

DUPLICATE ALSO



THIRTY THIRD QUARTERLY REPORT

ON DRIFTING BUOYS

IN THE NORTH ATLANTIC

25-60 deg N, 60 deg W to 10 deg E

JANUARY TO MARCH 1995

Headquarters, Bracknell

ORGS UKMO Q

FH4C 28 APR 1995
National Meteorological Library

FitzRoy Road, Exeter, Devon. EX1 3PB

London: 01-833 6611; Dublin: 01-222 222

DISTRIBUTION LIST

Met. Office.

1. D(O)
2. BD Met O (OP)
3. BD Met O (OI)
4. Mr.D.W.Jones & Mr.A.N.Bentley, (OI)1b
5. Captain Norwell. (OM)
6. Mr J.S.Irvine, (OI)1b
7. Mr.S.G.Smith, (OP)3a
8. Mr.B.Oatway, Operations Manager, CF1
9. Library (2)

International.

1. Mr.R.McGrath ECMWF
2. Mr.T.Kvinge, Norway
3. Mr.J.Keeley, Canada
4. Mr.E.Charpentier, USA
5. Mr.P.Blouch, France
6. Dr.T.Mohr, Germany
7. Mr. Giratys, Switzerland
8. Mr.V.Wagner, Germany
9. Mr.L.Burke, Ireland
10. Mr.G.Venendaal, The Netherlands
11. Mr.F.Sigurdsson, Iceland
12. Mr.K.Bjorheim, Norway
13. Mr.K.Hedeegaard, Denmark
14. Mr.P.O.Harsmar



3 8078 0003 7567 7

CONTENTS

1. Introduction

Summary of :-

2. Pressure Performance
3. Air temperatures and sea surface temperatures
4. Winds
5. Explanatory Notes
6. Mean Positions of Buoys

- | | |
|---------|------------------------------------------------|
| Annex A | - Table of Statistics |
| Annex B | - Time-series plots of pressure |
| Annex C | - Time-series plots of air temperature |
| Annex D | - Time-series plots of sea surface temperature |
| Annex E | - Time-series plots of wind speed |
| Annex F | - Time-series plots of wind direction |
| Annex G | - Summary table of operational drifting buoys |

Produced by

P.Ellis
Meteorological Office,
Met O (OP) 3a, Room 129,
London Road,
Bracknell,
Berkshire, RG12 2SZ,
United Kingdom.

Tel - 01344 - 854446

25th April 1995

This report has not been published.
Permission to quote from it should be obtained from the
Branch Director (Observation Provision).

1. INTRODUCTION

Drifting buoys operated by European countries, the United States, Canada and E.G.O.S. (European Group on Ocean Stations) provide valuable meteorological data in the North Atlantic Ocean. This report is a summary of the performance of these buoys giving information on the number of buoys operating, the accuracy of reported locations and data quality, timeliness and availability. It is compiled by looking at observations received in the Met. Office Meteorological Data Bank (Met.D.B.) and by comparisons of observations with background fields from the Met. Office forecast model. Additional information on buoy operations and data quality is extracted from E.G.O.S. Technical Secretariat reports.

SPECIAL NOTE :

A problem with the Met. D. B. has resulted in some Collecting Centre information being unavailable at the start of the period. This problem has now been rectified.

2. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 21 buoys reporting pressure at the beginning of the period and 17 at the end. (NB. Buoy 64547 was reporting other elements at the start of the period but did not begin reporting pressure until 9/1. Buoy 44614 which had a mean position south of 50 degN last quarter has drifted north this quarter and is included in the figure above. Buoy 62696 which was in the report area last quarter has drifted outside the area this quarter.) 5 new buoys were deployed during the period (44616, 44726, 44728, 62805 and 65562). 10 buoys ceased reporting (44617, 44762, 44767, 44768, 44769, 44771, 44775, 62507, 64547 and 64560).

South of 50deg N

There were 6 buoys reporting pressure at the beginning of the period and 8 at the end (Buoys 62512 and 62513 ceased reporting pressure on 25/1 and 16/1 respectively but continued to report other elements). 7 new buoys were deployed (61542, 61543, 61544, 62515, 62517, 62518 and 62519). 4 buoys ceased reporting (62509, 62510, 62511, and 62513).

(b) Location Accuracy

The location accuracy was an improvement on last quarter with 34 out of 40 of the buoys reporting having a '% of observations with acceptable positions' greater than 95% (compared to 18 out of 41 last quarter). There were 6 gross errors in location during the quarter, compared with 51 last quarter (see under Data Quality).

(c) Data timeliness

(see note 9 of section 5 for definition of terms.)

| Timeliness | Last quarter. | This quarter |
|--------------------|---------------|--------------|
| Very Good | 12 | 12 |
| Good | 8 | 7 |
| Satisfactory | 5 | 6 |
| Poor | 7 | 4 |
| Very poor | 9 | 11 |
| Total no. of buoys | 41 | 40 |

(d) Data availability

(see note 9 of section 5 for definition of terms.)

| Availability | South of 50 deg N | | North of 50 deg N | |
|--------------|-------------------|-----------------|-------------------|-----------------|
| | Previous Quarter | Present Quarter | Previous Quarter | Present Quarter |
| Very Good | -- | -- | 14 | 13 |
| Good | 1 | -- | 7 | 8 |
| Satisfactory | 8 | 8 | 2 | 1 |
| Poor | 3 | 5 | 4 | 5 |
| Very Poor | 1 | -- | 1 | -- |

The total number of buoy days in the quarter was 2,233 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 3,016) and the number of 'buoy hours' with at least one observation was 30,993 (compared with 41,544 last quarter). Thus, the mean number of hours per day, for days with at least one observation (averaged over all buoys operating in the area) was 13.88 (last quarter the figure was 13.77).

(e) Data Quality - Pressure

Revised RMS Differences

The technique used to assess the quality of pressure data in this report is based on the Revised RMS differences between the observations and the background field from the Global Forecast Model (see note 8 in Explanatory Notes). For buoys south of 50 degN the Revised RMS differences should be less than 2.0 hPa and for buoys north of 50 degN they should be below 3.0 hPa. The buoys whose revised RMS difference were found to lie outside these limits have had their performance described as 'suspect' and are included in the section below. Examination of the time-series plots (see Annex B) indicates the performance of these buoys:-

- 44769 - Pressure data were totally erratic from the start of the period until the end of the buoy's life on 20/1.
- 62512 - Pressure data became slightly erratic towards 25/1 when the element ceased to be reported.
- 62513 - Pressure data became slightly erratic towards 16/1 when the element ceased to be reported.
- 62518 - Pressure data from this buoy tended to fluctuate during the quarter by up to 5.0 hPa. All observations were received via the Paris LUT.
- 65592 - This buoy showed a bias of +2.2 hPa throughout the period, and a significant number of gross errors were reported.

Biases

7 buoys (excluding those mentioned in the previous section) showed pressure biases greater than 0.5 hPa (pressure biases are determined using the mean value for unflagged data from Annex A). Those buoys whose pressure data showed a bias of greater than 0.5 hPa have also had their performance described as 'suspect'.

| WMO No. | Position | Buoy bias (hPa) | Ship bias (hPa) | Period of reports |
|---------|------------|-----------------|-----------------|-------------------|
| 44766 | S of SOBA | -0.7 | -0.1 | 01/03 - 31/03 |
| 44768 | NE of SOBA | +1.0 | -0.2 | 01/01 - 10/01 |
| 61542 | E of Spain | -0.8 | -0.6 | 18/03 - 31/03 |
| 62511 | SCOS | +0.7 | -0.4 | 01/01 - 17/02 |
| 62517 | N of SCOS | +0.7 | -0.3 | 14/03 - 31/03 |
| 64546 | SOBA | -1.7 | +1.0 | 01/01 - 31/03 |
| 64547 | SOBA | +0.9 | +1.0 | 01/01 - 14/03 |

The ship bias represents the mean pressure biases reported from ships within a radius of 500 nautical miles of the mean position of each buoy.

Gross errors

The observations which appear to lie outside the expected distribution - the 'gross' errors (see Time-series graphs) - have been ringed. (The erroneous observations which occurred at the end of the life of buoy 44769 have not been included in this section.) The observations have been individually examined to see whether the errors lie with the pressure, location or the background field. Out of 141 occasions the results are as follows -

| ERROR | NUMBER LAST QUARTER | NUMBER THIS QUARTER | COLLECTING CENTRE |
|------------------------------------|------------------------|------------------------|----------------------|
| bg field | 1 | 0 | ----- |
| location | 48 | 4 | Oslo |
| location | 3 | 0 | Sondre Stromfjord |
| location | 0 | 0 | Paris |
| location | 0 | 2 | Unknown |
| pressure | 92 | 76 | Oslo |
| pressure | 67 | 15 | Sondre Stromfjord |
| pressure | 0 | 16 | Paris |
| pressure | 0 | 0 | US Air Force |
| pressure | 46 | 28 | Unknown |
| Total no. of buoy hours | 41,544 | 30,993 | |

During the quarter 135 gross pressure errors were transmitted as compared to 205 last quarter. The number of gross location errors from the Local User Terminals showed a marked decrease (6 compared to 51 last quarter).

(3) Air Temperatures and Sea Surface Temperatures

The following table shows the mean and standard deviation of observation minus background differences for air temperatures and sea surface temperatures. Figures in brackets are for the observations from voluntary observing ships within a radius of about 500 nautical miles of the mean position of each buoy.

(Note : The calculations below include gross errors. Therefore, in some instances, the figures may be slightly misleading.)

| WMO No. | Air Temperature | | | Sea Surface Temperature | | |
|------------|-----------------|-----------|---------------|-------------------------|----------|---------------|
| | Mean | St. Dev | No. of Obs | Mean | St. Dev. | No. of Obs |
| 44614 | 3.0(0.3) | 6.6(1.6) | 2351 (524) | 0.1(0.0) | 0.6(2.3) | 3200 (418) |
| 44616 | -0.3(-0.4) | 1.0(2.4) | 952 (52) | -0.8(-0.3) | 0.8(2.3) | 954 (49) |
| 44617 | -0.6(0.3) | 1.5(1.6) | 1612 (652) | -0.4(0.0) | 0.8(2.2) | 1459 (522) |
| 44624 | 1.3(0.3) | 3.4(2.2) | 2903 (179) | 0.1(0.2) | 1.4(1.6) | 2808 (152) |
| 44726 | -0.5(0.0) | 13.2(2.6) | 2748 (81) | -0.5(0.1) | 2.5(1.9) | 2791 (75) |
| 44728 | -0.3(-0.7) | 0.9(2.8) | 916 (24) | -0.1(0.2) | 0.6(1.9) | 924 (23) |
| 44762 | -0.8(0.3) | 1.4(1.7) | 2110 (432) | -0.6(0.1) | 1.6(2.1) | 2330 (342) |
| 44764 | -0.5(0.2) | 1.2(2.0) | 4014 (19) | -0.3(-0.40) | 0.5(1.0) | 3855 (6) |
| 44766 | -0.5(0.2) | 2.0(2.1) | 2697 (159) | -0.1(0.3) | 1.0(1.7) | 1509 (129) |
| 44767 | -0.1(0.6) | 1.7(2.1) | 574 (16) | 1.6(-0.4) | 1.7(0.7) | 243 (3) |
| 44768 | 4.1(0.8) | 2.6(7.9) | 2 (46) | 8.7(0.3) | 4.7(3.5) | 138 (39) |
| 44769 | 22.4(1.0) | 8.8(4.7) | 344 (197) | 0.3(-0.3) | 1.1(1.5) | 159 (117) |
| 44771 | --- | --- | --- | -1.0(-0.5) | 1.9(1.7) | 1448 (72) |
| 44775 | 1.3(0.3) | 1.7(1.6) | 2922 (480) | -0.2(0.1) | 0.7(1.9) | 2790 (390) |
| 44776 | -0.3(0.2) | 1.3(2.2) | 4012 (53) | 0.0(-0.3) | 0.3(1.5) | 3853 (35) |
| 44780 | 35.7(0.0) | 4.3(2.1) | 425 (142) | -0.1(0.1) | 0.7(2.1) | 3387 (113) |
| 61542 | 0.0(1.3) | 1.5(2.4) | 101 (1103) | 0.3(0.2) | 0.3(2.0) | 130 (931) |
| 61543 | 0.2(1.3) | 1.1(2.6) | 93 (724) | 0.0(0.0) | 0.3(2.6) | 119 (625) |
| 61544 | -0.1(1.2) | 1.1(3.3) | 92 (780) | -0.2(-0.7) | 0.3(4.1) | 120 (668) |

Statistics of (ob-bg) differences for buoys reporting this
quarter and all ships within 500 nautical miles

| WMO No. | Air Temperature | | | Sea Surface Temperature | | |
|------------|-----------------|----------|---------------|-------------------------|----------|---------------|
| | Mean | St. Dev | No. of Obs | Mean | St. Dev. | No. of Obs |
| 62507 | --- | --- | --- | -2.1(-0.1) | 0.7(2.5) | 4 (935) |
| 62509 | --- | --- | --- | -0.2(0.0) | 0.2(2.4) | 147 (1071) |
| 62510 | --- | --- | --- | 0.0(0.0) | 0.1(2.3) | 912 (992) |
| 62511 | --- | --- | --- | -0.3(0.1) | 0.6(2.1) | 510 (1264) |
| 62512 | --- | --- | --- | 0.1(0.0) | 0.2(2.2) | 931 (1334) |
| 62513 | --- | --- | --- | -0.3(0.2) | 0.5(1.6) | 620 (472) |
| 62515 | --- | --- | --- | -0.1(0.0) | 0.4(2.0) | 94 (924) |
| 62517 | --- | --- | --- | 0.1(0.1) | 0.2(2.0) | 315 (692) |
| 62518 | --- | --- | --- | -0.5(0.1) | 0.3(1.9) | 452 (811) |
| 62519 | --- | --- | --- | -0.5(0.1) | 0.2(1.7) | 478 (513) |
| 62524 | 8.2(0.1) | 3.6(1.2) | 1522 (441) | 0.2(-0.2) | 0.7(2.9) | 1579 (364) |
| 62805 | -0.1(0.6) | 0.8(1.8) | 597 (14) | 0.0(0.3) | 1.1(0.8) | 586 (11) |
| 64528 | -0.4(0.4) | 1.6(2.0) | 2956 (36) | 0.1(-0.3) | 0.4(1.9) | 2100 (24) |
| 64529 | -0.1(0.6) | 1.1(2.1) | 2414 (16) | 0.1(-0.4) | 0.9(0.7) | 1315 (3) |
| 64544 | -0.2(-0.6) | 1.0(1.8) | 726 (18) | -0.1(-0.3) | 0.3(1.8) | 841 (18) |
| 64546 | 12.3(0.4) | 7.4(2.0) | 928 (37) | -0.2(0.1) | 0.4(1.0) | 1067 (5) |
| 64547 | 8.2(0.4) | 2.4(2.0) | 547 (37) | --- | --- | --- |
| 64560 | 0.9(0.4) | 4.4(2.1) | 951 (38) | 0.6(-0.7) | 0.6(0.7) | 451 (5) |
| 65562 | -1.8(0.4) | 1.1(2.0) | 1107 (17) | 0.1(0.1) | 0.7(1.0) | 676 (4) |

Statistics of (ob-bg) differences for buoys reporting this
quarter and all ships within 500 nautical miles

| WMO No. | Air Temperature | | | Sea Surface Temperature | | |
|---------|-----------------|----------|--------------|-------------------------|----------|--------------|
| | Mean | St. Dev | No. of Obs | Mean | St. Dev. | No. of Obs |
| 65571 | -0.5(0.2) | 1.6(1.9) | 3540 (95) | 0.0(-0.5) | 0.7(1.8) | 2044 (22) |
| 65592 | -0.4(0.0) | 1.5(2.2) | 3137 (47) | 0.1(-0.3) | 0.7(1.5) | 1931 (35) |

Buoys 44769 (+22.4), 44780 (+35.7), 62524 (+8.2), 64546 (+12.3), 64547 (+8.2) and 65562 (-1.8) all showed significant air temperature biases. Buoys 44614 and 44624 both reported erroneous data during the early part of the period, but data improved to a satisfactory standard around the end of January. Air temperature data from buoy 44775 drifted towards the end of its life on 27/3. Air temperature data from buoy 44768 showed a bias of +4.1°C, but this was only using a limited number of reports (ie. 2).

Buoys 44767 (+1.6), 44768 (+8.7), 44771 (-1.0) and 62507 (-2.1) all showed significant sea surface temperature (SST) biases. (NB. only 4 SST observations were received from buoy 62507.)

(4) Winds

The following table shows the mean and standard deviation of observation minus background differences for wind speed and direction. Figures in brackets are for the observations from voluntary observing ships within a radius of about 500 nautical miles of the mean position of each buoy (Note - it is not known what proportion of the ships' winds were measured rather than estimated visually using the Beaufort Scale). The statistics for this report can be compared with those for ships and the relative quality of the wind data from each buoy can be assessed.

| WMO No. | Period | Wind Speed (kn) | | Wind Direction (deg) | | No. of Obs |
|---------|-------------|-----------------|----------|----------------------|-------------|------------|
| | | Mean | St. Dev. | Mean | St. Dev. | |
| 44617 | 01/01-25/02 | -3.2(2.4) | 5.9(6.5) | -4.7(-5.1) | 41.0(27.1) | 1563(626) |
| 44762 | 01/01-28/03 | -4.2(2.4) | 6.0(6.7) | -1.0(-6.4) | 29.2(28.2) | 1961(417) |
| 44764 | 01/01-31/03 | -3.2(0.8) | 5.4(4.2) | -4.7(10.2) | 25.7(15.9) | 3131(9) |
| 44776 | 01/01-31/03 | -2.0(2.3) | 6.4(7.1) | 6.8(-5.6) | 64.3(28.5) | 3356(52) |
| 61542 | 18/03-31/03 | 6.5(3.5) | 3.4(7.3) | -12.8(-3.9) | 113.2(29.1) | 37(931) |
| 61543 | 18/03-31/03 | 4.2(4.0) | 3.3(7.8) | -3.1(-3.7) | 84.5(31.4) | 42(590) |
| 61544 | 18/03-31/03 | 0.2(5.1) | 3.1(7.8) | 43.6(-3.9) | 39.7(39.1) | 50(651) |
| 62518 | 09/03-31/03 | 0.3(2.1) | 3.6(5.9) | 9.9(-2.3) | 19.5(28.0) | 402(955) |
| 62519 | 09/03-31/03 | 0.0(2.4) | 4.4(6.3) | 7.2(-3.0) | 17.5(26.8) | 433(613) |
| 64544 | 01/01-31/03 | -14.1(0.1) | 7.8(6.8) | -27.5(-1.7) | 84.9(21.2) | 448(17) |

Statistics of (ob-bg) differences for buoys reporting this quarter and all ships within 500 nautical miles

Buoys 44617 (-3.2), 44762 (-4.2), 44764 (-3.2), 61542 (6.5), 61543 (4.2) and 64544 (-14.1) all showed significant wind speed biases.

Buoy 61544 (43.6) showed a significant wind direction bias. 44617 (41.0), 44776 (64.3), 61542 (113.2), 61543 (84.5), 61544 (39.7) and 64544 (84.9) all showed a larger than normal standard deviation of wind direction.

5 EXPLANATORY NOTES:

1. Buoy owners are as follows,

| | | | |
|----|---------------|----|------------------|
| CA | - Canada | P | - Portugal |
| F | - France | UK | - United Kingdom |
| D | - Germany | US | - United States |
| N | - Norway | IC | - Iceland |
| NL | - Netherlands | EG | - EGOS |
| IR | - Ireland | ?? | - unknown |

2. Number of observations received is the number received at Bracknell in the Meteorological Data Bank (Met.DB). If identical reports are received which have originated at different Collecting Centres, the earliest one received at Bracknell is stored in the Met.DB.
3. An observation with valid Time and Date is one that contains no coding errors in the Date/Time group.
4. An acceptable position for an observation is within a distance d of the last acceptable position where $d=vt$ and,
 v = maximum drift speed = 1/4 knot
 t = time between observations.
5. The percentage of elements present is calculated from the total number of observations received.
6. The delay is (Time of Receipt at Bracknell) - (Time of Observation).
7. The mean number of observations per day is calculated from the total number of observations received divided by the number of days in the period. It therefore includes 'quasi-identical' observations, ie those made within a few minutes of one another. For this reason the mean number of hours per day with at least one observation and the % of hour periods without an observation has been included, where an 'hour period' is defined as the period from HH-30 to HH+29 minutes.

8. Mean (OB-BG) is the mean value of (Observation-Background) Pressure, where the Background is the 6-hour forecast from the Global Forecast Model. RMS (OB-BG) is the Root Mean Square value of (Observation-Background) Pressure differences.

Unflagged data are those data used in model analyses.

Flagged data (ie. unused observations) are those observations of suspect quality and all observations reported by a buoy at a frequency greater than 5 times every 6 hours, with accepted observations being at least one hour apart. Thus, those buoys which report most frequently have a higher percentage of flagged data.

The Mean calculated over Unflagged Data gives an indication of the instrument bias, since any gross errors have been excluded from the calculation.

The Revised RMS is based on all data except for the few that contain gross errors (as indicated on the time-series graphs - see Annex B).

9. The performance categories are defined in the table below.

| Performance | Availability (mean no. of obs/day) | Timeliness (median delay in mins) |
|--------------|---------------------------------------|--------------------------------------|
| Very Good | > 35 | < 60 |
| Good | 25 - 35 | 60 - 119 |
| Satisfactory | 15 - 24 | 120 - 179 |
| Poor | 5 - 14 | 180 - 239 |
| Very Poor | < 5 | > 240 |

(N.B. WMO requirements state the need for only 4 observations per day from marine stations.)

The pressure quality is assessed from the Revised RMS and the Mean (for unflagged data).

| Performance | Pressure Quality (in hPa) | | | |
|-------------|---------------------------|-------|------------------|-------|
| | North of 50 degN | | South of 50 degN | |
| | RMS | MEAN | RMS | MEAN |
| Acceptable | < 3.0 | < 0.5 | < 2.0 | < 0.5 |
| Suspect | > 3.0 | > 0.5 | > 2.0 | > 0.5 |

ANNEX A - TABLE OF STATISTICS

| | | | |
|-------------------------------------------------|-------------|-------------|-------------|
| Wmo No./ Country ¹ | 44614/UK | 44616/UK | 44617/UK |
| Argos Id No. | 6294 | 3318 | 6299 |
| Period within area | 01/01-31/03 | 10/03-31/03 | 01/01-25/02 |
| Area | SE of SOBA | S of SOBA | SE of SOBA |
| Mean Latitude | 53.8 | 52.6 | 53.3 |
| Mean Longitude | -16.5 | -36.4 | -15.8 |
| No. of obs received ² | 3423 | 975 | 1654 |
| % of obs with valid Time and Date ³ | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 97.1 | 99.6 | 98.5 |
| % of Presents | | | |
| Pressure | 99.7 | 99.7 | 99.8 |
| P. Tendency | 97.9 | 96.1 | 98.1 |
| Air Temperature | 71.4 | 99.7 | 99.9 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 98.7/98.8 |
| Sea-surface temp. | 93.0 | 99.7 | 85.2 |
| Median delay (min) ⁵ | 19.0 | 21.0 | 242.0 |
| Number of days | 90.0 | 22.0 | 56.0 |
| Mean no. of obs/day | 38.0 | 44.3 | 29.5 |
| No. of hours with obs | 1400.0 | 386.0 | 770.0 |
| Mean no. of hours/day with obs | 15.6 | 17.5 | 13.8 |
| % of hour periods without an ob ⁷ | 35.0 | 27.1 | 42.5 |
| Mean (Ob-Bg) | 0.0 | 0.3 | -0.1 |
| RMS (Ob-Bg) | 1.8 | 1.9 | 1.7 |
| unflagged data | | | |
| Mean (Ob-Bg) | 0.0 | 0.5 | -0.2 |
| RMS (Ob-Bg) | 2.0 | 1.9 | 3.7 |
| all data | | | |
| Revised RMS (Ob-Bg) ⁸ | 1.8 | 1.6 | 1.9 |
| % of data flagged ⁸ | 65.0 | 66.0 | 61.0 |
| Operating at end of period | YES | YES | NO |
| Performances | | | |
| Availability | Very Good | Very Good | Good |
| Pressure Quality | Acceptable | Acceptable | Acceptable |
| Timeliness | Very Good | Very Good | Very Poor |
| Comments | | | |

| | | | |
|-------------------------------------------------|-------------|-------------|-------------|
| Wmo No./ Country ¹ | 44624/UK | 44726/UK | 44728/UK |
| Argos Id.No. | 6292 | 6296 | 3024 |
| Period within area | 01/01-31/03 | 13/01-31/03 | 10/03-31/03 |
| Area | S of SOBA | S of SOBA | S of SOBA |
| Mean Latitude | 51.1 | 53.0 | 54.8 |
| Mean Longitude | -28.4 | -29.8 | -35.5 |
| No. of obs received ² | 3037 | 2897 | 948 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 93.4 | 92.1 | 99.6 |
| % of Presents | | | |
| Pressure | 99.5 | 99.3 | 97.3 |
| P. Tendency | 97.6 | 98.4 | 96.1 |
| Air Temperature | 99.4 | 99.5 | 98.4 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 92.3 | 99.8 | 99.2 |
| Median delay (min) ⁶ | 24.0 | 64.0 | 217.0 |
| Number of days | 90.0 | 78.0 | 22.0 |
| Mean no. of obs/day | 33.7 | 37.1 | 43.1 |
| No. of hours with obs | 1367.0 | 1259.0 | 359.0 |
| Mean no. of hours/day with obs | 15.2 | 16.1 | 16.3 |
| % of hour periods without an ob ⁷ | 36.7 | 32.9 | 32.1 |
| Mean (Ob-Bg) | -0.3 | 0.3 | -0.3 |
| RMS (Ob-Bg) | 1.9 | 2.0 | 1.8 |
| unflagged data | | | |
| Mean (Ob-bg) | -0.4 | 0.5 | -0.3 |
| RMS (Ob-Bg) | 3.4 | 4.1 | 4.2 |
| all data | | | |
| Revised RMS (Ob-Bg) ⁸ | 2.0 | 2.9 | 1.7 |
| % of data flagged ⁸ | 61.0 | 62.0 | 66.0 |
| Operating at end of period | YES | YES | YES |
| Performances | | | |
| Availability | Good | Very Good | Very Good |
| Pressure Quality | Acceptable | Acceptable | Acceptable |
| Timeliness | Very Good | Good | Poor |
| Comments | | | |

| | | | |
|-------------------------------------------------|--------------|-------------|-------------|
| Wmo No./ Country ¹ | 44762/UK | 44764/UK | 44766/NL |
| Argos Id No. | 6307 | 6306 | 4274 |
| Period within area | 01/01-28/03 | 01/01-31/03 | 01/01-31/03 |
| Area | SE of SOBA | E of SOBA | S of SOBA |
| Mean Latitude | 52.9 | 59.7 | 52.3 |
| Mean Longitude | -18.3 | -23.1 | -25.4 |
| No. of obs received ² | 2570 | 4195 | 2876 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 98.2 | 98.5 | 97.9 |
| % of Presents | | | |
| Pressure | 100.0 | 99.6 | 96.7 |
| P. Tendency | 98.3 | 98.3 | 94.8 |
| Air Temperature | 87.1 | 99.8 | 96.3 |
| Wind Speed/Dir. | 84.9/86.0 | 86.1/91.2 | 0.0/0.0 |
| Sea-surface temp. | 90.0 | 92.1 | 53.5 |
| Median delay (min) ⁶ | 123.0 | 377.0 | 16.0 |
| Number of days | 87.0 | 90.0 | 90.0 |
| Mean no. of obs/day | 29.5 | 46.6 | 32.0 |
| No. of hours with obs | 1132.0 | 1619.0 | 1323.0 |
| Mean no. of hours/day with obs | 13.0 | 18.0 | 14.7 |
| % of hour periods without an ob ⁷ | 45.8 | 25.0 | 38.8 |
| Mean (Ob-Bg) | 0.0 | 0.3 | -0.7 |
| RMS (Ob-Bg) unflagged data | 1.9 | 1.9 | 2.2 |
| Mean (Ob-bg) | 0.0 | 0.2 | -0.9 |
| RMS (Ob-Bg) all data | 2.9 | 2.8 | 3.7 |
| Revised RMS (Ob-Bg) ⁸ | 1.9 | 1.9 | 2.6 |
| % of data flagged ⁸ | 61.0 | 67.0 | 61.0 |
| Operating at end of period | NO | YES | YES |
| Performance ⁹ | | | |
| Availability | Good | Very Good | Good |
| Pressure Quality | Acceptable | Acceptable | Suspect |
| Timeliness | Satisfactory | Very Poor | Very Good |
| Comments | | | |

| | | | |
|-------------------------------------------------|-------------|-------------|---------------|
| Wmo No./ Country ¹ | 44767/UK | 44768/UK | 44769/UK |
| Argos Id.No | 6297 | 6295 | 6291 |
| Period within area | 01/01-16/02 | 01/01-10/01 | 01/01-20/01 |
| Area | SOBA | N of Norway | N of Scotland |
| Mean Latitude | 61.7 | 67.4 | 62.0 |
| Mean Longitude | -28.9 | 13.2 | -8.6 |
| No. of obs received ² | 594 | 517963 | 511 |
| % of obs with valid Time and Dates ³ | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 99.3 | 100.0 | 99.8 |
| % of Presents | | | |
| Pressure | 99.3 | 99.6 | 12.5 |
| P. Tendency | 99.2 | 98.8 | 95.5 |
| Air Temperature | 99.8 | 0.2 | 70.5 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 39.6 | 26.3 | 30.1 |
| Median delay (min) ⁶ | 252.0 | 21.0 | 29.0 |
| Number of days | 47.0 | 10.0 | 20.0 |
| Mean no. of obs/day | 12.6 | 51.7 | 25.6 |
| No. of hours with obs | 235.0 | 175.0 | 193.0 |
| Mean no. of hours/day with obs | 5.0 | 17.5 | 9.7 |
| % of hour periods without an ob ⁷ | 79.2 | 27.1 | 59.6 |
| Mean (Ob-Bg) | 0.5 | 1.0 | - |
| RMS (Ob-Bg) | 2.3 | 1.8 | - |
| unflagged datas | | | |
| Mean (Ob-bg) | 0.5 | 1.0 | -131.6 |
| RMS (Ob-Bg) | 3.2 | 2.0 | 142.7 |
| all datas | | | |
| Revised RMS (Ob-Bg) ⁸ | 2.1 | 1.9 | 142.7 |
| % of data flagged ⁸ | 69.0 | 72.0 | 100.0 |
| Operating at end of period | NO | NO | NO |
| Performances | | | |
| Availability | Poor | Very Good | Good |
| Pressure Quality | Acceptable | Suspect | Suspect |
| Timeliness | Very Poor | Very Good | Very Good |
| Comments | | | |

| | | | |
|-------------------------------------------------|--------------|-------------|--------------|
| Wmo No. / Country ¹ | 44771/UK | 44775/UK | 44776/UK |
| Argos Id No. | 6290 | 6293 | 6305 |
| Period within area | 01/01-23/03 | 01/01-27/03 | 01/01-31/03 |
| Area | N of Norway | SE of SOBA | E of SOBA |
| Mean Latitude | 65.2 | 55.6 | 59.5 |
| Mean Longitude | 8.5 | -15.2 | -17.7 |
| No. of obs received ² | 1753 | 3063 | 4176 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 96.6 | 99.5 | 98.9 |
| % of Presents | | | |
| Pressure | 99.9 | 99.6 | 99.6 |
| P. Tendency | 98.3 | 98.3 | 98.3 |
| Air Temperature | 0.0 | 99.8 | 99.7 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 86.5/91.6 |
| Sea-surface temp. | 80.3 | 90.8 | 92.3 |
| Median delay (min) ⁶ | 45.0 | 259.0 | 171.0 |
| Number of days | 82.0 | 86.0 | 90.0 |
| Mean no. of obs/day | 21.4 | 35.6 | 46.4 |
| No. of hours with obs | 808.0 | 1245.0 | 1594.0 |
| Mean no. of hours/day with obs | 9.9 | 14.5 | 17.7 |
| % of hour periods without an ob ⁷ | 58.8 | 39.6 | 26.3 |
| Mean (Ob-Bg) | 0.3 | 0.2 | 0.1 |
| RMS (Ob-Bg) | 1.7 | 1.9 | 1.8 |
| unflagged data | | | |
| Mean (Ob-bg) | 0.3 | 0.2 | 0.0 |
| RMS (Ob-Bg) | 2.1 | 2.8 | 3.1 |
| all data | | | |
| Revised RMS (Ob-Bg) ⁸ | 1.8 | 1.9 | 1.8 |
| % of data flagged ⁸ | 59.0 | 64.0 | 68.0 |
| Operating at end of period | NO | NO | YES |
| Performance ⁹ | | | |
| Availability | Satisfactory | Very Good | Very Good |
| Pressure Quality | Acceptable | Acceptable | Acceptable |
| Timeliness | Very Good | Very Poor | Satisfactory |
| Comments | | | |

| | | | |
|-------------------------------------------------|-------------|-------------|-------------|
| Wmo No./ Country ¹ | 44780/UK | 61542/US | 61543/US |
| Argos Id.No. | 1250 | 15380 | 15386 |
| Period within area | 01/01-31/03 | 18/03-31/03 | 18/03-31/03 |
| Area | SE of SOBA | E of Spain | E of Spain |
| Mean Latitude | 55.0 | 40.1 | 38.4 |
| Mean Longitude | -20.2 | 1.7 | 4.3 |
| No. of obs received ² | 3656 | 119 | 108 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 99.2 | 100.0 | 100.0 |
| % of Presents | | | |
| Pressure | 99.6 | 99.2 | 91.9 |
| P. Tendency | 97.9 | 0.0 | 0.0 |
| Air Temperature | 11.7 | 99.3 | 98.1 |
| Wind Speed/Dir. | 0.0/0.0 | 47.9/47.1 | 48.1/47.2 |
| Sea-surface temp. | 92.5 | 99.2 | 98.1 |
| Median delay (min) ⁶ | 181.0 | 30.0 | 95.0 |
| Number of days | 90.0 | 14.0 | 14.0 |
| Mean no. of obs/day | 40.6 | 8.5 | 7.7 |
| No. of hours with obs | 1475.0 | 118.0 | 107.0 |
| Mean no. of hours/day with obs | 16.4 | 8.4 | 7.6 |
| % of hour periods without an ob ⁷ | 31.7 | 65.0 | 68.3 |
| Mean (Ob-Bg) | 0.1 | -0.8 | 0.1 |
| RMS (Ob-Bg) unflagged data⁸ | 1.9 | 1.5 | 1.0 |
| Mean (Ob-bg) | 0.0 | -0.8 | 0.1 |
| RMS (Ob-Bg) all data⁸ | 4.2 | 1.5 | 1.0 |
| Revised RMS (Ob-Bg) ⁸ | 1.9 | 1.5 | 1.0 |
| % of data flagged ⁸ | 65.0 | 1.0 | 0.0 |
| Operating at end of period | YES | YES | YES |
| Performance ⁹ | | | |
| Availability | Very Good | Poor | Poor |
| Pressure Quality | Acceptable | Suspect | Acceptable |
| Timeliness | Poor | Very Good | Good |
| Comments | | | |

| | | | |
|-------------------------------------------------|-------------|--------------|-------------|
| Wmo No./ Country ¹ | 61544/US | 62507/F | 62509/F |
| Argos Id No. | 16344 | 14420 | 10106 |
| Period within area | 18/03-31/03 | 01/01-02/01 | 01/01-20/01 |
| Area | E of Spain | W of England | NE of SCOS |
| Mean Latitude | 37.6 | 52.6 | 49.5 |
| Mean Longitude | 12.2 | -4.1 | -7.0 |
| No. of obs received ² | 109 | 25 | 252 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 100.0 | 100.0 | 100.0 |
| % of Presents | | | |
| Pressure | 98.2 | 64.0 | 98.8 |
| P. Tendency | 0.0 | 64.0 | 95.2 |
| Air Temperature | 98.2 | 0.0 | 0.0 |
| Wind Speed/Dir. | 52.3/52.3 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 98.2 | 16.0 | 54.8 |
| Median delay (min) ⁶ | 90.0 | 9.0 | 43.0 |
| Number of days | 14.0 | 2.0 | 20.0 |
| Mean no. of obs/day | 7.8 | 12.5 | 12.6 |
| No. of hours with obs | 108.0 | 17.0 | 193.0 |
| Mean no. of hours/day with obs | 7.7 | 8.5 | 9.7 |
| % of hour periods without an ob ⁷ | 67.9 | 64.6 | 59.6 |
| Mean (Ob-Bg) | 0.2 | -0.2 | 0.4 |
| RMS (Ob-Bg) unflagged datas | 0.9 | 1.3 | 1.6 |
| Mean (Ob-bg) | 0.2 | 0.7 | 0.5 |
| RMS (Ob-Bg) all datas | 0.9 | 2.1 | 1.6 |
| Revised RMS (Ob-Bg) ⁸ | 0.9 | 2.1 | 1.6 |
| % of data flagged ⁸ | 0.0 | 50.0 | 31.0 |
| Operating at end of period | YES | NO | NO |
| Performances ⁹ | | | |
| Availability | Poor | Poor | Poor |
| Pressure Quality | Acceptable | Acceptable | Acceptable |
| Timeliness | Good | Very Good | Very Good |
| Comments | | | |

| | | | |
|-------------------------------------------------|--------------|--------------|--------------|
| Wmo No./ Country ¹ | 62510/F | 62511/F | 62512/F |
| Argos Id No. | 14417 | 14423 | 14424 |
| Period within area | 01/01-22/02 | 01/01-17/02 | 01/01-31/03 |
| Area | NE of SCOS | SCOS | SCOS |
| Mean Latitude | 49.5 | 44.4 | 45.6 |
| Mean Longitude | -10.3 | -14.4 | -11.7 |
| No. of obs received ² | 990 | 879 | 1577 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 100.0 | 98.3 | 52.8 |
| % of Presents | | | |
| Pressure | 99.5 | 100.0 | 28.5 |
| P. Tendency | 96.5 | 58.2 | 57.8 |
| Air Temperature | 0.0 | 0.0 | 0.0 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 87.5 | 58.2 | 60.1 |
| Median delay (min) ⁶ | 62.0 | 848.0 | 279.0 |
| Number of days | 53.0 | 48.0 | 90.0 |
| Mean no. of obs/day | 18.7 | 18.3 | 17.5 |
| No. of hours with obs | 724.0 | 729.0 | 1345.0 |
| Mean no. of hours/day with obs | 13.7 | 15.2 | 14.9 |
| % of hour periods without an ob ⁷ | 43.0 | 36.7 | 37.9 |
| Mean (Ob-Bg) | 0.4 | 0.7 | 0.8 |
| RMS (Ob-Bg) | 1.7 | 1.5 | 1.8 |
| unflagged data | | | |
| Mean (Ob-bg) | 0.4 | 0.7 | 0.9 |
| RMS (Ob-Bg) | 1.8 | 1.6 | 3.2 |
| all data | | | |
| Revised RMS (Ob-Bg) ⁸ | 1.8 | 1.4 | 3.2 |
| % of data flagged ⁸ | 38.0 | 32.0 | 38.0 |
| Operating at end of period | NO | NO | YES |
| Performance ⁹ | | | |
| Availability | Satisfactory | Satisfactory | Satisfactory |
| Pressure Quality | Acceptable | Suspect | Suspect |
| Timeliness | Good | Very Poor | Very Poor |
| Comments | | | |

| | | | |
|-------------------------------------------------|--------------|-------------|--------------|
| Wmo No./ Country ¹ | 62513/F | 62515/F | 62517/F |
| Argos Id No. | 9435 | 14422 | 10120 |
| Period within area | 01/01-27/02 | 08/03-31/03 | 14/03-31/03 |
| Area | N of SCOS | SCOS | N of SCOS |
| Mean Latitude | 49.7 | 45.4 | 47.4 |
| Mean Longitude | -19.6 | -18.0 | -18.8 |
| No. of obs received ² | 1045 | 204 | 387 |
| % of obs with valid Time and Dates ³ | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 82.6 | 96.1 | 99.5 |
| % of Presents | | | |
| Pressure | 25.6 | 100.0 | 96.9 |
| P. Tendency | 58.9 | 52.9 | 71.1 |
| Air Temperature | 0.0 | 0.0 | 0.0 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 59.1 | 52.9 | 85.5 |
| Median delay (min) ⁵ | 524.0 | 477.0 | 248.0 |
| Number of days | 58.0 | 24.0 | 18.0 |
| Mean no. of obs/day | 18.0 | 8.5 | 21.5 |
| No. of hours with obs | 878.0 | 161.0 | 258.0 |
| Mean no. of hours/day with obs | 15.1 | 6.7 | 14.3 |
| % of hour periods without an ob ⁷ | 37.1 | 72.1 | 40.4 |
| Mean (Ob-Bg) | 1.3 | 0.5 | 0.7 |
| RMS (Ob-Bg) | 2.6 | 1.1 | 1.2 |
| unflagged data⁸ | | | |
| Mean (Ob-bg) | 3.8 | 0.5 | 0.7 |
| RMS (Ob-Bg) | 7.8 | 1.1 | 1.2 |
| all data⁹ | | | |
| Revised RMS (Ob-Bg) ⁸ | 7.8 | 1.1 | 1.1 |
| % of data flagged ⁸ | 60.0 | 16.0 | 37.0 |
| Operating at end of period | NO | YES | YES |
| Performance ⁹ | | | |
| Availability | Satisfactory | Poor | Satisfactory |
| Pressure Quality | Suspect | Acceptable | Suspect |
| Timeliness | Very Poor | Very Poor | Very Poor |
| Comments | | | |

| | | | |
|-------------------------------------------------|--------------|--------------|--------------|
| Wmo No./ Country ¹ | 62518/F | 62519/F | 62524/UK |
| Argos Id No. | 14419 | 14421 | 4625 |
| Period within area | 09/03-31/03 | 09/03-31/03 | 01/01-31/03 |
| Area | SCOS | N of SCOS | W of SCOS |
| Mean Latitude | 44.9 | 49.2 | 25.7 |
| Mean Longitude | -19.4 | -19.5 | -39.8 |
| No. of obs received ² | 467 | 500 | 1668 |
| % of obs with valid Time and Dates ³ | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 99.8 | 99.6 | 92.4 |
| % of Presents | | | |
| Pressure | 98.5 | 97.6 | 99.5 |
| P. Tendency | 79.9 | 71.8 | 70.6 |
| Air Temperature | 0.0 | 0.0 | 97.8 |
| Wind Speed/Dir. | 95.7/95.5 | 96.6/97.4 | 0.0/0.0 |
| Sea-surface temp. | 98.7 | 97.8 | 94.7 |
| Median delay (min) ⁶ | 760.0 | 62.0 | 231.0 |
| Number of days | 23.0 | 23.0 | 90.0 |
| Mean no. of obs/day | 20.3 | 21.7 | 18.5 |
| No. of hours with obs | 343.0 | 335.0 | 1068.0 |
| Mean no. of hours/day with obs | 14.9 | 14.6 | 11.9 |
| % of hour periods without an ob ⁷ | 37.9 | 39.2 | 50.4 |
| Mean (Ob-Bg) | -0.6 | 0.3 | 0.1 |
| RMS (Ob-Bg) | 1.9 | 1.1 | 1.2 |
| unflagged data⁸ | | | |
| Mean (Ob-bg) | -0.9 | 0.2 | 0.1 |
| RMS (Ob-Bg) | 2.1 | 1.1 | 1.3 |
| all data⁹ | | | |
| Revised RMS (Ob-Bg) ⁸ | 2.1 | 1.0 | 1.3 |
| % of data flagged ⁸ | 35.0 | 39.0 | 45.0 |
| Operating at end of period | YES | YES | YES |
| Performance ⁹ | | | |
| Availability | Satisfactory | Satisfactory | Satisfactory |
| Pressure Quality | Suspect | Acceptable | Acceptable |
| Timeliness | Very Poor | Good | Poor |
| Comments | | | |

| | | | |
|-------------------------------------------------|-------------|--------------|-------------|
| Wmo No./ Country ¹ | 62805/UK | 64528/NL | 64529/N |
| Argos Id No. | 6285 | 9306 | 3037 |
| Period within area | 21/03-31/03 | 01/01-31/03 | 01/01-31/03 |
| Area | SOBA | E of SOBA | SOBA |
| Mean Latitude | 58.0 | 58.4 | 62.1 |
| Mean Longitude | -28.6 | -19.5 | -29.4 |
| No. of obs received ² | 615 | 3142 | 2652 |
| % of obs with valid Time and Dates ³ | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 98.7 | 99.3 | 91.9 |
| % of Presents | | | |
| Pressure | 99.5 | 97.1 | 94.2 |
| P. Tendency | 97.4 | 95.8 | 90.5 |
| Air Temperature | 99.2 | 97.2 | 93.7 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 99.2 | 67.1 | 50.2 |
| Median delay (min) ⁶ | 66.0 | 130.0 | 117.0 |
| Number of days | 11.0 | 90.0 | 90.0 |
| Mean no. of obs/day | 55.9 | 34.9 | 29.5 |
| No. of hours with obs | 204.0 | 1495.0 | 1266.0 |
| Mean no. of hours/day with obs | 18.5 | 16.6 | 14.1 |
| % of hour periods without an ob ⁷ | 22.9 | 30.8 | 41.3 |
| Mean (Ob-Bg) | -0.3 | -0.1 | -0.3 |
| RMS (Ob-Bg) | 1.7 | 1.9 | 2.2 |
| unflagged datas | | | |
| Mean (Ob-bg) | -0.3 | -0.2 | -0.4 |
| RMS (Ob-Bg) | 1.8 | 2.2 | 3.3 |
| all datas | | | |
| Revised RMS (Ob-Bg) ⁸ | 1.6 | 1.9 | 2.5 |
| % of data flagged ⁸ | 71.0 | 60.0 | 59.0 |
| Operating at end of period | YES | YES | YES |
| Performances ⁹ | | | |
| Availability | Very Good | Good | Good |
| Pressure Quality | Acceptable | Acceptable | Acceptable |
| Timeliness | Good | Satisfactory | Good |
| Comments | | | |

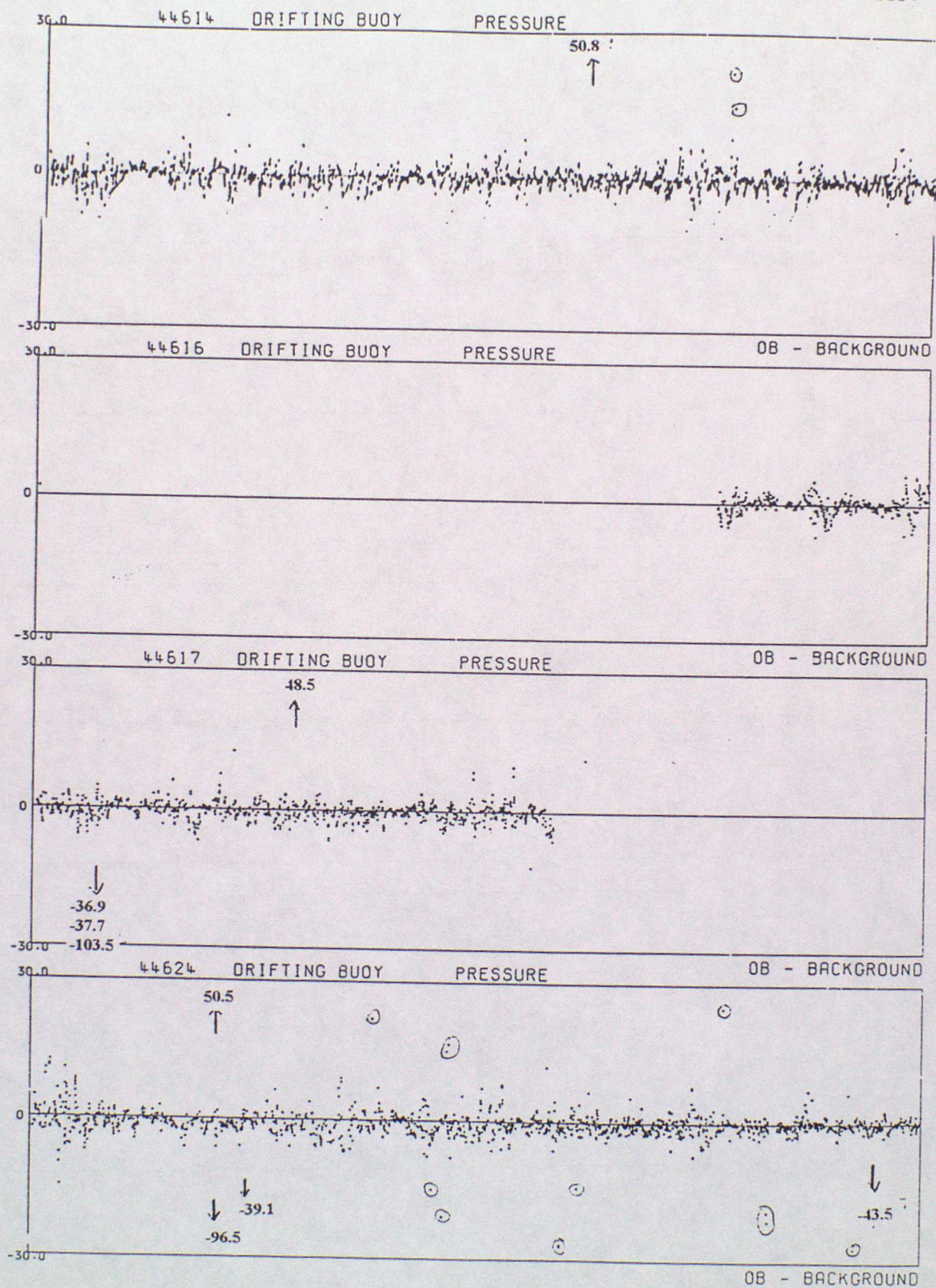
| | | | |
|-------------------------------------------------|-------------|--------------|--------------|
| Wmo No./ Country ¹ | 64544/US | 64546/US | 64547/US |
| Argos Id No. | 14631 | 11227 | 11284 |
| Period within area | 01/01-31/03 | 01/01-31/03 | 01/01-14/03 |
| Area | SOBA | SOBA | SOBA |
| Mean Latitude | 56.3 | 61.5 | 59.1 |
| Mean Longitude | -39.7 | -31.5 | -29.7 |
| No. of obs received ² | 780 | 1117 | 697 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 100.0 | 100.0 | 100.0 |
| % of Presents | | | |
| Pressure | 99.5 | 98.5 | 88.1 |
| P. Tendency | 0.0 | 0.0 | 0.0 |
| Air Temperature | 99.2 | 90.5 | 87.8 |
| Wind Speed/Dir. | 81.8/82.7 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 99.5 | 90.7 | 0.0 |
| Median delay (min) ⁶ | 226.0 | 160.0 | 175.0 |
| Number of days | 90.0 | 90.0 | 73.0 |
| Mean no. of obs/day | 8.7 | 12.4 | 9.3 |
| No. of hours with obs | 711.0 | 964.0 | 600.0 |
| Mean no. of hours/day with obs | 7.9 | 10.7 | 8.2 |
| % of hour periods without an ob ⁷ | 67.1 | 55.4 | 65.8 |
| Mean (Ob-Bg) | -0.3 | -1.7 | 0.9 |
| RMS (Ob-Bg) unflagged datas | 2.2 | 2.5 | 2.4 |
| Mean (Ob-bg) | -0.2 | -1.8 | 1.0 |
| RMS (Ob-Bg) all datas | 2.3 | 2.7 | 2.5 |
| Revised RMS (Ob-Bg) ⁸ | 2.3 | 2.7 | 2.5 |
| % of data flagged ⁸ | 15.0 | 25.0 | 19.0 |
| Operating at end of period | YES | YES | NO |
| Performances ⁹ | | | |
| Availability | Poor | Poor | Poor |
| Pressure Quality | Acceptable | Suspect | Suspect |
| Timeliness | Poor | Satisfactory | Satisfactory |
| Comments | | | |

| | | | |
|-------------------------------------------------|-------------|-------------|-------------|
| Wmo No./ Country ¹ | 64560/NL | 65562/N | 65571/N |
| Argos Id.No. | 3036 | 1298 | 3676 |
| Period within area | 01/01-06/02 | 01/03-31/03 | 01/01-31/03 |
| Area | E of SOBA | SOBA | E of SOBA |
| Mean Latitude | 60.8 | 60.4 | 57.3 |
| Mean Longitude | -22.2 | -30.7 | -18.4 |
| No. of obs received ² | 1118 | 1156 | 3789 |
| % of obs with valid Time and Dates | 100.0 | 100.0 | 100.0 |
| % of obs with acceptable Positions ⁴ | 96.7 | 97.6 | 98.5 |
| % of Presents | | | |
| Pressure | 86.6 | 99.0 | 95.9 |
| P. Tendency | 86.9 | 97.8 | 94.9 |
| Air Temperature | 86.1 | 99.0 | 96.0 |
| Wind Speed/Dir. | 0.0/0.0 | 0.0/0.0 | 0.0/0.0 |
| Sea-surface temp. | 40.3 | 61.2 | 54.9 |
| Median delay (min) ⁶ | 461.0 | 58.0 | 22.0 |
| Number of days | 37.0 | 31.0 | 90.0 |
| Mean no. of obs/day | 30.2 | 37.3 | 42.1 |
| No. of hours with obs | 489.0 | 520.0 | 1554.0 |
| Mean no. of hours/day with obs | 13.2 | 16.8 | 17.3 |
| % of hour periods without an ob ⁷ | 45.0 | 29.8 | 27.9 |
| Mean (Ob-Bg) | -0.3 | 0.0 | -0.4 |
| RMS (Ob-Bg) unflagged datas | 2.0 | 2.1 | 2.1 |
| Mean (Ob-bg) | -0.5 | -0.1 | -0.5 |
| RMS (Ob-Bg) all datas | 4.3 | 2.1 | 2.7 |
| Revised RMS (Ob-Bg) ⁸ | 2.2 | 2.1 | 2.2 |
| % of data flagged ⁸ | 63.0 | 60.0 | 65.0 |
| Operating at end of period | NO | YES | YES |
| Performances ⁹ | | | |
| Availability | Good | Very Good | Very Good |
| Pressure Quality | Acceptable | Acceptable | Acceptable |
| Timeliness | Very Poor | Very Good | Very Good |
| Comments | | | |

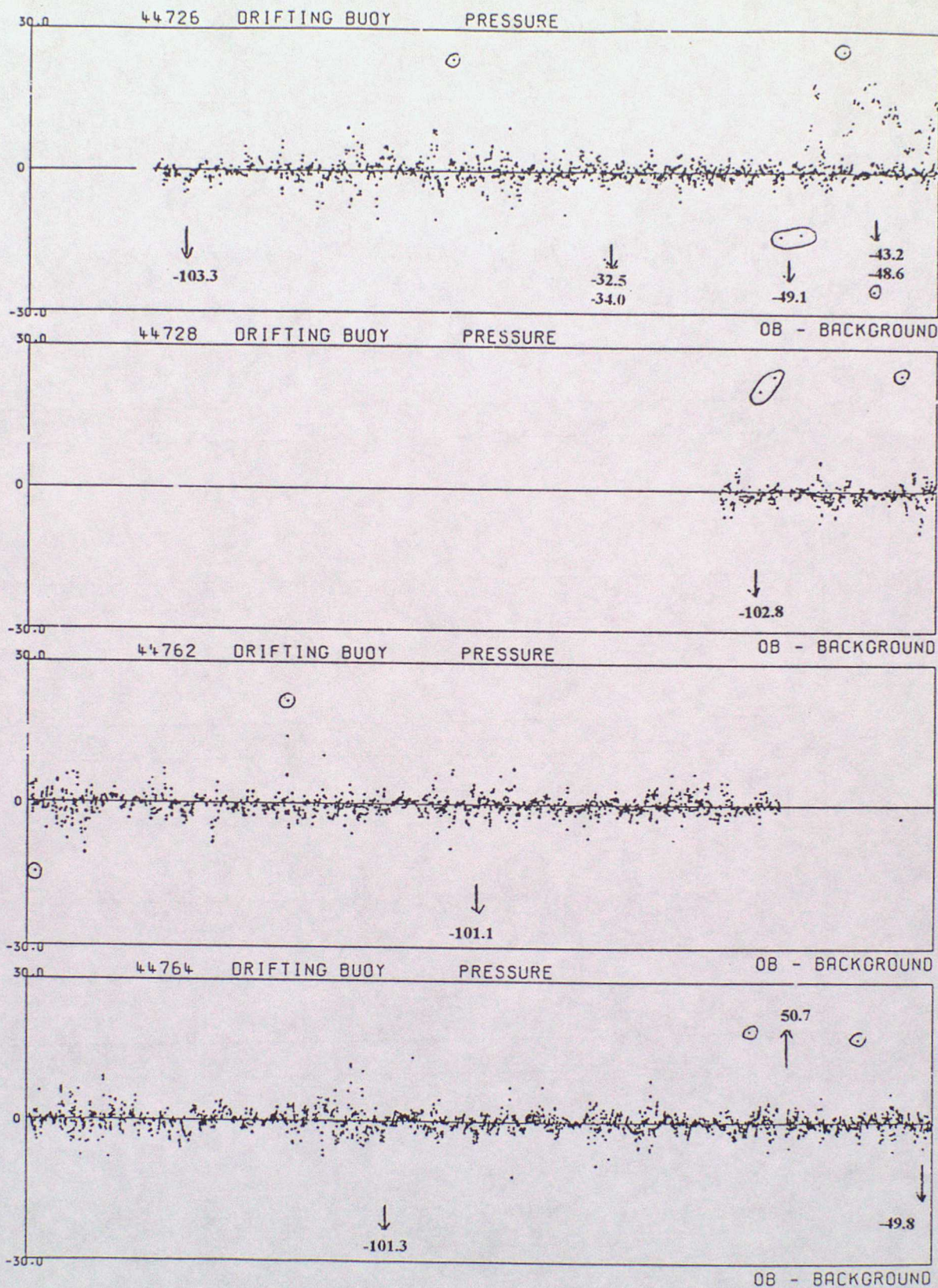
| | |
|-------------------------------------------------|--------------|
| Wmo No./ Country ¹ | 65592/NL |
| Argos Id.No. | 9309 |
| Period within area | 01/01-31/03 |
| Area | E of SOBA |
| Mean Latitude | 60.2 |
| Mean Longitude | -17.6 |
| No. of obs received ² | 3368 |
| % of obs with valid Time and Dates ³ | 100.0 |
| % of obs with acceptable Positions ⁴ | 98.8 |
| % of Presents | |
| Pressure | 95.8 |
| P. Tendency | 94.2 |
| Air Temperature | 95.8 |
| Wind Speed/Dir. | 0.0/0.0 |
| Sea-surface temp. | 58.2 |
| Median delay (min) ⁶ | 158.0 |
| Number of days | 90.0 |
| Mean no. of obs/day | 37.4 |
| No. of hours with obs | 1466.0 |
| Mean no. of hours/day with obs | 16.3 |
| % of hour periods without an ob ⁷ | 32.1 |
| Mean (Ob-Bg) | 2.2 |
| RMS (Ob-Bg) | 3.0 |
| unflagged datas | |
| Mean (Ob-bg) | 4.0 |
| RMS (Ob-Bg) | 6.0 |
| all datas | |
| Revised RMS (Ob-Bg) ⁸ | 5.1 |
| % of data flagged ⁸ | 79.0 |
| Operating at end of period | YES |
| Performances ⁹ | |
| Availability | Very Good |
| Pressure Quality | Suspect |
| Timeliness | Satisfactory |
| Comments | |

ANNEX B - TIME SERIES PLOTS OF PRESSURE

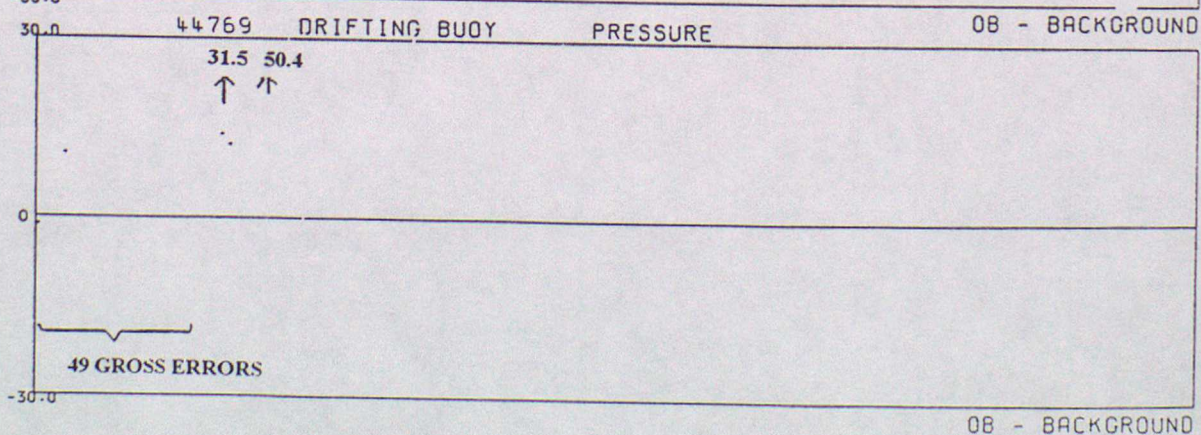
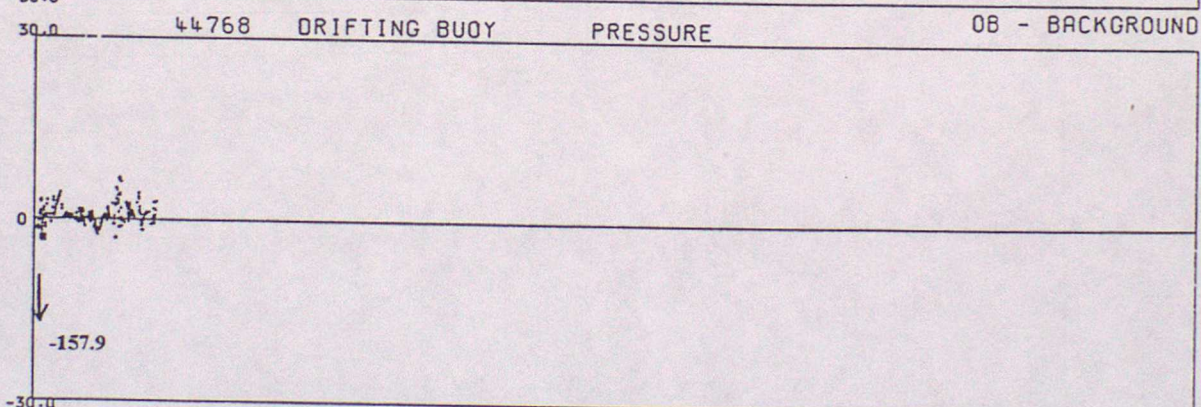
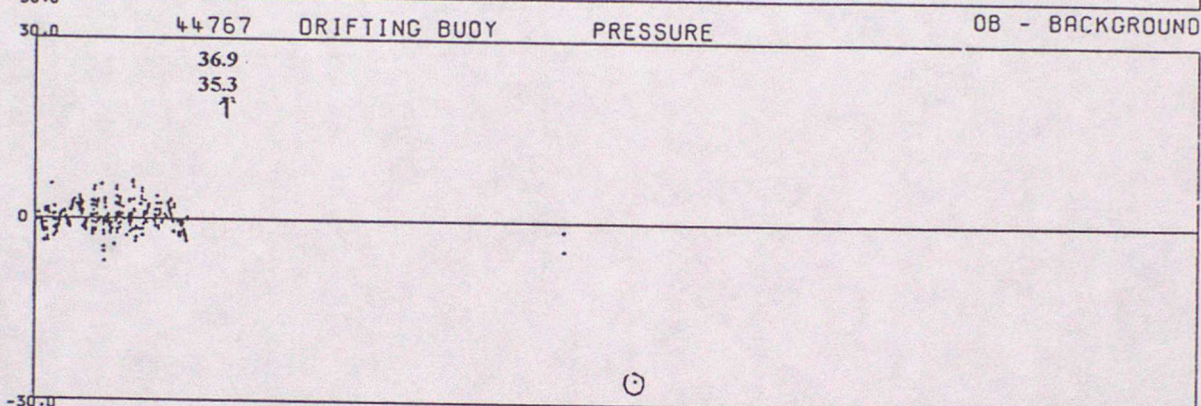
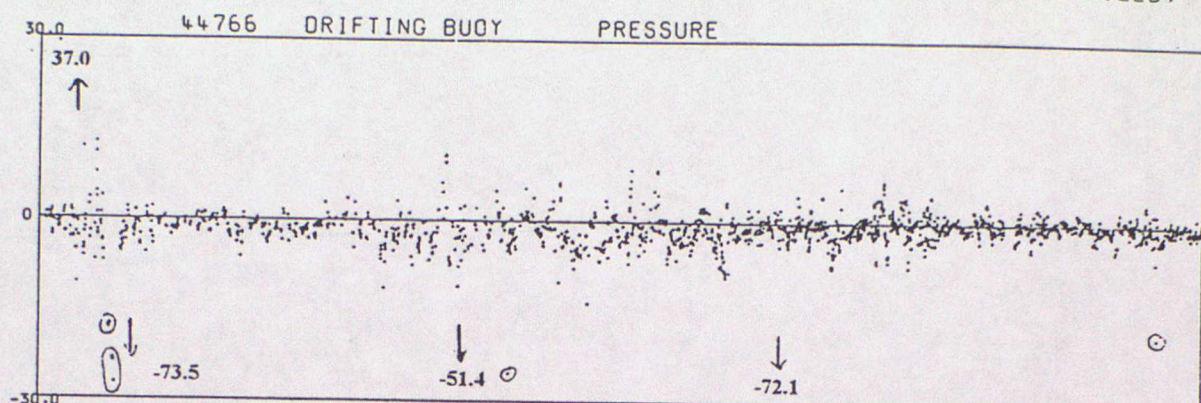
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



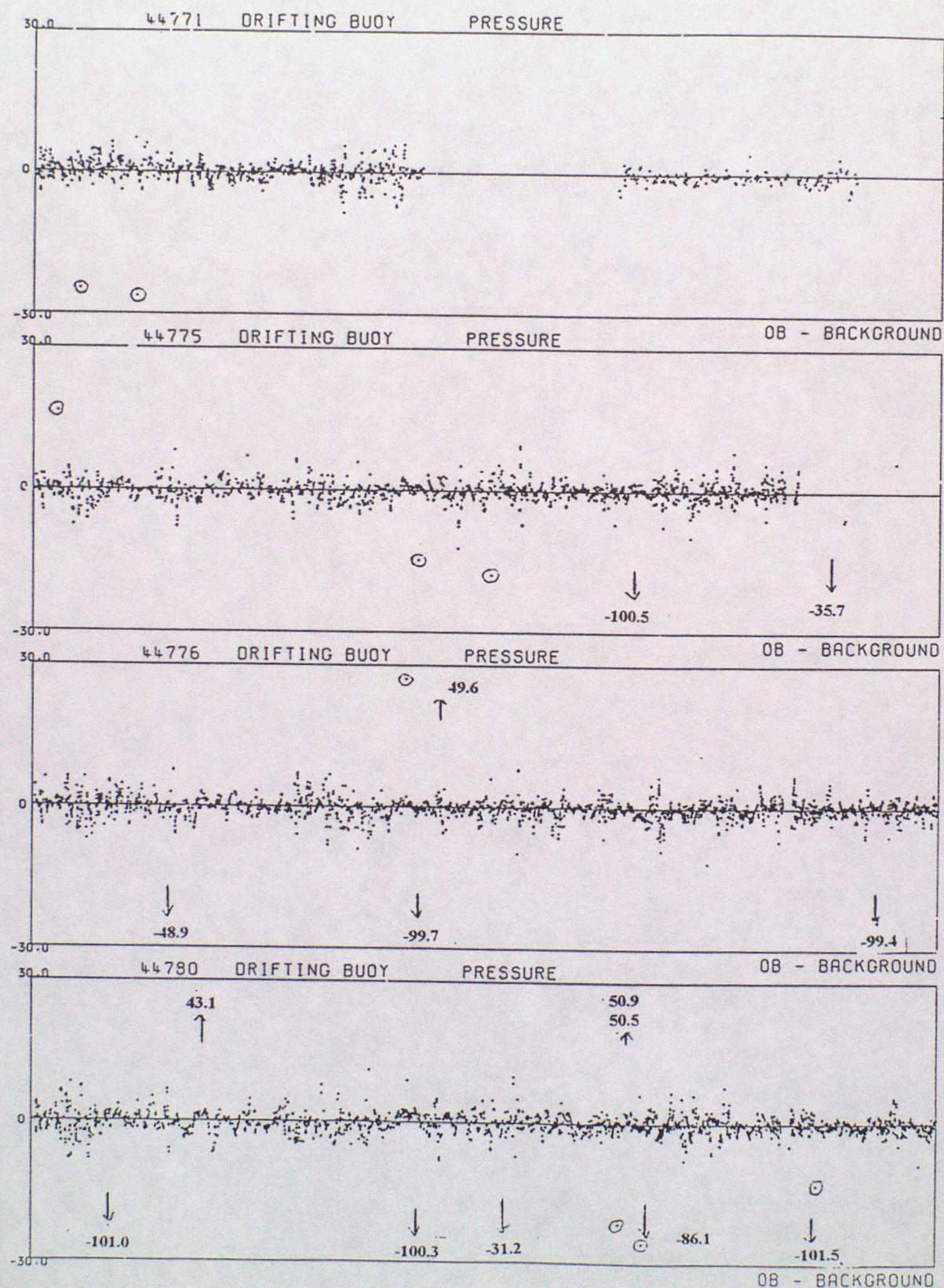
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



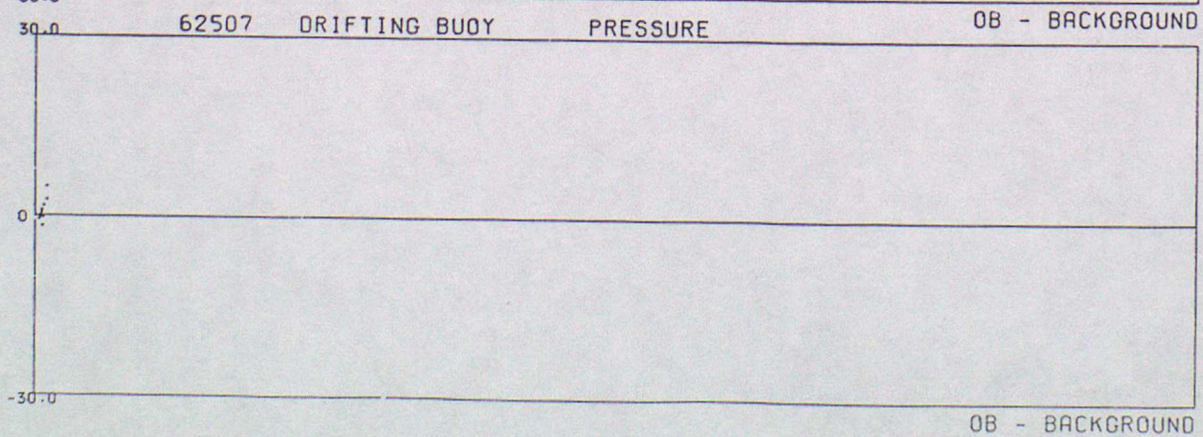
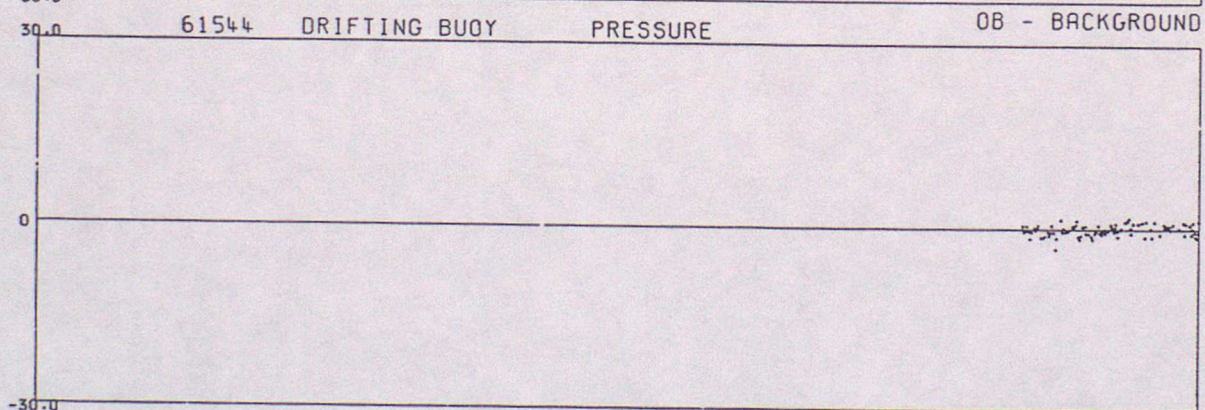
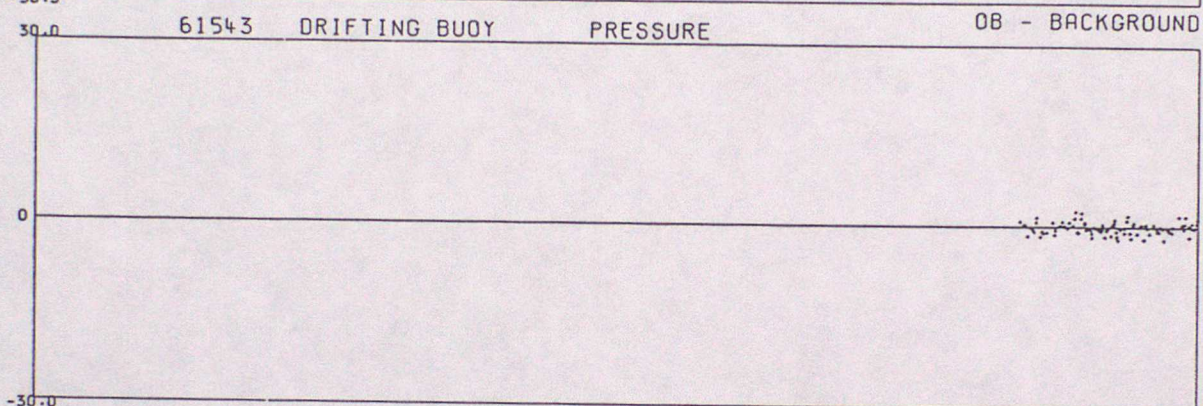
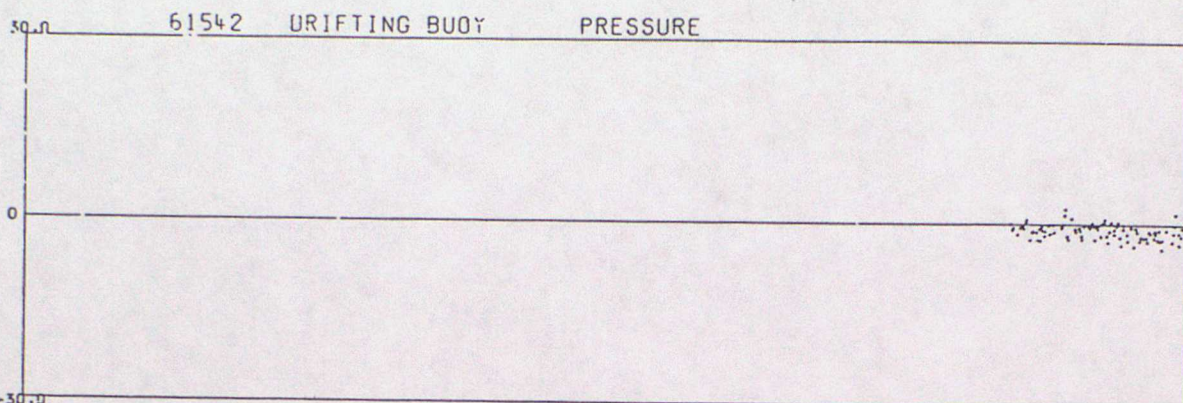
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



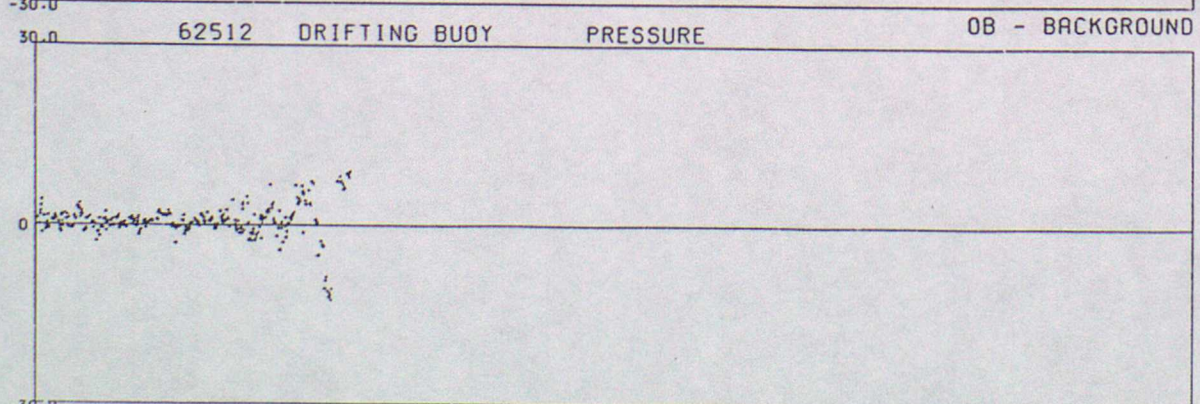
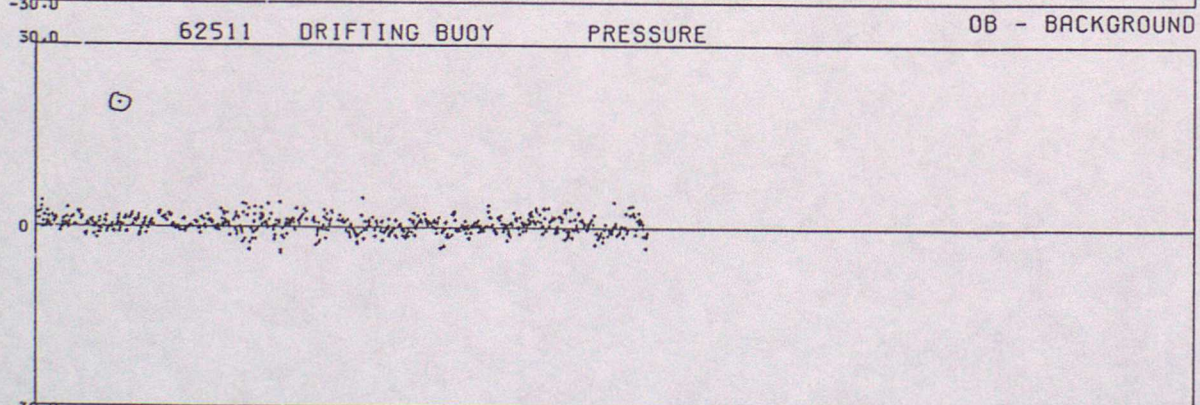
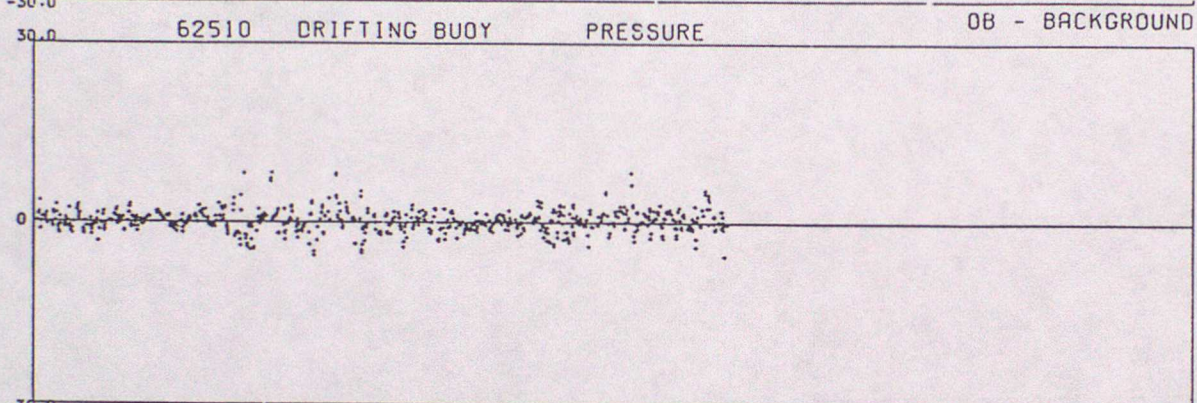
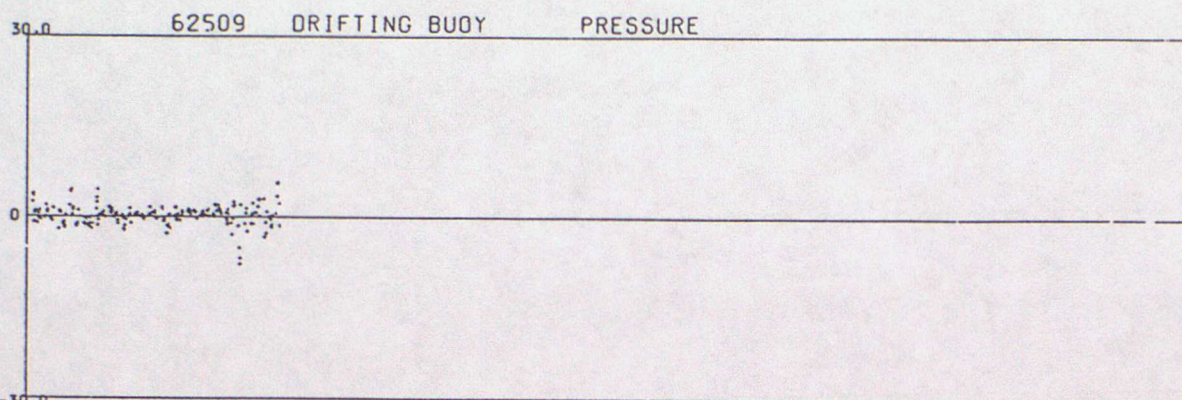
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

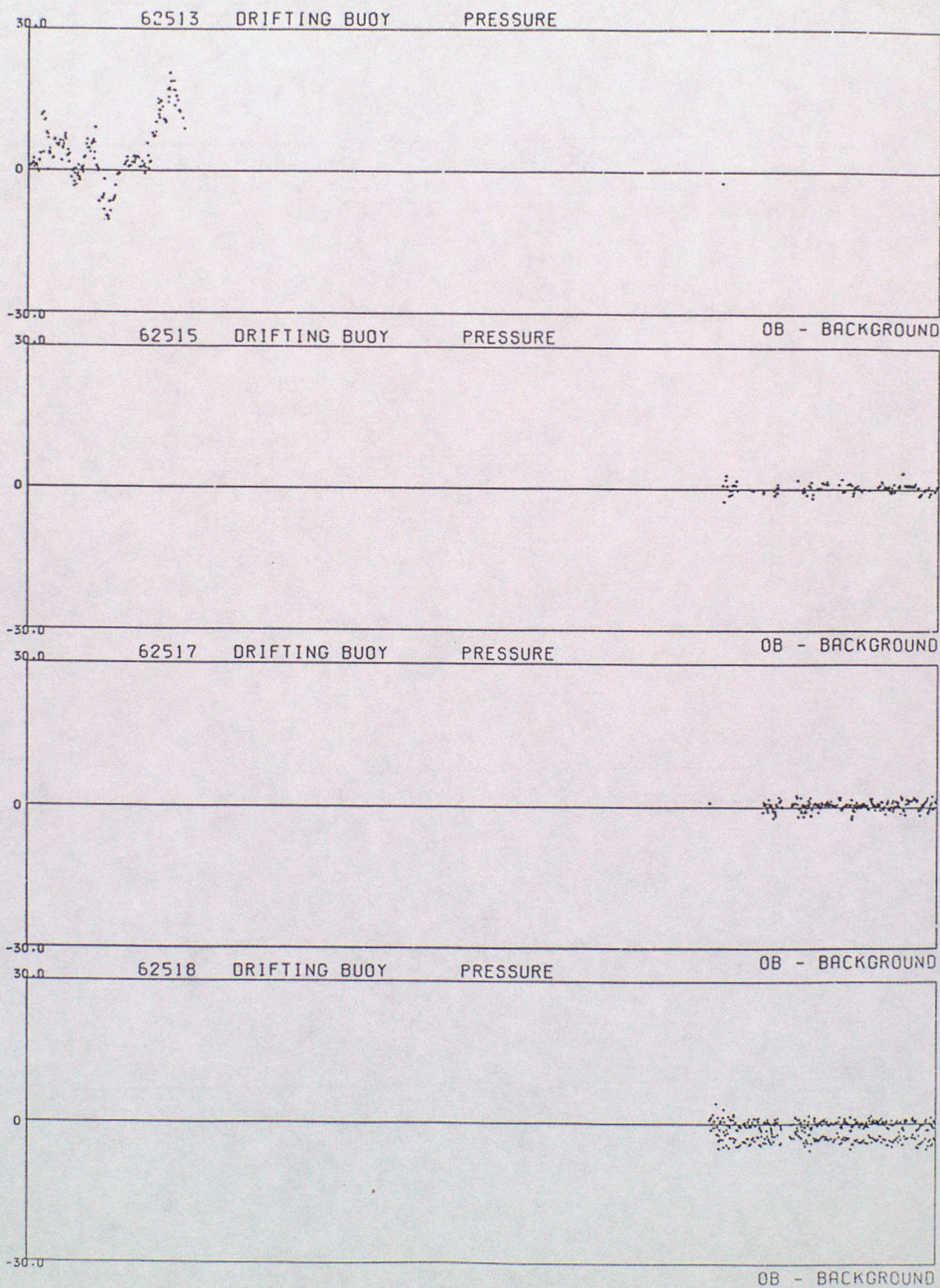


DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

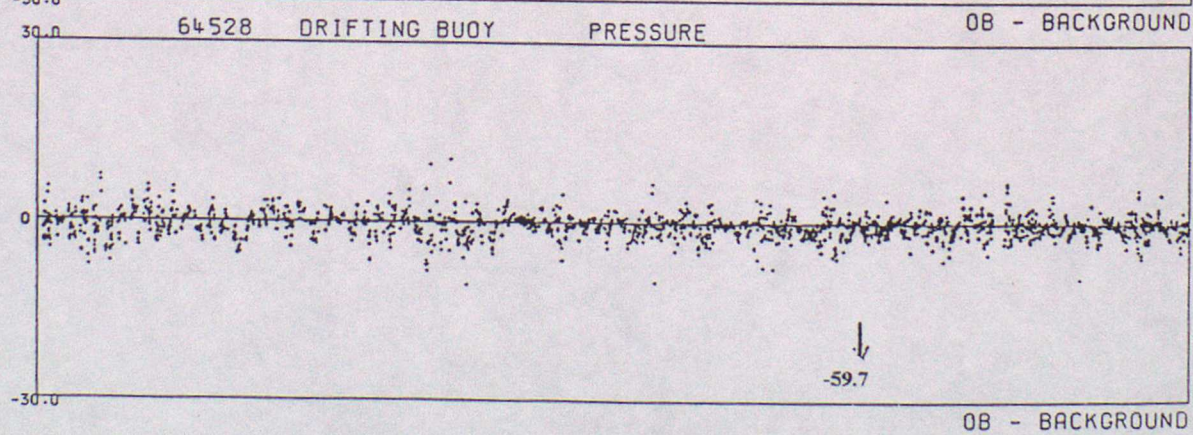
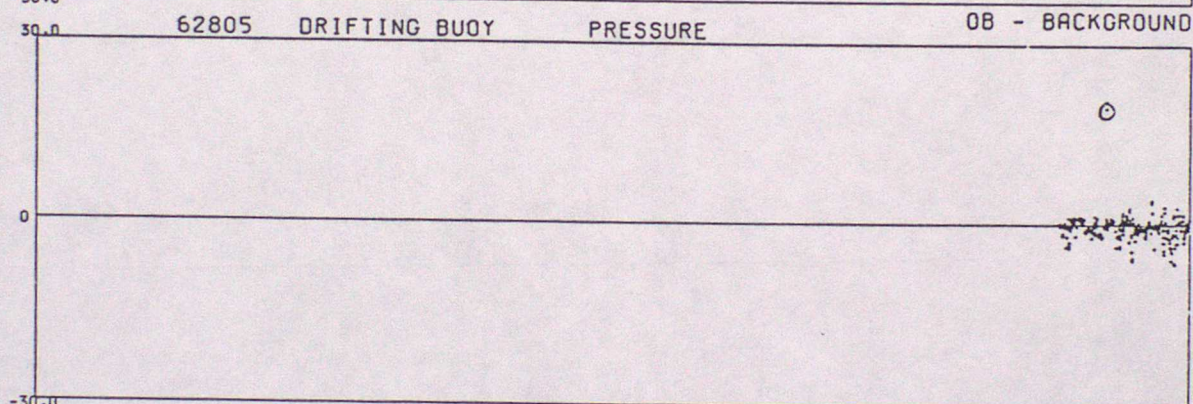
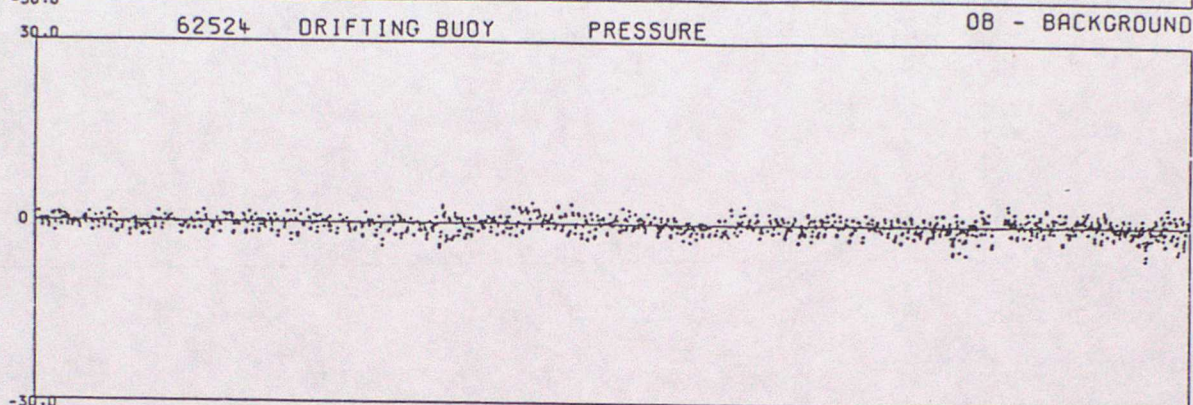
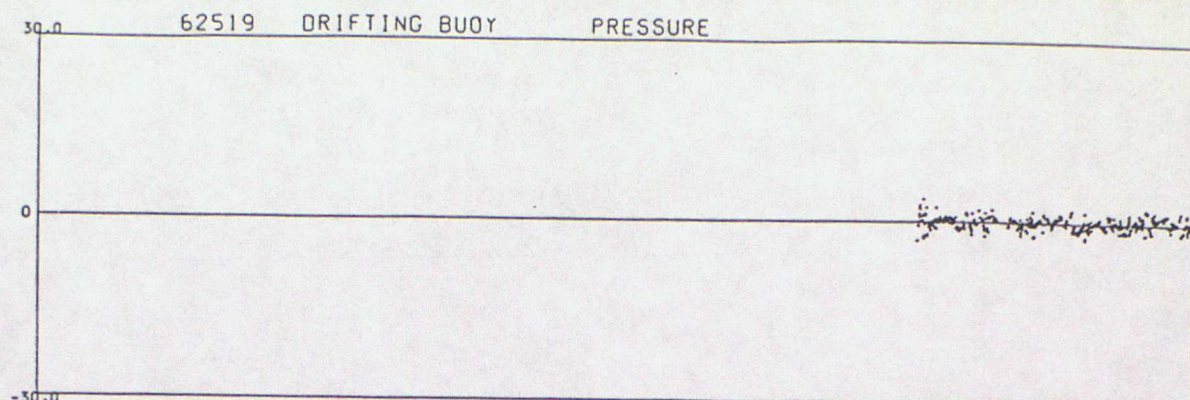


OB - BACKGROUND

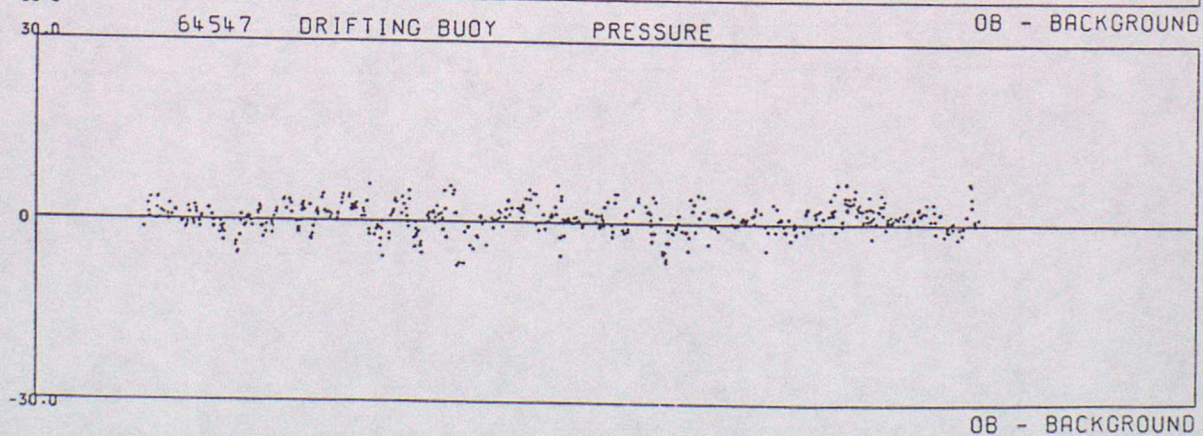
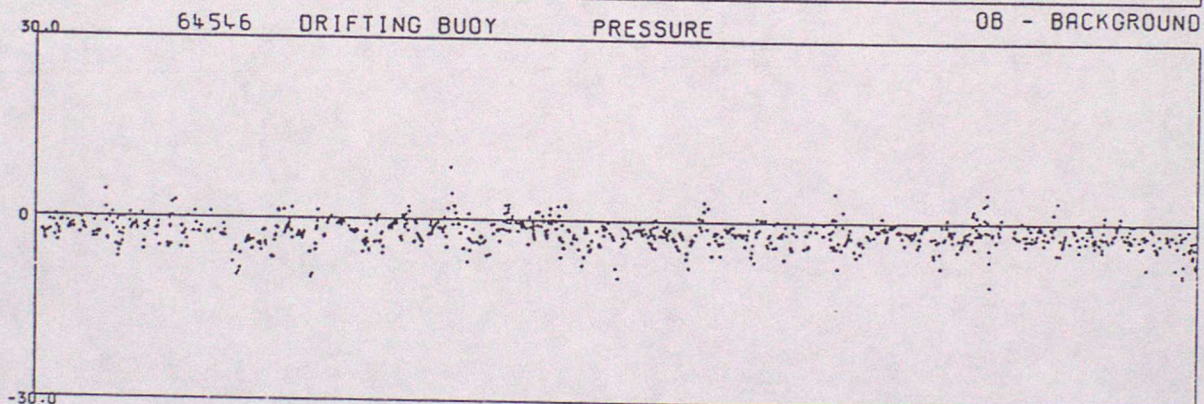
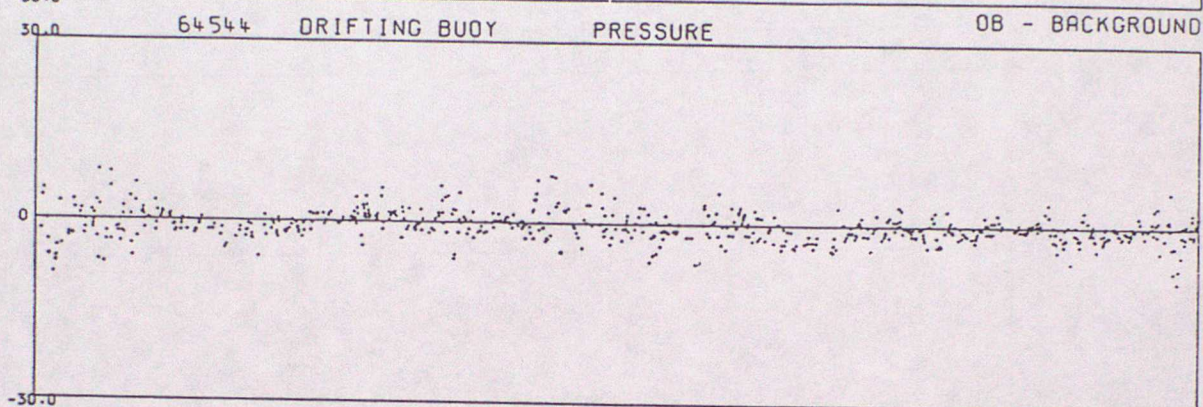
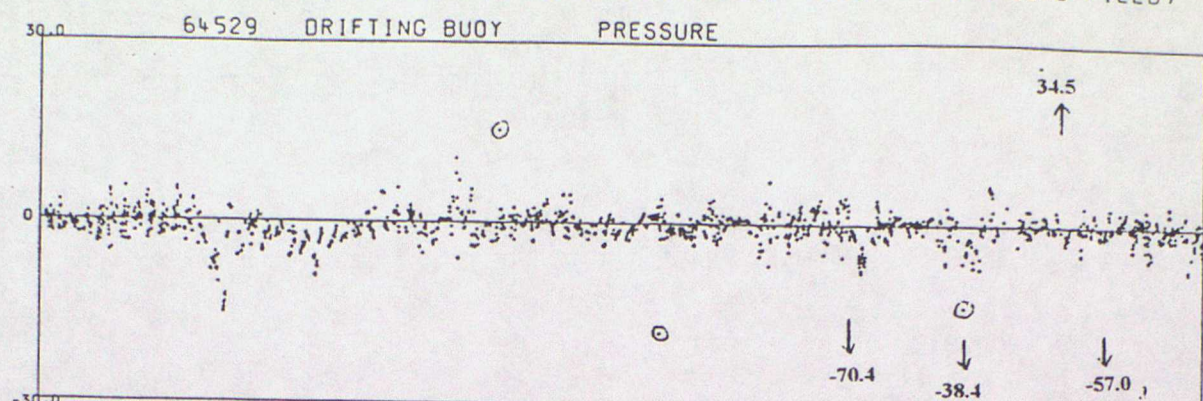
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



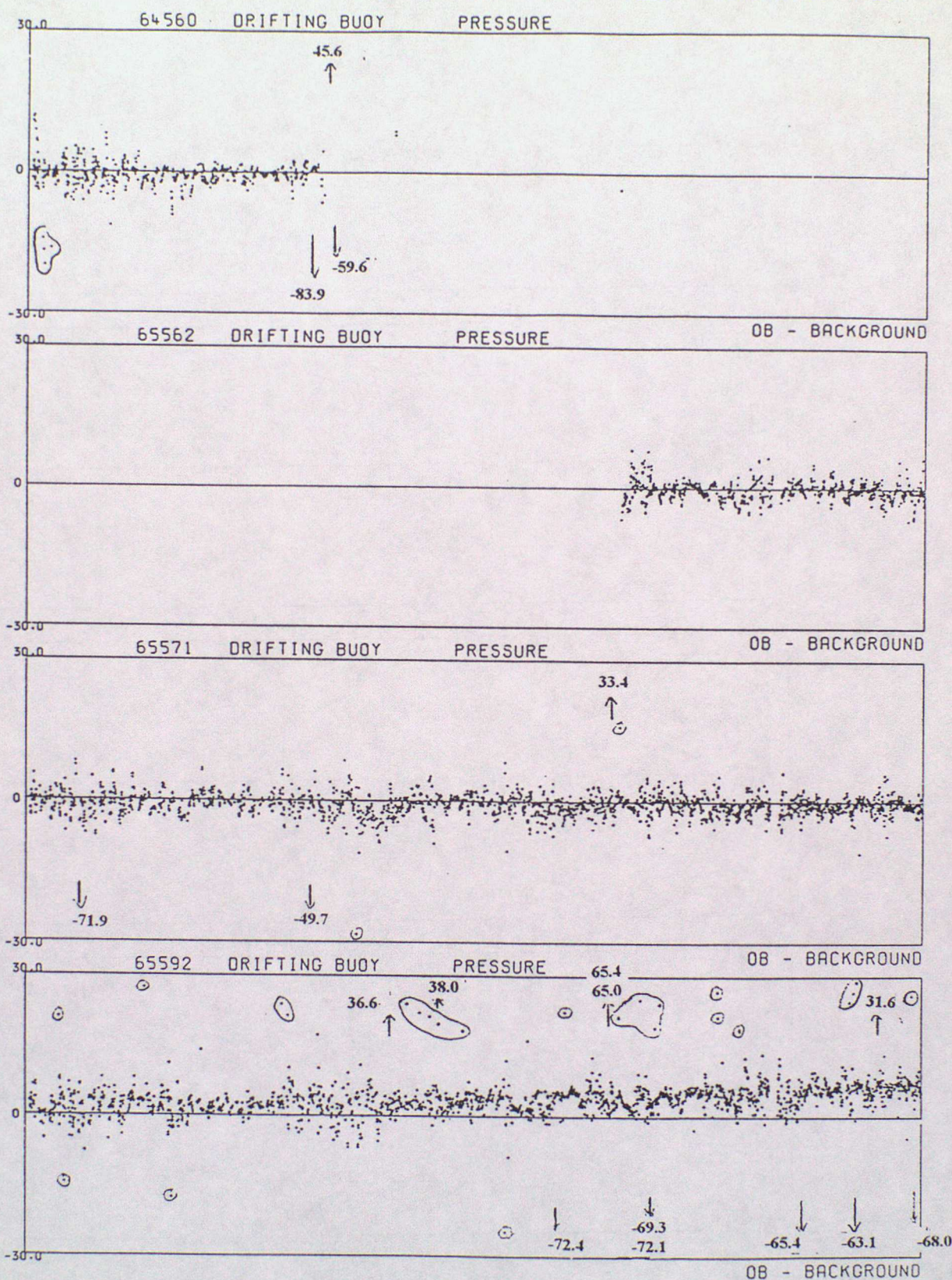
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

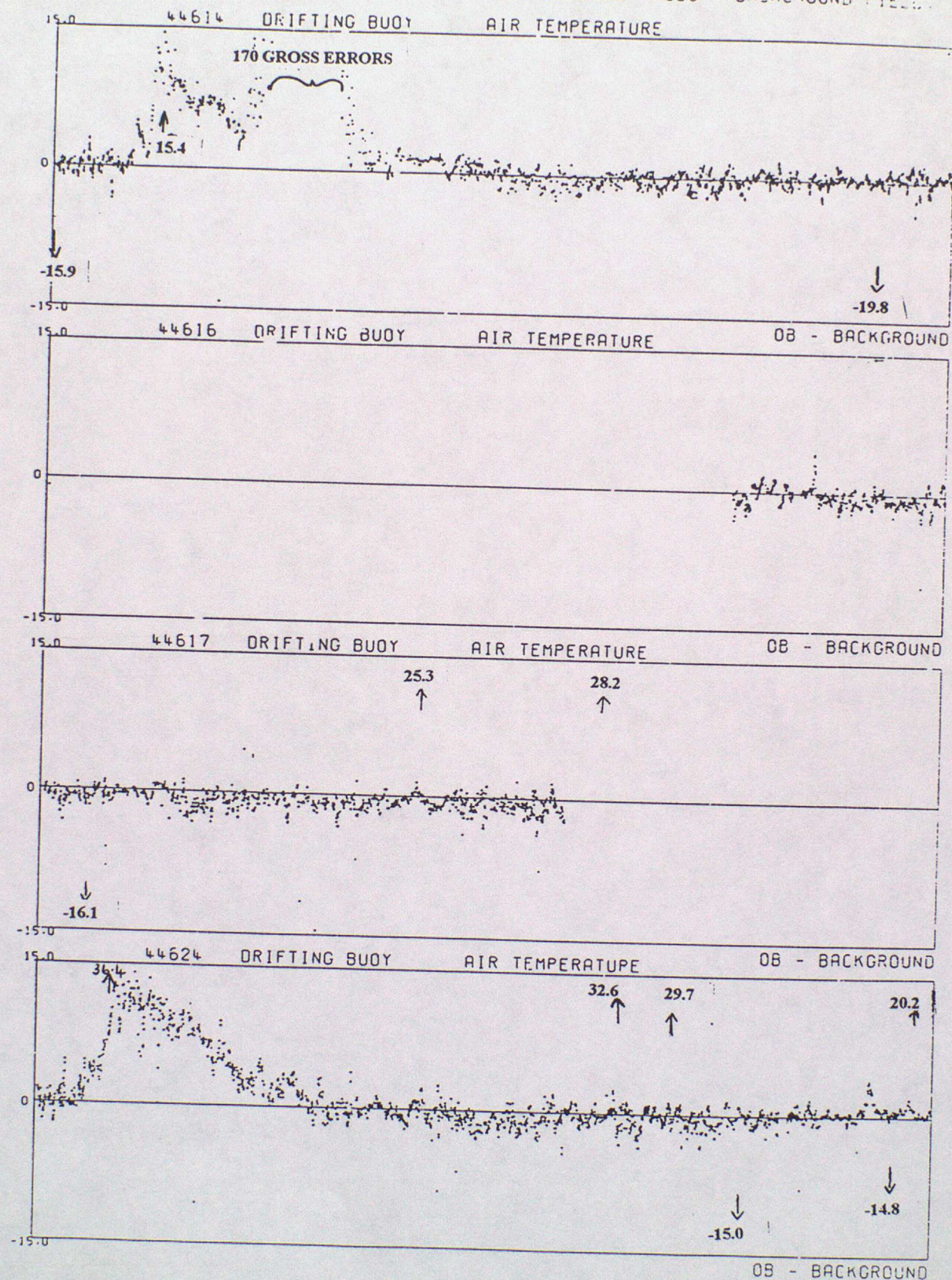


DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

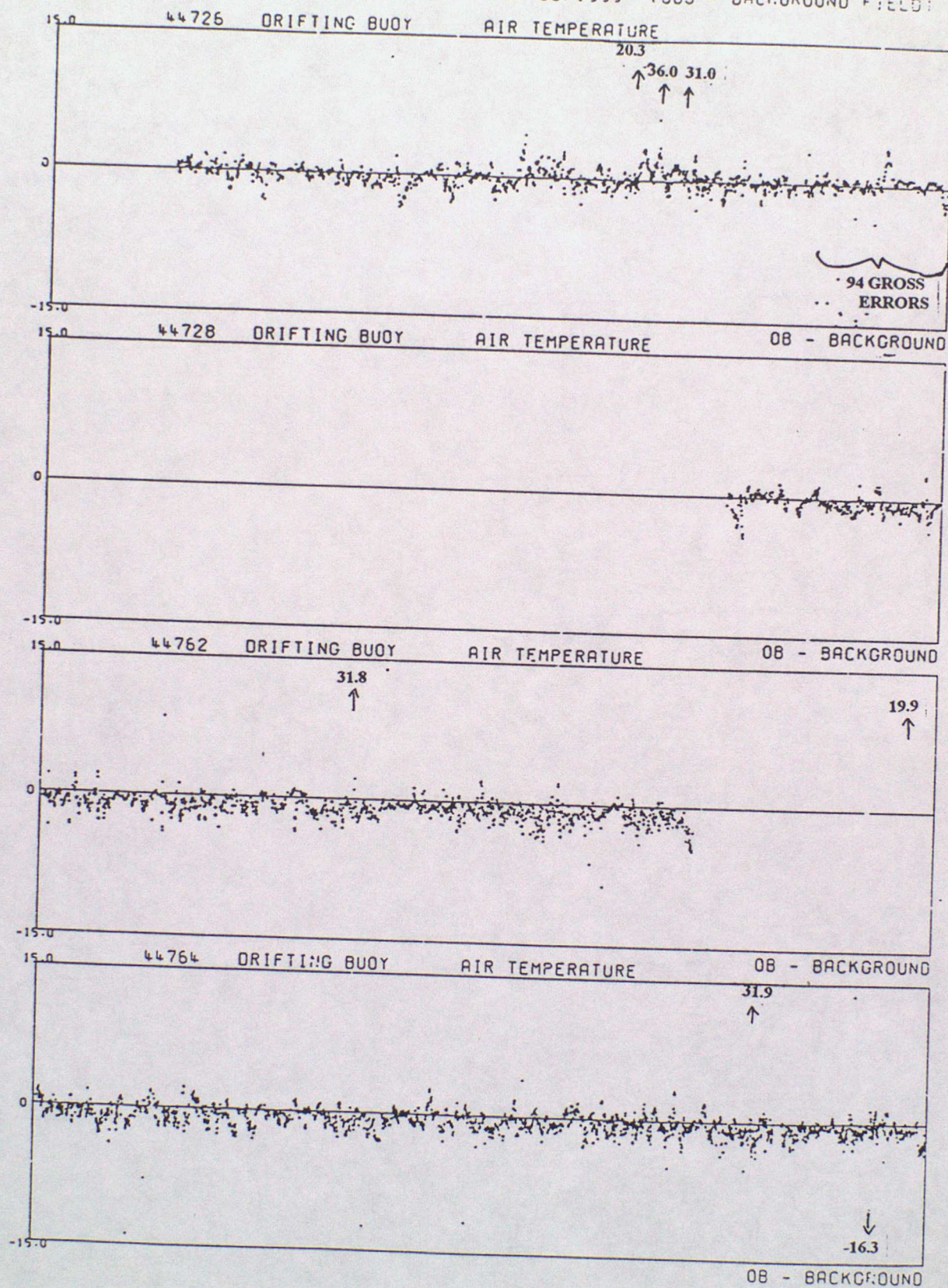


ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

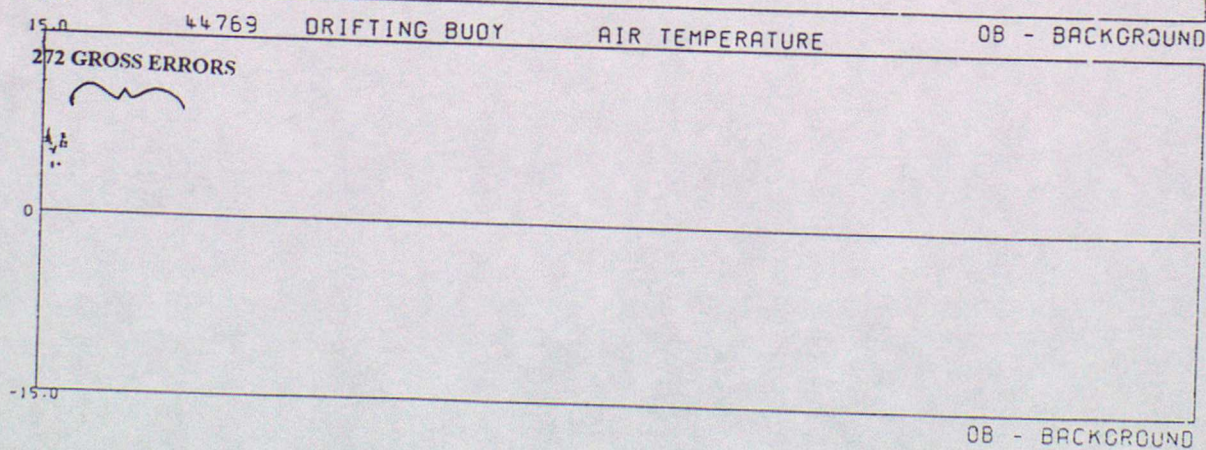
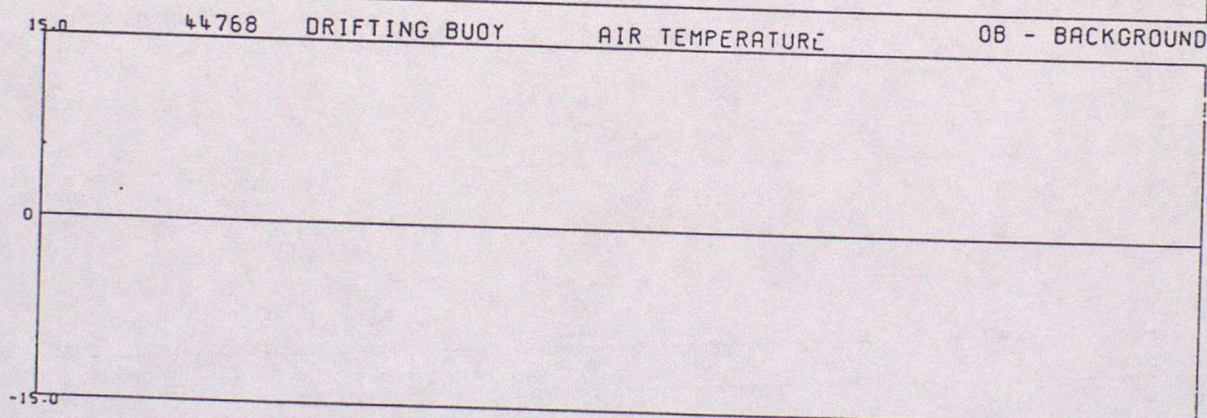
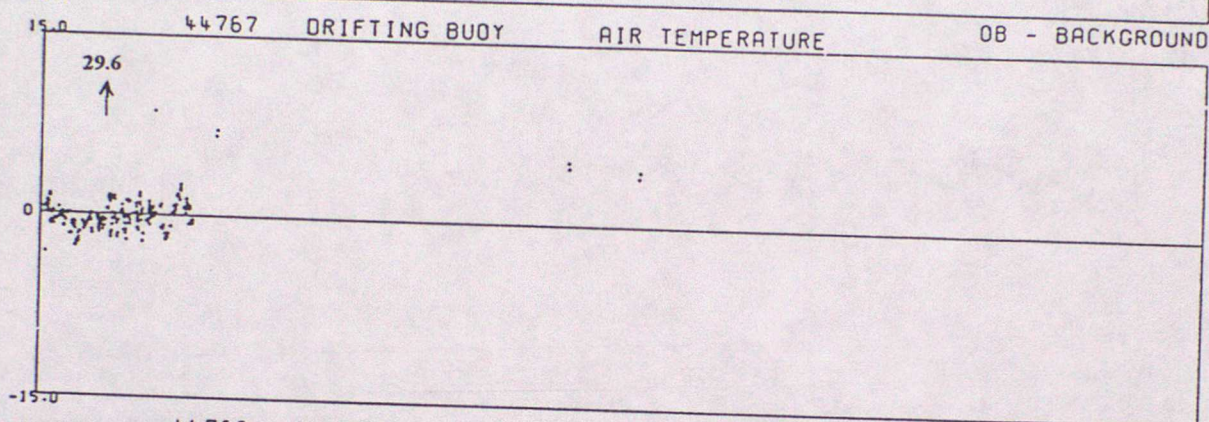
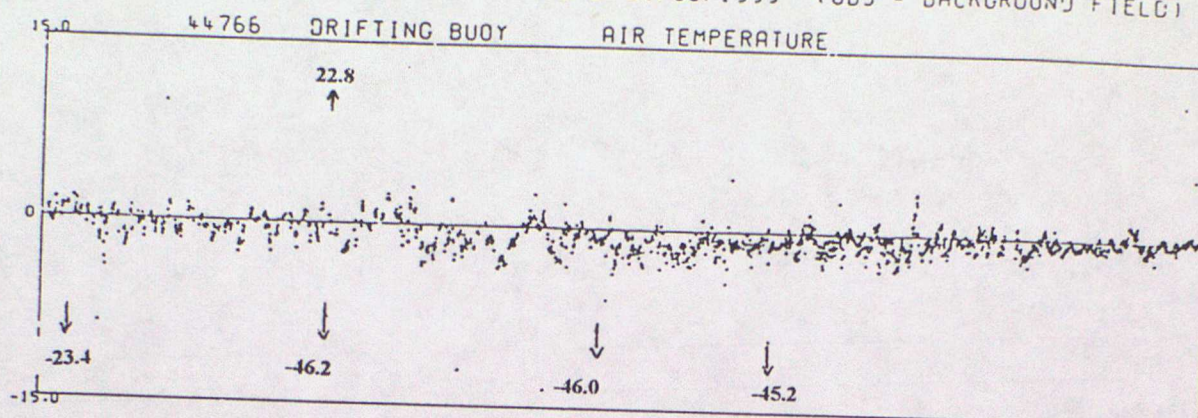
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



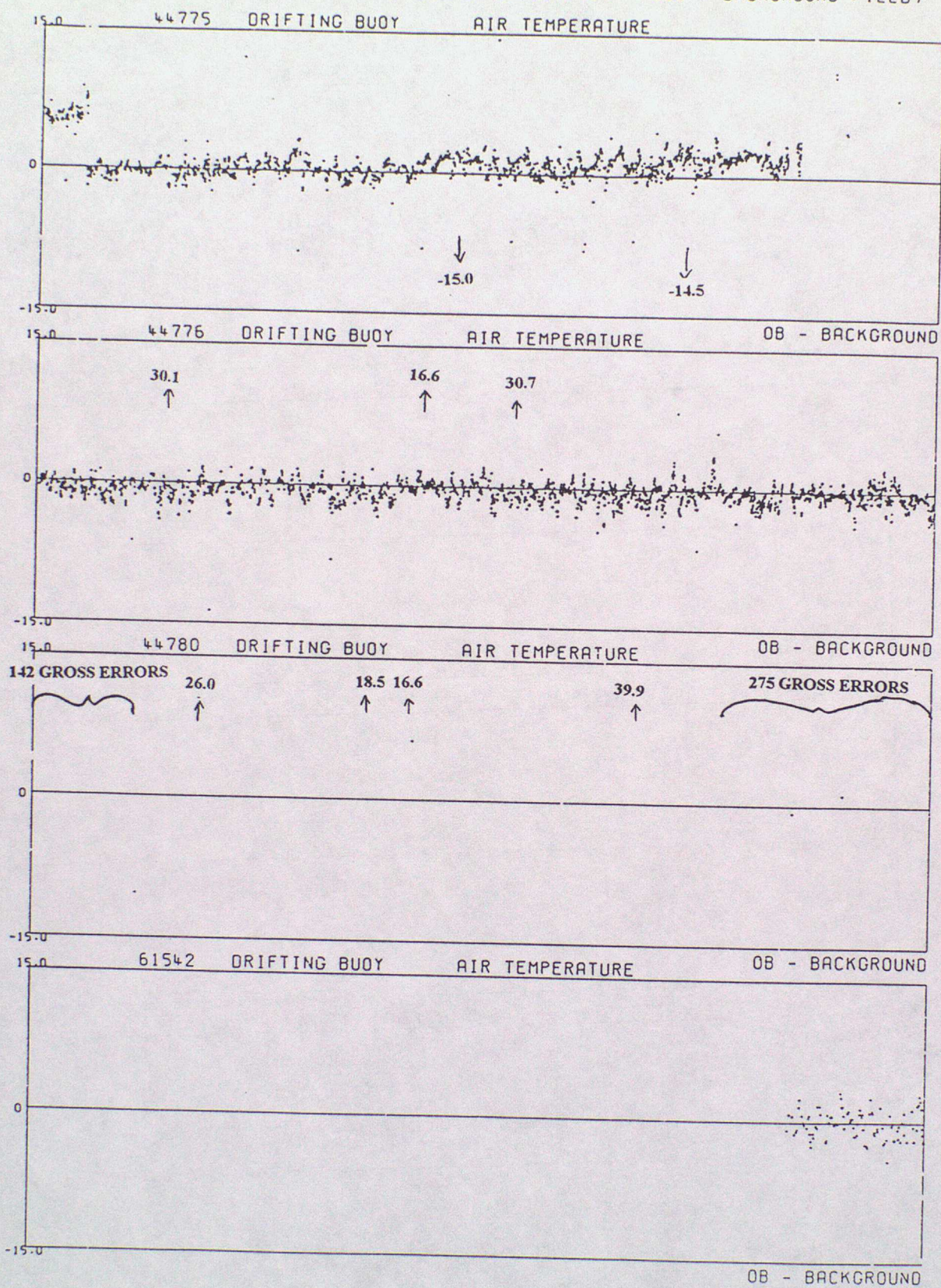
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



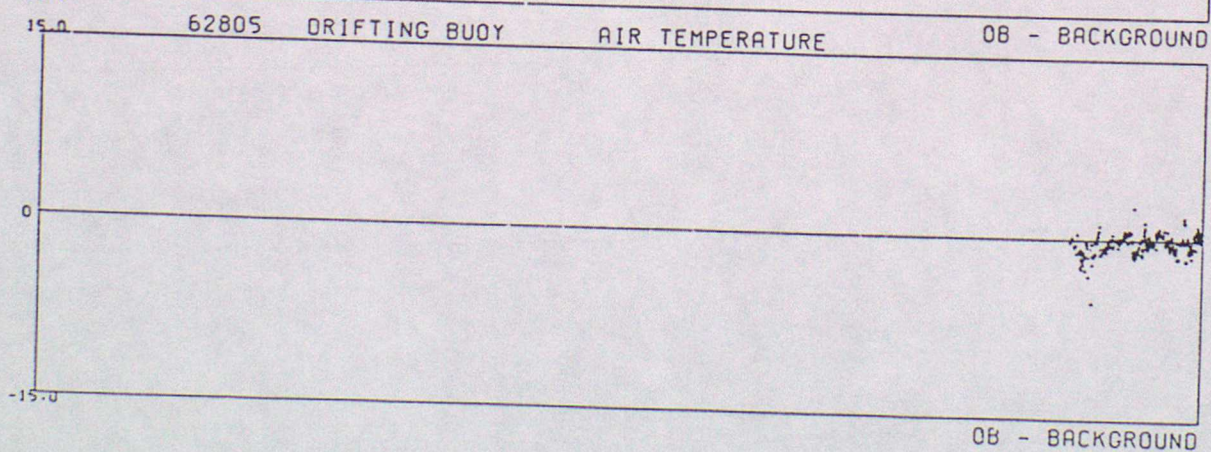
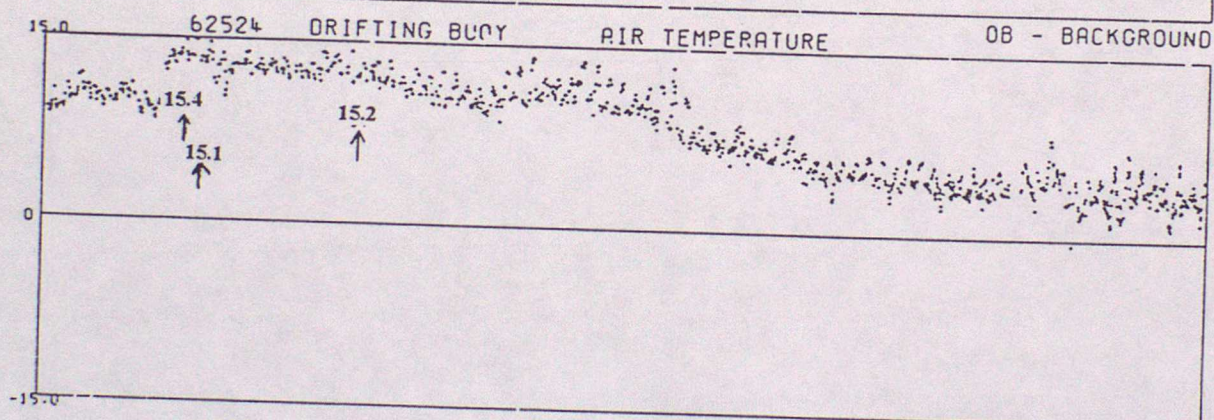
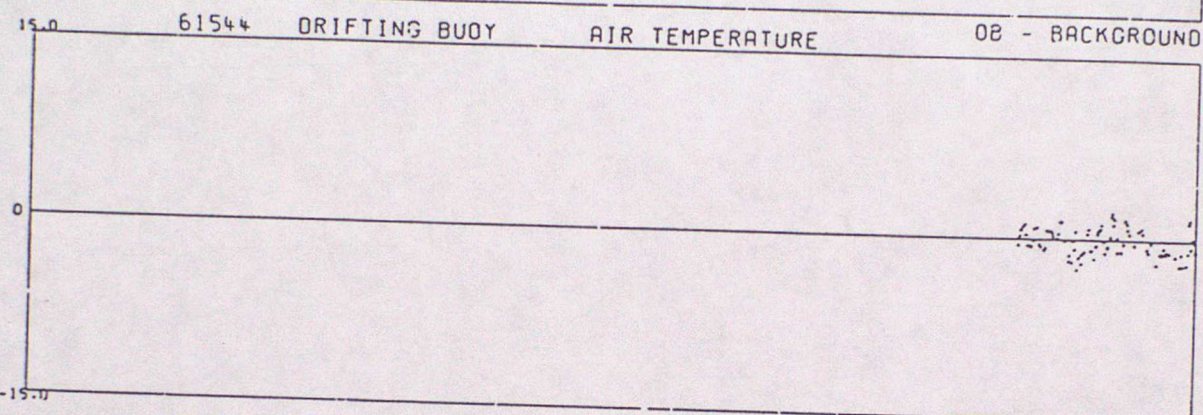
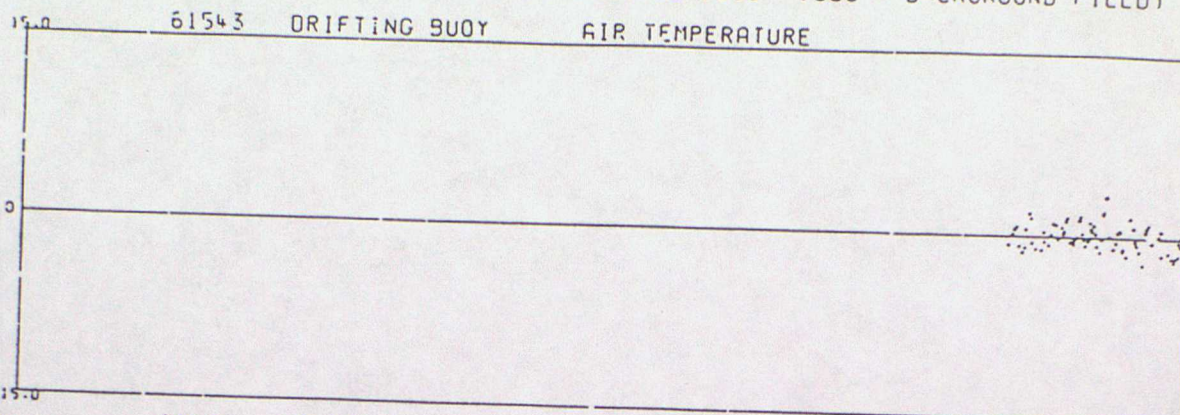
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



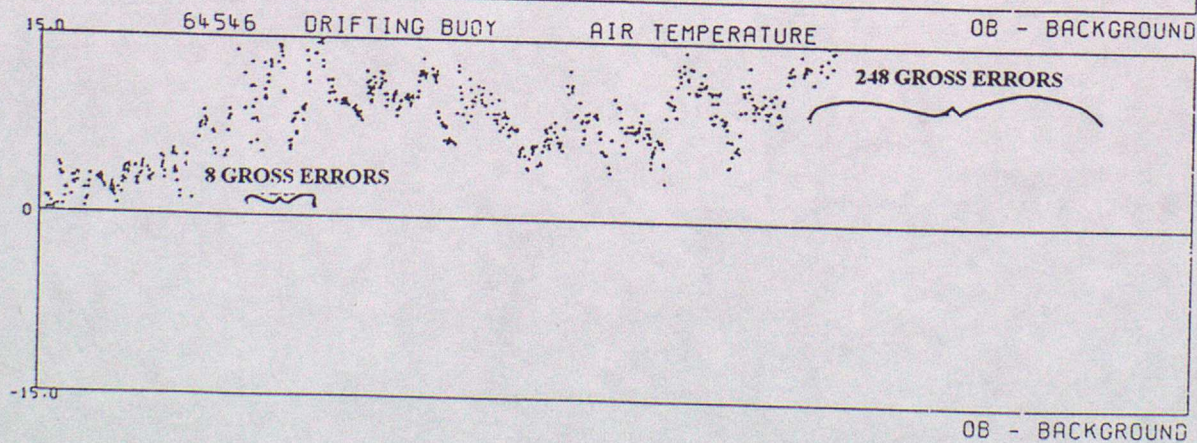
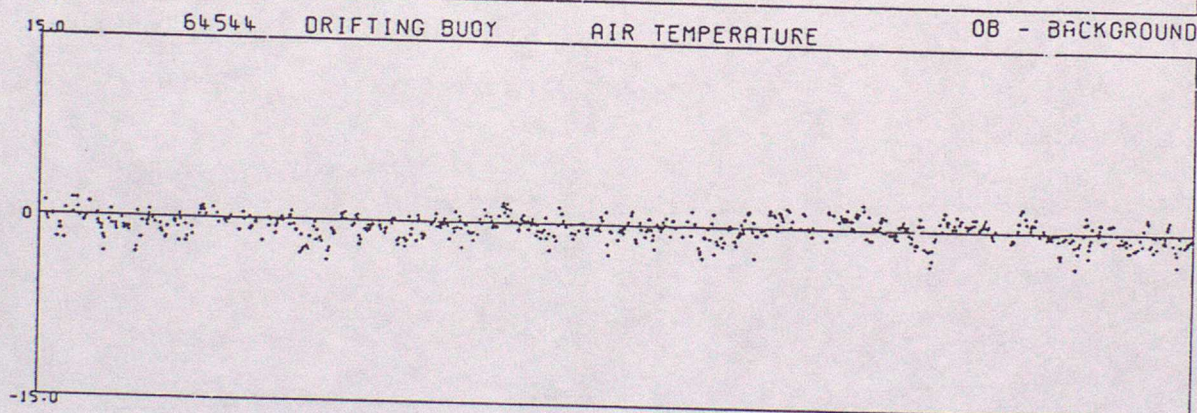
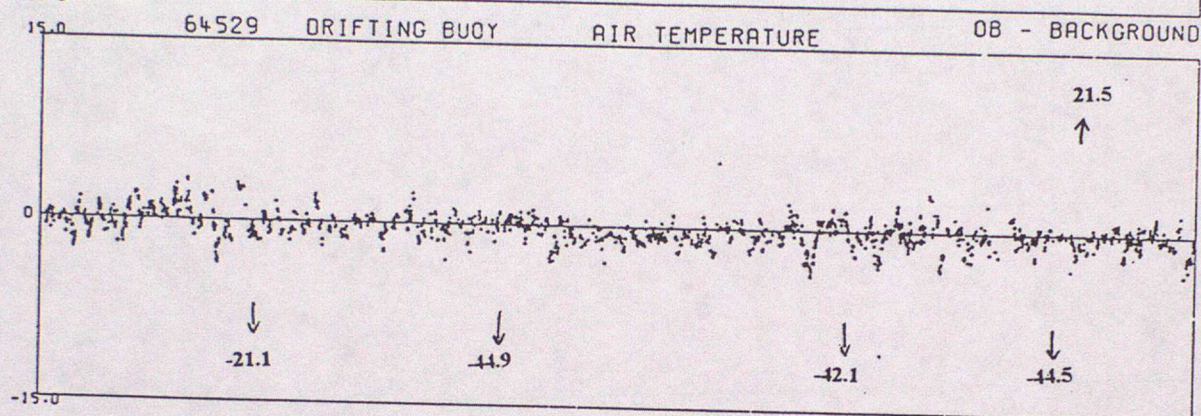
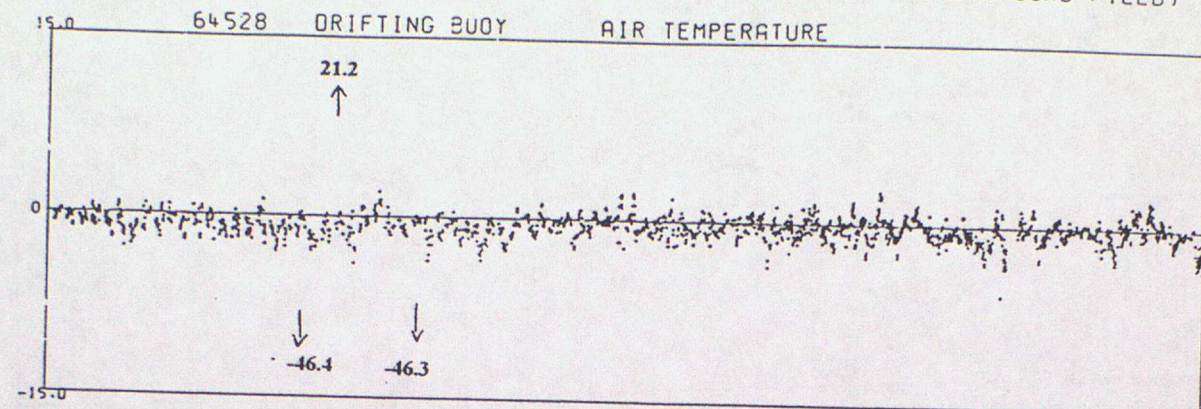
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



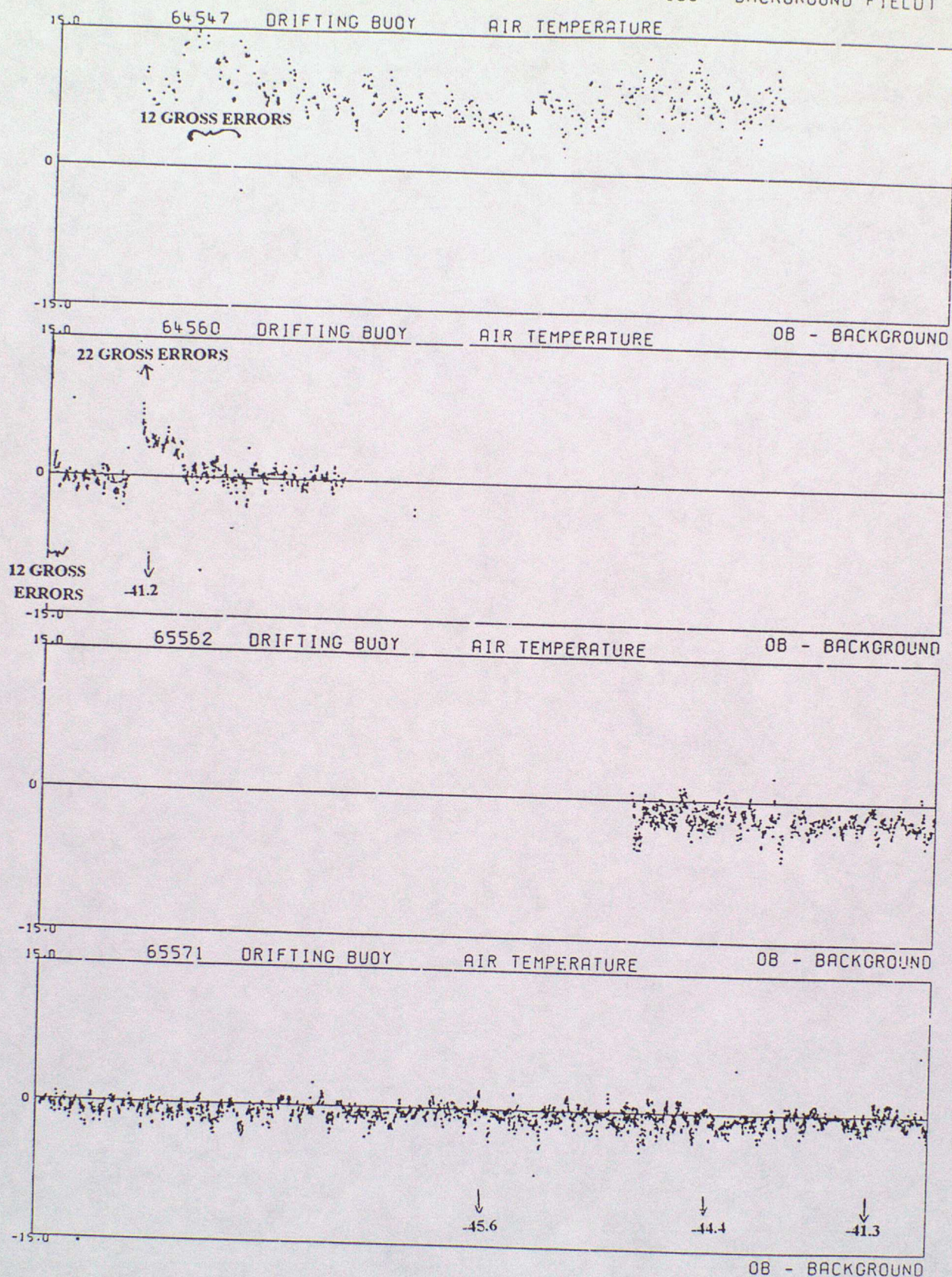
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

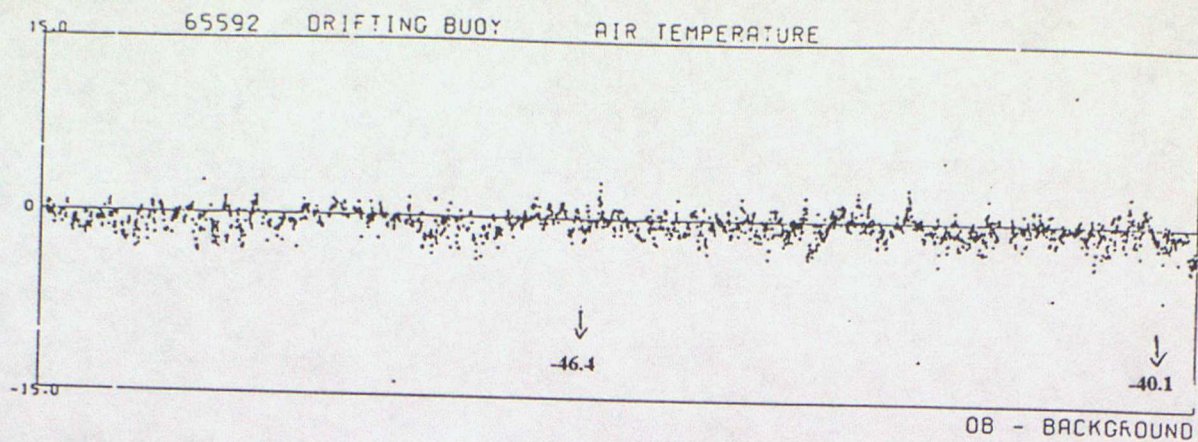


DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



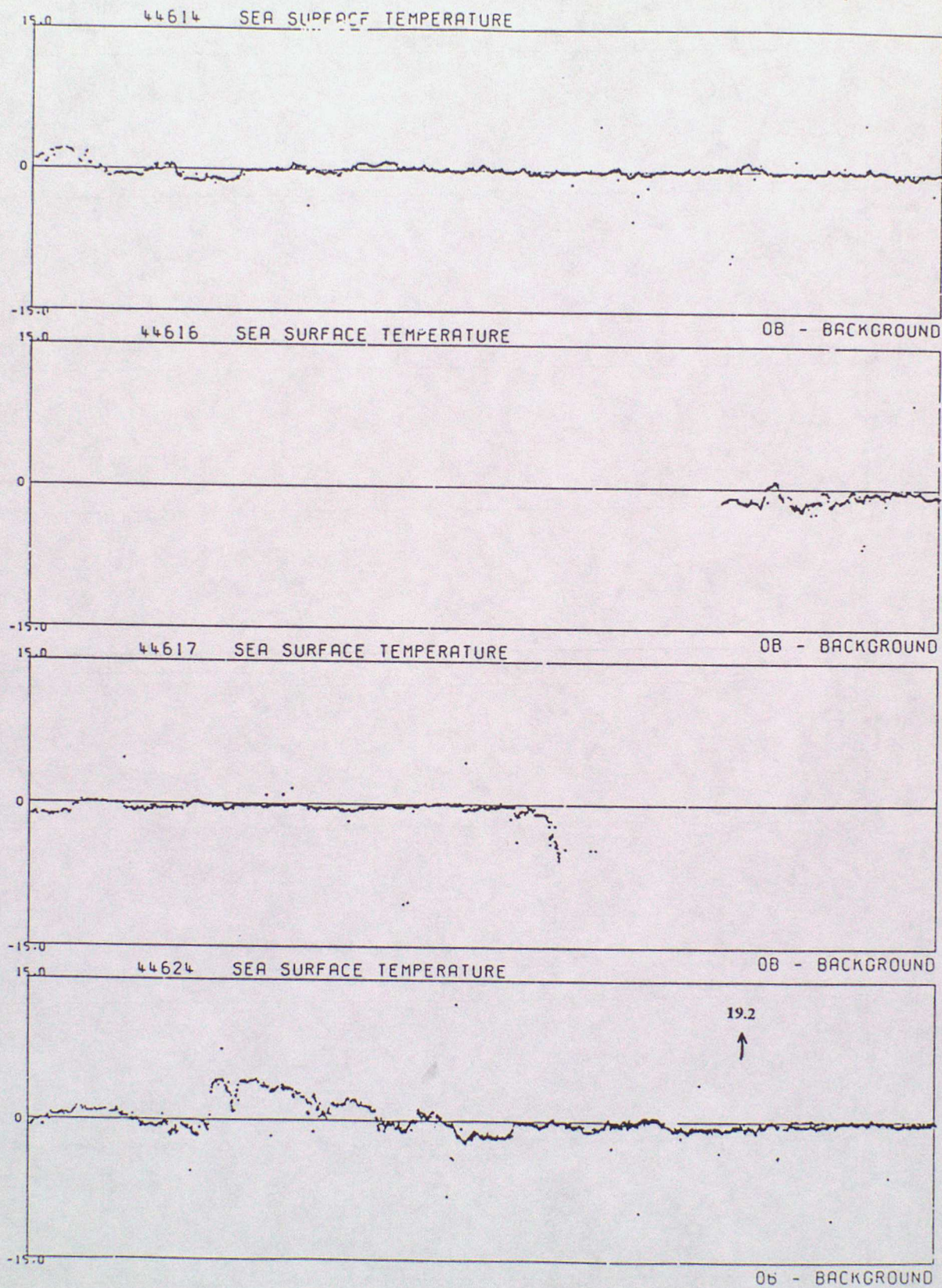
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



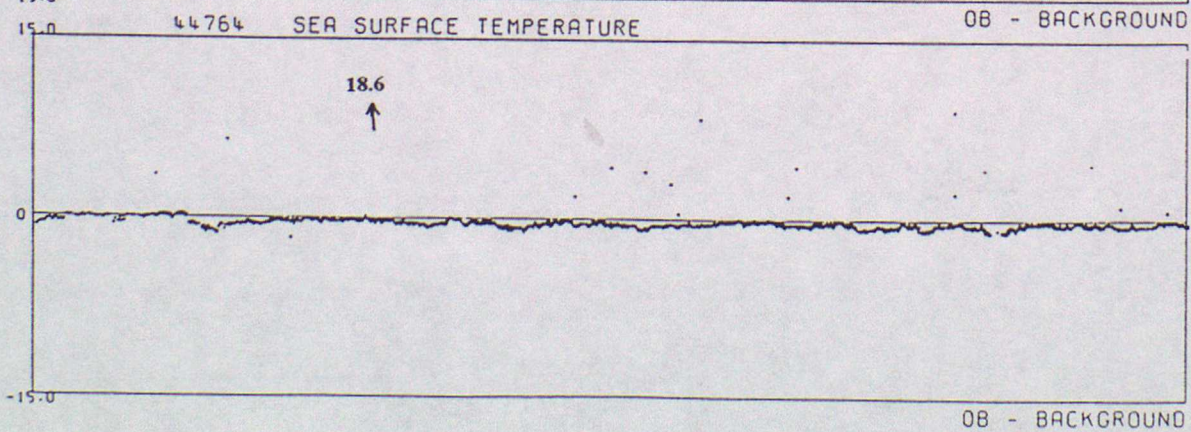
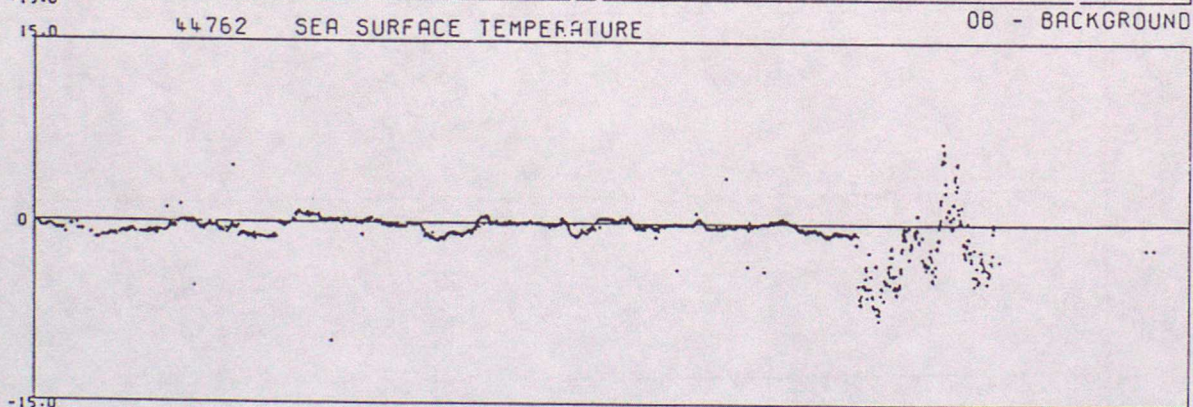
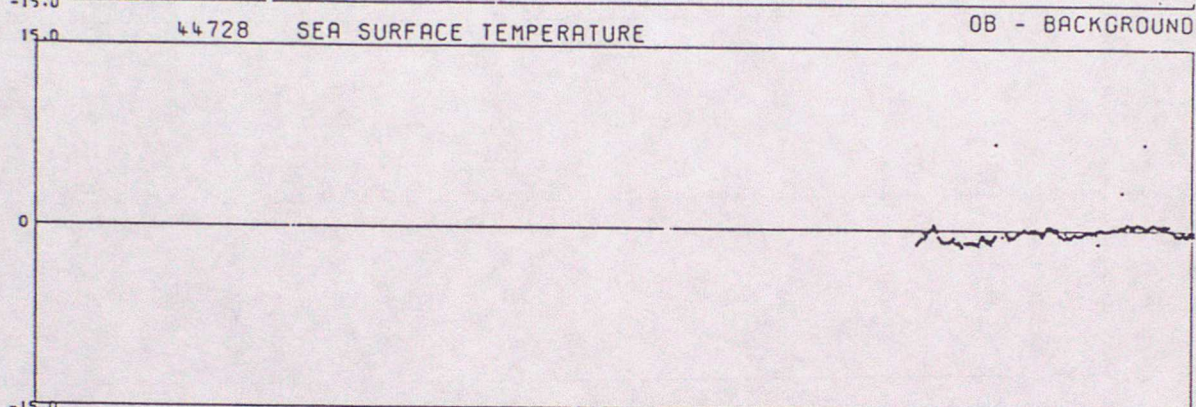
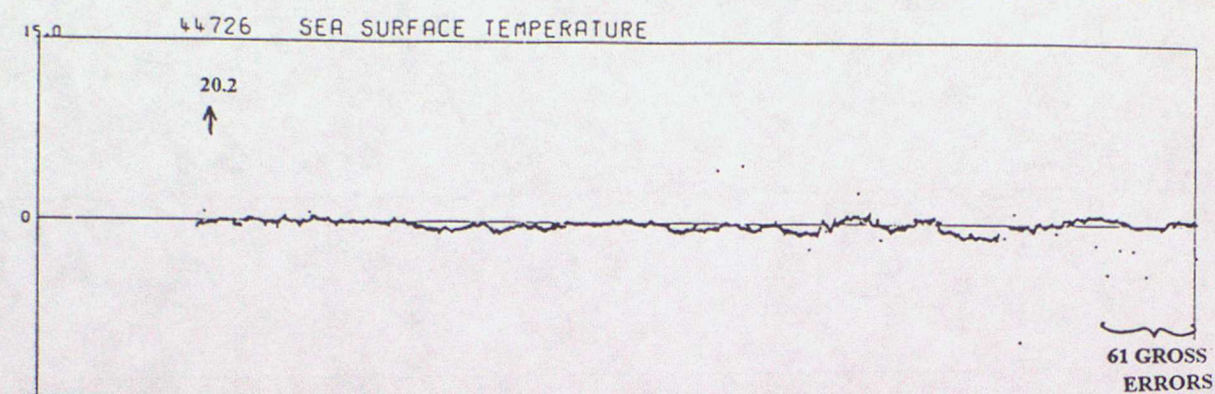


ANNEX D - TIME SERIES PLOTS OF SEA SURFACE TEMPERATURE

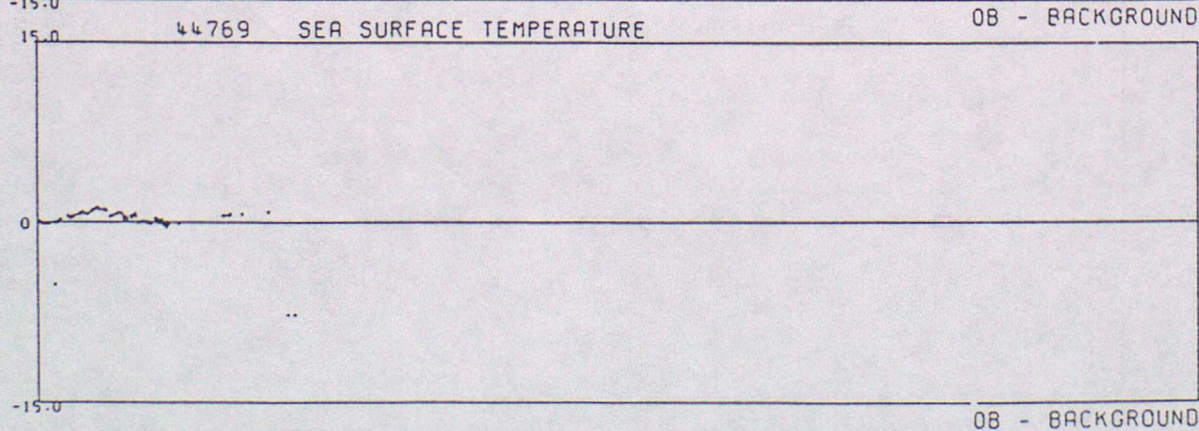
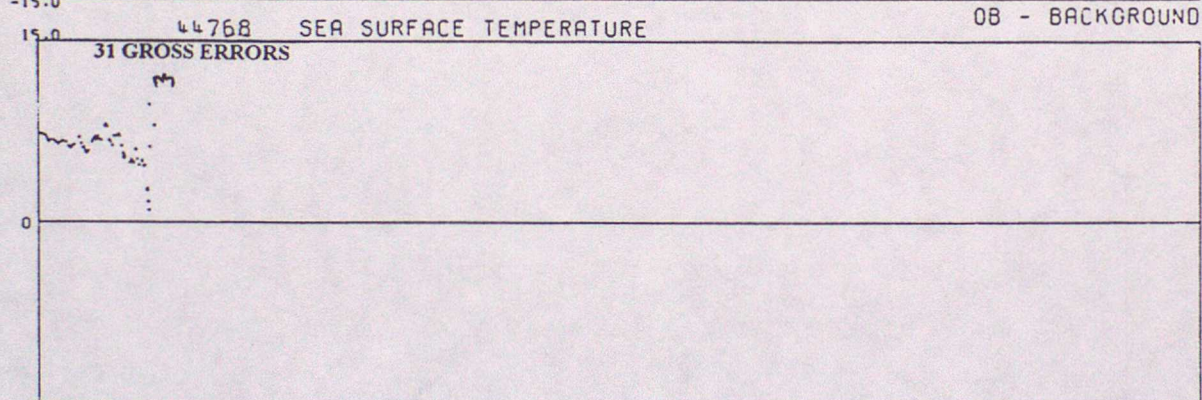
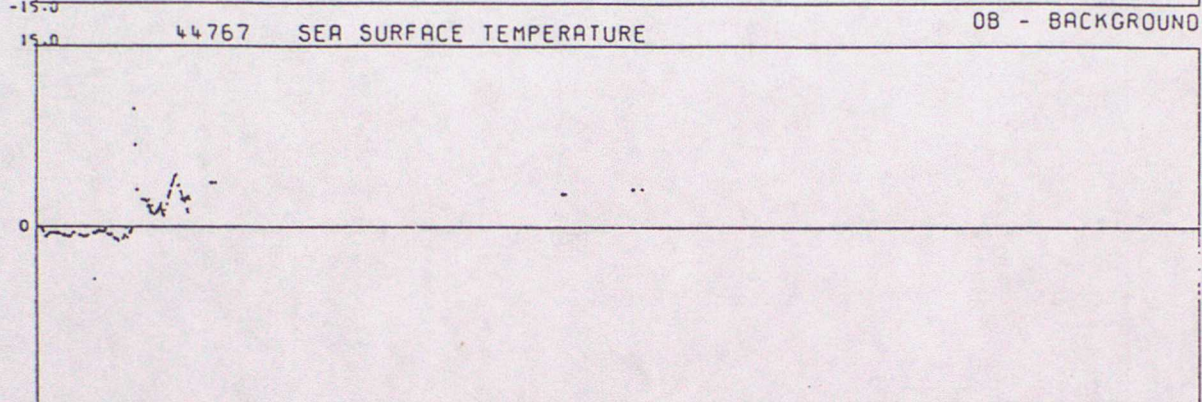
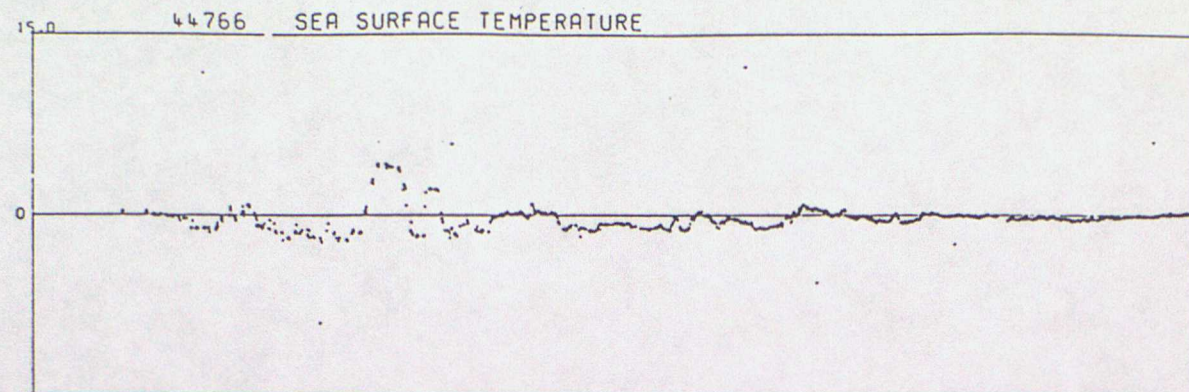
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

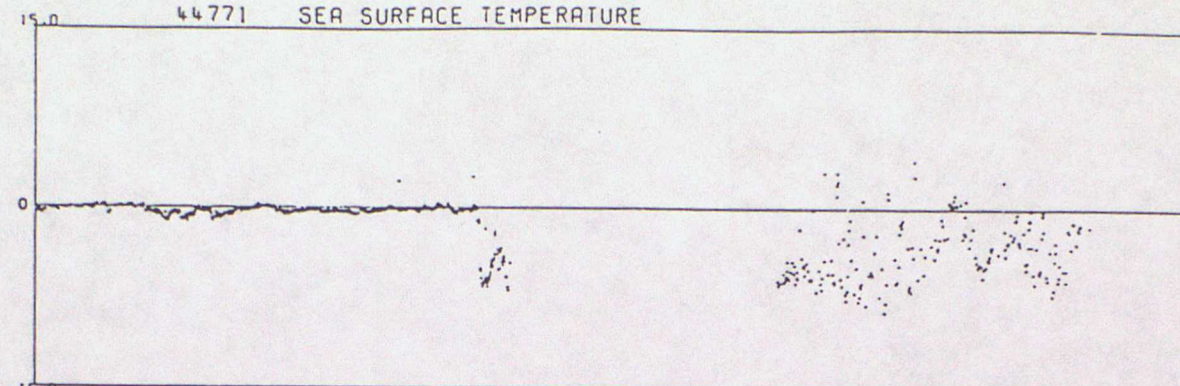


DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

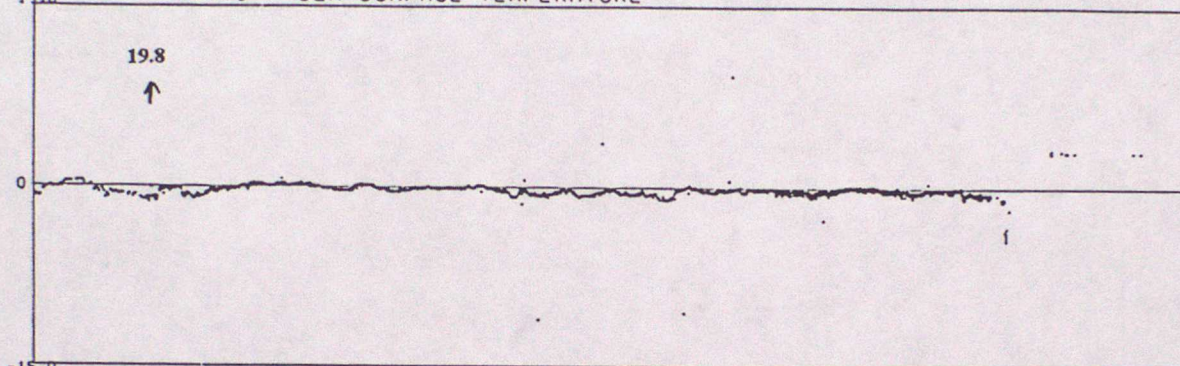


DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (085 - BACKGROUND FIELD)

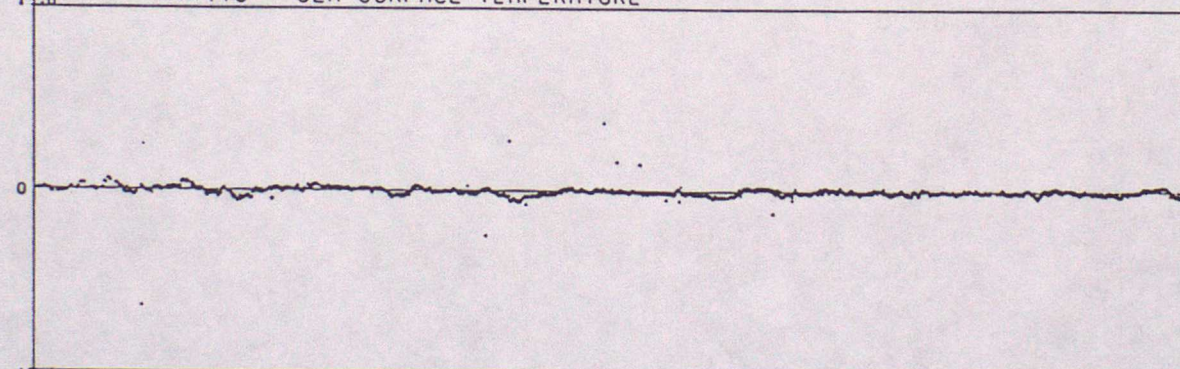
44771 SEA SURFACE TEMPERATURE



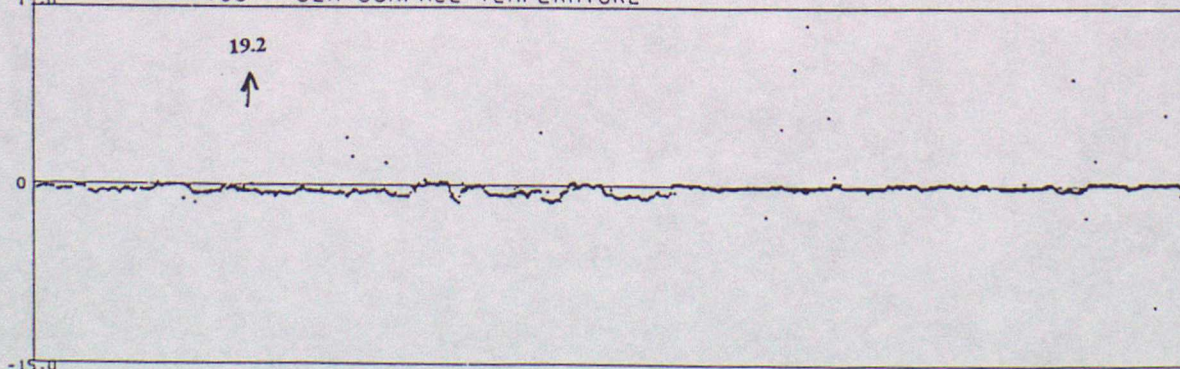
44775 SEA SURFACE TEMPERATURE 08 - BACKGROUND



44776 SEA SURFACE TEMPERATURE 08 - BACKGROUND

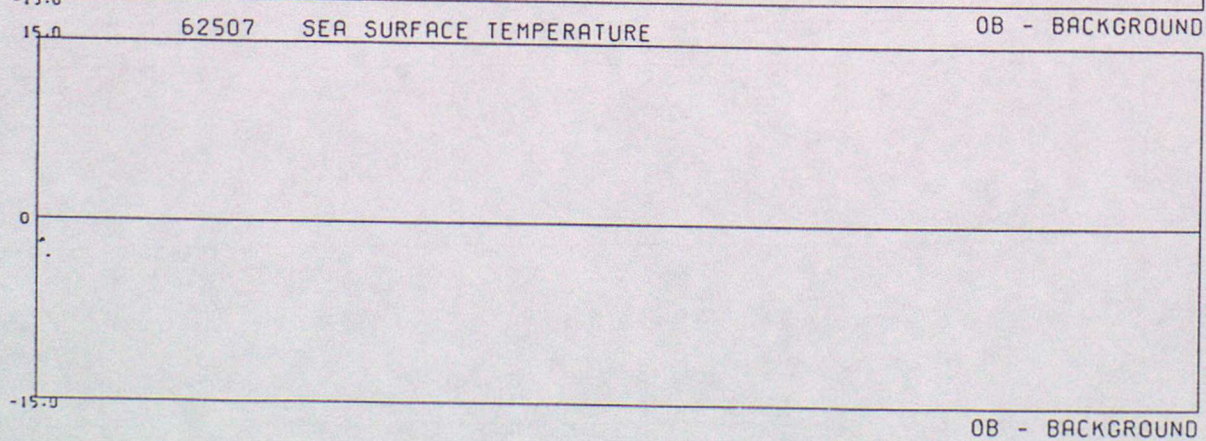
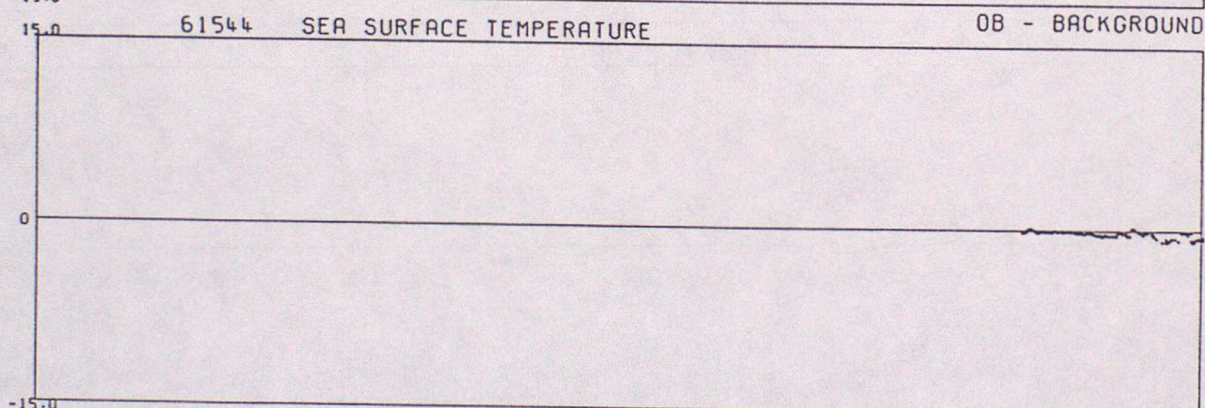
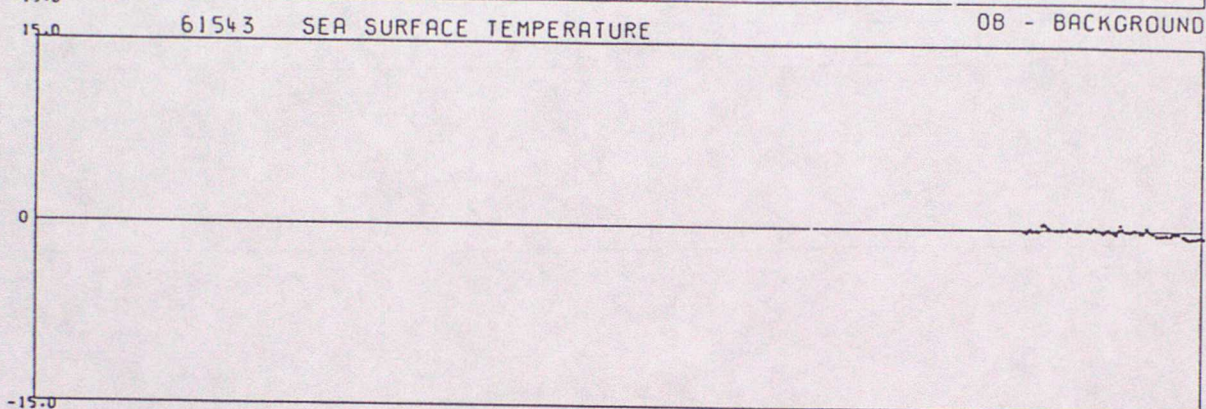
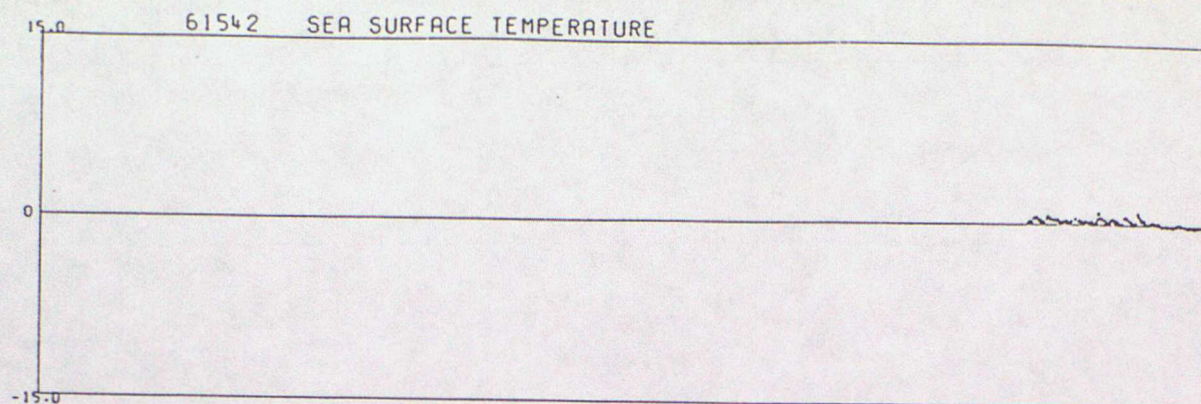


44780 SEA SURFACE TEMPERATURE 08 - BACKGROUND



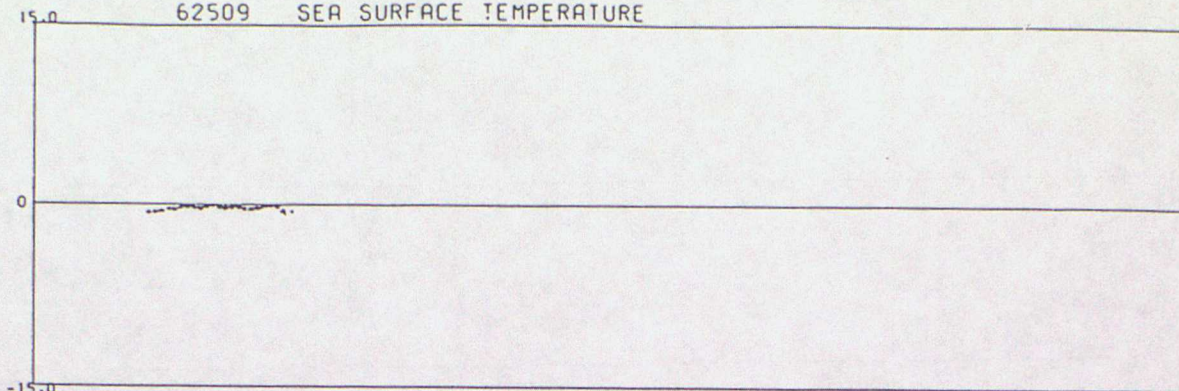
08 - BACKGROUND

DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



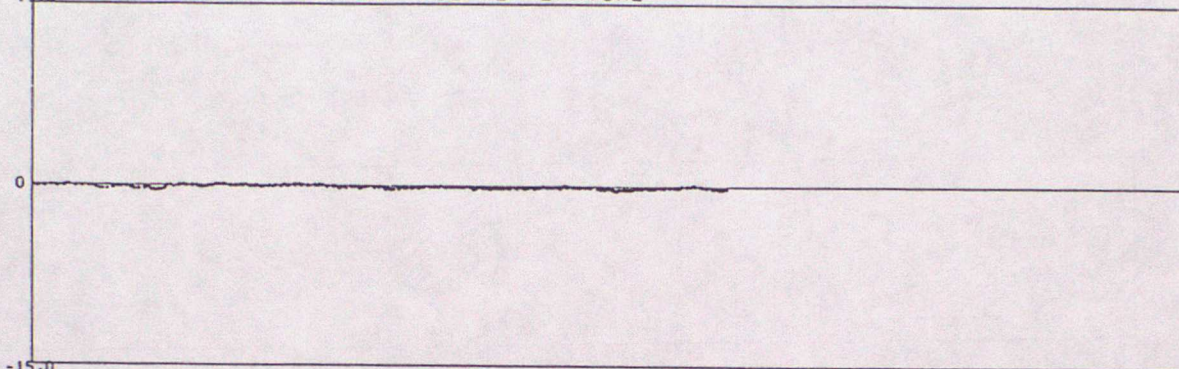
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

62509 SEA SURFACE TEMPERATURE



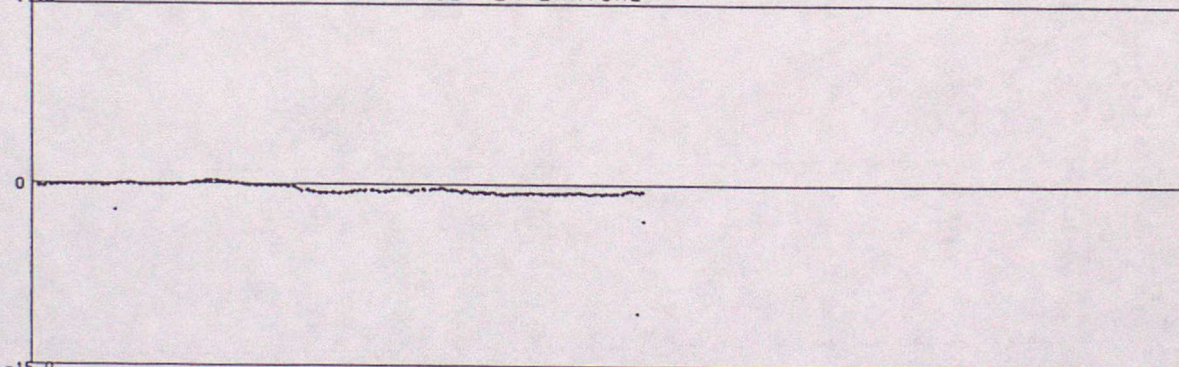
62510 SEA SURFACE TEMPERATURE

OE - BACKGROUND



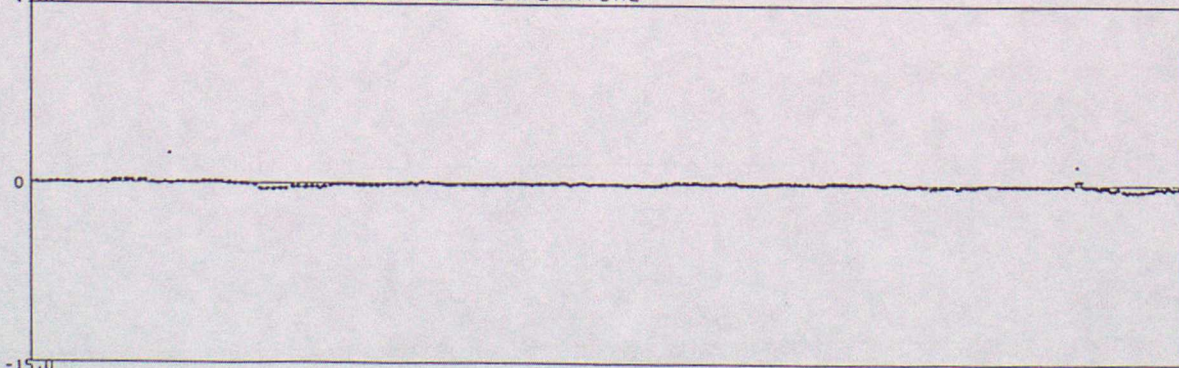
62511 SEA SURFACE TEMPERATURE

OB - BACKGROUND



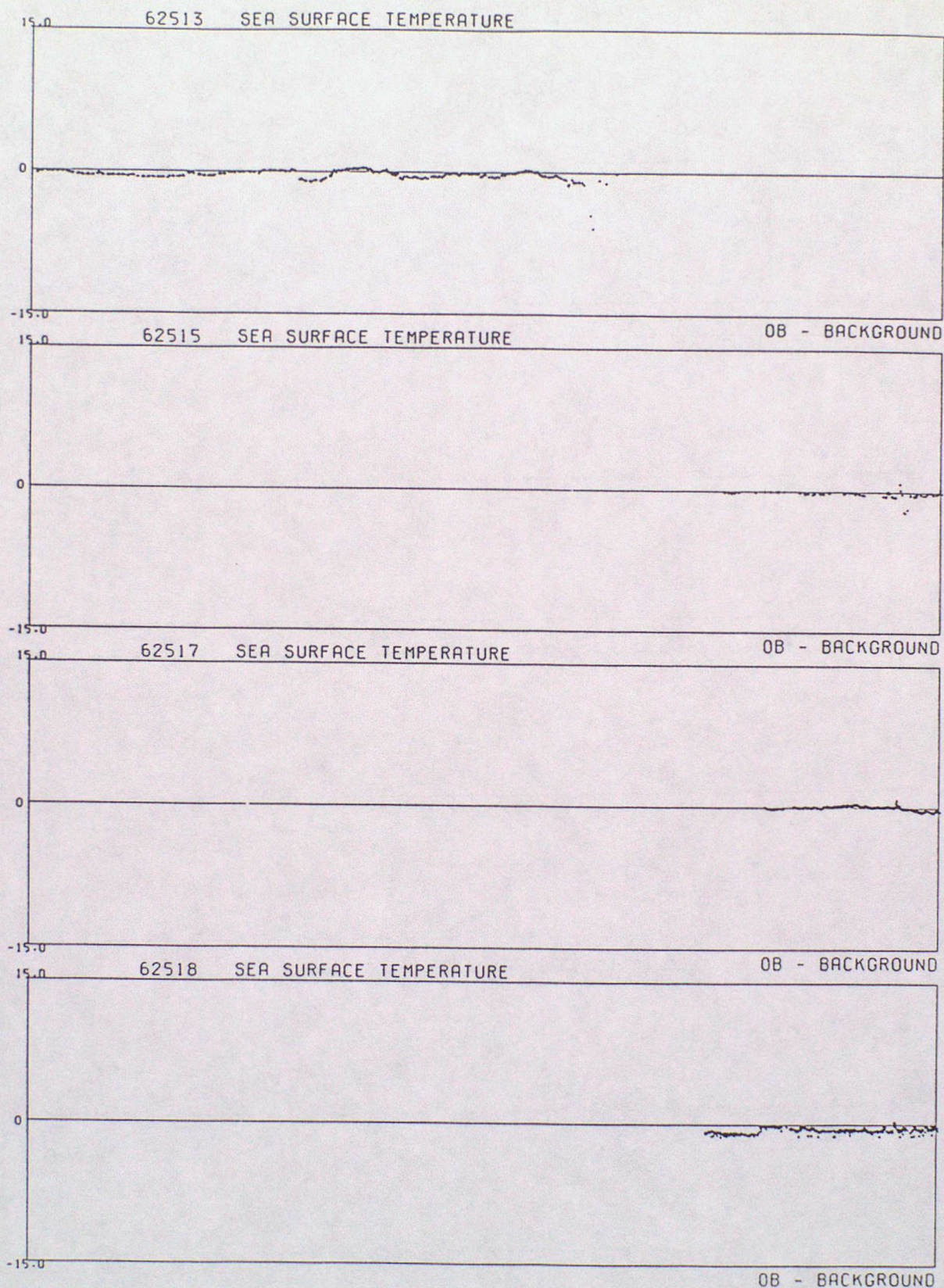
62512 SEA SURFACE TEMPERATURE

OB - BACKGROUND

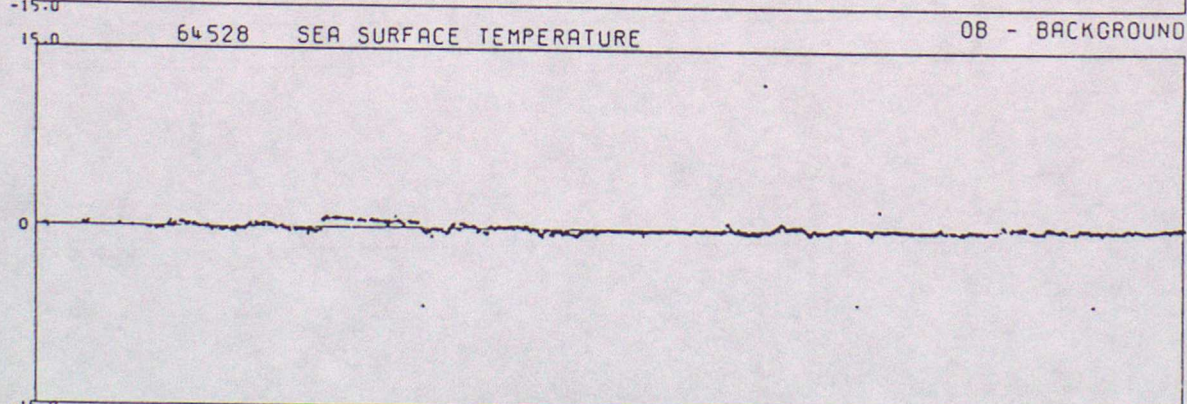
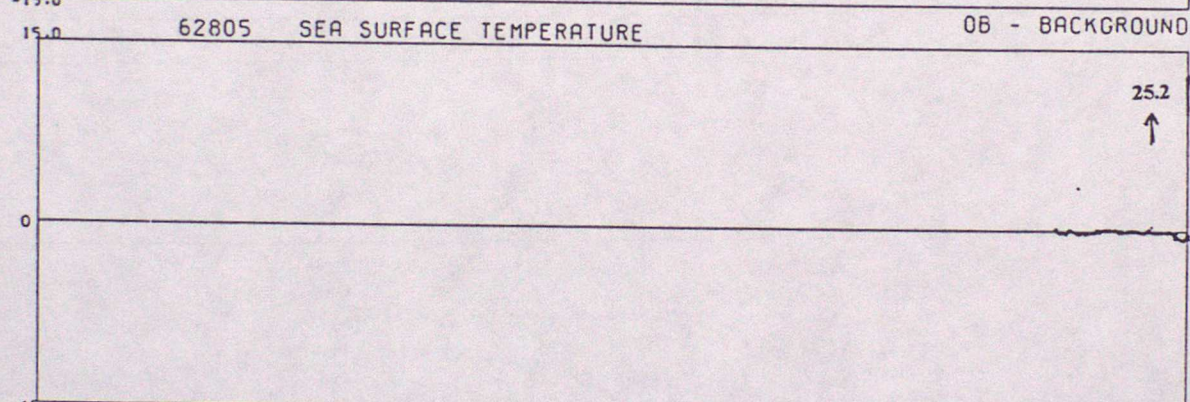
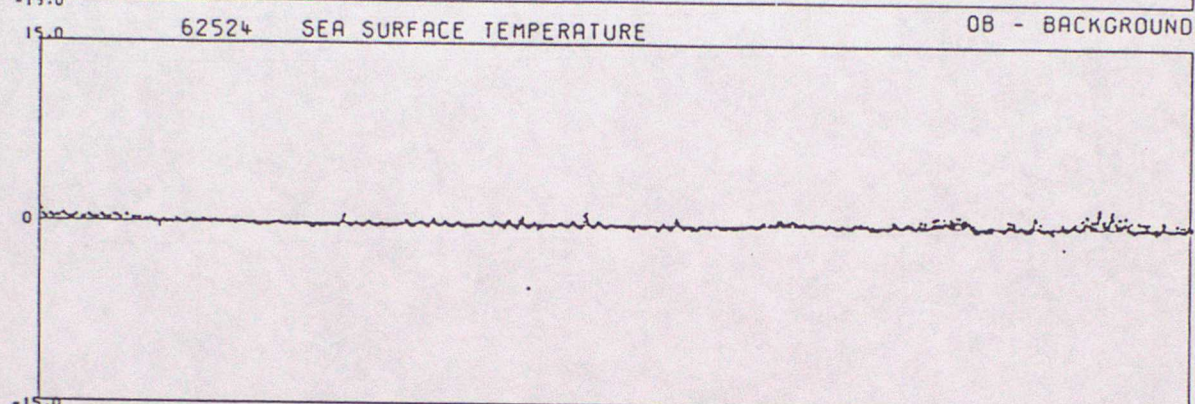
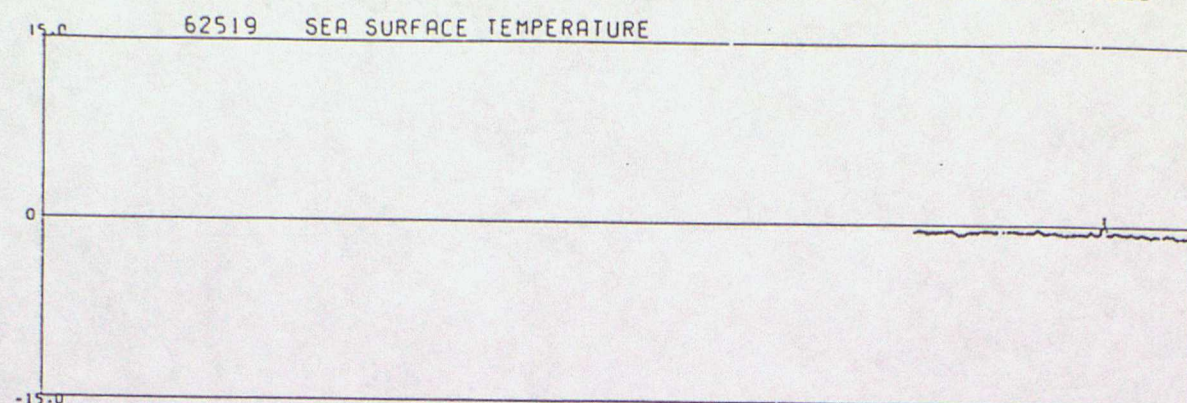


OB - BACKGROUND

DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



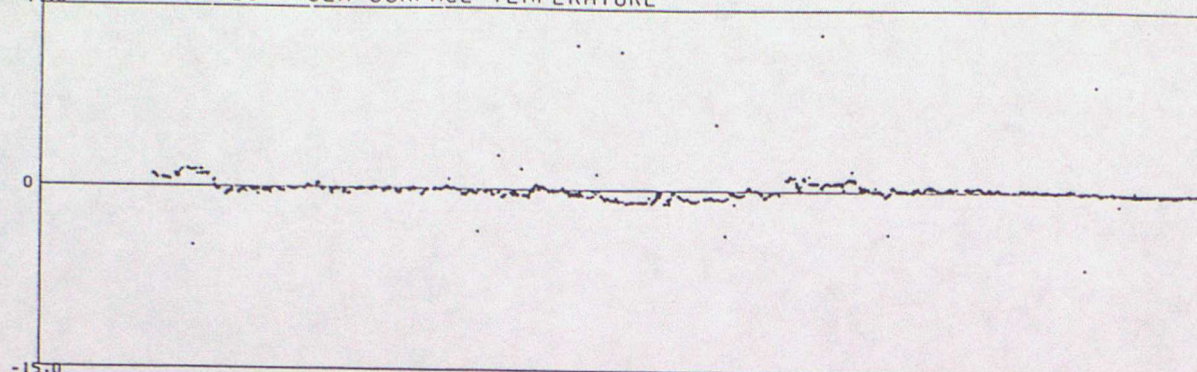
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



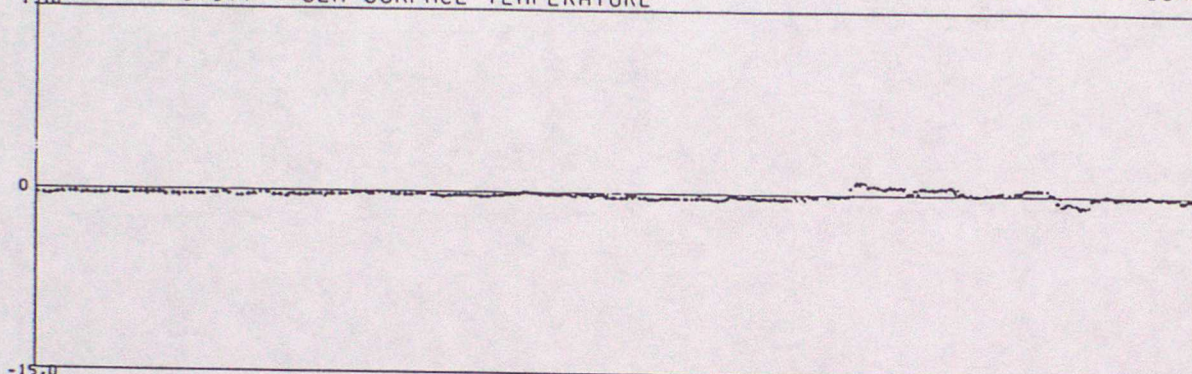
OB - BACKGROUND

DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

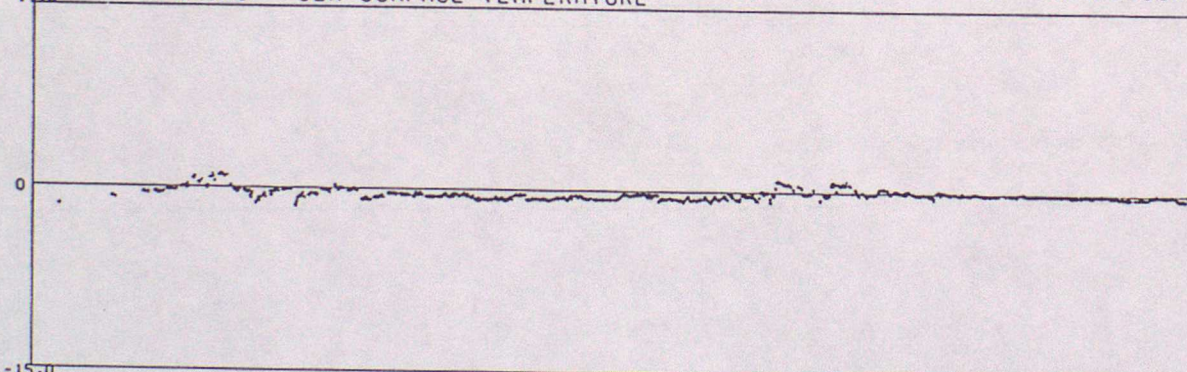
15.0 64529 SEA SURFACE TEMPERATURE



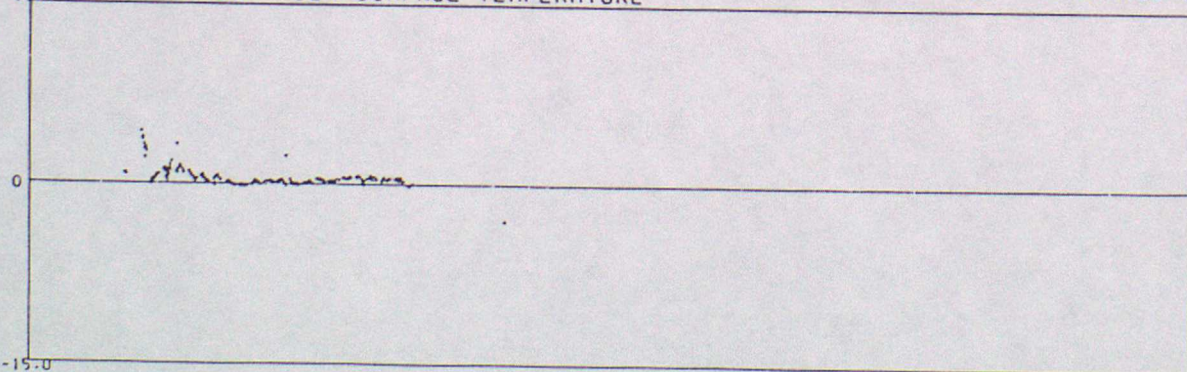
15.0 64544 SEA SURFACE TEMPERATURE OB - BACKGROUND



15.0 64546 SEA SURFACE TEMPERATURE OB - BACKGROUND

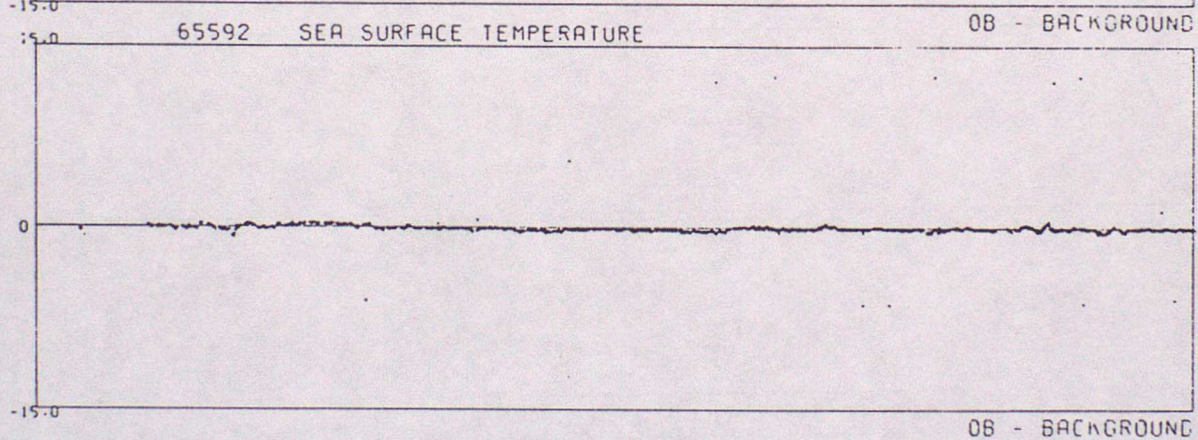
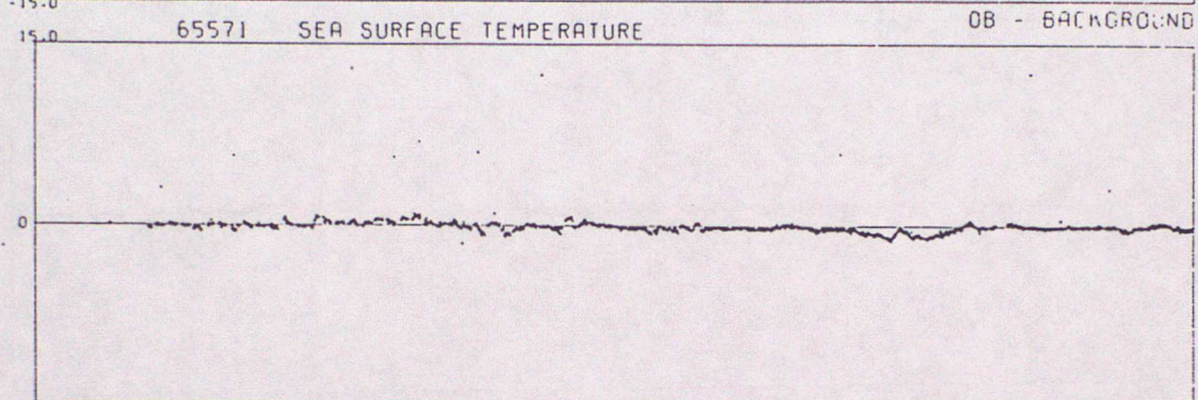
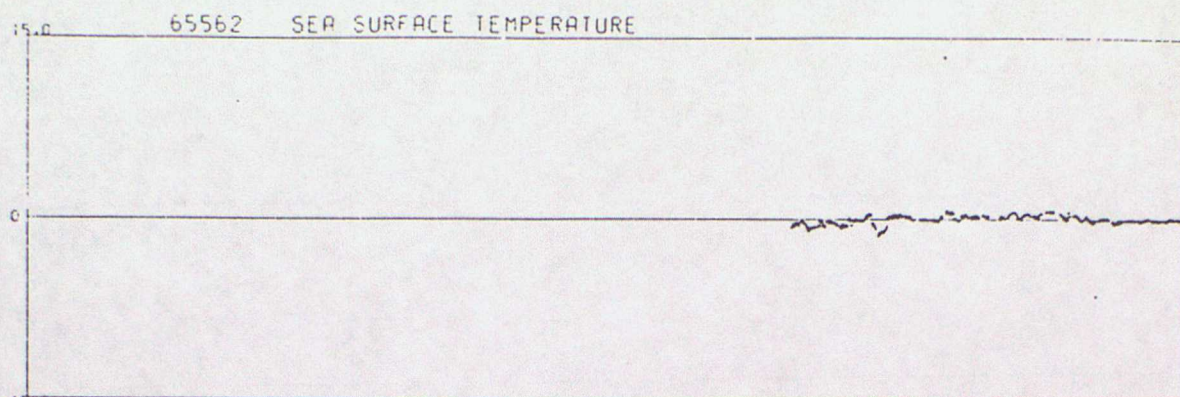


15.0 64560 SEA SURFACE TEMPERATURE OB - BACKGROUND



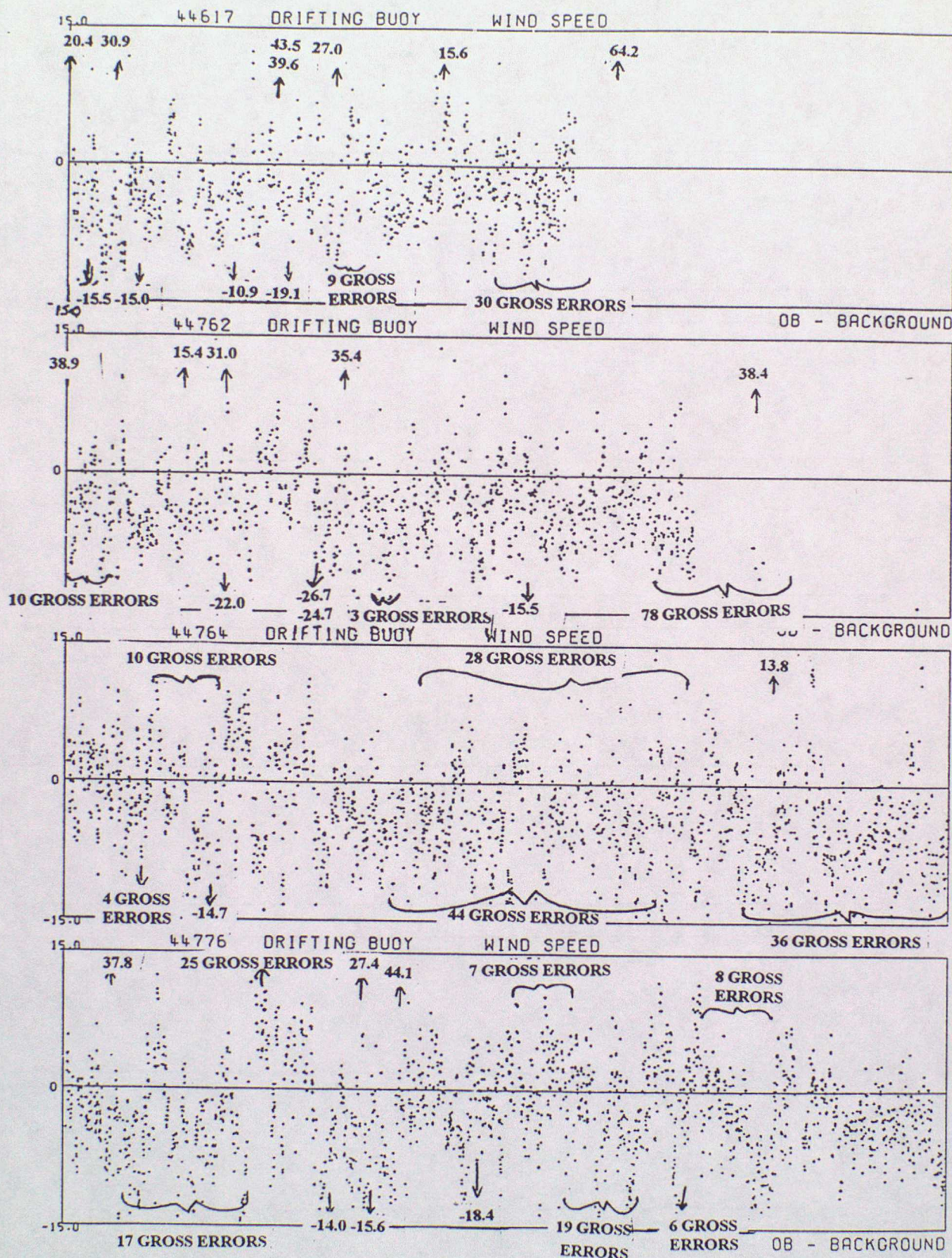
OB - BACKGROUND

DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 10BS - BACKGROUND FIELD

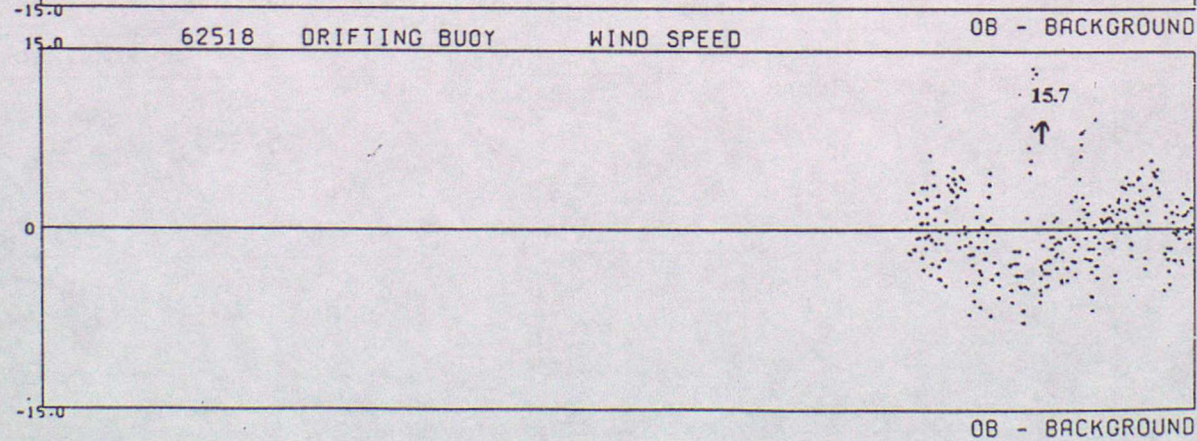
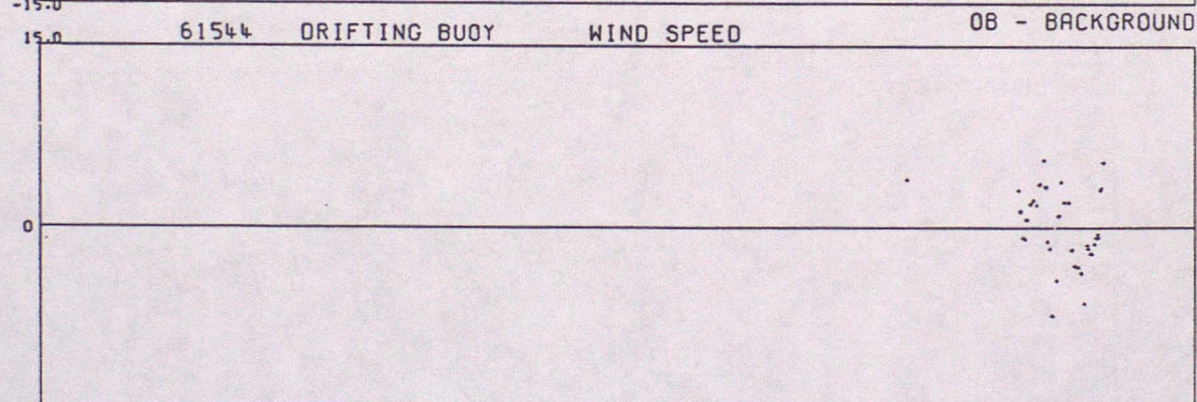
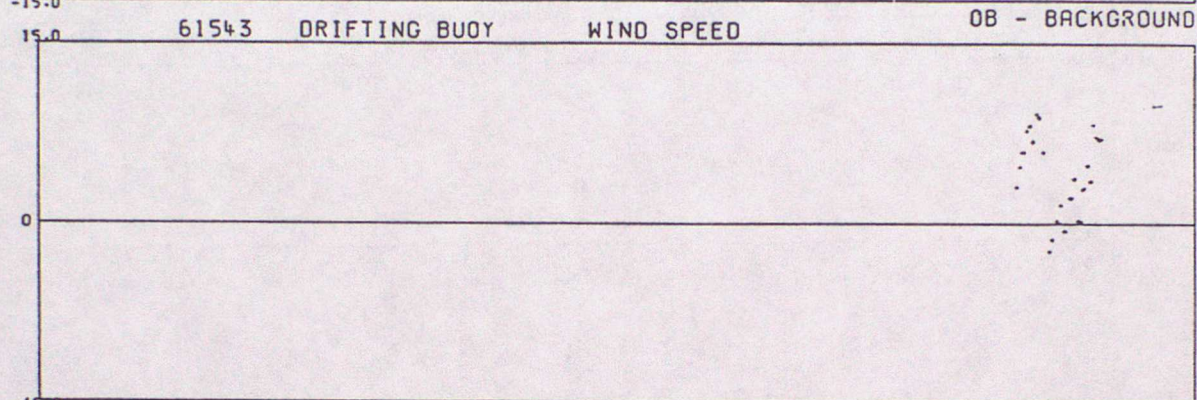
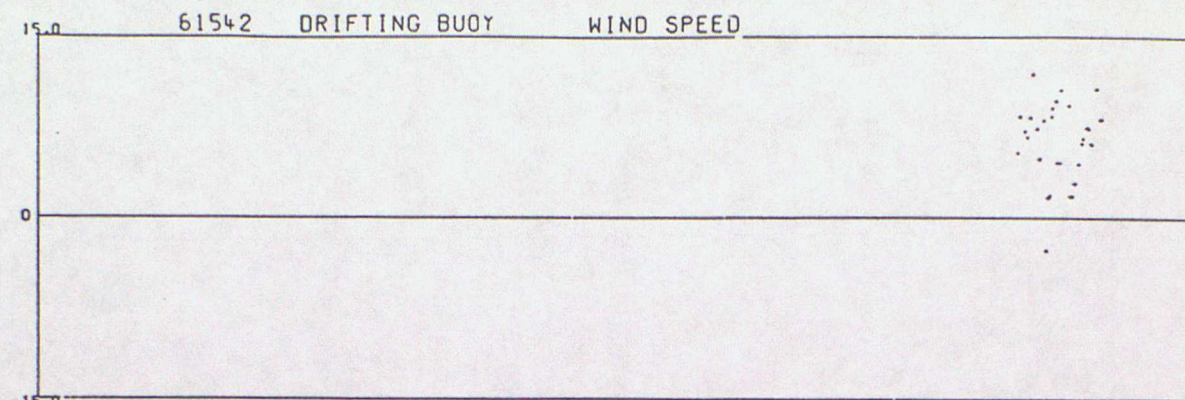


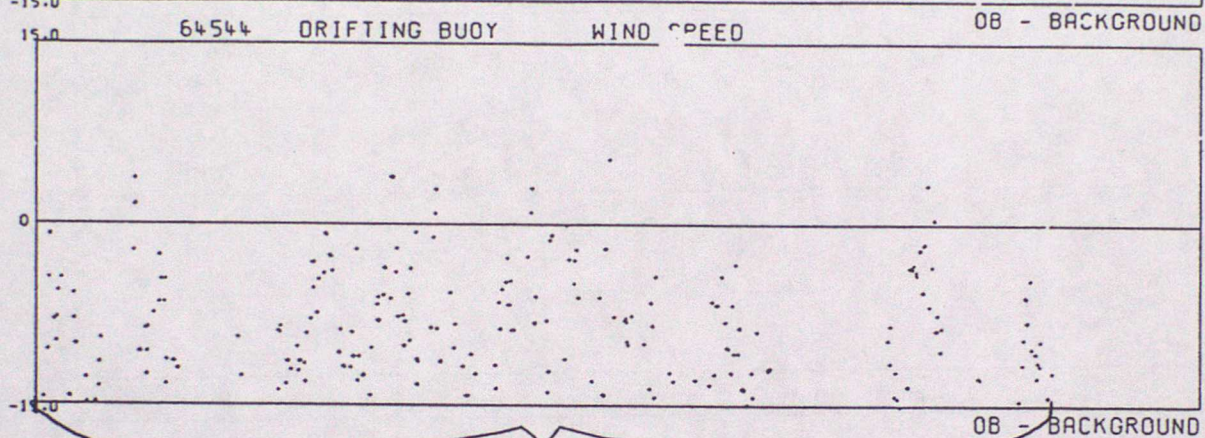
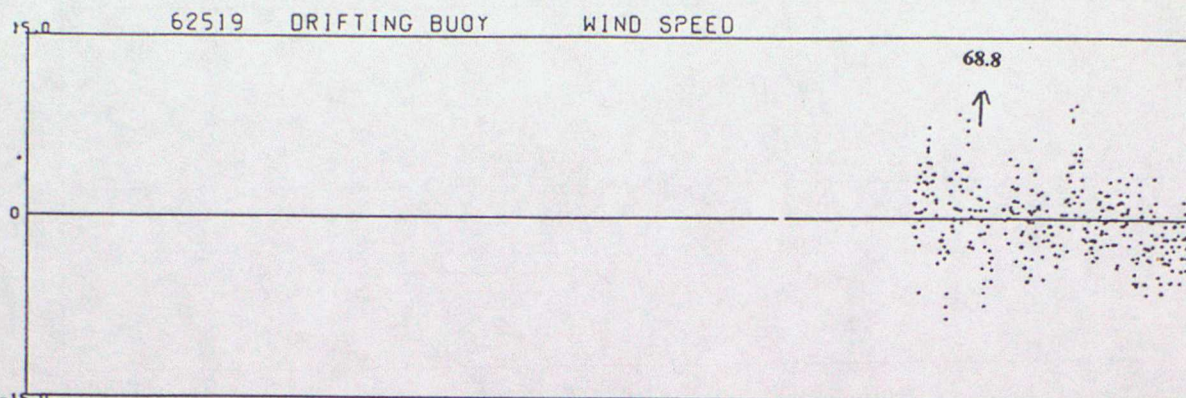
ANNEX E - TIME SERIES PLOTS OF WIND SPEED

DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)

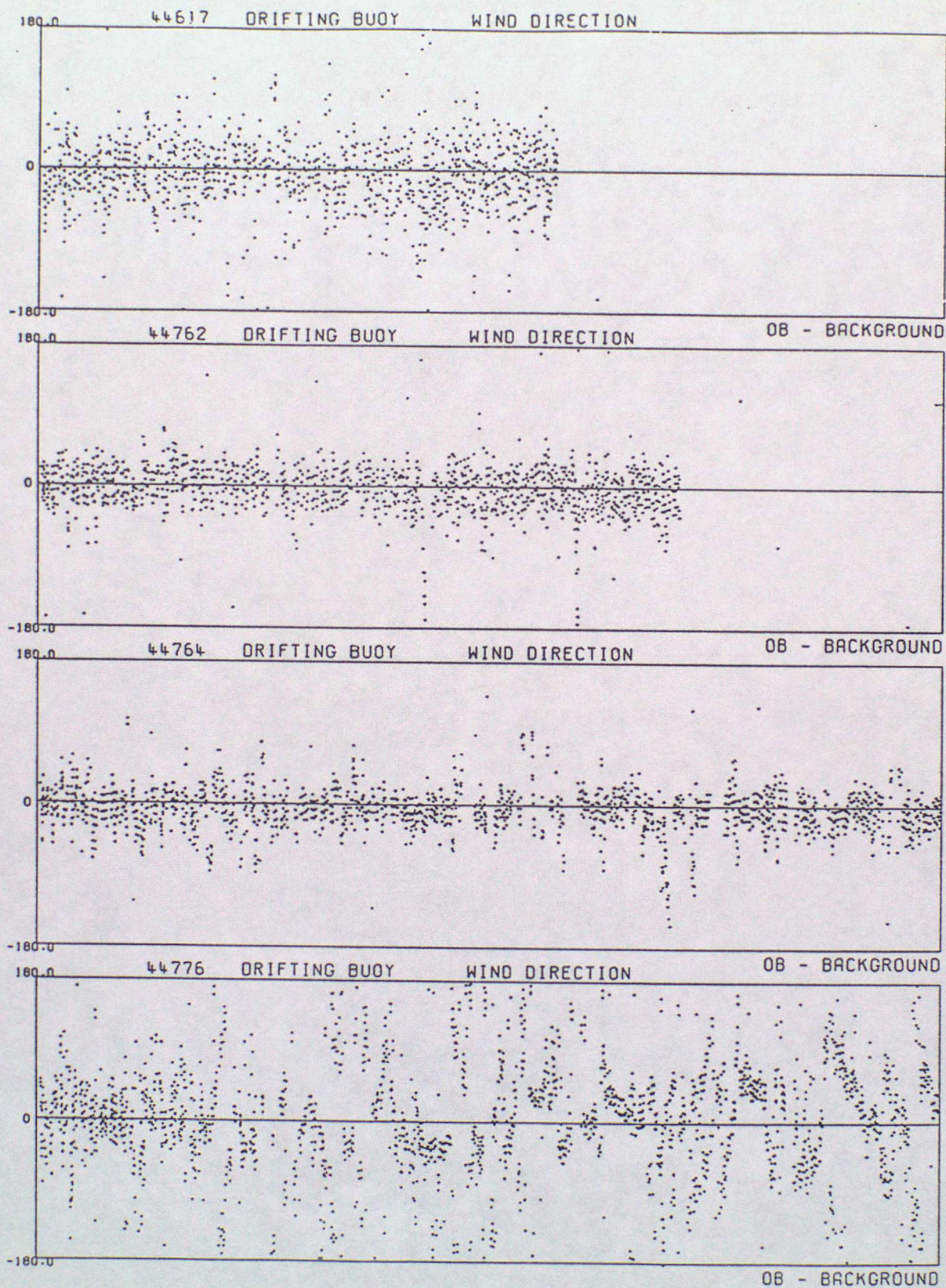




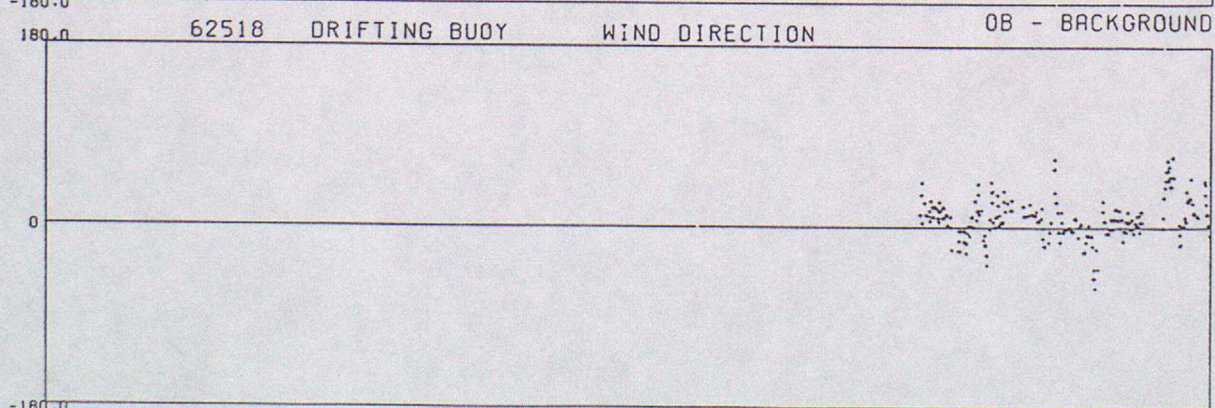
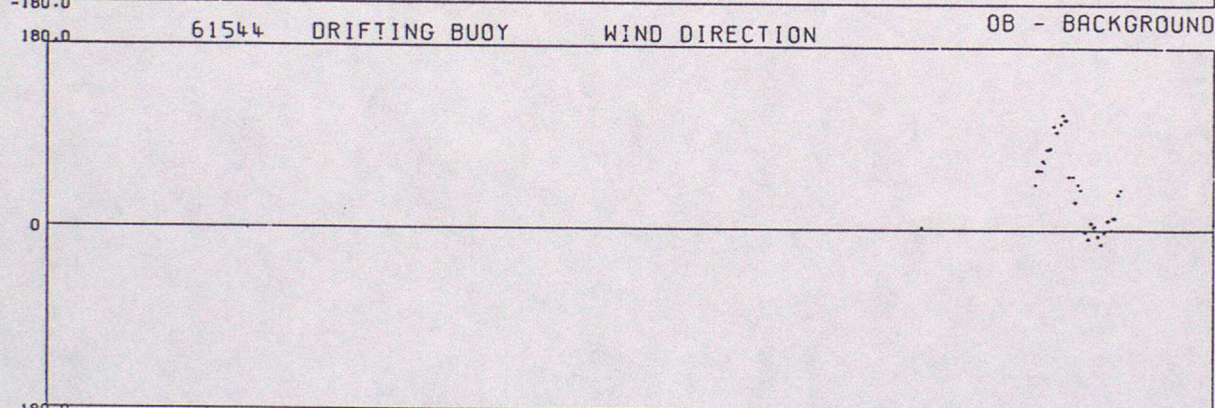
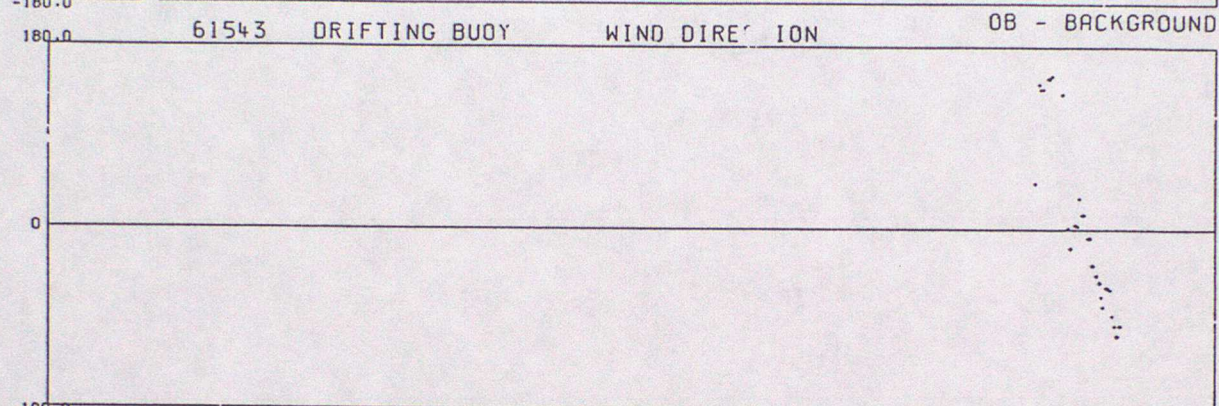
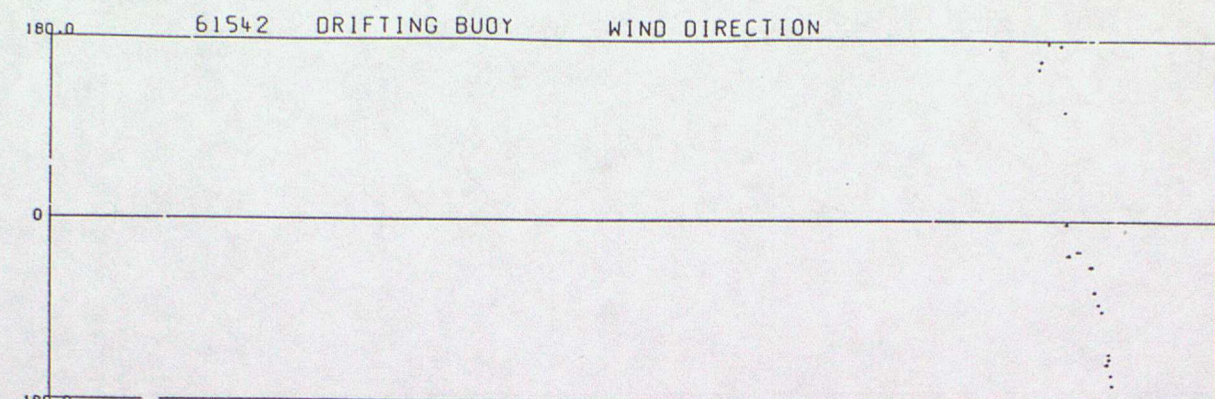
290 GROSS ERRORS

ANNEX F - TIME SERIES PLOTS OF WIND DIRECTION

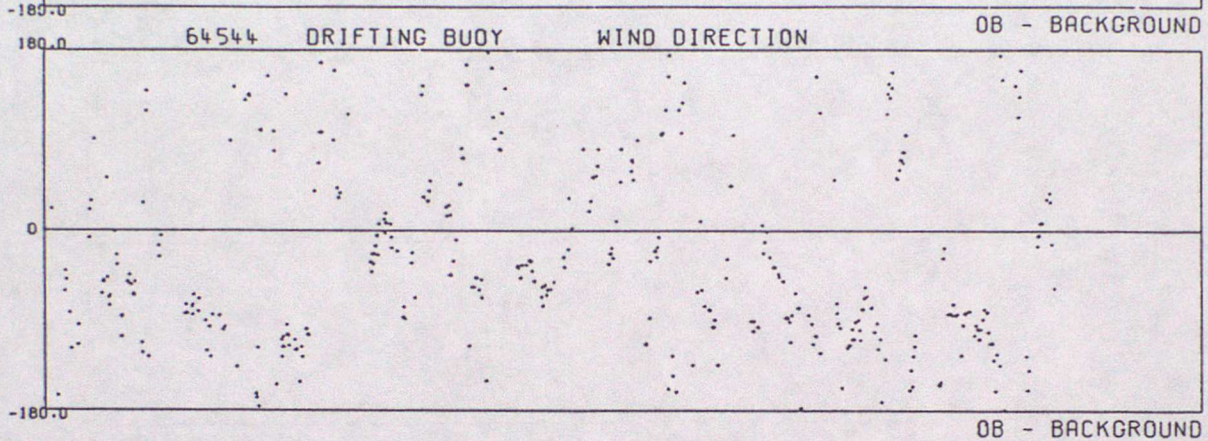
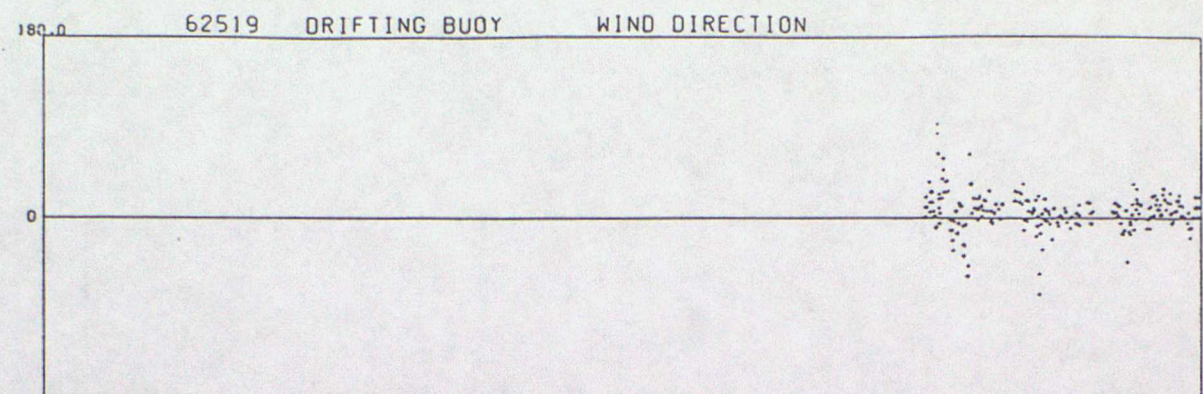
DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1995 TO 23Z ON 31/03/1995 (OBS - BACKGROUND FIELD)



OB - BACKGROUND



ANNEX G - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

| WMO No. | Argos No. | Owner | Elements Reported | | | | | | Reporting Period |
|---------|-----------|-------|-------------------|----|----|----|----|-----|------------------|
| | | | PP | Pt | TT | FF | DD | SST | |
| 44614 | 6294 | UK | * | * | * | | | * | 01/01 - 31/03 |
| 44616 | 3318 | UK | * | * | * | | | * | 10/03 - 31/03 |
| 44617 | 6299 | UK | * | * | * | * | * | * | 01/01 - 25/02 |
| 44624 | 6292 | UK | * | * | * | | | * | 01/01 - 31/03 |
| 44726 | 6296 | UK | * | * | * | | | * | 13/01 - 31/03 |
| 44728 | 3024 | UK | * | * | * | | | * | 10/03 - 31/03 |
| 44762 | 6307 | UK | * | * | * | * | * | * | 01/01 - 28/03 |
| 44764 | 6306 | UK | * | * | * | * | * | * | 01/01 - 31/03 |
| 44766 | 4274 | NL | * | * | * | | | * | 01/01 - 31/03 |
| 44767 | 6297 | UK | * | * | * | | | * | 01/01 - 16/02 |
| 44768 | 6295 | UK | * | * | * | | | * | 01/01 - 10/01 |
| 44769 | 6291 | UK | * | * | * | | | * | 01/01 - 20/01 |
| 44771 | 6290 | UK | * | * | | | | * | 01/01 - 23/03 |
| 44775 | 6293 | UK | * | * | * | | | * | 01/01 - 27/03 |
| 44776 | 6305 | UK | * | * | * | * | * | * | 01/01 - 31/03 |
| 44780 | 1250 | UK | * | * | * | | | * | 01/01 - 31/03 |
| 61542 | 15380 | US | * | | * | * | * | * | 18/03 - 31/03 |
| 61543 | 15386 | US | * | | * | * | * | * | 18/03 - 31/03 |
| 61544 | 16344 | US | * | | * | * | * | * | 18/03 - 31/03 |
| 62507 | 14420 | F | * | * | | | | * | 01/01 - 02/01 |
| 62509 | 10106 | F | * | * | | | | * | 01/01 - 20/01 |
| 62510 | 14417 | F | * | * | | | | * | 01/01 - 22/02 |
| 62511 | 14423 | F | * | * | | | | * | 01/01 - 17/02 |
| 62512 | 14424 | F | * | * | | | | * | 01/01 - 31/03 + |
| 62513 | 9435 | F | * | * | | | | * | 01/01 - 27/02 |
| 62515 | 14422 | F | * | * | | | | * | 08/03 - 31/03 |
| 62517 | 10120 | F | * | * | | | | * | 14/03 - 31/03 |
| 62518 | 14419 | F | * | * | | * | * | * | 09/03 - 31/03 |
| 62519 | 14421 | F | * | * | | * | * | * | 09/03 - 31/03 |
| 62524 | 4625 | UK | * | * | * | | | * | 01/01 - 31/03 |

KEY

PP - Pressure Pt - Pressure tendency TT - Air temperature
 FF - Wind speed DD - Wind direction SST - Sea surface temperature

+ - This buoy stopped reporting pressure before the end of the quarter but continued to report other elements.

| WMO No. | Argos No. | Owner | Elements Reported | | | | | | Reporting Period |
|------------|--------------|-------|-------------------|----|----|----|----|-----|------------------|
| | | | PP | Pt | TT | FF | DD | SST | |
| 62805 | 6285 | UK | * | * | * | | | * | 21/03 - 31/03 |
| 64528 | 9306 | NL | * | * | * | | | * | 01/01 - 31/03 |
| 64529 | 3037 | N | * | * | * | | | * | 01/01 - 31/03 |
| 64544 | 14631 | US | * | | * | * | * | * | 01/01 - 31/03 |
| 64546 | 11227 | US | * | | * | | | * | 01/01 - 31/03 |
| 64547 | 11284 | US | * | | * | | | | 01/01 - 14/03 |
| 64560 | 3036 | NL | * | * | * | | | * | 01/01 - 06/02 |
| 65562 | 1298 | N | * | * | * | | | * | 01/03 - 31/03 |
| 65571 | 3676 | N | * | * | * | | | * | 01/01 - 31/03 |
| 65592 | 9309 | NL | * | * | * | | | * | 01/01 - 31/03 |

KEY

PP - Pressure Pt - Pressure tendency
FF - Wind speed DD - Wind direction

TT - Air temperature
SST - Sea surface
temperature

