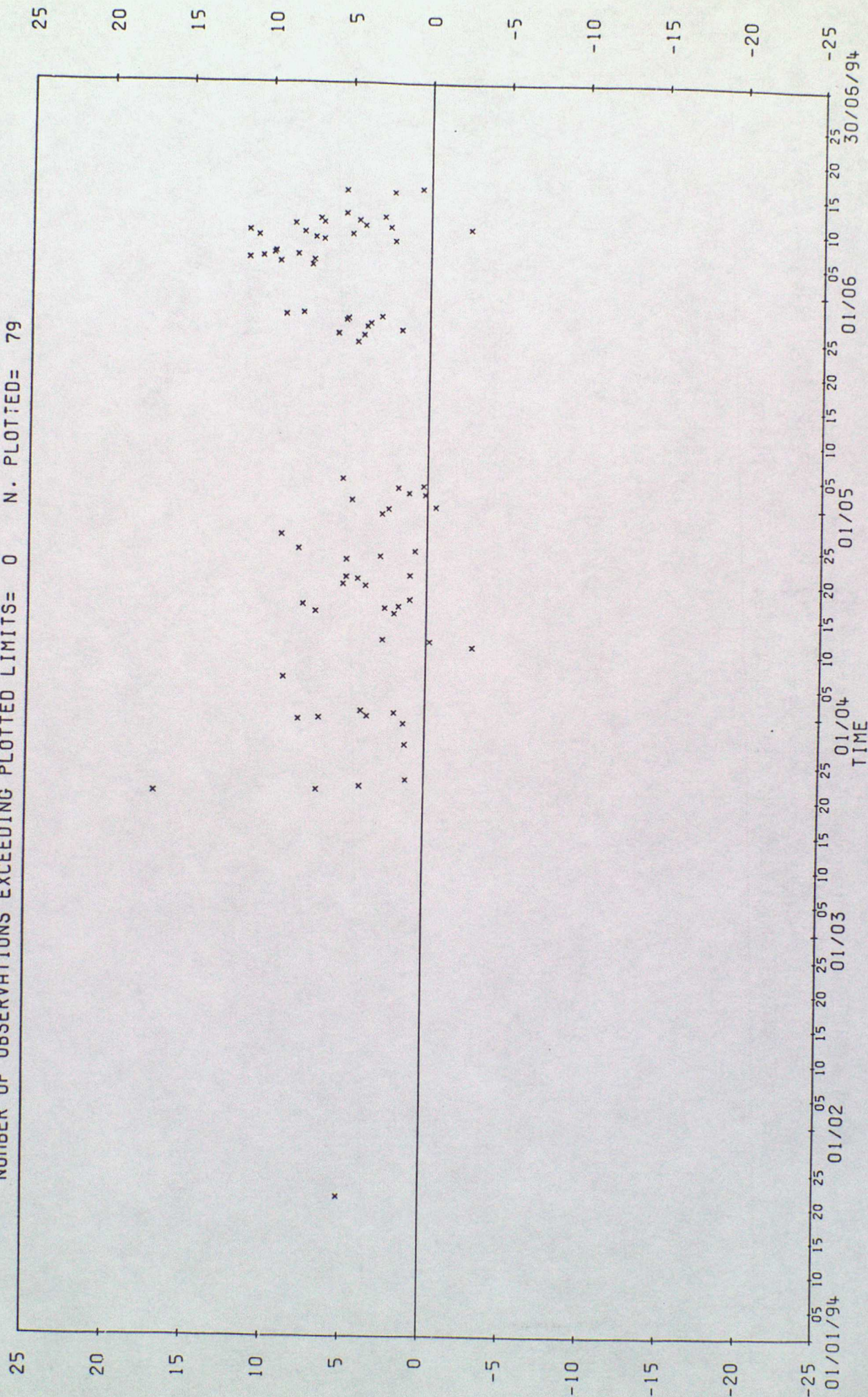


0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: S6CL  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 2 N. PLOTTED= 57  
 0-B





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: VJBE  
 VARIABLE : WIND SPEED IN UNITS OF MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 79





0-B

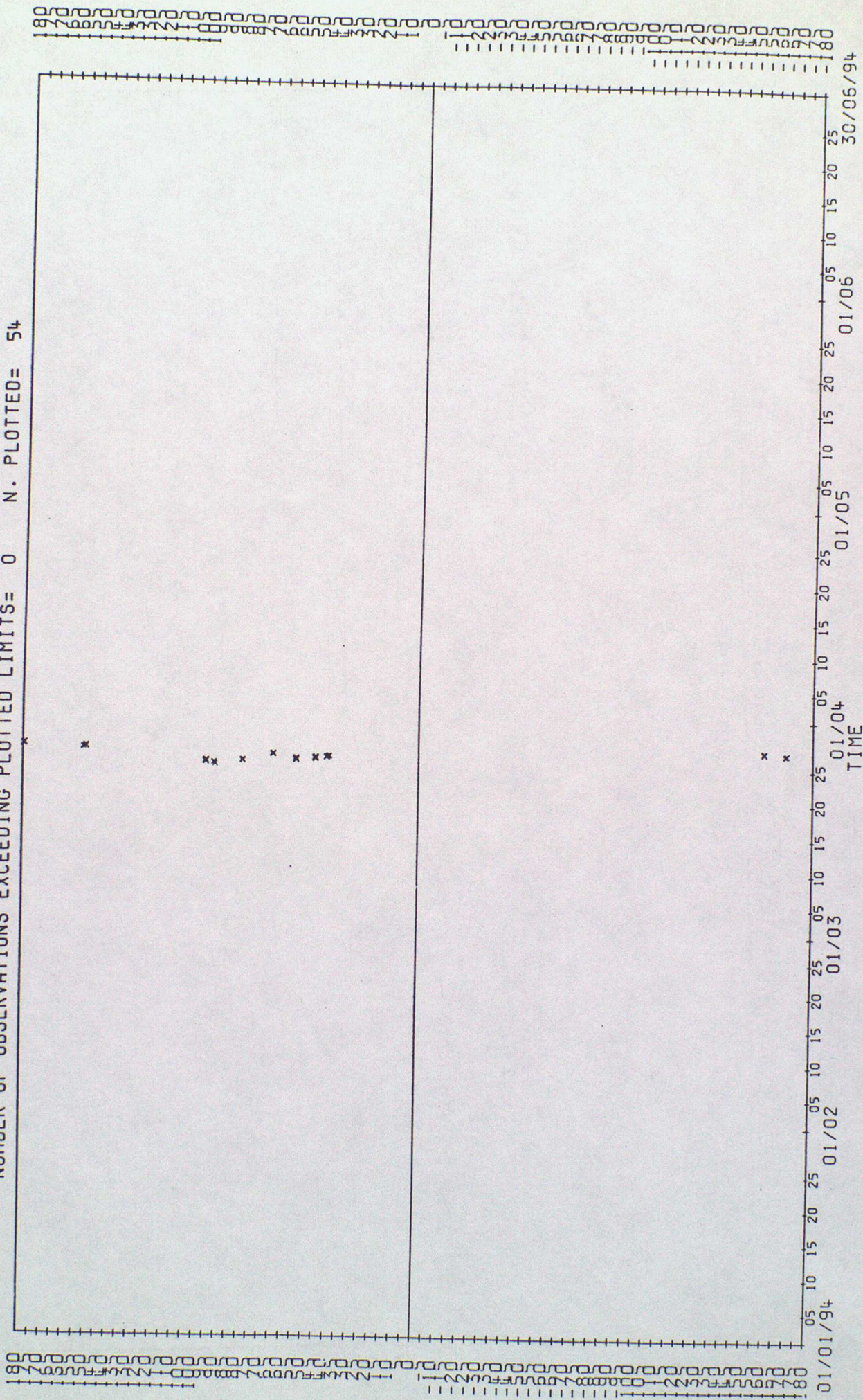
BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44616

VARIABLE : DIRECTION IN DEG. IF SPEED>5MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 54

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

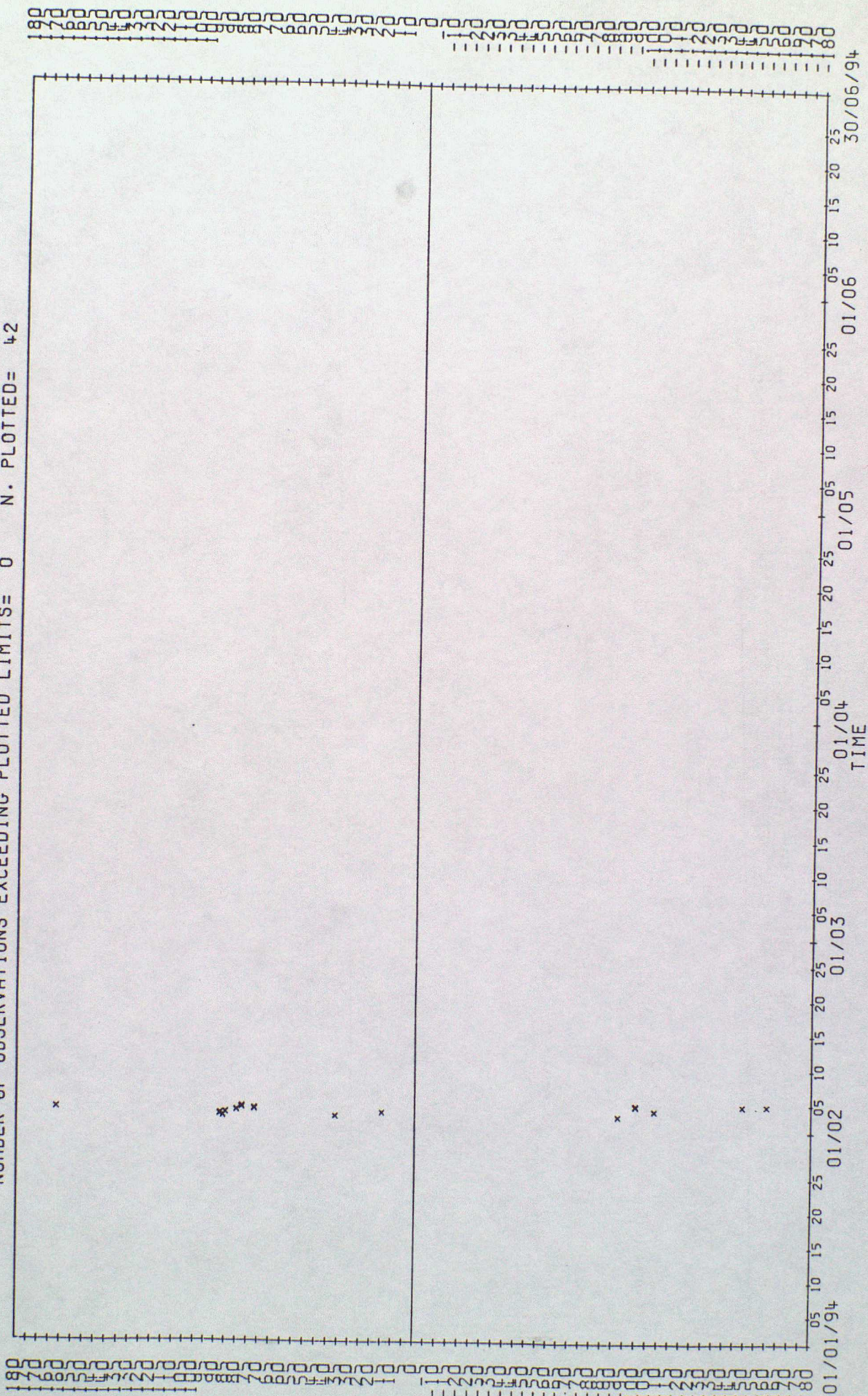
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44742

0-B

VARIABLE : DIRECTION IN DEG. IF SPEED>5MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 42





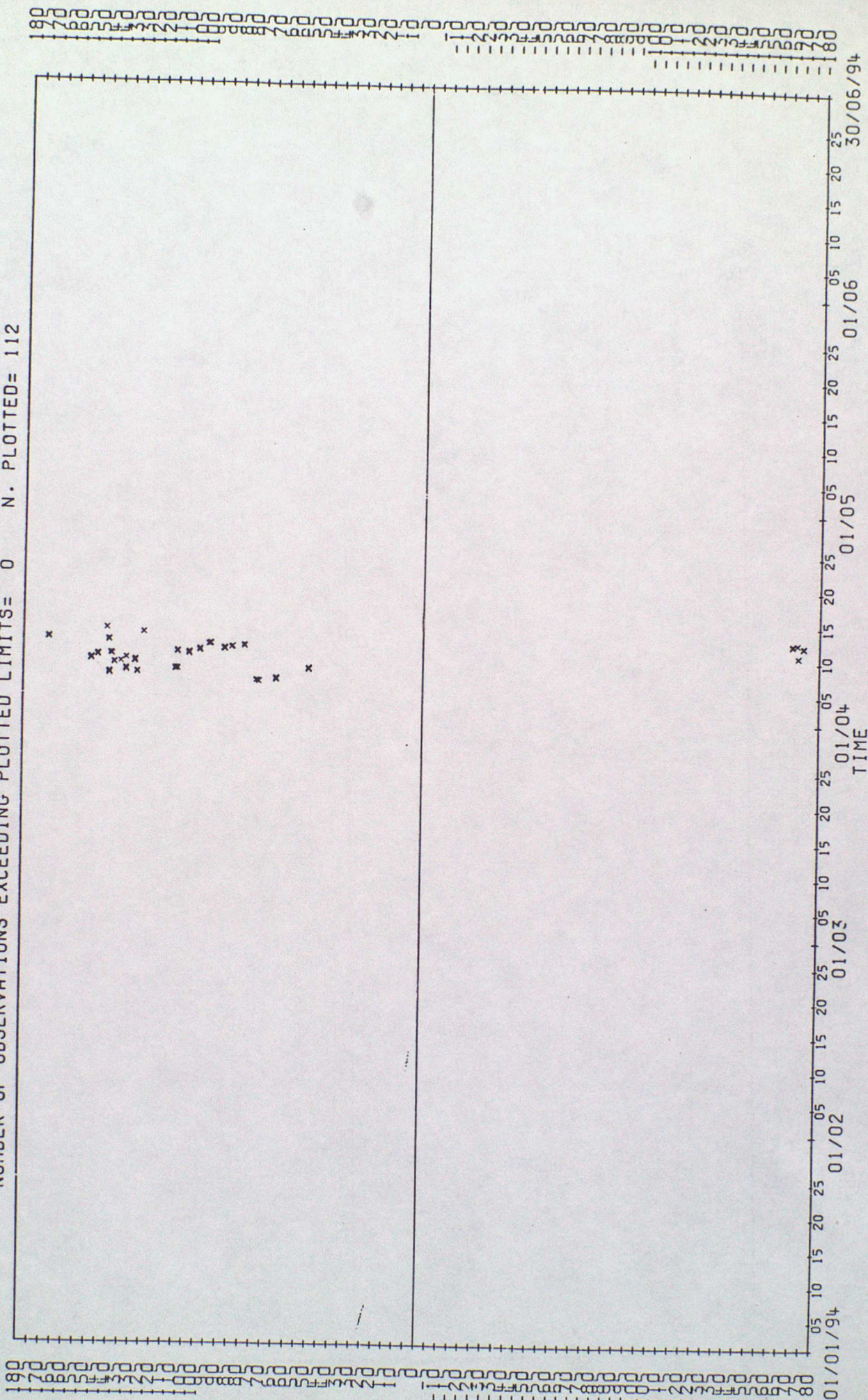
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44768  
 VARIABLE : DIRECTION IN DEG. IF SPEED > 5MS-1

0-B

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 112





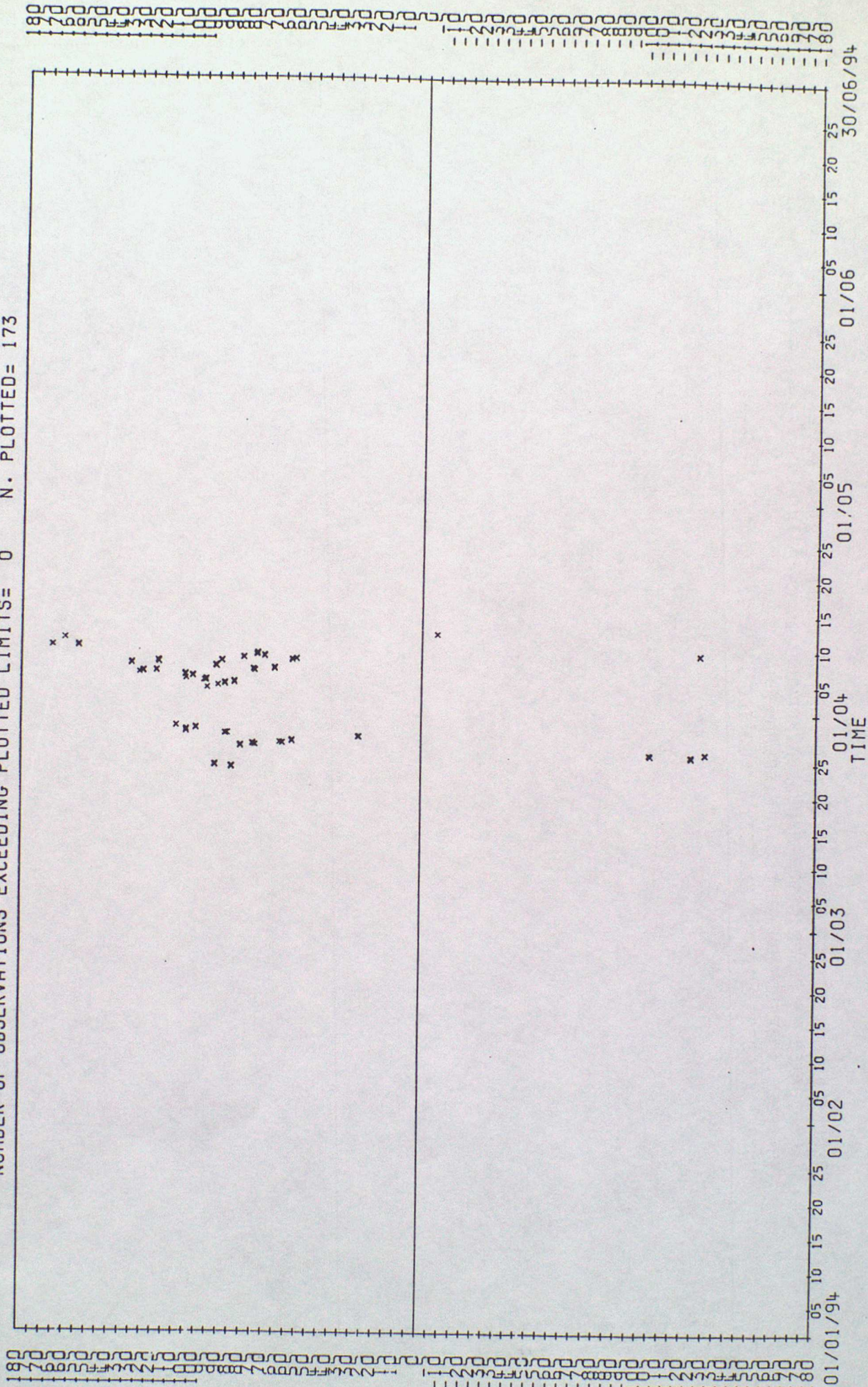
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44769  
 VARIABLE : DIRECTION IN DEG. IF SPEED>5MS-1

0-B

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 173





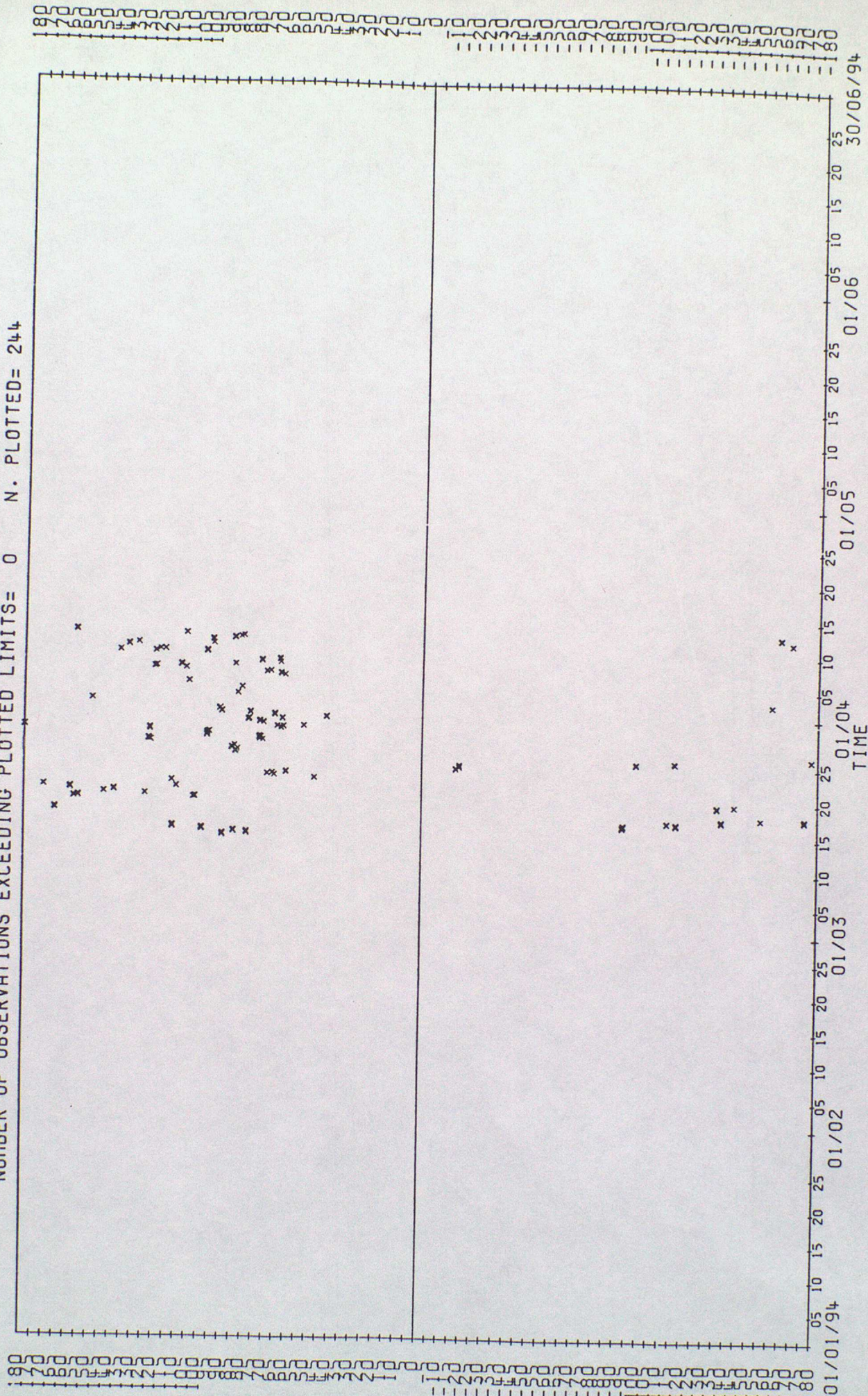
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 44771  
 VARIABLE : DIRECTION IN DEG. IF SPEED > 5 MS-1

0-B

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 244





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

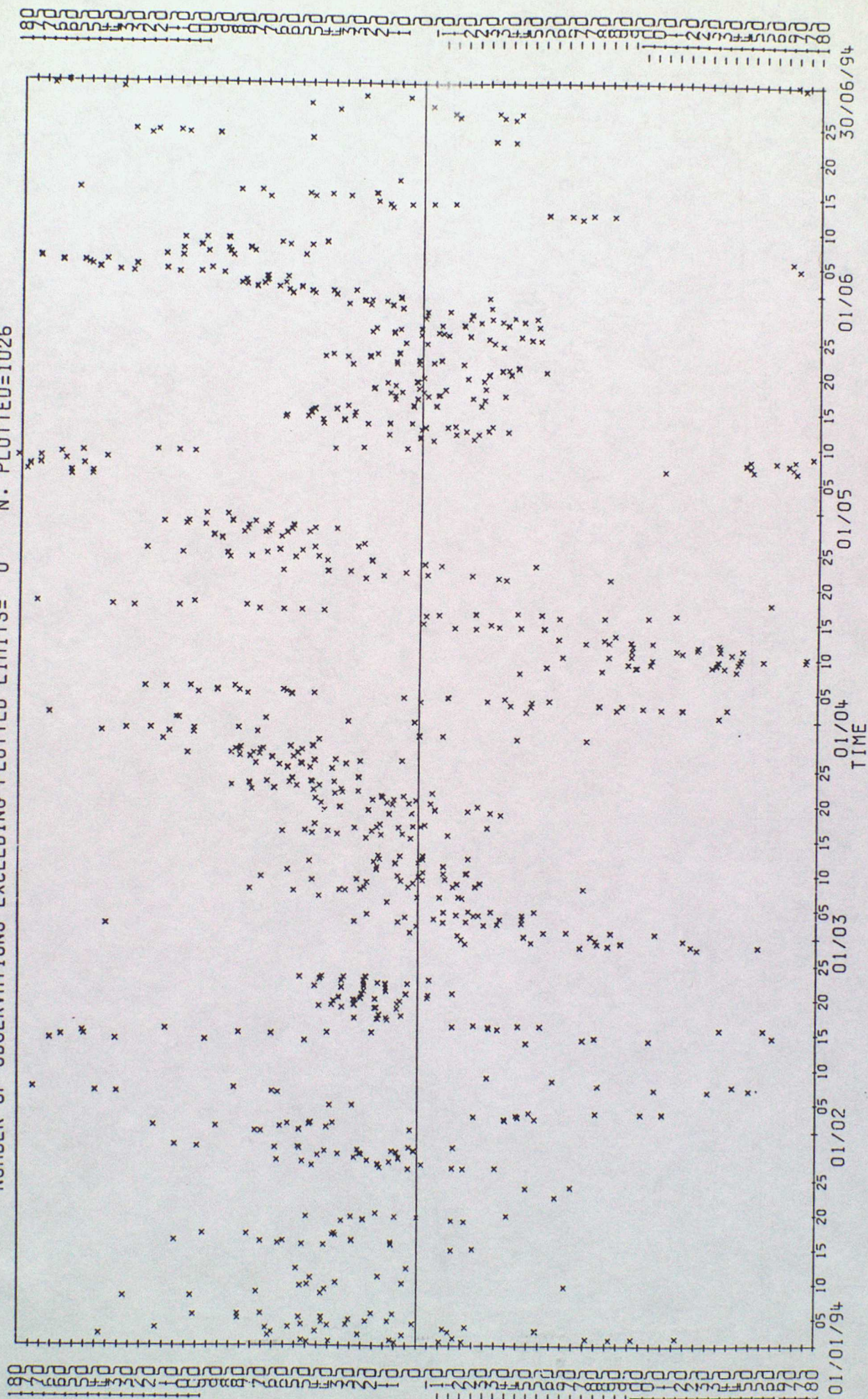
C-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 55578

0-B

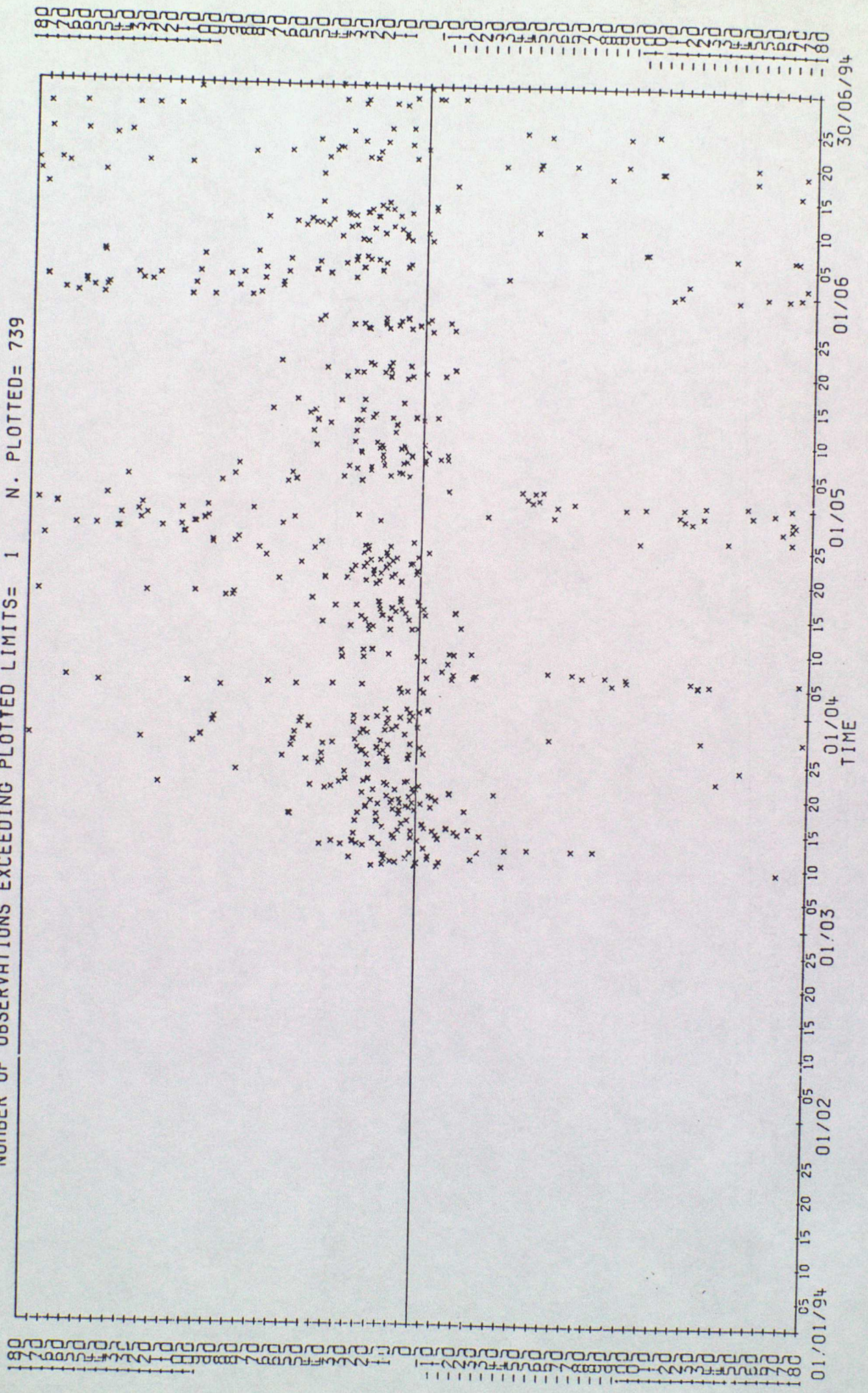
VARIABLE : DIRECTION IN DEG. IF SPEED > 5MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED=1026





0-B  
 BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 55580  
 VARIABLE : DIRECTION IN DEG. IF SPEED 75MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 1 N. PLOTTED= 739  
 0-B





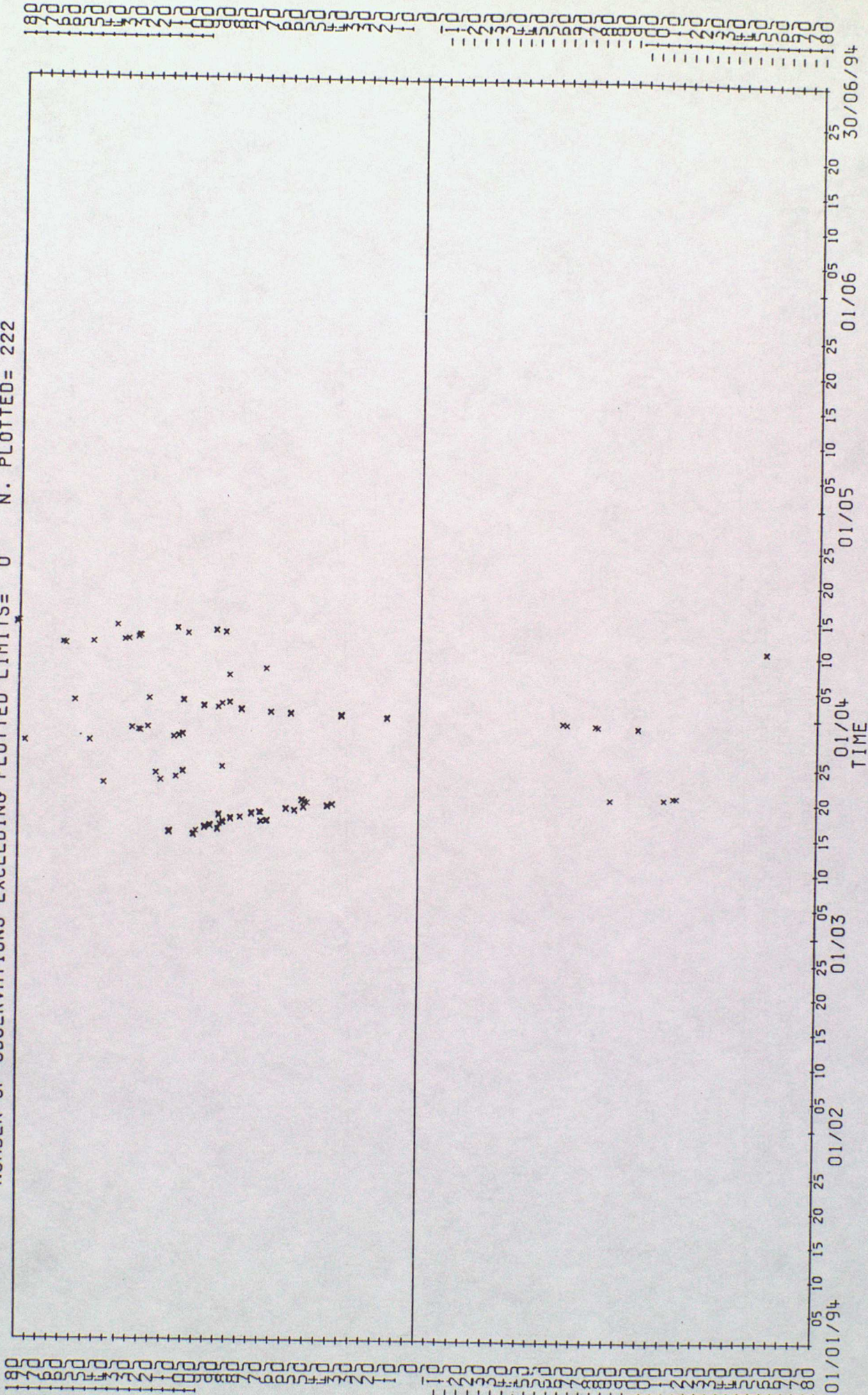
# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 62696  
 VARIABLE : DIRECTION IN DEG. IF SPEED  $\geq$  5 MS-1

0-B

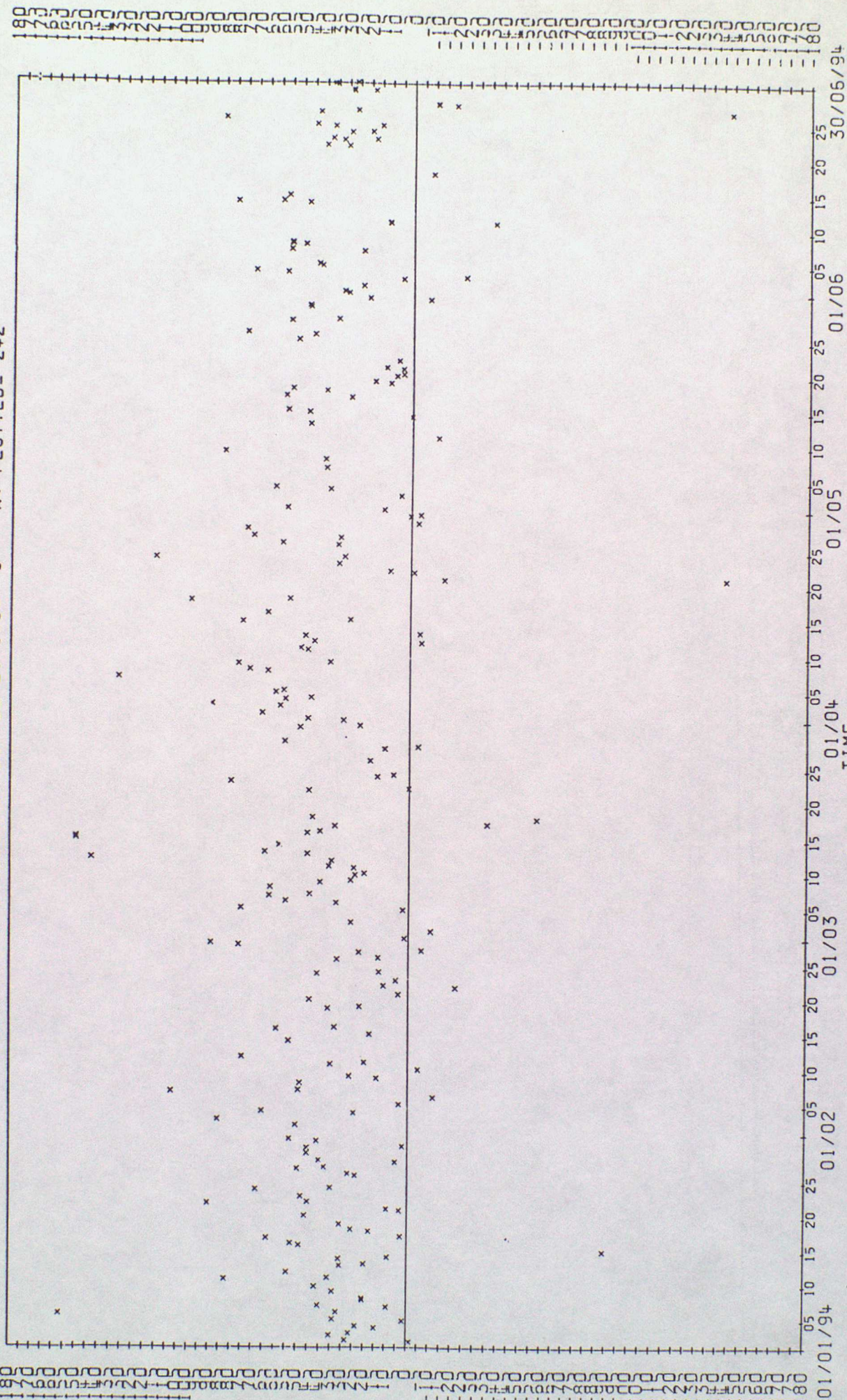
NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 222





BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA  
 TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: CG2614  
 VARIABLE : DIRECTION IN DEG. IF SPEED>5MS-1  
 NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 242

0-B



0-B



# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

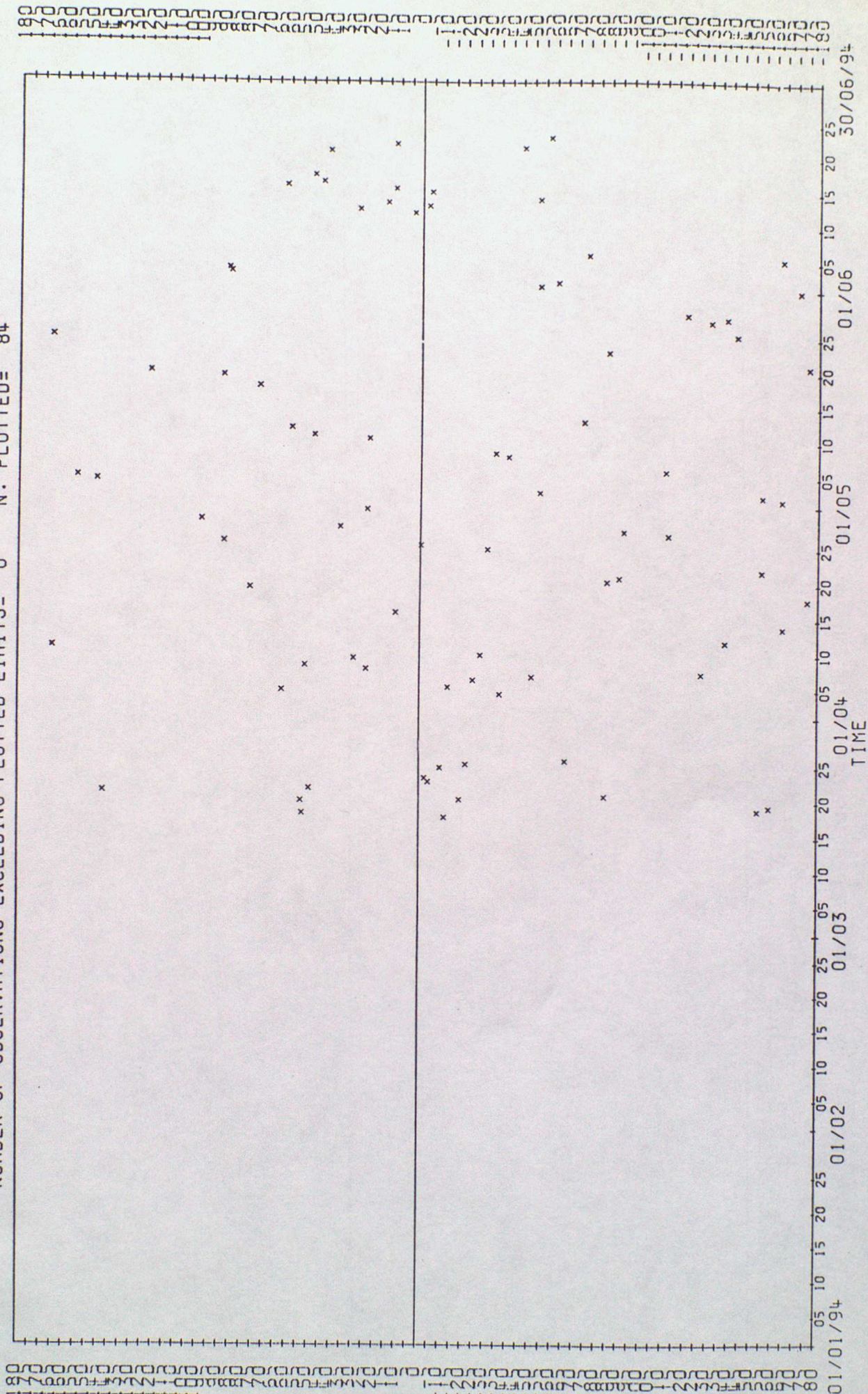
0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: UYKD

0-B

VARIABLE : DIRECTION IN DEG. IF SPEED>5MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 84





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

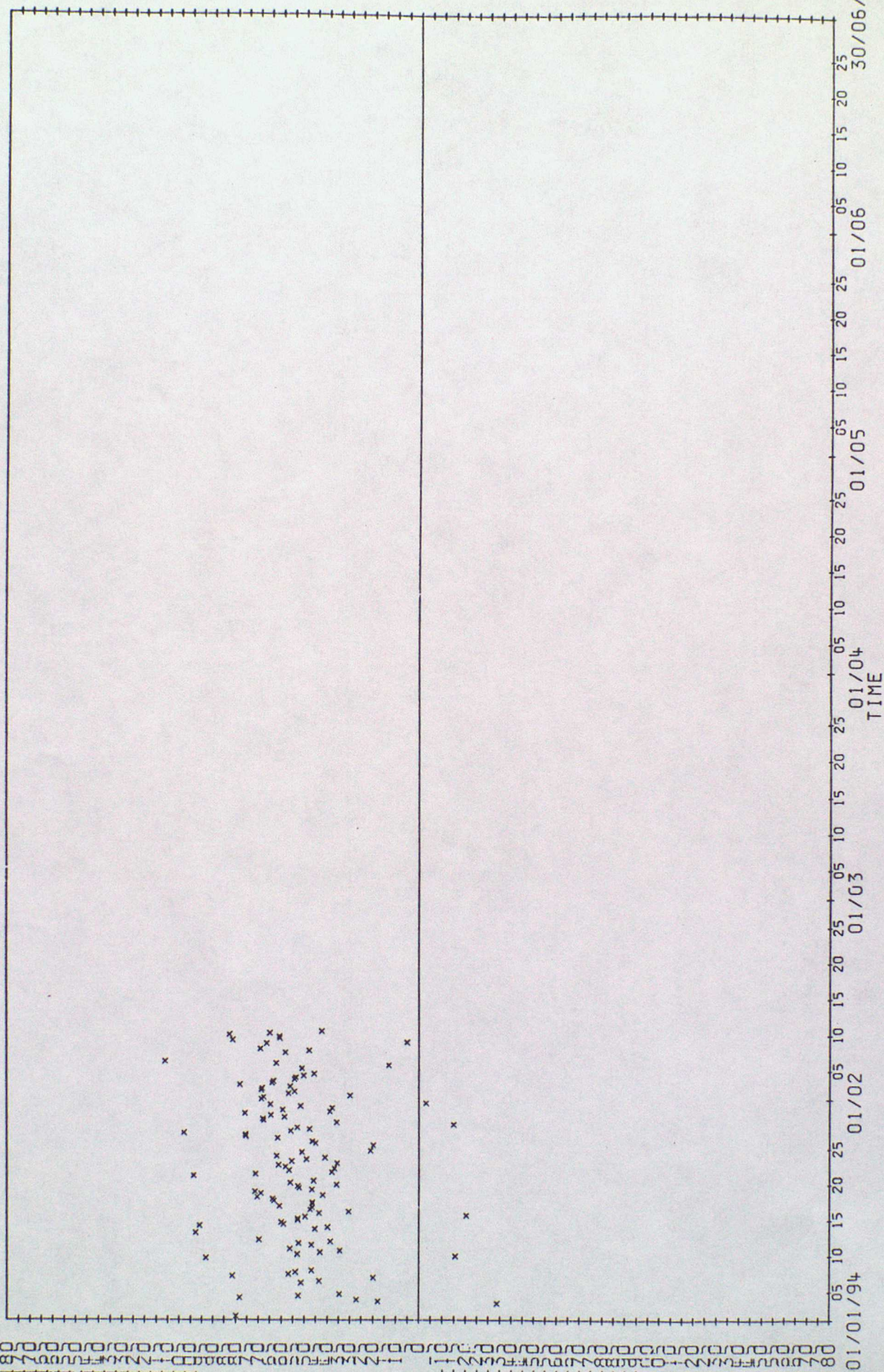
TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 21004

VARIABLE : DIRECTION IN DEG. IF SPEED **75**MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 120

0-B

0-B





# BRACKNELL MONITORING INFORMATION FOR MARINE SURFACE DATA

0-B

TIME SERIES OF OBSERVATION MINUS BACKGROUND INCREMENTS(0-B) FOR IDENTIFIER: 42027

0-B

VARIABLE : DIRECTION IN DEG. IF SPEED > 5 MS-1

NUMBER OF OBSERVATIONS EXCEEDING PLOTTED LIMITS= 0 N. PLOTTED= 289

