

DUPLICATE ALSO



THIRTY-FIRST QUARTERLY REPORT
ON DRIFTING BUOYS
IN THE NORTH ATLANTIC

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

JULY TO SEPTEMBER 1994

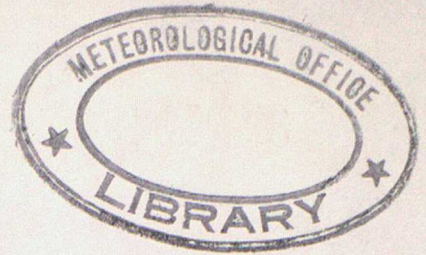
Headquarters, Bracknell

ORGS UKMO Q

National Meteorological Library
FitzRoy Road, Exeter, Devon. EX1 3PB



3 8078 0007 9223 6



Distribution List

Met. Office.

D(O)
BD Met O (OP)
BD Met O (OI)
Mr.D.W.Jones and Mr.A.N.Bentley, (OI)1b
Captain Norwell. (OM)
Mr J.S.Irvine, (OI)1b
Mr.R.McGrath, ECMWF
Mr.S.G.Smith, (OP)3a
Mr.B.Oatway, Operations Manager, CF1
Library (2)
QEv, (OP)3a (2)

International.

Mr.T.Kvinge, Norway
Mr.J.Keeley, Canada
Mr.E.Charpentier, USA
Mr.P.Blouch, France
Dr.T.Mohr, Germany
Mr. Giratys, Switzerland
Mr.V.Wagner, Germany
Mr.L.Burke, Ireland
Mr.G.Venendaal, The Netherlands
Mr.F.Sigurdsson, Iceland
Mr.K.Bjorheim, Norway
Mr.K.Hedeegaard, Denmark

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 and Mrs.L.A.Moffat
Meteorological Office,
Met O (OP) 3a, Room 129,
London Road,
Bracknell,
Berkshire, RG12 2SZ,
United Kingdom.

Tel - 0344 - 854446

2 November 1994

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.

2. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 13 buoys reporting pressure at the beginning of the period and 21 at the end. 11 new buoys were deployed during the period (44617, 44727, 44764, 44775, 44776, 62674, 62675, 62721, 64544, 65571 and 65593). 3 buoys ceased reporting (44778, 62674 and 65593).

South of 50deg N

There were 13 buoys reporting pressure at the beginning of the period and 13 at the end. 6 new buoys were deployed (62508, 62509, 62510, 62511, 62512 and 62513). 6 buoys ceased reporting (62502, 62503, 62504, 62505, 62506 and 62695).

(b) Location Accuracy

The location accuracy was an improvement on last quarter with 40 out of 43 of the buoys reporting having a '% of observations with acceptable positions' greater than 95% (compared to 16 out of 31 last quarter). There were 4 gross errors in location during the quarter, compared with 61 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	14	17
Good	11	4
Satisfactory	3	5
Poor	--	5
Very poor	3	12
Total no. of buoys	31	43

(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	--	--	13	14
Good	1	1	1	3
Satisfactory	8	8	1	7
Poor	5	10	--	--
Very Poor	1	--	1	--

The total number of buoy days in the quarter was 2,613 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 2,149) and the number of 'buoy hours' with at least one observation was 39,518 (compared with 31,378 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 15.12 (last quarter the figure was 14.60).

(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:-

- 44778 - Pressure data were erratic from 1/7 to 7/7 before improving to a satisfactory level.
- 62508 Pressure data showed a bias of -1.2 hPa from the start of data on 23/9 until the end of the period.
- 65593 Pressure data became totally erratic from 24/7. Data were ordered to be deleted from GTS but unfortunately some data continued to be disseminated until it ceased reporting on 9/8.

Biases

11 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
13556	W of SCOS	+0.7	+1.5	01/07 - 30/09
13561	SCOS	+0.6	+0.1	01/07 - 30/09
44617	S of SOBA	+0.6	-0.4	21/09 - 30/09
44767	SOBA	+0.6	+1.0	01/07 - 30/09
62509	N of SCOS	+0.6	-0.3	23/09 - 30/09
62511	SCOS	+0.8	-0.6	23/09 - 30/09
62512	N of SCOS	+0.7	-0.4	23/09 - 30/09
62513	N of SCOS	+0.7	-0.3	23/09 - 30/09
62514	SCOS	-0.9	-0.2	01/07 - 30/09
62674	SOBA	-1.2	+0.7	20/07 - 20/09
62675	E of SOBA	-1.1	+1.2	20/07 - 20/09

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 65593 have not been included in this section. Buoy 44776 transmitted 686 gross pressure errors via the Oslo and Sondre Stromfjord LUTs. These errors are not included in the table below.) The observations have been individually examined to see whether the errors lie with the pressure, location or the background field. Out of 170 occasions the results are as follows -

ERROR	NUMBER LAST QUARTER	NUMBER THIS QUARTER	COLLECTING CENTRE
bg field	0	0	-----
location	0	4	Oslo
location	0	0	Sondre Stromfjord
location	61	0	Paris
pressure	75	105	Oslo
pressure	20	52	Sondre Stromfjord
pressure	69	6	Paris
pressure	0	2	US Air Force
pressure	0	1	Not in List
Total no. of buoy hours	31,378	39,518	

During the quarter 166 gross pressure errors (and 686 from buoy 44766) were transmitted as compared to 164 last quarter. The number of gross location errors from the Local User Terminals showed a marked decrease (4 compared to 61 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
13556	---	---	---	---	---	---
13561	---	---	---	---	---	---
44617	0.3(0.6)	1.4(3.7)	209	-0.2(-0.4)	0.4(8.4)	228
44727	0.1(1.7)	1.1(4.6)	211	-0.2(0.4)	0.2(11.4)	232
44743	---	---	---	---	---	---
44761	0.9(2.0)	1.3(1.7)	1009	-5.1(-0.2)	4.8(1.5)	162
44764	0.3(1.5)	1.7(4.3)	2619	-0.6(0.0)	0.5(8.8)	2085
44766	0.4(4.5)	4.0(4.8)	3705	-0.4(1.9)	2.1(9.7)	1785
44767	0.8(2.1)	1.5(1.7)	4459	-0.3(-0.4)	0.7(1.5)	3180
44768	---	---	---	0.0(0.5)	0.5(1.3)	2730
44769	0.8(1.1)	1.2(3.0)	3000	0.2(0.2)	0.5(2.7)	3045
44770	0.5(1.3)	3.4(3.9)	3918	-0.1(-0.1)	0.4(7.8)	1891
44771	-1.8(0.6)	7.9(1.4)	7	-0.3(0.3)	0.7(1.7)	2657
44774	0.8(2.0)	1.5(6.9)	3647	-0.3(1.1)	0.6(6.9)	2657
44775	0.1(0.5)	1.5(3.5)	2109	-0.3(-0.4)	0.8(8.1)	1731
44776	0.7(1.4)	1.9(3.4)	2370	-0.3(0.3)	0.3(9.0)	1861
44778	-9.0(0.9)	4.5(1.6)	6	0.2(0.1)	1.5(0.9)	934
62501	---	---	---	-0.1(-0.4)	0.5(6.7)	1485
62502	---	---	---	0.5(-0.5)	0.8(6.3)	1440

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
62503	---	---	---	-0.2(-0.4)	0.6(6.0)	239
62504	---	---	---	0.8(-0.4)	1.9(6.0)	214
62505	---	---	---	-0.9(-0.3)	0.4(6.7)	45
62506	---	---	---	0.1(-0.5)	0.6(6.0)	850
62507	---	---	---	0.1(-0.1)	0.3(5.8)	1363
62508	---	---	---	0.0(0.2)	0.3(3.7)	64
62509	0.1(1.0)	0.6(3.5)	60	-0.2(0.2)	0.1(3.8)	74
62510	---	---	---	-0.5(0.1)	0.7(3.8)	92
62511	---	---	---	0.6(-0.1)	0.1(4.8)	44
62512	---	---	---	0.8(0.1)	3.5(3.9)	32
62513	---	---	---	0.2(0.2)	0.1(3.8)	30
62514	---	---	---	---	---	---
62524	1.1(0.9)	1.8(1.7)	2176	0.2(0.1)	0.6(2.1)	1746
62674	0.4(1.8)	1.2(1.6)	863	-0.1(-0.3)	0.3(1.3)	907
62675	0.5(1.5)	1.4(1.7)	1061	0.0(0.4)	0.3(4.9)	1135
62695	0.5(1.0)	0.9(1.7)	869	-0.1(0.1)	0.8(2.1)	968
62696	1.2(0.7)	2.5(3.1)	2526	0.0(-0.1)	0.6(1.2)	2701
62721	0.4(0.5)	1.4(1.8)	992	0.0(0.2)	0.3(1.2)	1095
64043	0.5(0.6)	1.5(1.4)	2844	0.2(-0.1)	0.3(1.2)	1798

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
64528	0.7(2.0)	1.9(1.4)	3476	0.1(0.7)	0.6(7.0)	2009
64544	0.6(1.9)	1.3(1.3)	1123	-0.2(0.4)	0.5(0.8)	1151
65571	-0.7(1.7)	4.1(4.2)	516	-1.1(0.3)	2.1(10.3)	238
65592	1.1(1.6)	1.8(4.1)	3576	0.1(0.4)	1.0(9.3)	1814
65593	1.7(1.5)	3.4(3.8)	469	0.6(0.3)	0.7(8.0)	217

Only buoy 44778 (-9.0) showed a significant air temperature bias. However, it should be noted that only 6 reports were received from this buoy.

Buoys 44761 (-5.1) and 65571 (-1.1) both showed significant sea surface temperature biases.

(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. Buoy 62695 produced wind direction data but not wind speed data. This has resulted in the data not being stored in the Office's Observation Processing Databank and thus it is not available for analysis.)

WMO No.	Period	Wind Speed (kn)		Wind Direction (deg)		No. of Obs
		Mean	St. Dev.	Mean	St. Dev.	
13556	01/07-30/09	-3.8(2.7)	2.3(5.0)	10.8(1.1)	14.8(20.1)	1106(77)
13561	01/07-30/09	-2.1(4.5)	2.1(17.2)	5.2(-12.1)	12.6(47.0)	511(24)
44617	21/09-30/09	-0.4(-7.9)	3.0(30.5)	-13.0(0.5)	31.2(11.0)	161(189)
44727	21/09-30/09	-2.0(0.3)	3.2(22.0)	3.2(-1.5)	18.1(34.0)	182(86)
44764	25/07-30/09	0.3(0.1)	4.1(21.9)	11.0(-1.3)	28.9(34.3)	1861(86)
44776	28/07-30/09	-0.6(-0.1)	4.0(5.1)	10.9(1.4)	44.9(35.9)	1630(77)
62502	01/07-27/09	1.8(-1.5)	4.5(32.9)	-6.7(3.8)	33.9(5.4)	1028(562)
62505	01/07-03/07	-1.8(3.4)	3.7(6.2)	-3.7(-1.8)	8.5(30.8)	22(524)
62506	01/07-19/08	2.2(3.6)	3.6(6.2)	-0.7(-2.4)	23.1(31.8)	568(621)
62508	23/09-30/09	14.3(2.8)	4.1(6.5)	-4.5(-1.0)	9.5(30.7)	41(363)
62509	23/09-30/09	13.0(2.7)	5.0(6.6)	9.3(-0.3)	13.6(31.5)	50(284)
64043	01/07-30/09	-0.8(2.1)	4.2(4.7)	2.4(-6.5)	35.9(-32.2)	2078(79)
64544	20/07-30/09	-8.1(2.3)	5.2(3.9)	-75.7(18.4)	105.1(17.8)	841(6)

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

Buoys 13556 (-3.8), 62508 (14.3), 62509 (13.0) and 64544 (-8.1) all showed significant wind speed biases.

Buoy 64544 also showed a significant wind direction bias of -75.7 degrees as well as a large standard deviation of 105.1 degrees.

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,

$$v = \text{maximum drift speed} = 1/4 \text{ knot}$$
$$t = \text{time between observations.}$$

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.

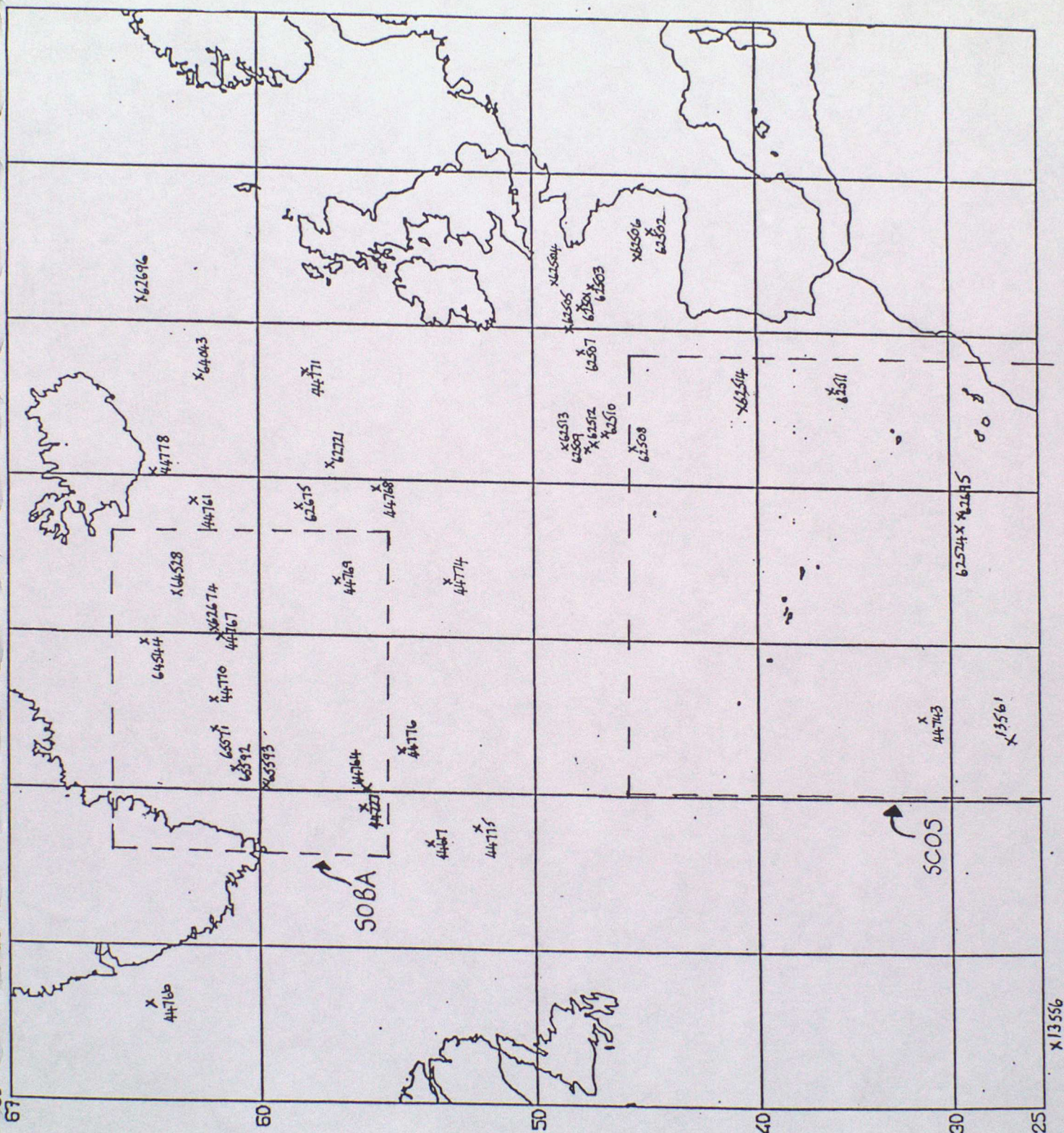
Performance	Availability (mean no. of obs/day)	Timeliness (median delay in mins)
Very Good	> 35	< 60
Good	25 - 35	60 - 119
Satisfactory	15 - 24	120 - 179
Poor	5 - 14	180 - 239
Very Poor	< 5	> 240

(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

6. MEAN POSITION
OF BUOYS DURING
PERIOD JULY TO
SEPTEMBER 1994



ANNEX A - TABLE OF STATISTICS

Wmo No./ Country ₁	13556/F	13561/F	44617/?
Argos Id.No.	15526	15531	??
Period within area	01/07-30/09	01/07-30/09	21/09-30/09
Area	W of SCOS	SCOS	S of SOBA
Mean Latitude	24.2	26.4	53.6
Mean Longitude	-55.6	-36.0	-43.2
No. of obs received ₂	1581	1568	227
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	100.0	98.7
% of Present ₅			
Pressure	34.2	30.1	99.6
P. Tendency	0.0	0.0	99.1
Air Temperature	0.0	0.0	99.6
Wind Speed/Dir.	99.3/99.4	99.1/43.6	90.7/89.9
Sea-surface temp.	0.0	0.0	99.6
Median delay (min) ₆	117.0	377.0	362.0
Number of days	92.0	92.0	10.0
Mean no. of obs/day	17.2	17.0	22.7
No. of hours with obs	1578.0	1565.0	140.0
Mean no. of hours/day with obs	17.2	17.0	14.0
% of hour periods without an ob-	28.3	29.2	41.7
Mean (Ob-Bg)	0.7	0.6	0.6
RMS (Ob-Bg)	1.4	1.2	1.1
unflagged data₈			
Mean (Ob-Bg)	0.7	0.6	0.6
RMS (Ob-Bg)	1.4	1.2	1.1
all data₈			
Revised RMS (Ob-Bg) ₈	1.4	1.2	1.1
% of data flagged ₈	1.0	0.0	47.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Satisfactory	Satisfactory	Satisfactory
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Good	Very Poor	Very Poor
Comments			

Wmo No./ Country ₁	44727/??	44743/UK	44761/UK
Argos Id.No.	??	1370	9308
Period within area	21/09-30/09	01/07-30/09	01/07-30/09
Area	SOBA	SCOS	E of SOBA
Mean Latitude	56.2	31.3	61.7
Mean Longitude	-40.9	-44.7	-21.3
No. of obs received ₂	231	1094	4338
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	98.7	97.3	99.7
% of Present ₅			
Pressure	99.6	99.9	98.4
P. Tendency	97.8	0.0	96.0
Air Temperature	99.6	0.0	25.0
Wind Speed/Dir.	90.5/90.5	0.0/0.0	0.0/0.0
Sea-surface temp.	99.6	0.0	3.9
Median delay (min) ₆	143.0	16.0	262.0
Number of days	10.0	92.0	92.0
Mean no. of obs/day	23.1	11.9	47.2
No. of hours with obs	145.0	793.0	1699.0
Mean no. of hours/day with obs	14.5	8.6	18.5
% of hour periods without an ob ₇	39.6	64.2	22.9
Mean (Ob-Bg)	0.2	0.1	0.3
RMS (Ob-Bg)	1.0	0.7	1.3
unflagged data₈			
Mean (Ob-bg)	0.2	-2.8	0.3
RMS (Ob-Bg)	1.0	23.9	2.2
all data₈			
Revised RMS (Ob-Bg) ₈	1.0	0.7	1.4
% of data flagged ₈	47.0	38.0	69.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Satisfactory	Poor	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Satisfactory	Very Good	Very Poor
Comments			

Wmo No./ Country ₁	44764/UK	44766/N	44767/UK
Argos Id.No.	6306	4274	6297
Period within area	25/07-30/09	01/07-30/09	01/07-30/09
Area	SOBA	NW of SOBA	SOBA
Mean Latitude	56.1	63.0	61.0
Mean Longitude	-39.2	-53.6	-30.1
No. of obs received ₂	2777	3967	4662
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	99.8	97.2	99.7
% of Present ₅			
Pressure	99.5	97.3	99.6
P. Tendency	96.9	91.7	97.7
Air Temperature	99.6	97.0	99.5
Wind Speed/Dir.	76.5/76.4	0.0/0.0	0.0/0.0
Sea-surface temp.	80.7	49.2	71.9
Median delay (min) ₆	27.0	205.0	41.0
Number of days	68.0	92.0	92.0
Mean no. of obs/day	40.8	43.1	50.7
No. of hours with obs	1185.0	1688.0	1756.0
Mean no. of hours/day with obs	17.4	18.3	19.1
% of hour periods without an ob ₇	27.5	23.8	20.4
Mean (Ob-Bg)	0.1	-0.2	0.6
RMS (Ob-Bg)	1.2	4.0	1.4
unflagged data₈			
Mean (Ob-bg)	0.1	22.6	0.5
RMS (Ob-Bg)	1.2	52.9	1.8
all data₈			
Revised RMS (Ob-Bg) ₈	1.2	1.9	1.6
% of data flagged ₈	65.0	71.0	69.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Poor	Very Good
Comments			

Wmo No./ Country ₁	44768/UK	44769/UK	44770/N
Argos Id.No.	6295	6291	3039
Period within area	01/07-30/09	01/07-30/09	01/07-30/09
Area	SE of SOBA	SOBA	SOBA
Mean Latitude	55.2	57.1	61.1
Mean Longitude	-20.4	-26.6	-34.1
No. of obs received ₂	4056	4424	4205
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	99.7	99.9	99.6
% of Present ₅			
Pressure	99.5	99.5	97.1
P. Tendency	96.9	97.4	92.2
Air Temperature	0.0	71.2	96.8
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface temp.	69.1	71.9	48.4
Median delay (min) ₆	88.0	111.0	195.0
Number of days	92.0	92.0	92.0
Mean no. of obs/day	44.1	48.1	45.7
No. of hours with obs	1615.0	1725.0	1678.0
Mean no. of hours/day with obs	17.6	18.8	18.2
% of hour periods without an ob ₇	26.7	21.7	24.2
Mean (Ob-Bg)	0.3	0.3	0.0
RMS (Ob-Bg)	1.1	1.4	1.2
unflagged data₈			
Mean (Ob-bg)	0.2	0.3	-0.1
RMS (Ob-Bg)	2.7	2.3	2.1
all data₉			
Revised RMS (Ob-Bg) ₈	1.3	1.5	1.5
% of data flagged ₈	67.0	69.0	68.0
Operating at end of period	YES	YES	YES
Performance ₁₀			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Poor
Comments			

Wmo No./ Country ₁	44771/UK	44774/UK	44775/UK
Argos Id.No.	6290	6289	6293
Period within area	01/07-30/09	01/07-30/09	28/07-30/09
Area	E of SOBA	S of SOBA	S of SOBA
Mean Latitude	58.3	52.9	52.0
Mean Longitude	-13.0	-26.3	-42.1
No. of obs received ₂	4190	3828	2236
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	91.4	99.8	99.7
% of Present ₅			
Pressure	99.4	99.3	99.4
P. Tendency	97.5	96.7	96.2
Air Temperature	0.2	99.4	99.6
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface temp.	65.1	72.1	82.7
Median delay (min) ₆	26.0	301.0	19.0
Number of days	92.0	92.0	65.0
Mean no. of obs/day	45.5	41.6	34.4
No. of hours with obs	1714.0	1526.0	1006.0
Mean no. of hours/day with obs	18.6	16.6	15.5
% of hour periods without an ob ₇	22.5	30.8	35.4
Mean (Ob-Bg)	0.4	0.3	0.1
RMS (Ob-Bg)	1.3	1.3	1.3
unflagged data₈			
Mean (Ob-bg)	0.4	0.1	-0.1
RMS (Ob-Bg)	2.7	3.4	3.9
all data₈			
Revised RMS (Ob-Bg) ₈	1.6	1.3	1.4
% of data flagged ₈	70.0	66.0	62.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Poor	Very Good
Comments			

Wmo No./ Country ₁	44776/UK	44778/UK	62501/F
Argos Id.No.	6305	1259	10116
Period within area	28/07-30/09	01/07-10/08	01/07-30/09
Area	S of SOBA	NE of SOBA	NE of SCOS
Mean Latitude	54.7	62.9	47.6
Mean Longitude	-37.3	-19.7	-8.6
No. of obs received ₂	2520	1371	1447
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	99.8	100.0
% of Present ₅			
Pressure	99.6	99.2	98.3
P. Tendency	96.7	40.1	90.5
Air Temperature	99.3	0.3	0.0
Wind Speed/Dir.	74.8/74.7	0.0/0.0	0.0/0.0
Sea-surface temp.	79.1	68.3	98.2
Median delay (min) ₆	44.0	12.0	57.0
Number of days	65.0	41.0	92.0
Mean no. of obs/day	38.8	33.4	15.7
No. of hours with obs	1047.0	530.0	1071.0
Mean no. of hours/day with obs	16.1	12.9	11.6
% of hour periods without an ob ₇	32.9	46.3	51.6
Mean (Ob-Bg)	0.3	0.1	-0.4
RMS (Ob-Bg)	1.3	1.3	1.2
unflagged data₈			
Mean (Ob-bg)	0.1	-1.5	-0.4
RMS (Ob-Bg)	2.6	4.8	1.2
all data₈			
Revised RMS (Ob-Bg) ₈	1.4	3.6	1.2
% of data flagged ₈	66.0	72.0	35.0
Operating at end of period	YES	NO	YES
Performance ₉			
Availability	Very Good	Good	Satisfactory
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Wmo No./ Country ₁	62502/F	62503/F	62504/F
Argos Id.No.	15503	10110	10111
Period within area	01/07-27/09	01/07-22/07	01/07-17/07
Area	NE of SCOS	NE of SCOS	NE of SCOS
Mean Latitude	44.5	47.3	49.0
Mean Longitude	-3.5	-7.3	-6.9
No. of obs received ₂	1506	234	207
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	95.7	96.1
% of Present ₅			
Pressure	32.3	94.4	96.6
P. Tendency	0.0	86.3	91.3
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir.	96.0/96.9	0.0/0.0	0.0/0.0
Sea-surface temp.	94.3	94.4	95.2
Median delay (min) ₆	263.0	56.0	175.0
Number of days	89.0	22.0	18.0
Mean no. of obs/day	16.9	10.6	11.5
No. of hours with obs	1479.0	200.0	173.0
Mean no. of hours/day with obs	16.6	9.1	9.6
% of hour periods without an ob ₇	30.8	62.1	60.0
Mean (Ob-Bg)	0.0	0.4	-0.1
RMS (Ob-Bg)	1.3	1.1	1.2
unflagged data₈			
Mean (Ob-bg)	0.0	0.5	0.0
RMS (Ob-Bg)	1.3	1.2	1.2
all data₈			
Revised RMS (Ob-Bg) ₈	1.3	1.2	1.2
% of data flagged ₈	2.0	18.0	21.0
Operating at end of period	NO	NO	NO
Performance ₉			
Availability	Satisfactory	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Poor	Very Good	Satisfactory
Comments			

Wmo No. / Country ₁	62505/F	62506/F	62507/F
Argos Id.No.	10117	10118	14420
Period within area	01/07-03/07	01/07-19/08	01/07-30/09
Area	NE of SCOS	NE of SCOS	N of SCOS
Mean Latitude	48.4	45.2	47.9
Mean Longitude	-9.8	-5.4	-11.5
No. of obs received ₂	45	827	1345
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	100.0	100.0
% of Present ₅			
Pressure	100.0	99.0	97.7
P. Tendency	91.1	91.7	92.5
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir.	97.8/97.8	85.9/86.1	0.0/0.0
Sea-surface temp.	100.0	98.7	98.3
Median delay (min) ₆	27.0	285.0	261.0
Number of days	3.0	50.0	92.0
Mean no. of obs/day	15.0	16.5	14.6
No. of hours with obs	33.0	614.0	976.0
Mean no. of hours/day with obs	11.0	12.3	10.6
% of hour periods without an ob ₇	54.2	48.8	55.8
Mean (Ob-Bg)	0.4	0.0	0.4
RMS (Ob-Bg)	1.0	1.1	1.1
unflagged data₈			
Mean (Ob-bg)	0.4	0.0	0.4
RMS (Ob-Bg)	1.0	1.1	1.1
all data₈			
Revised RMS (Ob-Bg) ₈	1.0	1.1	1.1
% of data flagged ₈	40.0	35.0	37.0
Operating at end of period	NO	NO	YES
Performance ₉			
Availability	Satisfactory	Satisfactory	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Poor	Very Poor
Comments			

Wmo No./ Country ₁	62508/F	62509/F	62510/F
Argos Id.No.	??	??	??
Period within area	23/09-30/09	23/09-30/09	23/09-30/09
Area	SCOS	N of SCOS	N of SCOS
Mean Latitude	45.3	47.4	46.9
Mean Longitude	-17.7	-17.8	-16.8
No. of obs received ₂	57	67	85
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	100.0	100.0
% of Present ₅			
Pressure	100.0	98.5	100.0
P. Tendency	87.7	94.0	92.9
Air Temperature	0.0	97.0	0.0
Wind Speed/Dir.	98.2/89.5	97.0/86.6	0.0/0.0
Sea-surface temp.	100.0	100.0	100.0
Median delay (min) ₆	231.0	20.0	151.0
Number of days	8.0	8.0	8.0
Mean no. of obs/day	7.1	8.4	10.6
No. of hours with obs	46.0	56.0	64.0
Mean no. of hours/day with obs	5.8	7.0	8.0
% of hour periods without an ob ₇	75.8	70.8	66.7
Mean (Ob-Bg)	-1.2	0.6	0.4
RMS (Ob-Bg)	1.8	0.9	0.8
unflagged data₈			
Mean (Ob-bg)	-2.0	0.6	0.3
RMS (Ob-Bg)	3.1	0.9	0.8
all data₈			
Revised RMS (Ob-Bg) ₈	3.1	0.9	0.8
% of data flagged ₈	40.0	24.0	35.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Poor	Poor	Poor
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Poor	Very Good	Satisfactory
Comments			

Wmo No. / Country ₁	62511/F	62512/F	62513/?
Argos Id.No.	??	??	??
Period within area	23/09-30/09	23/09-30/09	23/09-30/09
Area	SCOS	N of SCOS	N of SCOS
Mean Latitude	36.1	47.5	48.4
Mean Longitude	-13.6	-17.3	-17.6
No. of obs received ₂	126	77	97
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	33.3	97.4	99.0
% of Present ₅			
Pressure	65.1	88.3	68.0
P. Tendency	29.4	39.0	30.9
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.	36.5	42.9	32.0
Median delay (min) ₆	318.0	302.0	610.0
Number of days	8.0	8.0	8.0
Mean no. of obs/day	15.8	9.6	12.1
No. of hours with obs	116.0	64.0	82.0
Mean no. of hours/day with obs	14.5	8.0	10.3
% of hour periods without an ob ₇	39.6	66.6	57.1
Mean (Ob-Bg)	0.8	0.7	0.7
RMS (Ob-Bg)	1.1	0.9	0.9
unflagged data₈			
Mean (Ob-bg)	0.8	0.7	0.7
RMS (Ob-Bg)	1.1	0.9	0.9
all data₈			
Revised RMS (Ob-Bg) ₈	1.1	0.9	0.9
% of data flagged ₈	35.0	20.0	21.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Satisfactory	Poor	Poor
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Very Poor	Very Poor	Very Poor
Comments			

Wmo No./ Country ₁	62514/F	62524/UK	62674/US
Argos Id.No.	1356	4625	11223
Period within area	01/07-30/09	01/07-30/09	20/07-20/09
Area	SCOS	SCOS	SOBA
Mean Latitude	40.5	29.5	61.0
Mean Longitude	-14.9	-22.4	-29.5
No. of obs received ₂	675	2354	1043
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	90.1	100.0
% of Present ₅			
Pressure	98.2	99.7	91.5
P. Tendency	0.0	66.5	0.0
Air Temperature	0.0	99.1	90.2
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface temp.	0.0	76.6	93.2
Median delay (min) ₆	20.0	109.0	163.0
Number of days	92.0	92.0	63.0
Mean no. of obs/day	7.3	25.6	16.6
No. of hours with obs	610.0	1273.0	814.0
Mean no. of hours/day with obs	6.6	13.5	12.9
% of hour periods without an ob-	72.5	42.5	46.3
Mean (Ob-Bg) RMS	-0.9	0.1	-1.2
(Ob-Bg)	1.3	1.0	1.7
unflagged data₈			
Mean (Ob-bg)	-0.8	-0.2	-1.2
RMS (Ob-Bg)	1.2	3.4	2.1
all data₈			
Revised RMS (Ob-Bg) ₈	1.2	1.4	1.9
% of data flagged ₈	17.0	54.0	33.0
Operating at end of period	YES	YES	NO
Performance ₉			
Availability	Poor	Good	Satisfactory
Pressure Quality	Suspect	Acceptable	Suspect
Timeliness	Very Good	Good	Satisfactory
Comments			

Wmo No./ Country ₁	62675/US	62695/UK	62696/UK
Argos Id.No.	11221	2956	6288
Period within area	20/07-30/09	01/07-22/08	01/07-30/09
Area	E of SOBA	SCOS	E of SOBA
Mean Latitude	58.5	29.3	63.1
Mean Longitude	-21.7	-21.6	-8.5
No. of obs received ₂	1189	980	4296
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	100.0	100.0
% of Present ₅			
Pressure	97.6	99.5	99.4
P. Tendency	0.0	53.2	97.2
Air Temperature	97.1	99.3	64.8
Wind Speed/Dir.	0.0/0.0	0.0/99.3	0.0/0.0
Sea-surface temp.	97.8	99.4	64.8
Median delay (min) ₆	34.0	240.0	30.0
Number of days	73.0	53.0	92.0
Mean no. of obs/day	16.3	18.5	46.7
No. of hours with obs	940.0	714.0	1707.0
Mean no. of hours/day with obs	12.9	13.5	16.6
% of hour periods without an ob ₇	46.3	43.8	22.5
Mean (Ob-Bg) RMS (Ob-Bg)	-1.1 1.5	0.0 0.8	0.2 1.0
unflagged data₈			
Mean (Ob-bg) RMS (Ob-Bg)	-1.2 1.6	0.0 0.9	0.1 2.2
all data₈			
Revised RMS (Ob-Bg) ₈	1.6	0.8	1.1
% of data flagged ₈	33.0	34.0	67.0
Operating at end of period	YES	NO	YES
Performance ₉			
Availability	Satisfactory	Satisfactory	Very Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Poor	Very Good
Comments			

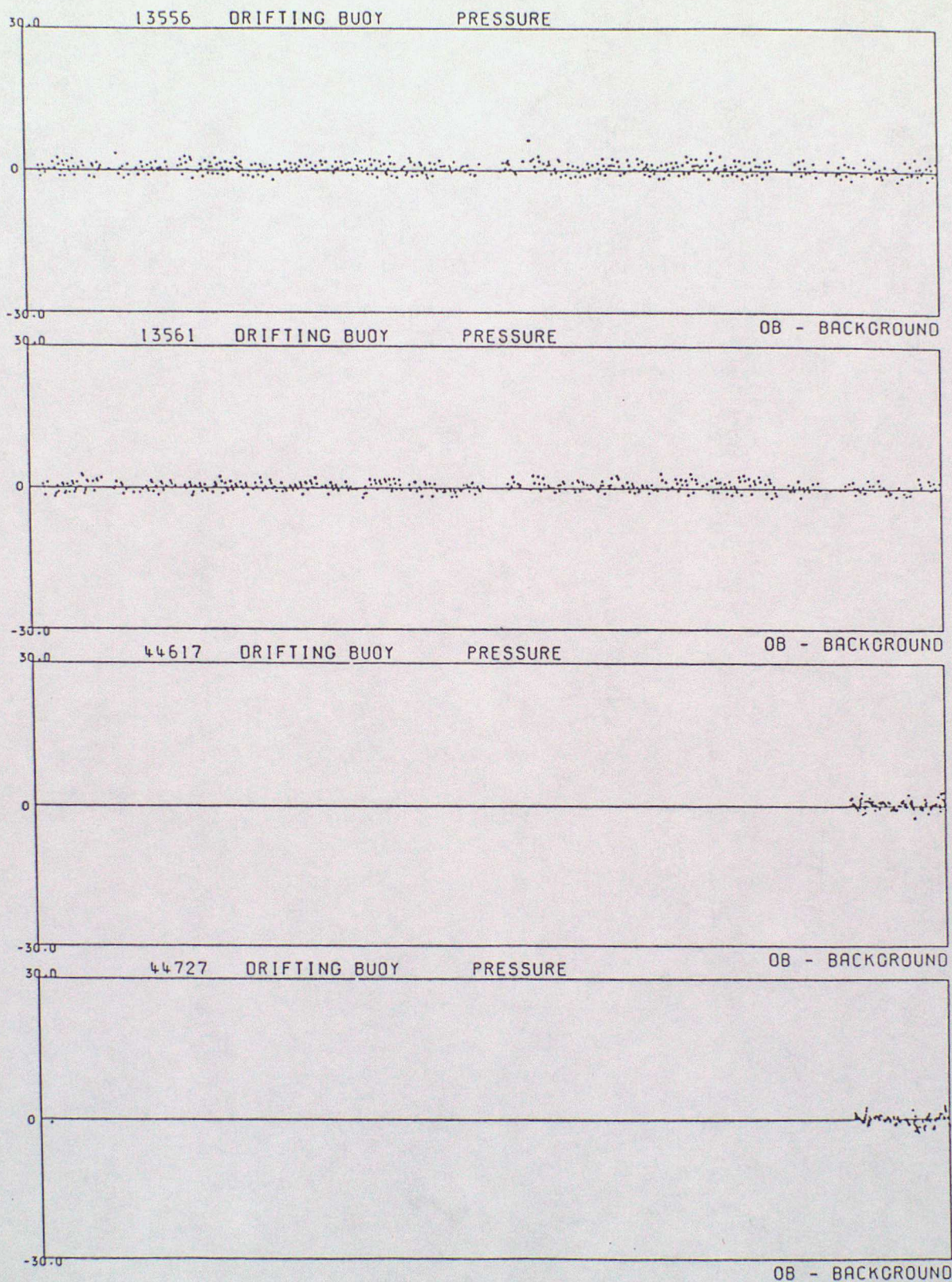
Wmo No./ Country ₁	62721/US	64043/UK	64528/NL
Argos Id.No.	12698	6271	9306
Period within area	20/07-30/09	01/07-30/09	01/07-30/09
Area	E of SOBA	E of SOBA	SOBA
Mean Latitude	57.4	61.6	62.2
Mean Longitude	-19.0	-13.4	-27.3
No. of obs received ₂	1135	3070	3736
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	99.7	100.0	99.9
% of Present ₅			
Pressure	95.4	97.9	97.3
P. Tendency	0.0	94.0	94.6
Air Temperature	95.6	96.8	97.7
Wind Speed/Dir.	0.0/0.0	78.4/77.7	0.0/0.0
Sea-surface temp.	97.3	61.2	57.9
Median delay (min) ₆	4710	141.0	17.0
Number of days	73.0	92.0	92.0
Mean no. of obs/day	15.5	33.4	40.6
No. of hours with obs	899.0	1446.0	1689.0
Mean no. of hours/day with obs	12.3	15.7	18.4
% of hour periods without an ob ₇	48.8	34.6	23.3
Mean (Ob-Bg) RMS (Ob-Bg)	0.3 1.3	-0.1 1.1	0.0 1.3
unflagged data₈			
Mean (Ob-bg) RMS (Ob-Bg)	0.2 1.7	-0.5 5.9	-0.1 4.0
all data₈			
Revised RMS (Ob-Bg) ₈	1.7	1.1	1.4
% of data flagged ₈	34.0	2.0	60.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Satisfactory	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Poor	Satisfactory	Very Good
Comments			

Wmo No./ Country ₁	64544/US	65571/?	65592/NL
Argos Id.No.	14631	??	9309
Period within area	20/07-30/09	16/09-30/09	01/07-30/09
Area	SOBA	SOBA	SOBA
Mean Latitude	63.3	61.0	60.8
Mean Longitude	-30.5	-35.9	-38.4
No. of obs received ₂	1262	536	3845
% of obs with valid Time and Date ₃	100.0	100.0	100.0
% of obs with acceptable Positions ₄	100.0	97.2	99.1
% of Present ₅			
Pressure	96.6	98.7	97.2
P. Tendency	0.0	95.5	93.6
Air Temperature	97.1	98.7	96.6
Wind Speed/Dir.	96.2/95.5	0.0/0.0	0.0/0.0
Sea-surface temp.	96.8	45.9	51.3
Median delay (min) ₆	24.0	189.0	188.0
Number of days	73.0	15.0	92.0
Mean no. of obs/day	17.3	35.7	41.8
No. of hours with obs	995.0	246.0	1545.0
Mean no. of hours/day with obs	13.6	16.4	16.8
% of hour periods without an ob ₇	43.5	31.7	30.0
Mean (Ob-Bg) RMS (Ob-Bg)	0.5 1.3	-0.1 1.3	-0.2 1.4
unflagged data₈			
Mean (Ob-bg)	0.5	-0.4	-0.2
RMS (Ob-Bg)	1.3	1.9	5.2
all data₈			
Revised RMS (Ob-Bg) ₈	1.3	1.9	1.9
% of data flagged ₈	33.0	65.0	68.0
Operating at end of period	YES	YES	YES
Performance ₉			
Availability	Satisfactory	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Poor	Poor
Comments			

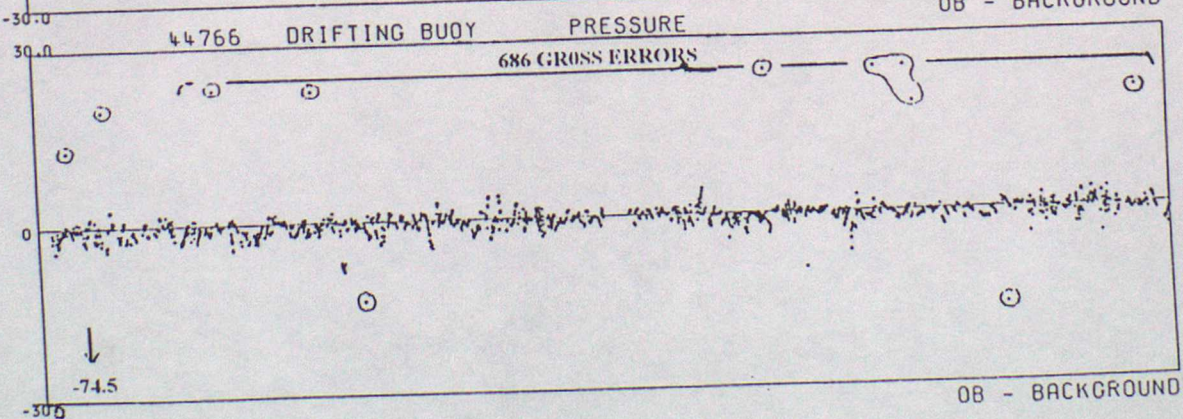
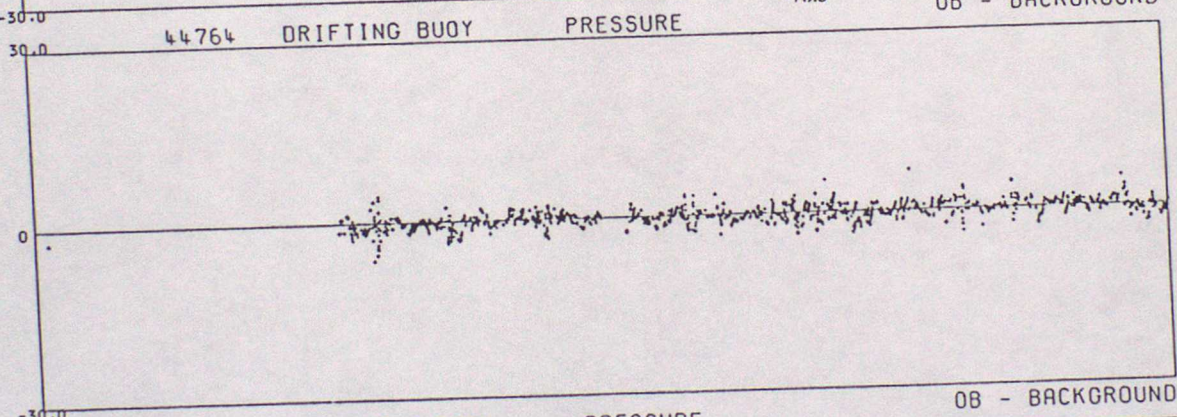
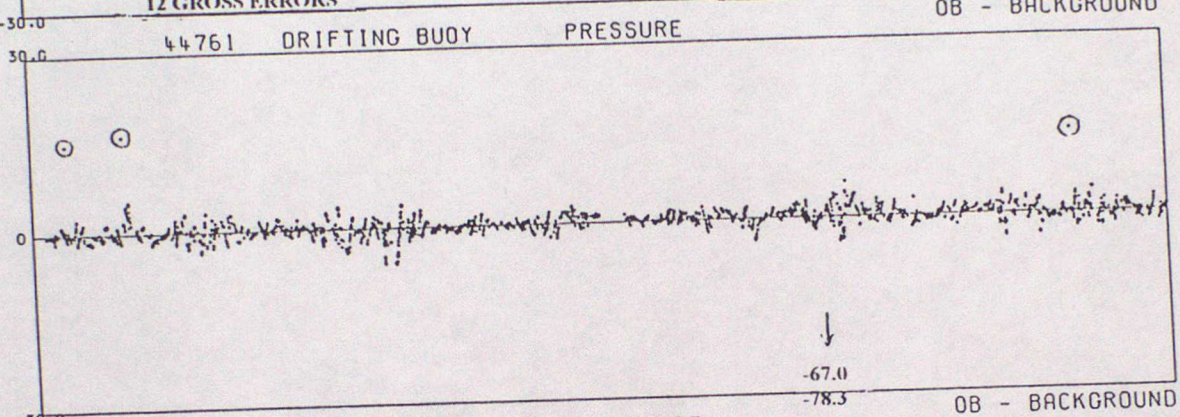
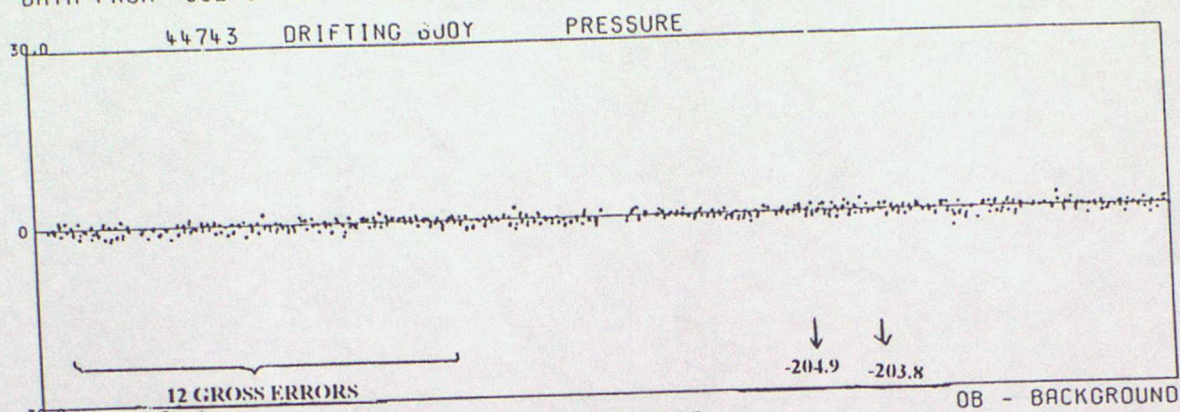
Wmo No./ Country ₁	65593/N
Argos Id.No.	3677
Period within area	15/07-09/08
Area	SOBA
Mean Latitude	59.8
Mean Longitude	-39.7
No. of obs received ₂	481
% of obs with valid Time and Date ₃	100.0
% of obs with acceptable Positions ₄	99.8
% of Present ₅	
Pressure	94.2
P. Tendency	98.7
Air Temperature	99.4
Wind Speed/Dir.	0.0/0.0
Sea-surface temp.	49.3
Median delay (min) ₆	22.0
Number of days	26.0
Mean no. of obs/day	18.5
No. of hours with obs	276.0
Mean no. of hours/day with obs	10.6
% of hour periods without an ob ₇	55.8
Mean (Ob-Bg) RMS	0.4
(Ob-Bg)	1.8
unflagged data₈	
Mean (Ob-bg)	13.5
RMS (Ob-Bg)	20.8
all data₈	
Revised RMS (Ob-Bg) ₈	7.8
% of data flagged ₈	83.0
Operating at end of period	NO
Performance ₉	
Availability	Satisfactory
Pressure Quality	Suspect
Timeliness	Very Good
Comments	

ANNEX B - TIME SERIES PLOTS OF PRESSURE

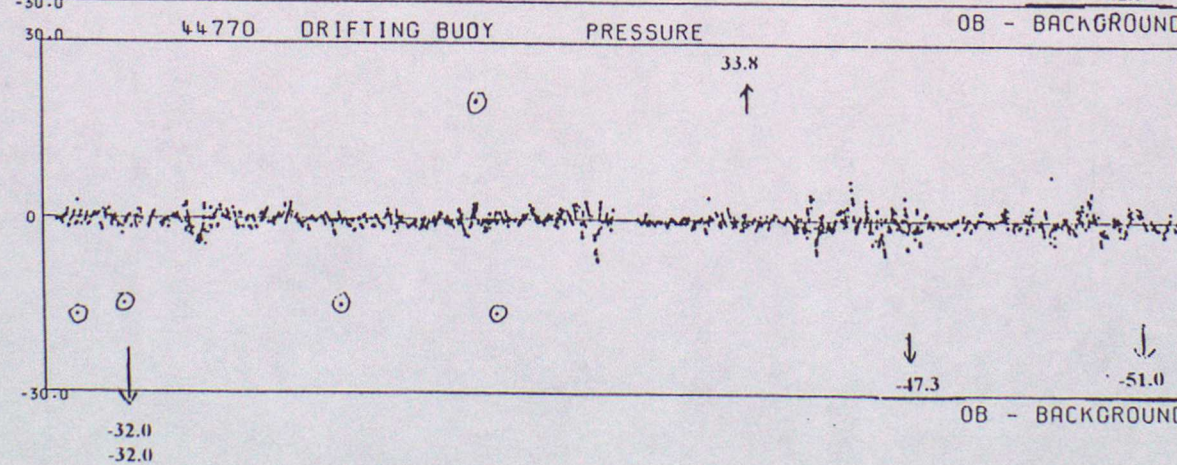
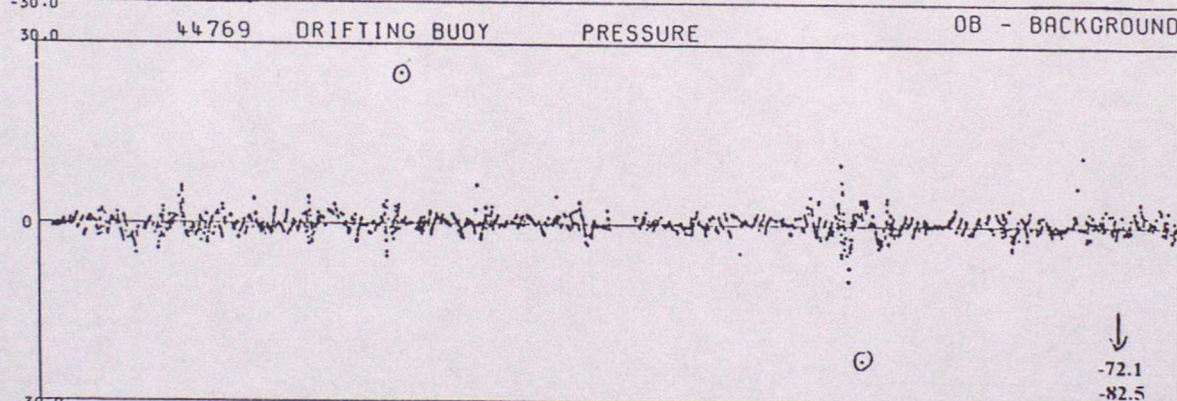
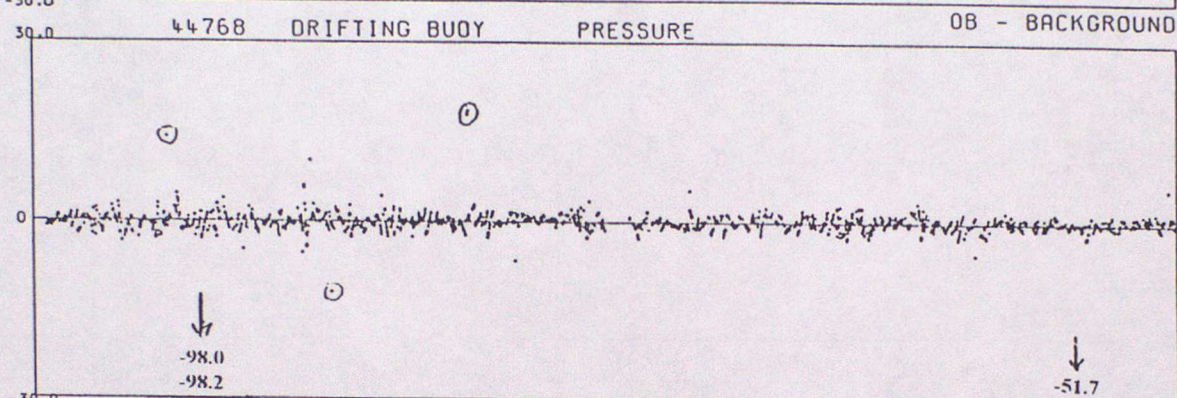
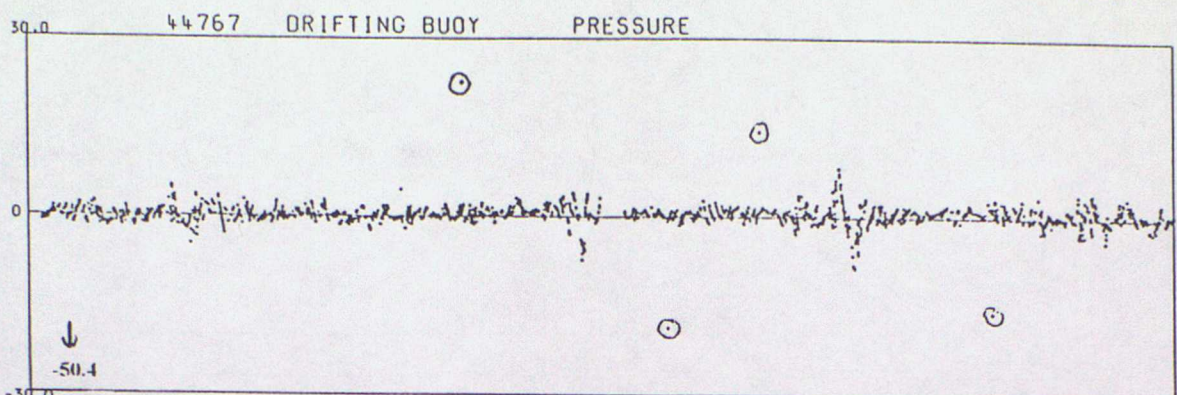
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



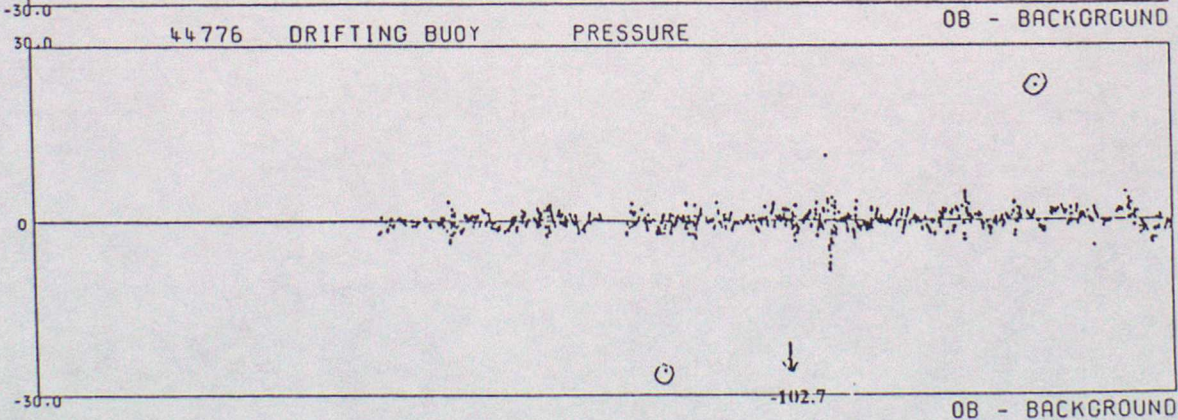
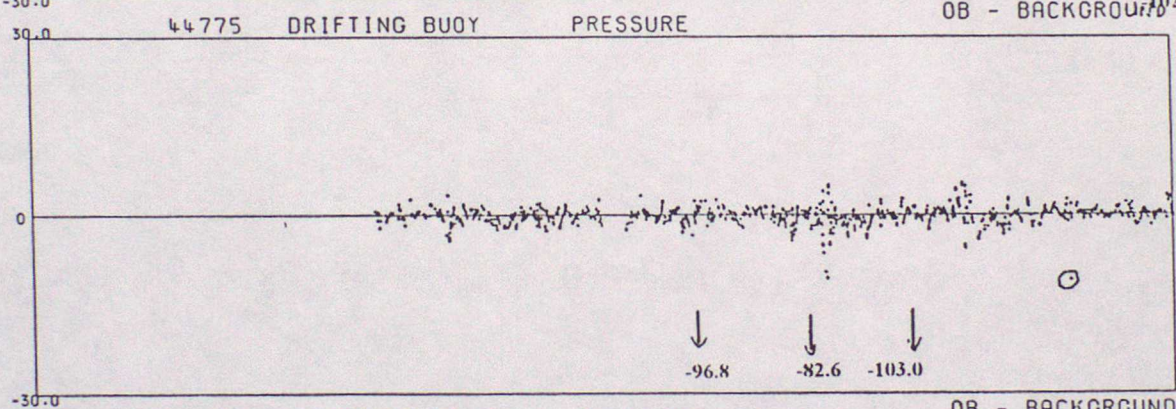
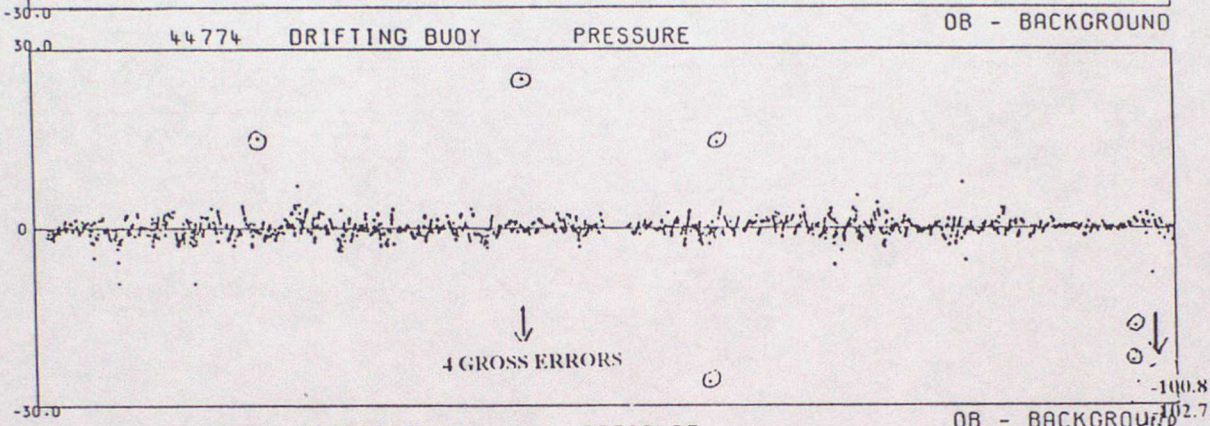
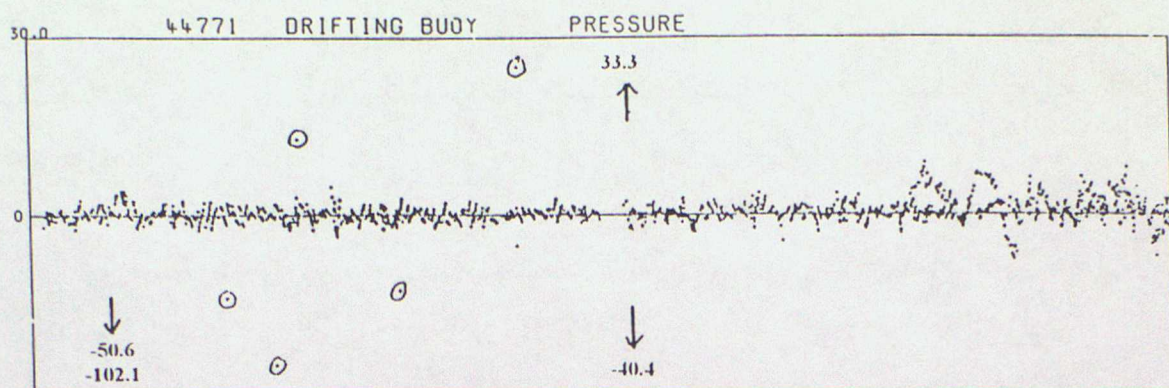
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



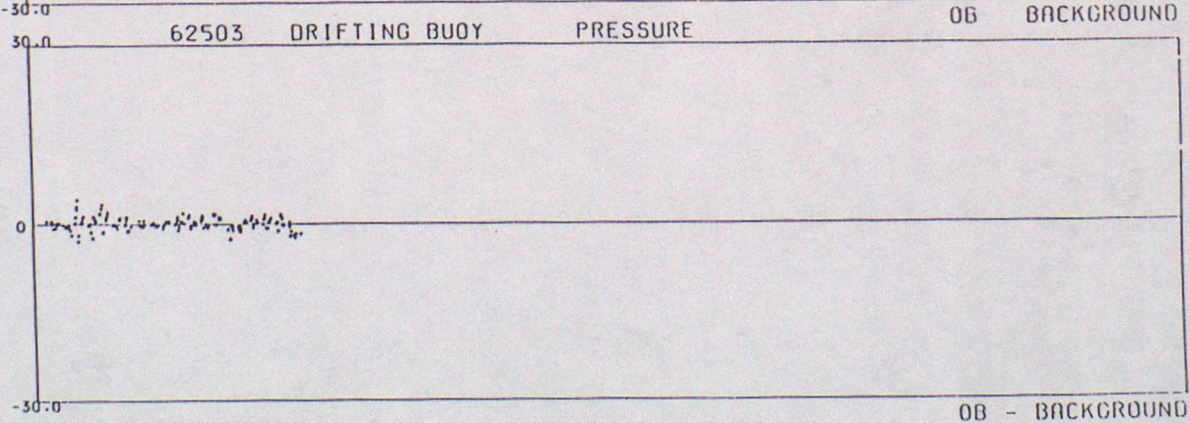
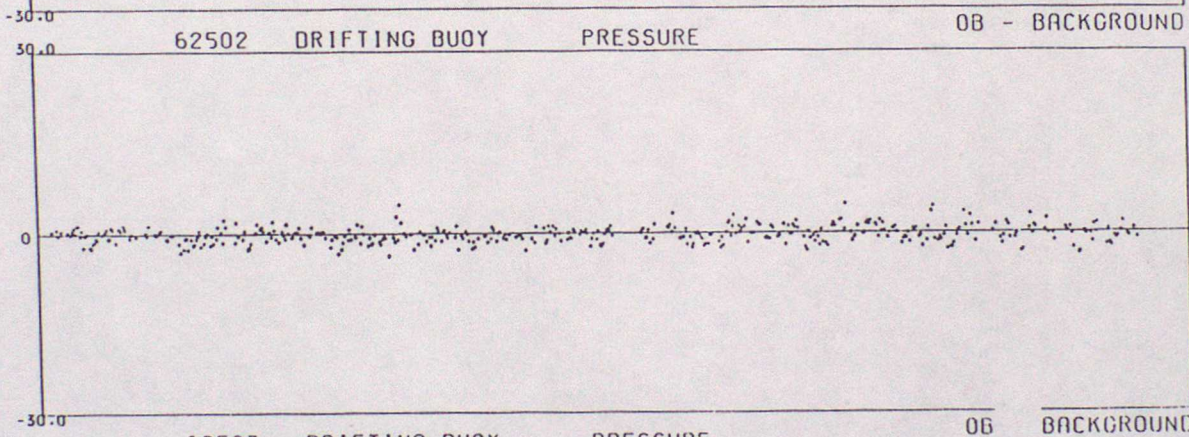
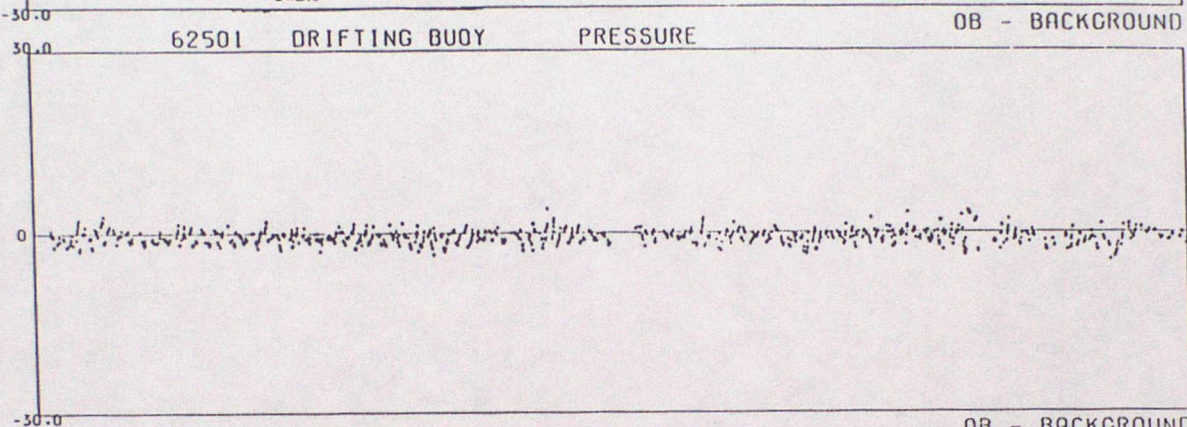
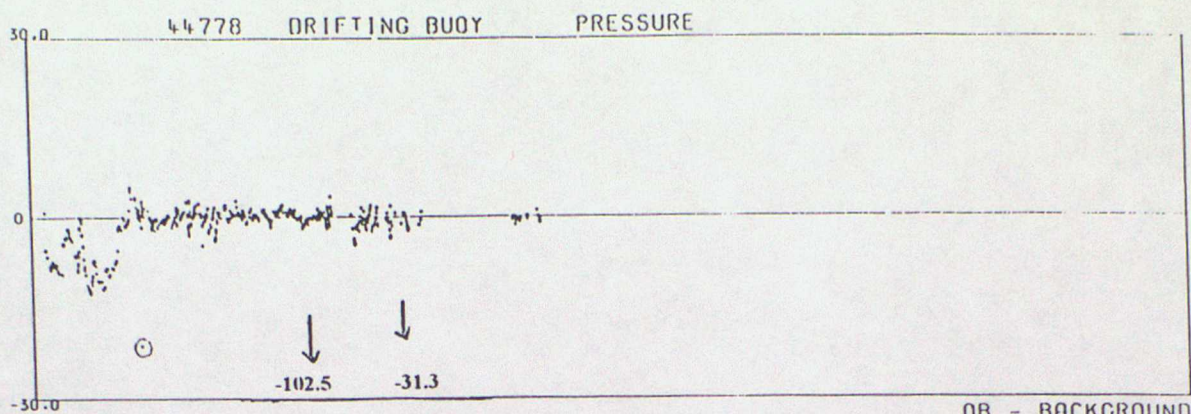
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



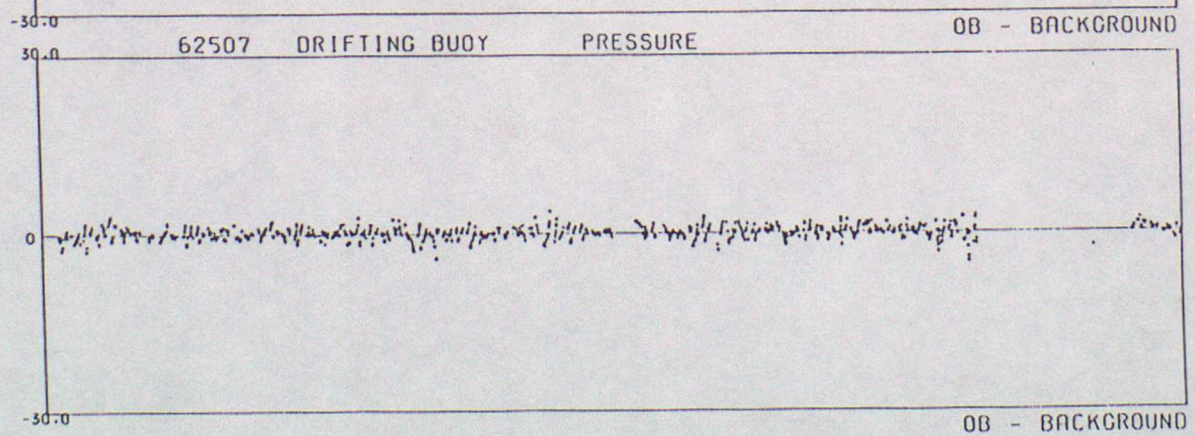
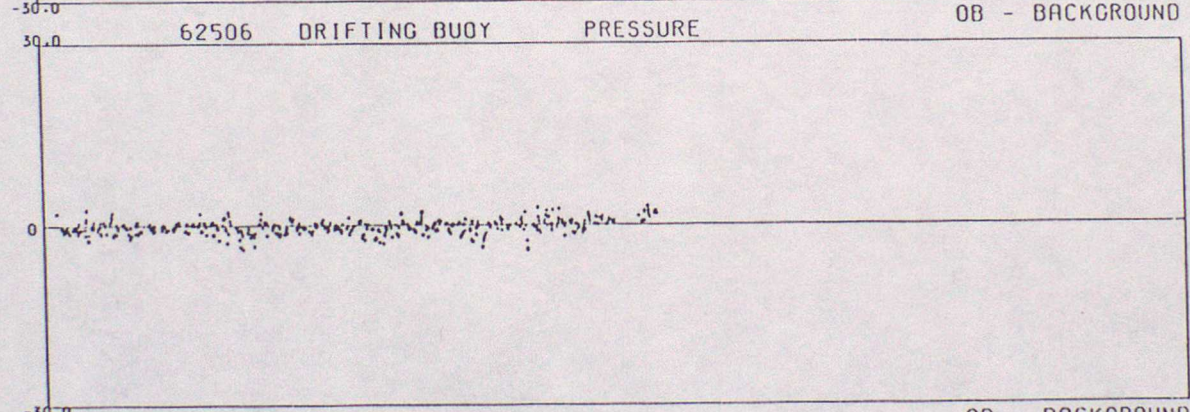
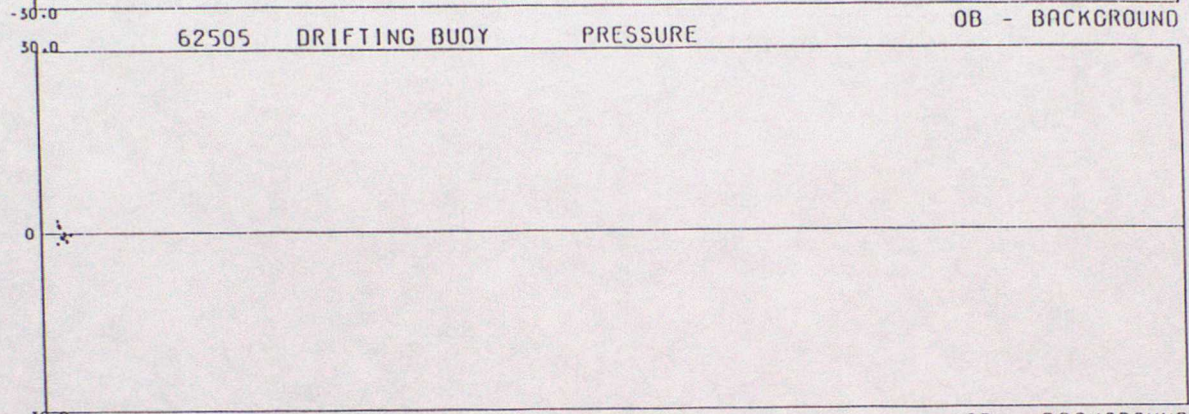
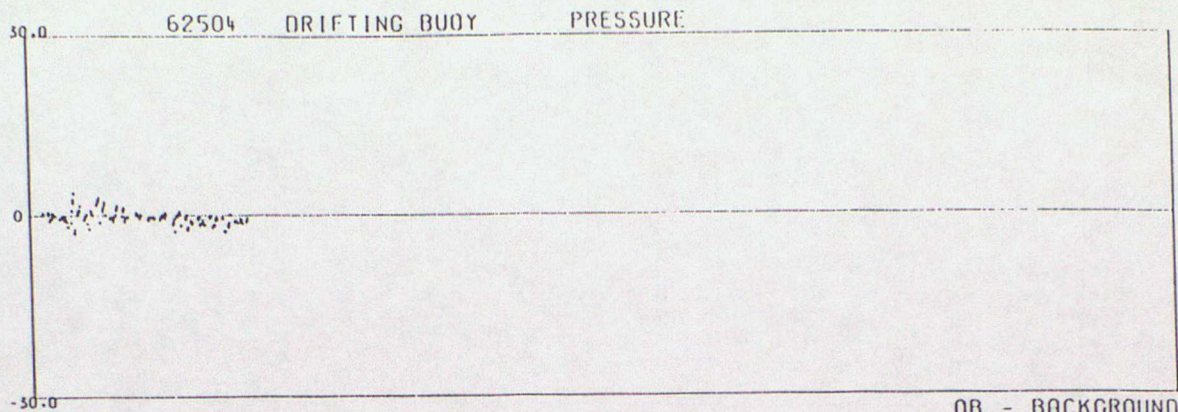
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



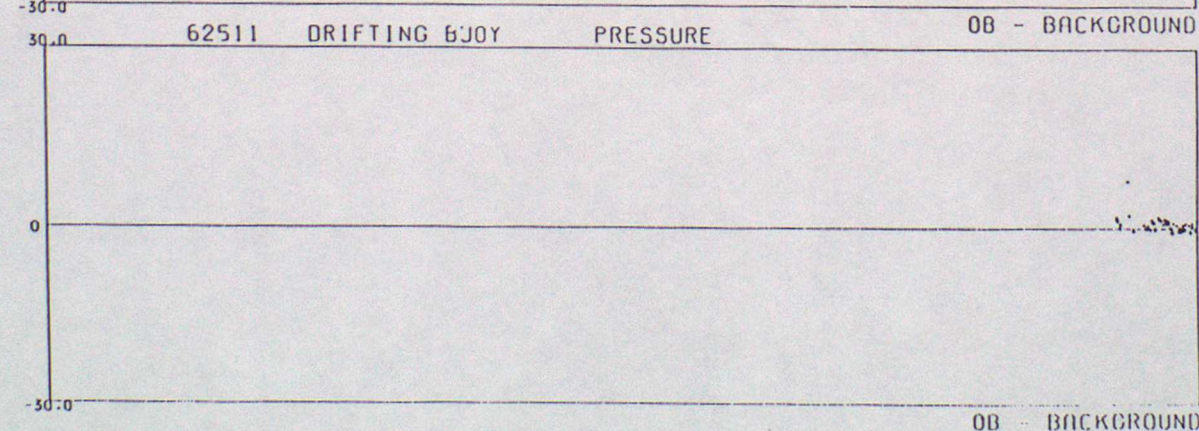
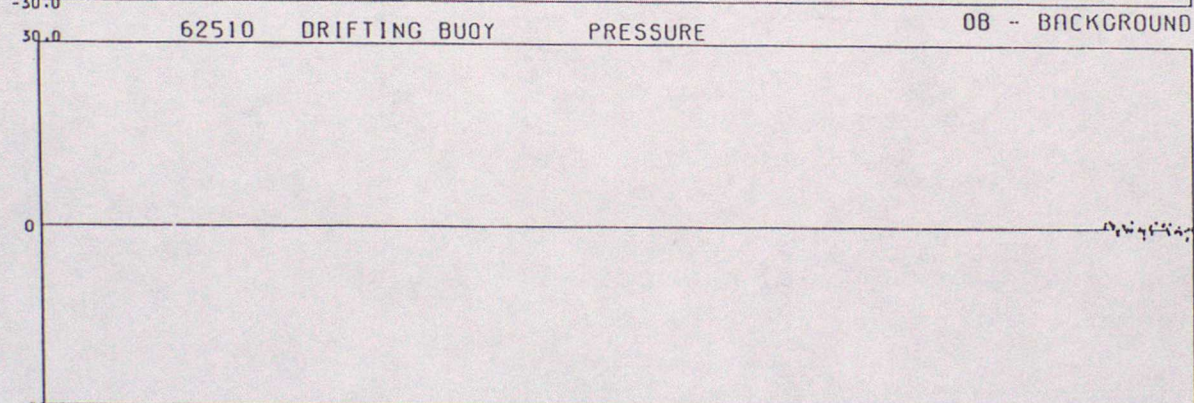
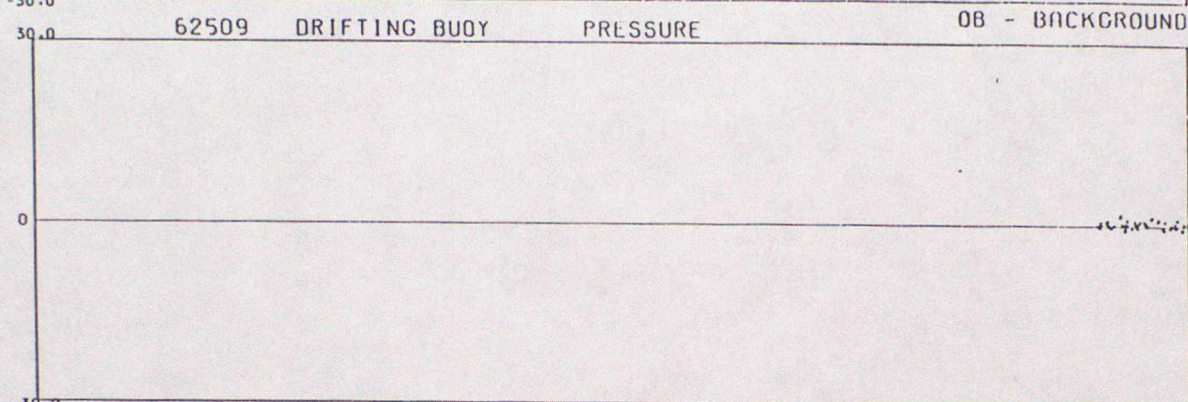
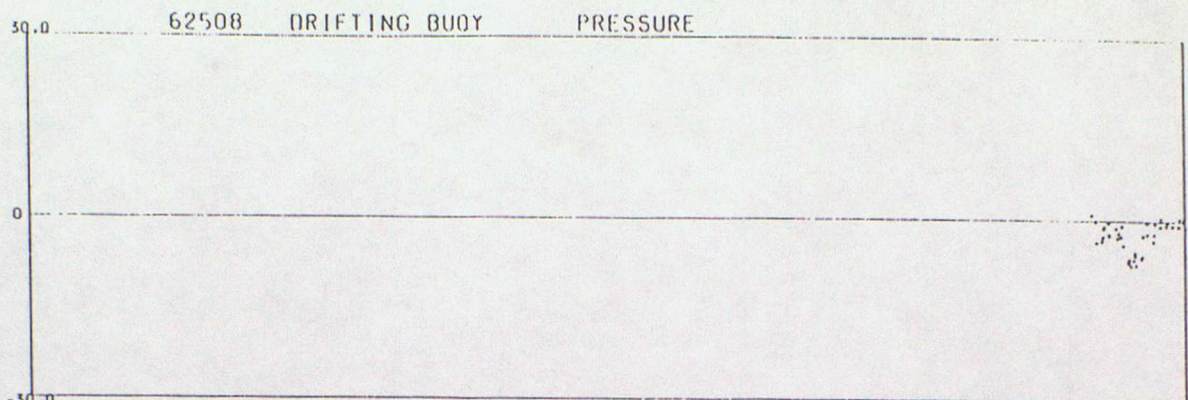
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



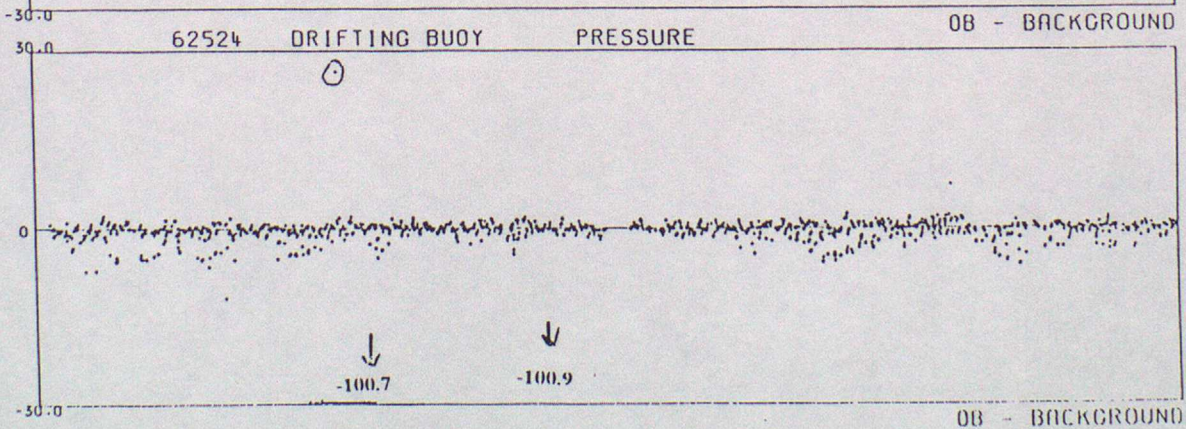
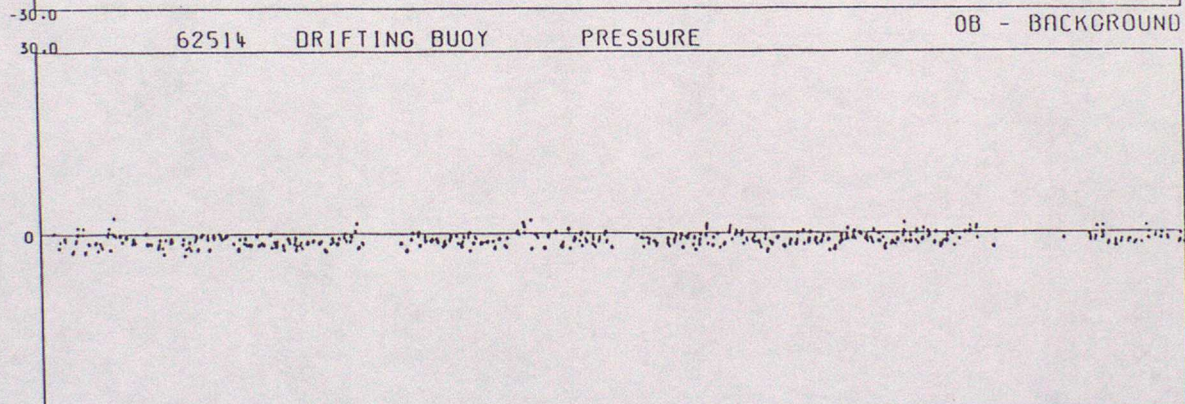
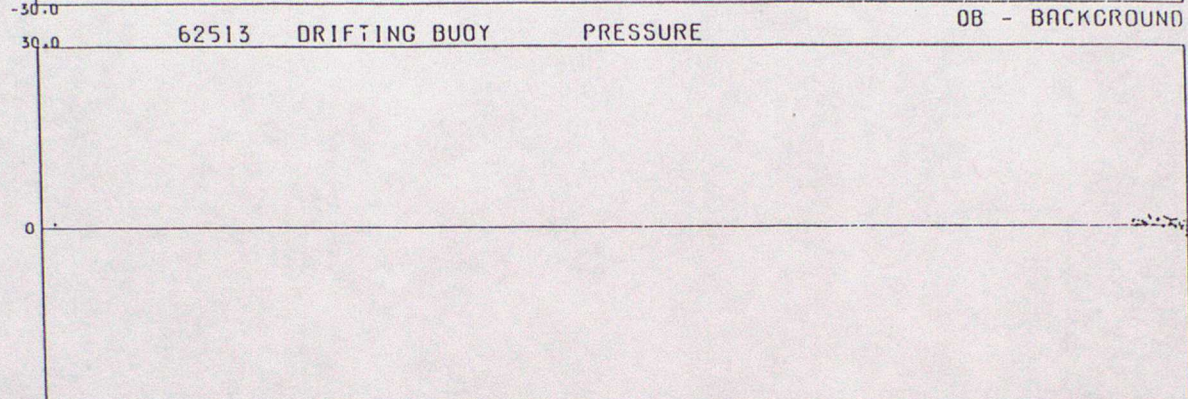
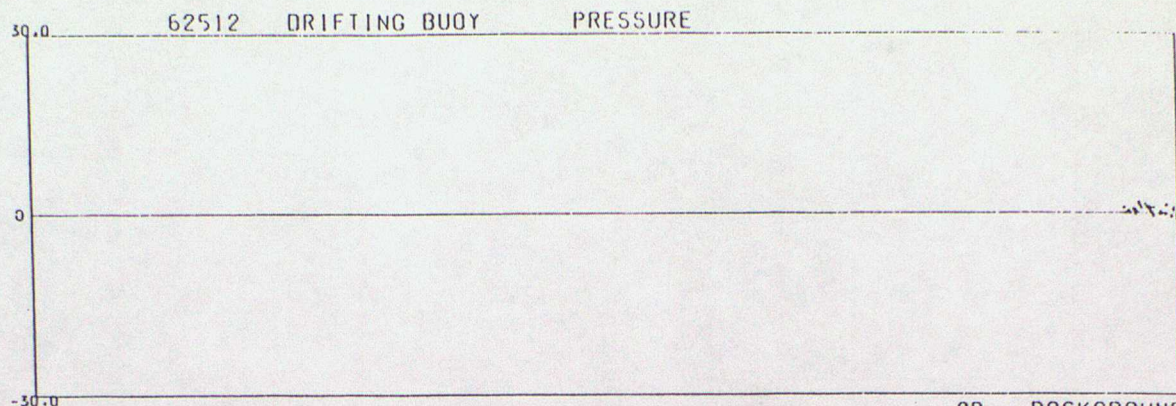
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



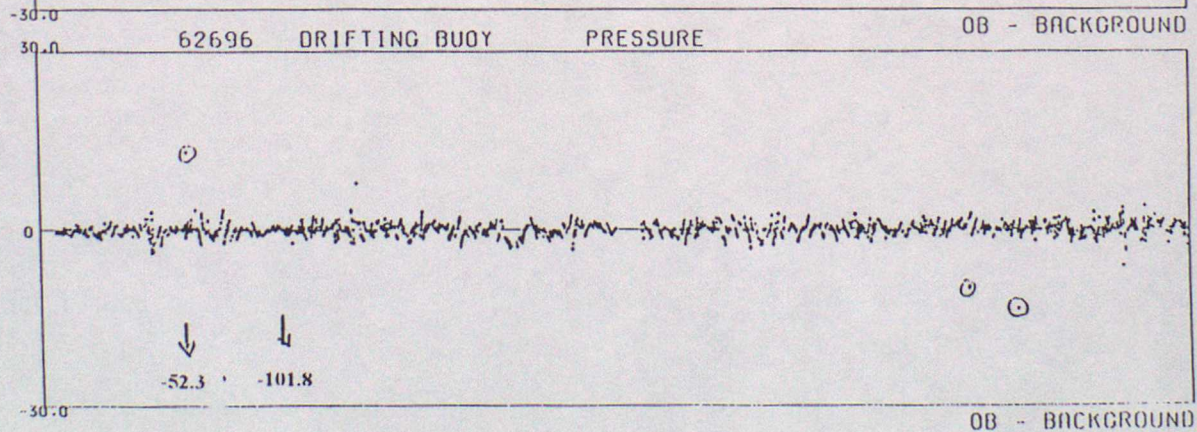
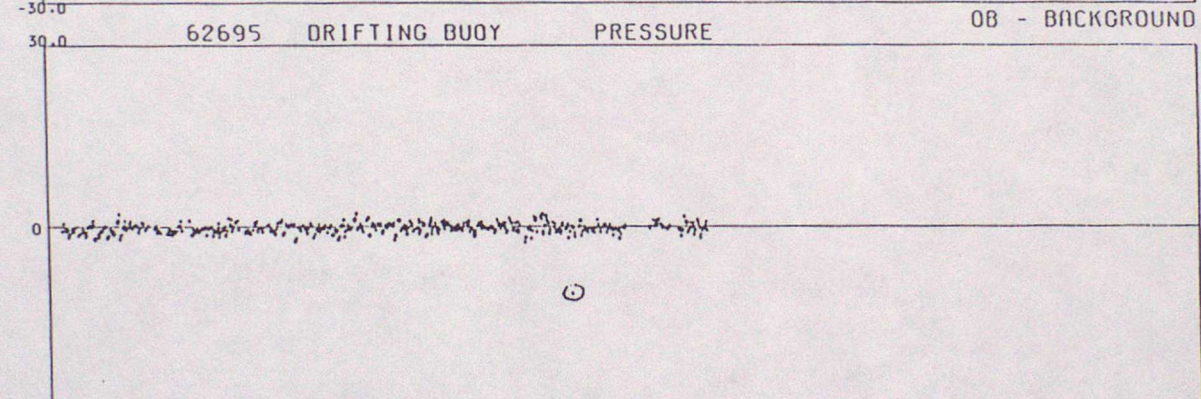
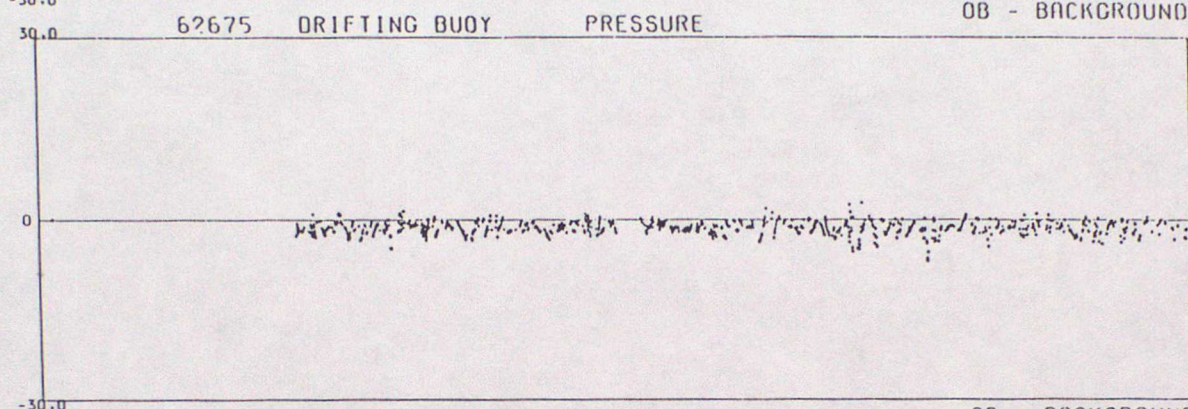
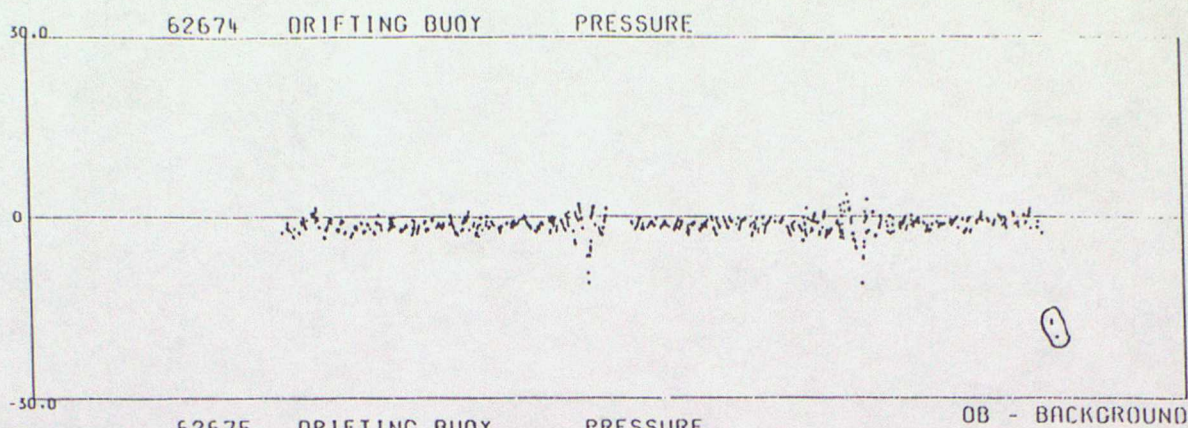
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



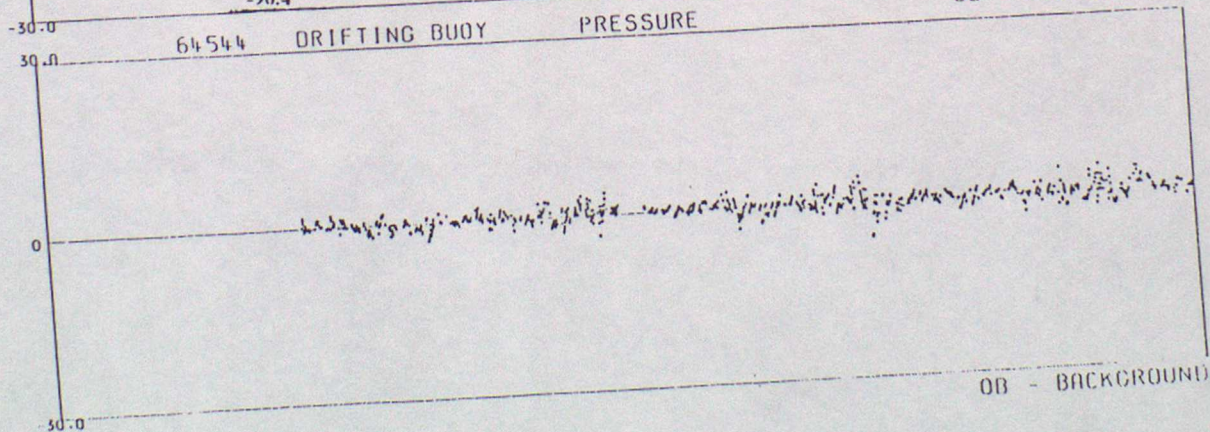
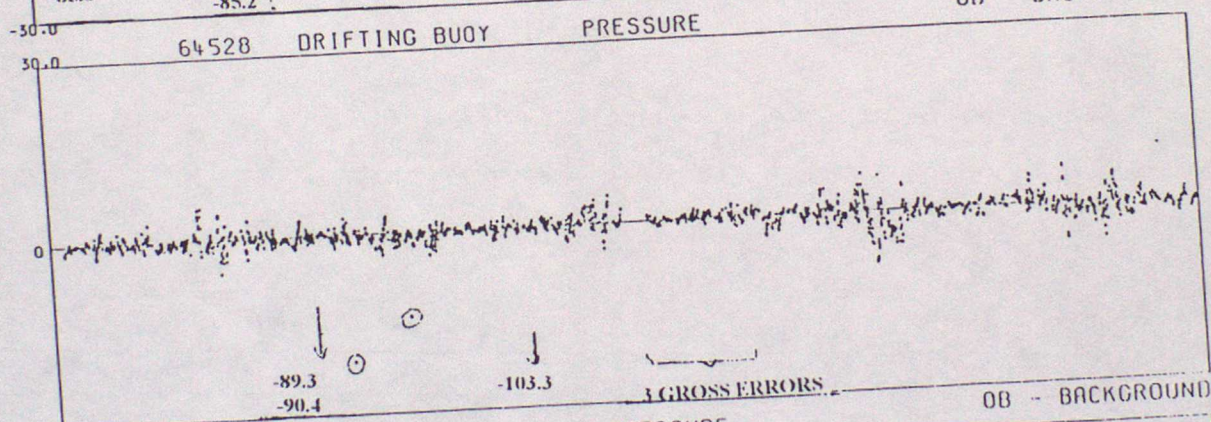
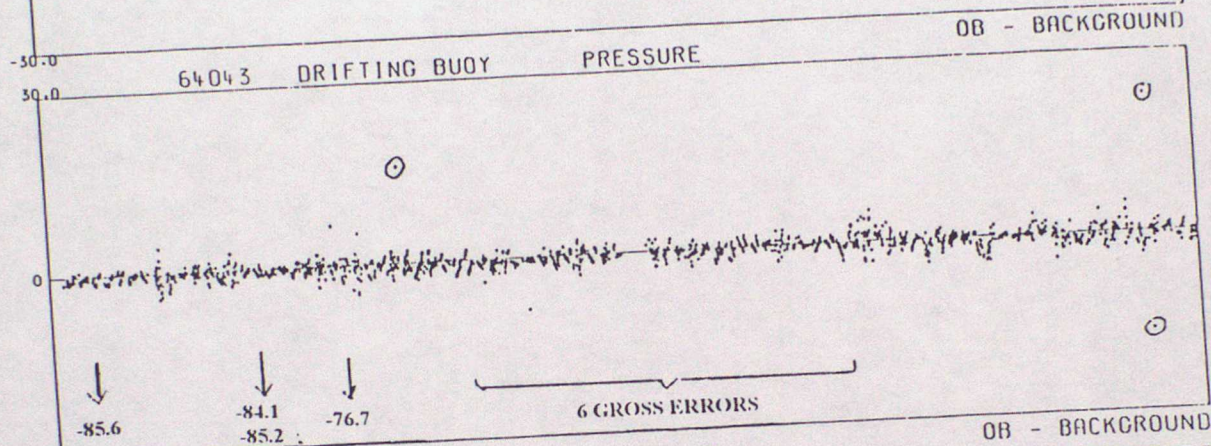
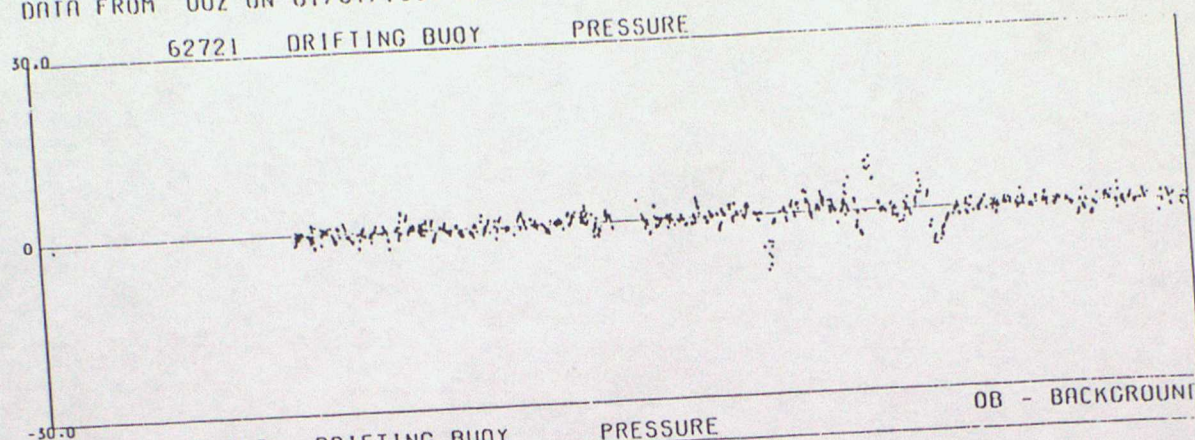
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FILL)



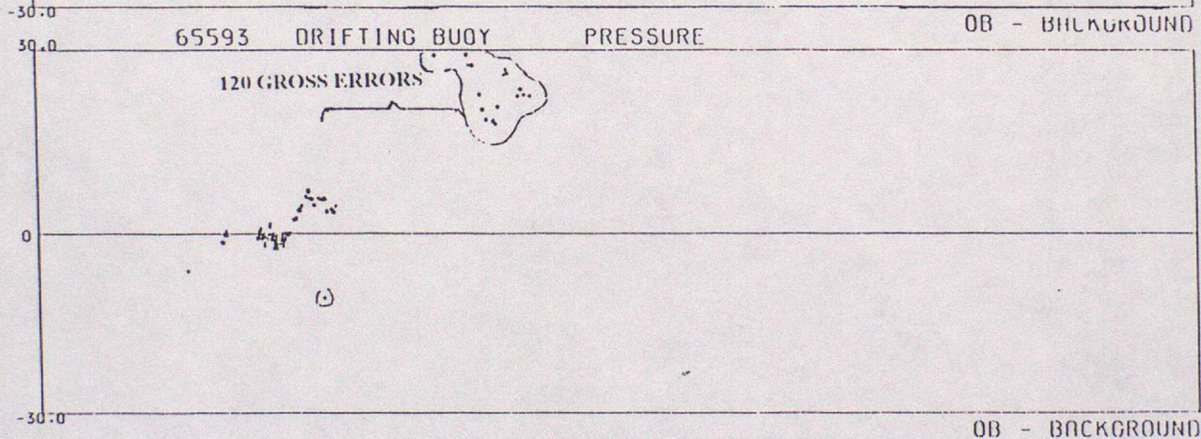
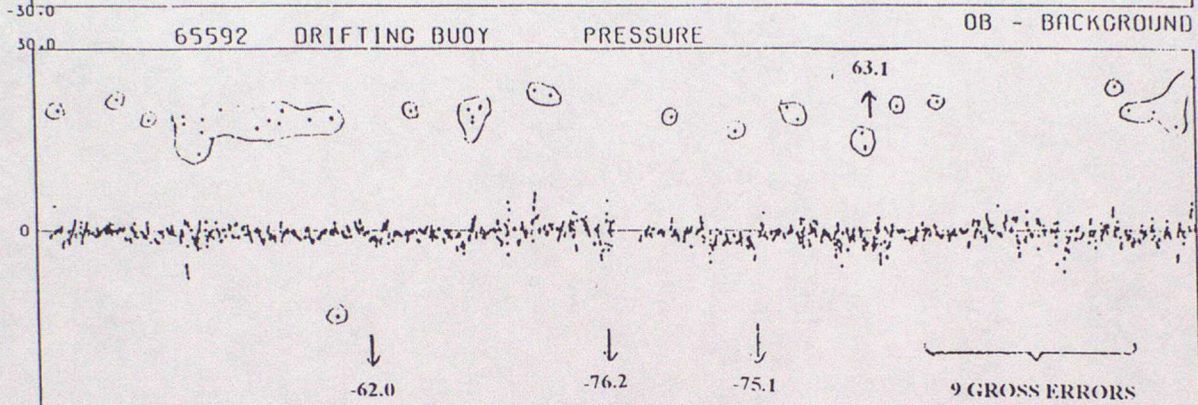
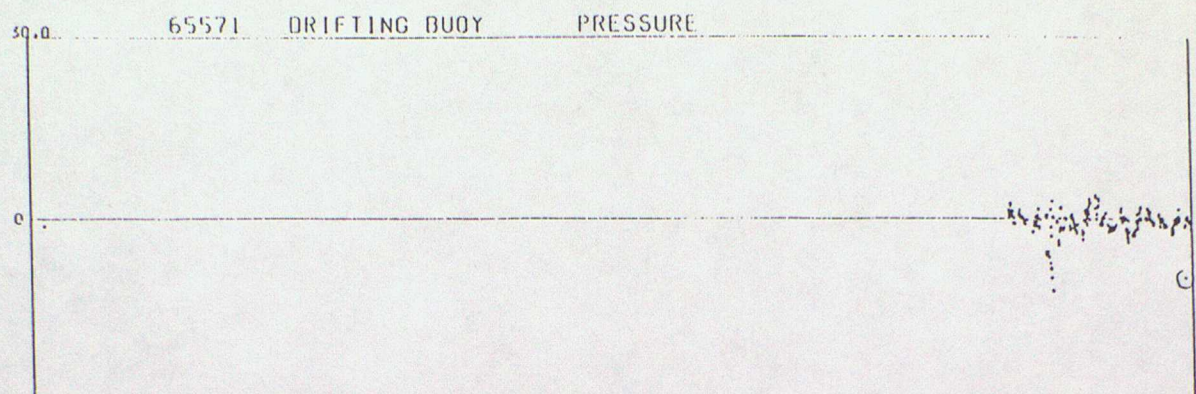
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

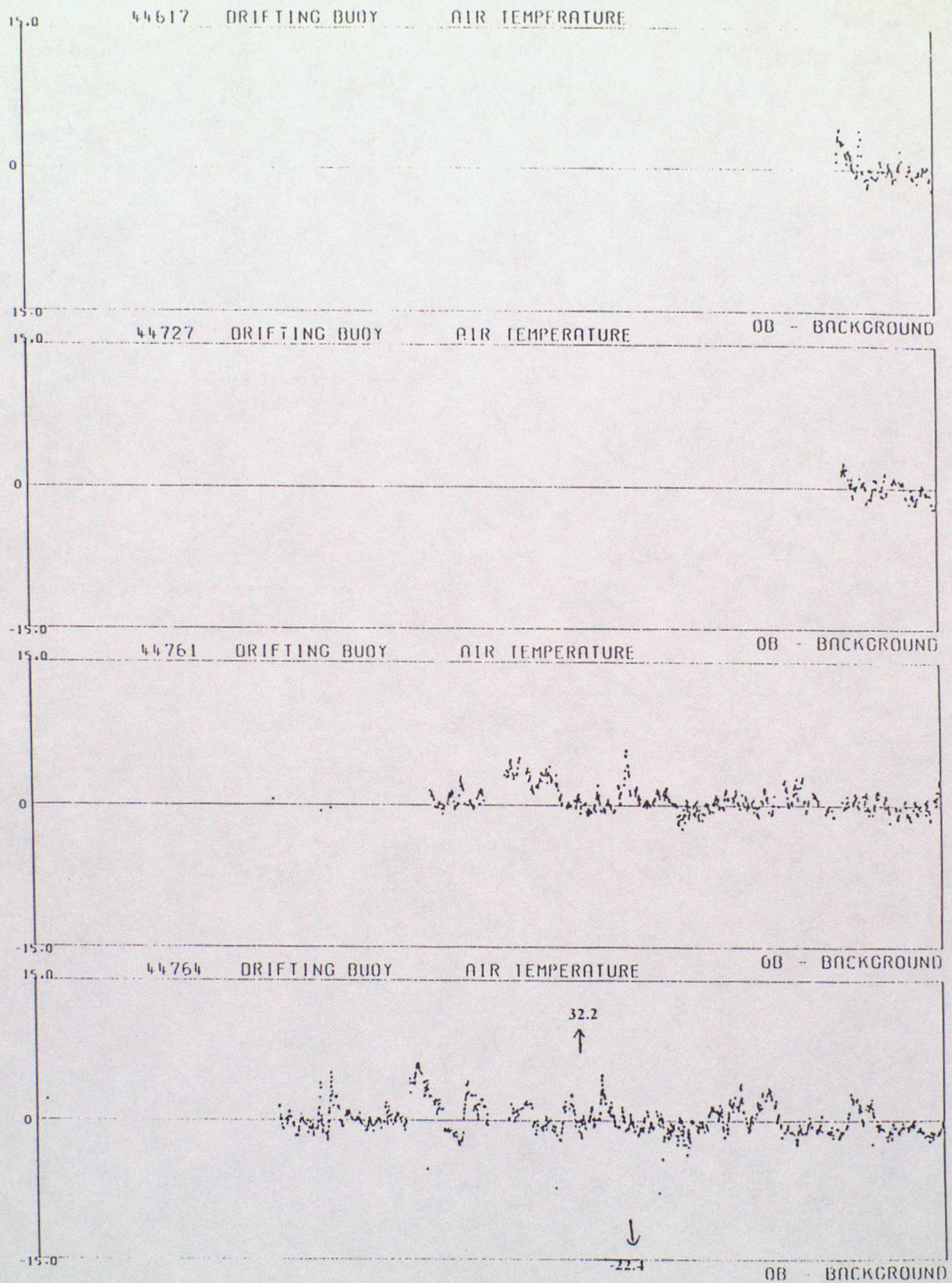


DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

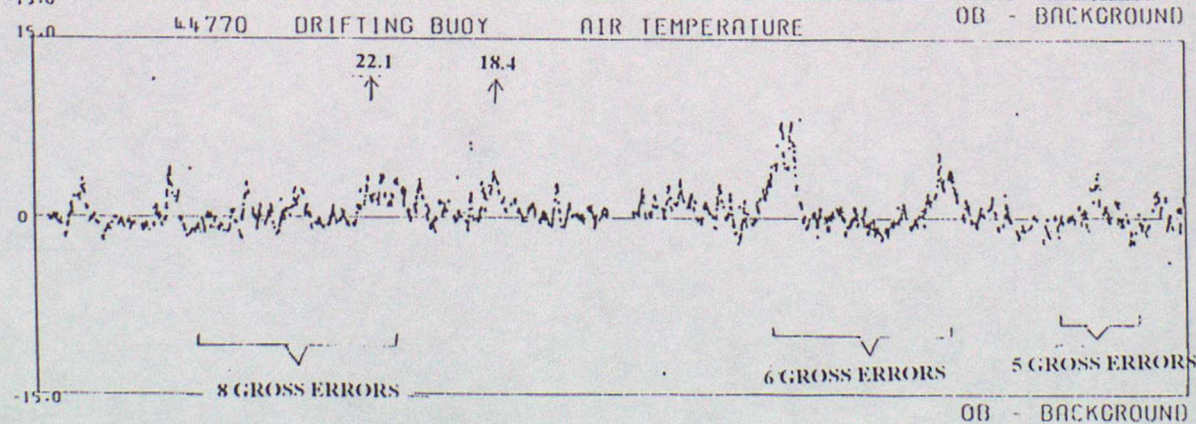
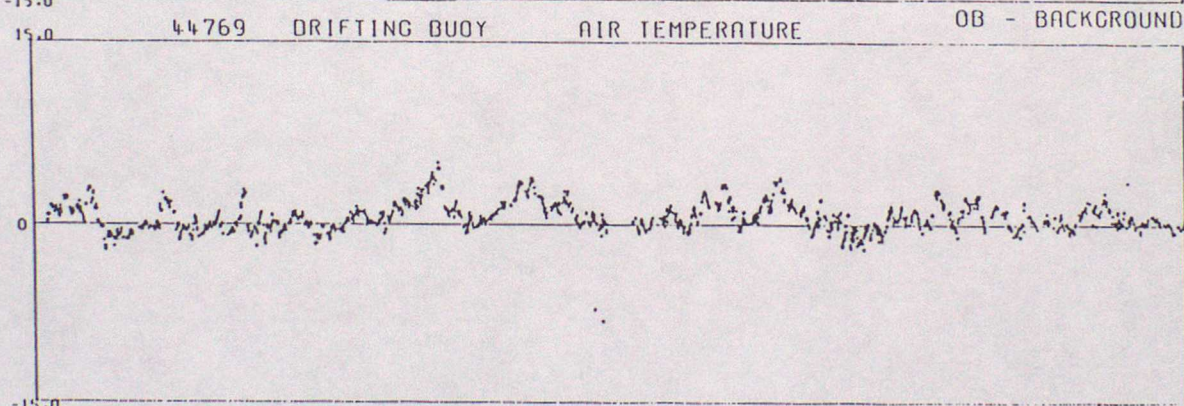
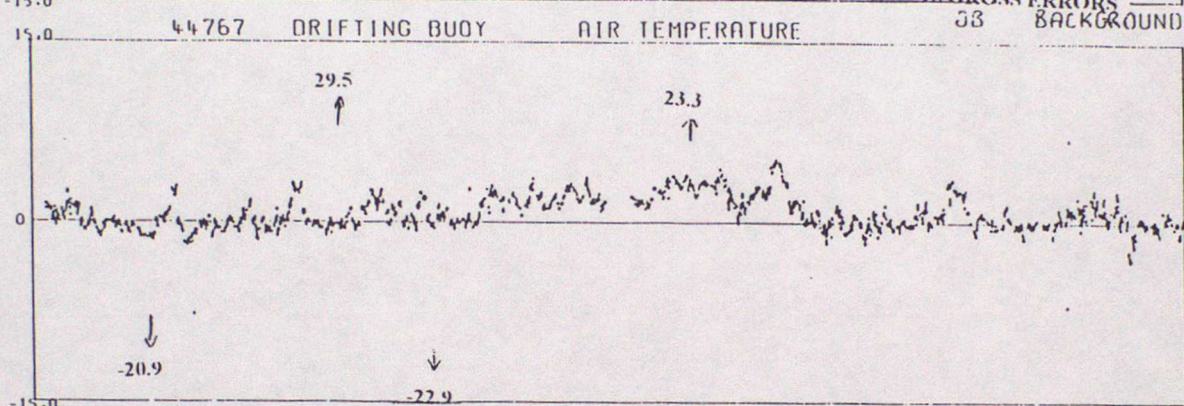
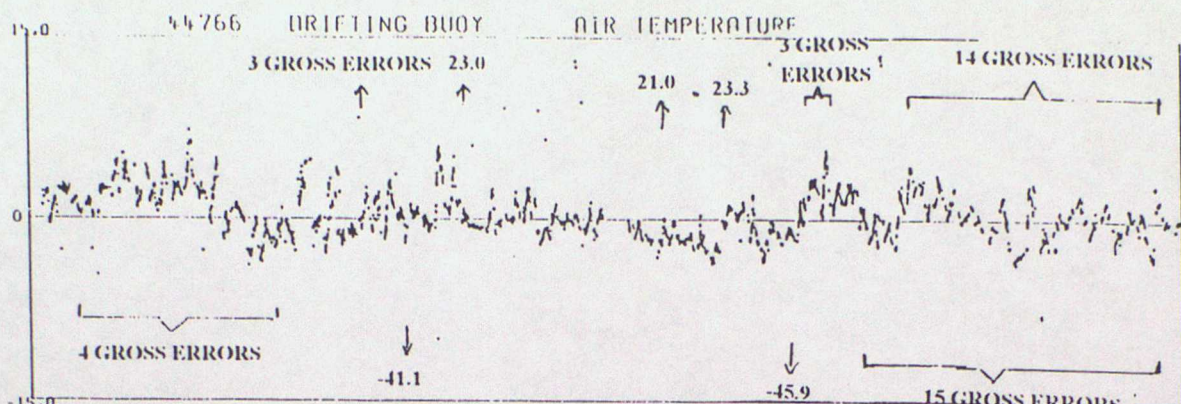


ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

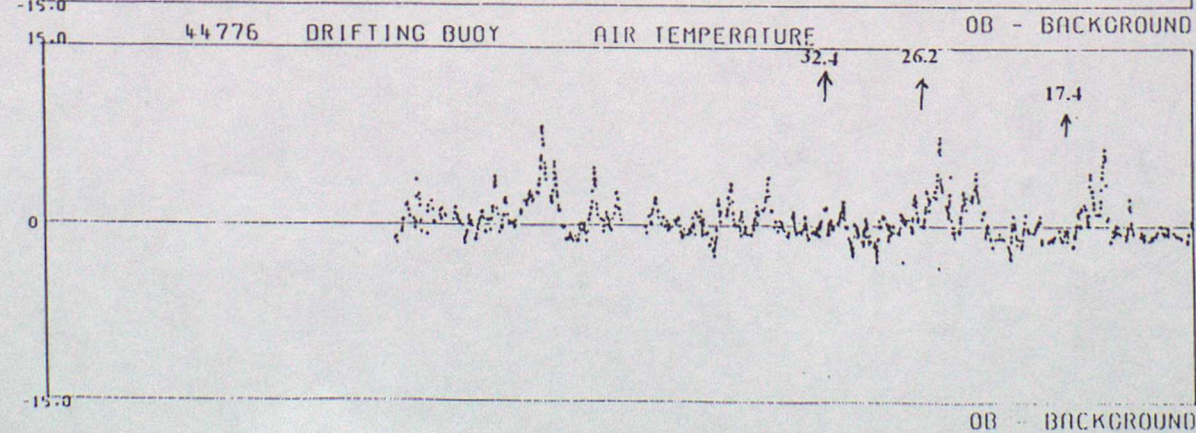
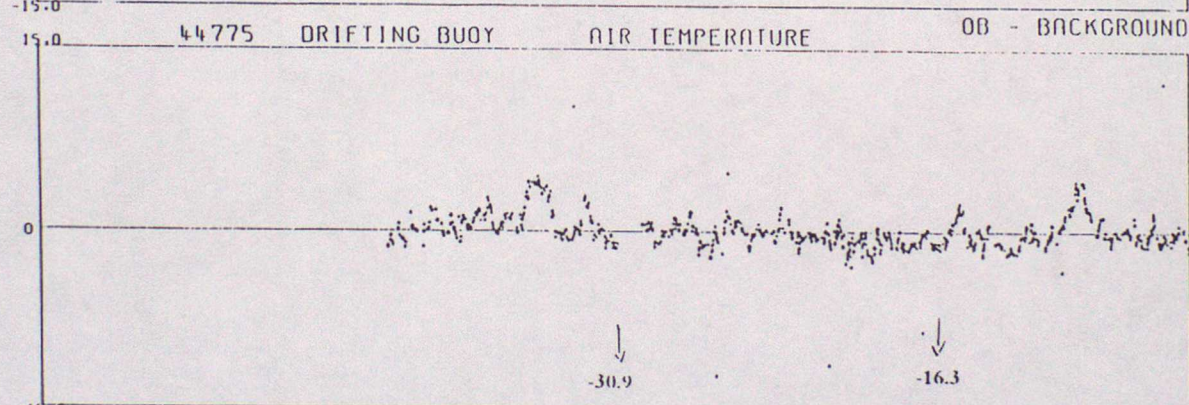
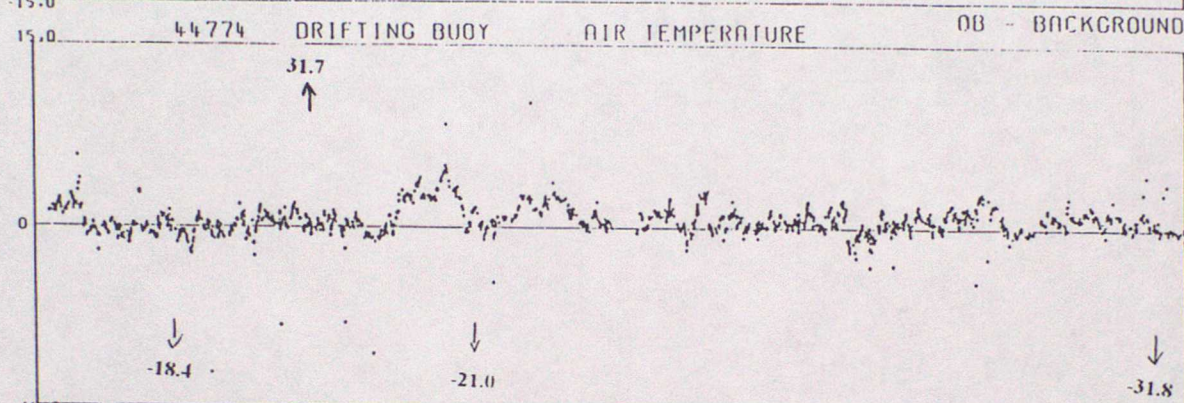
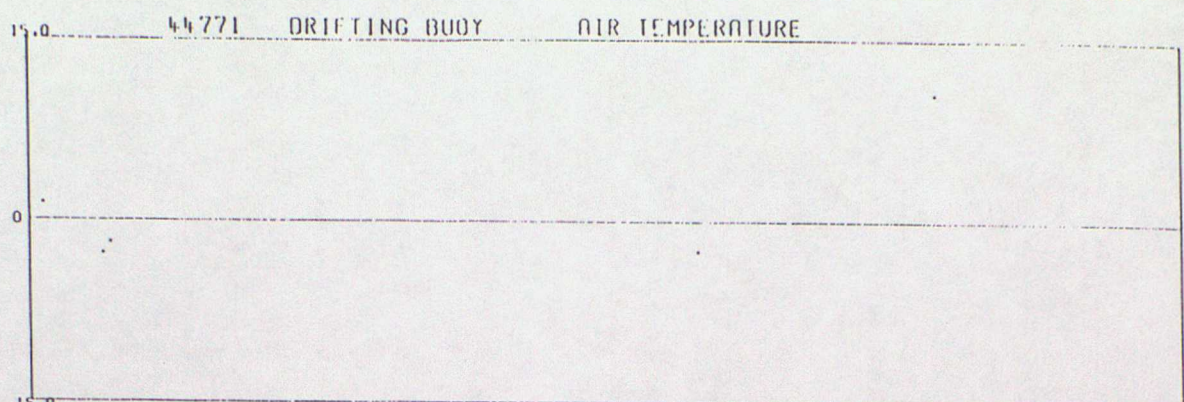
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



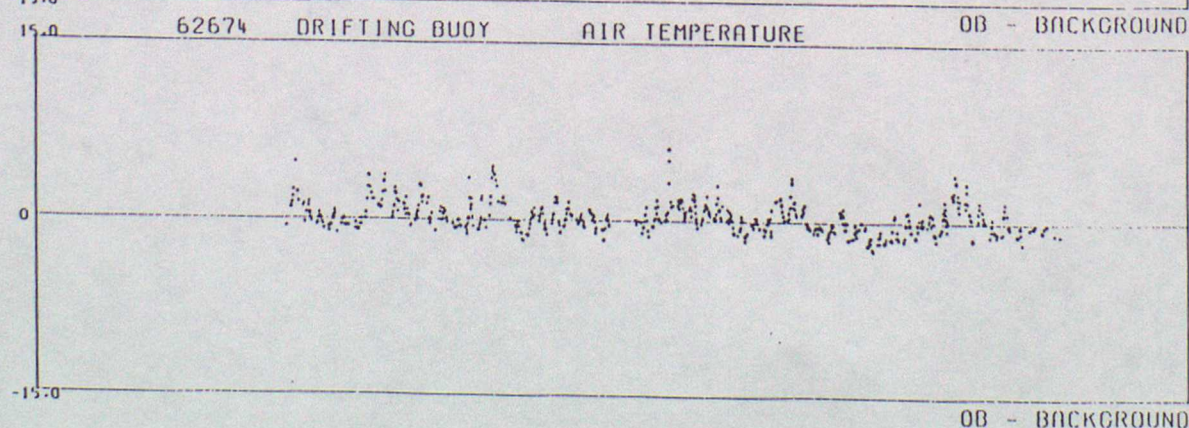
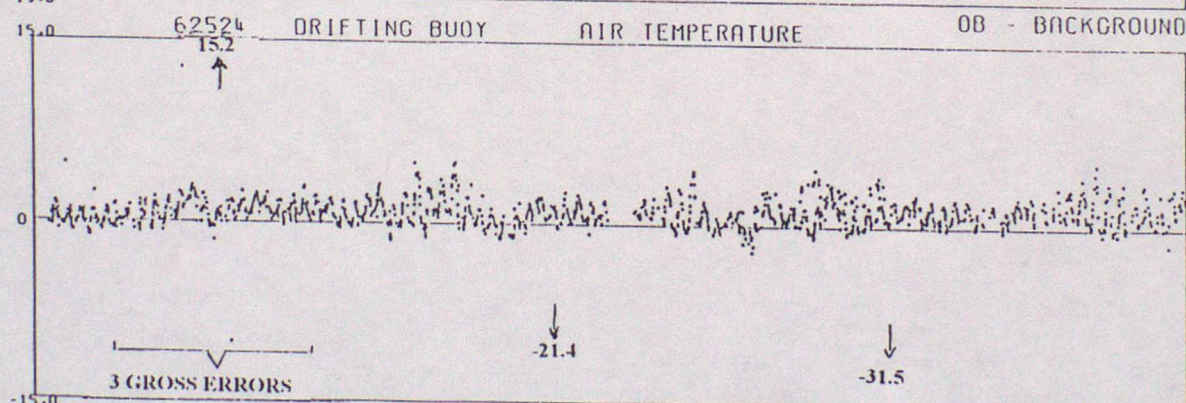
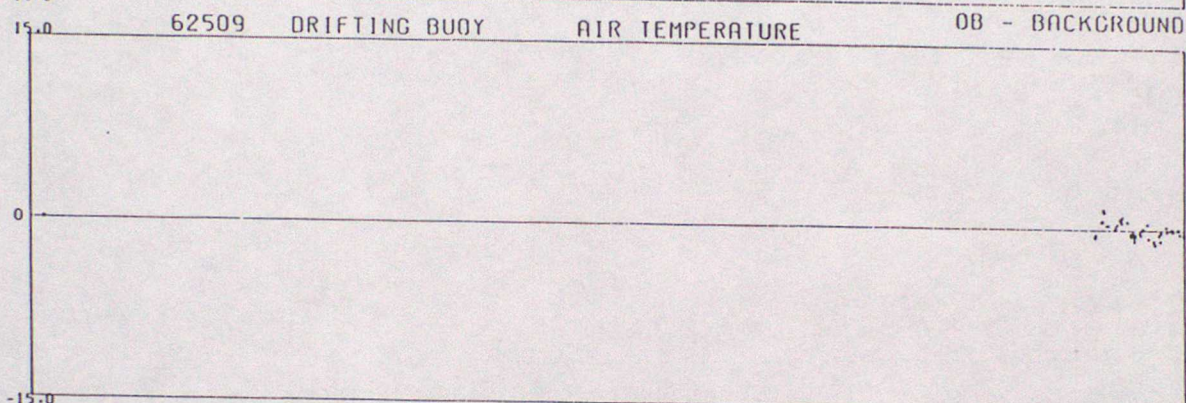
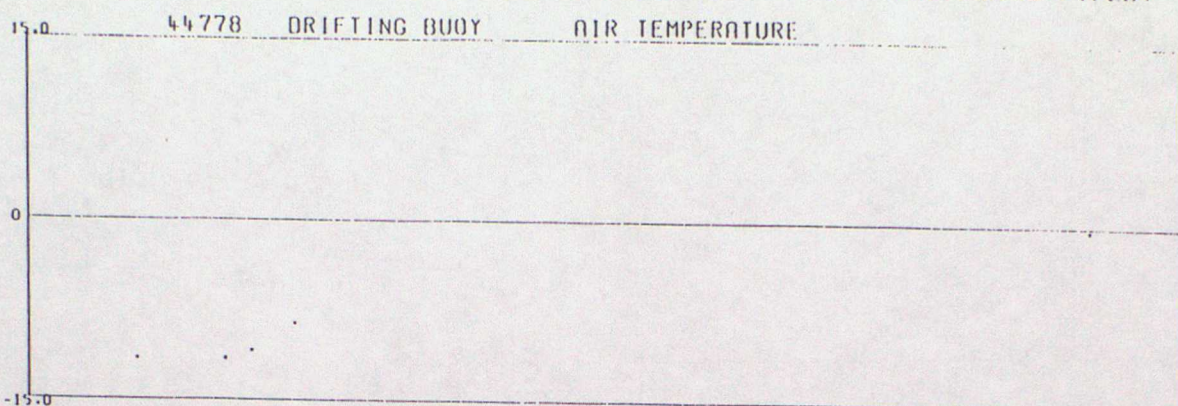
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



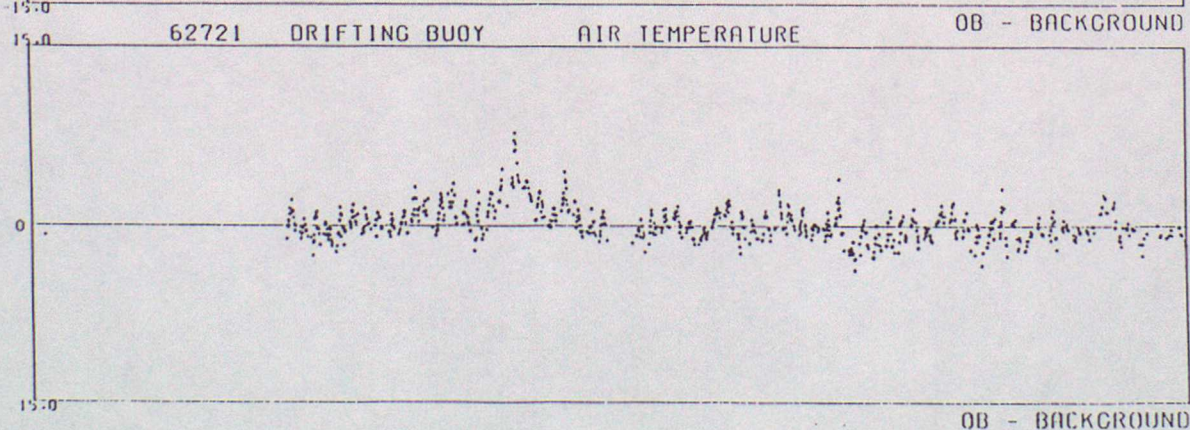
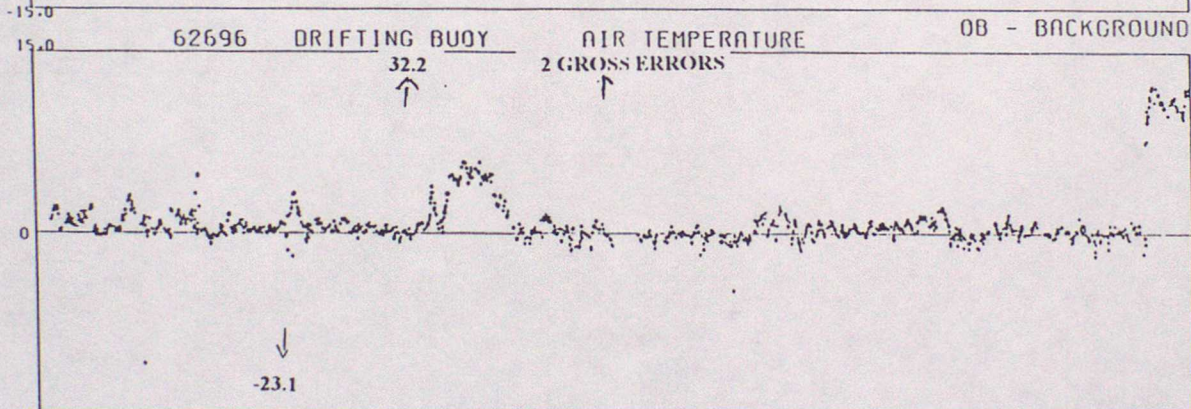
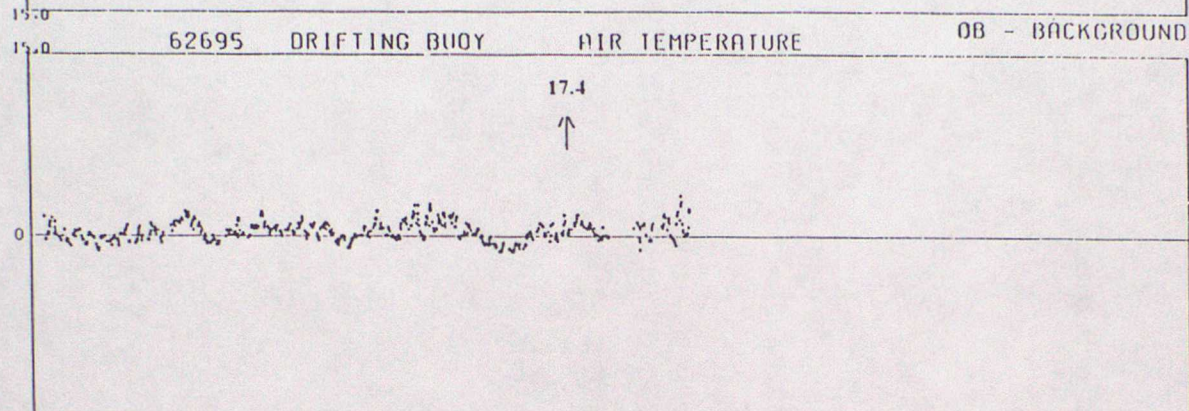
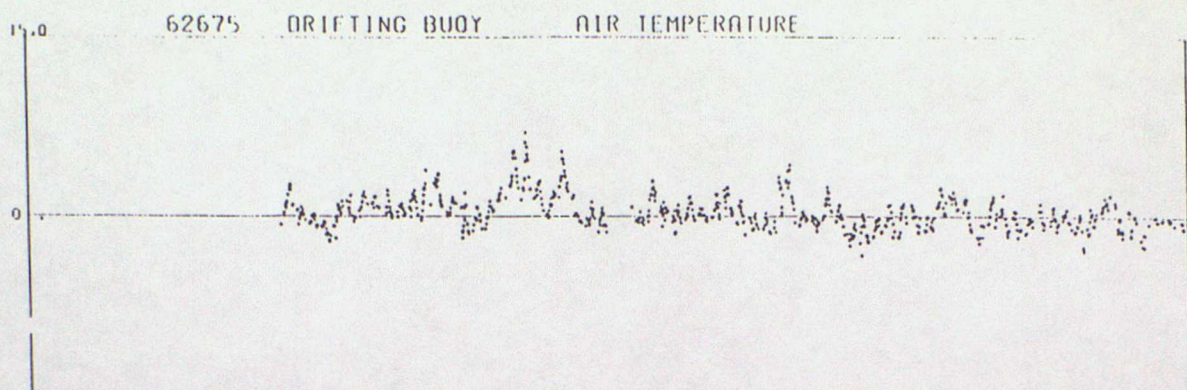
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



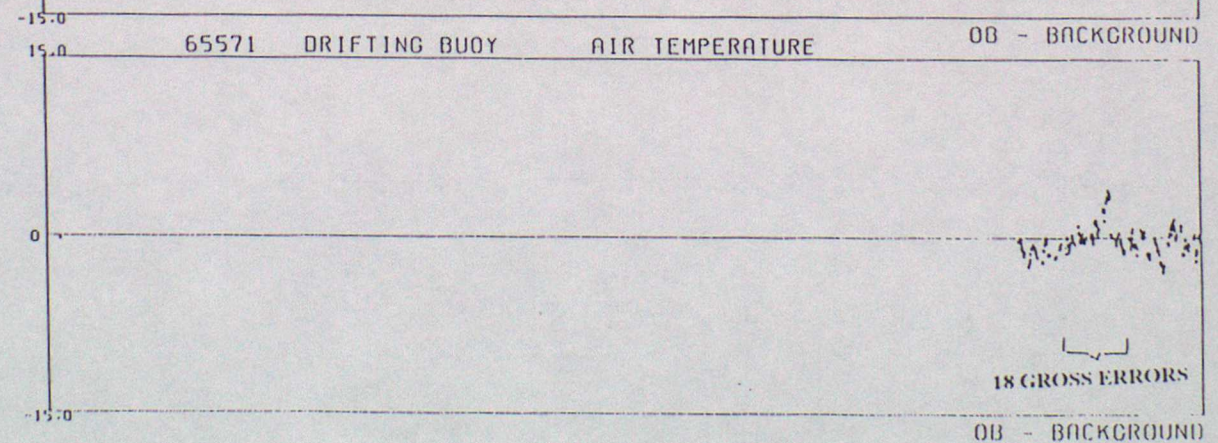
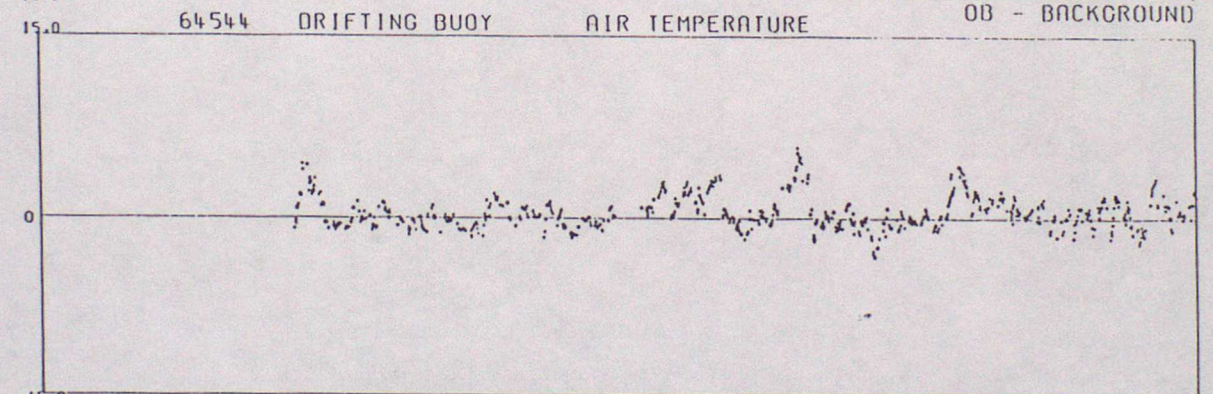
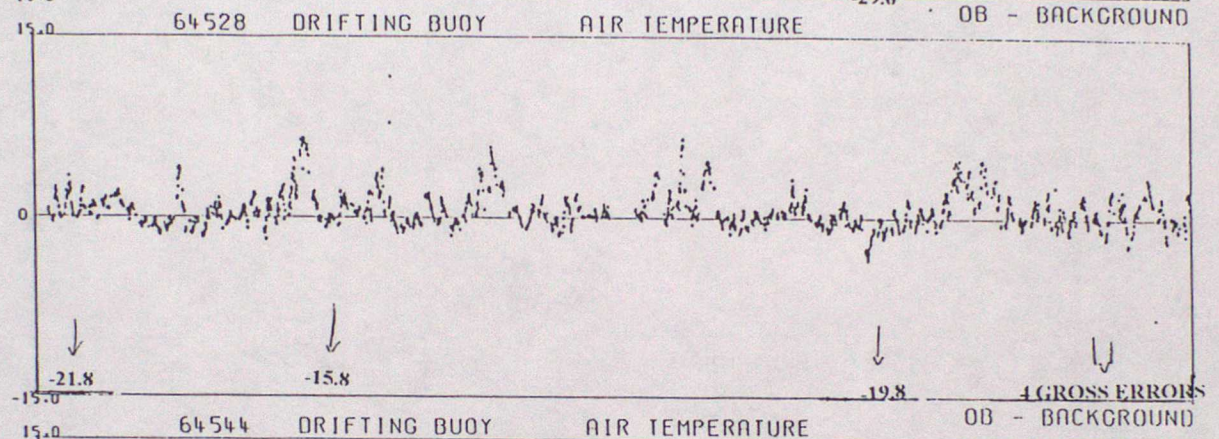
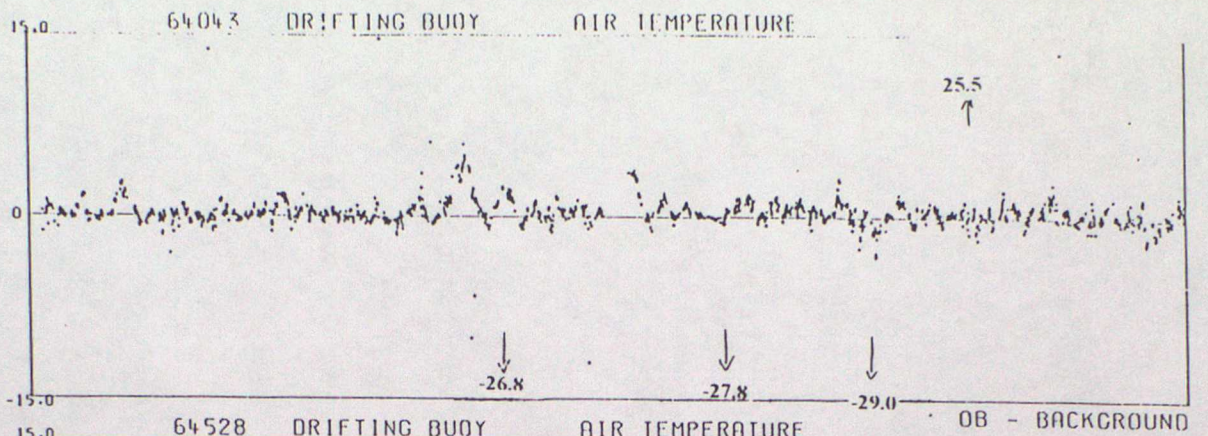
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS BACKGROUND FIELD)

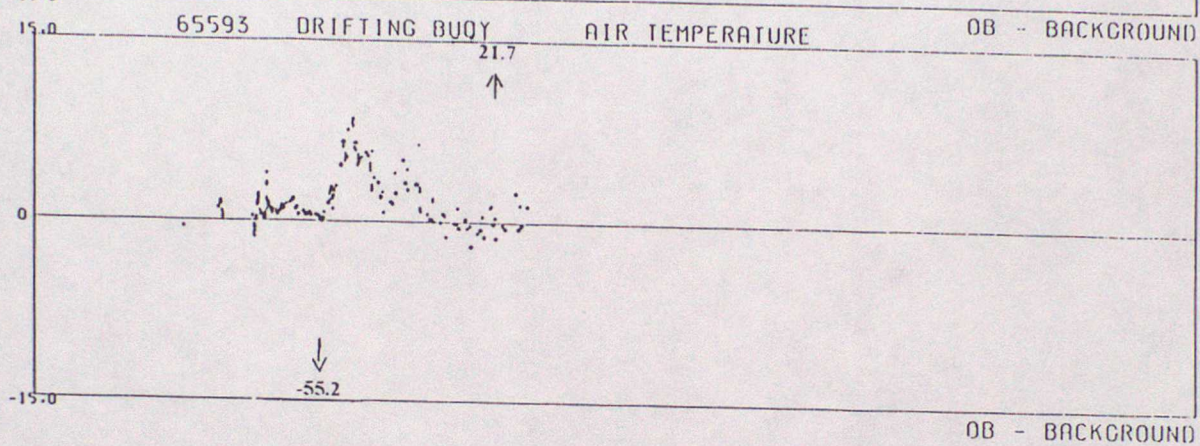
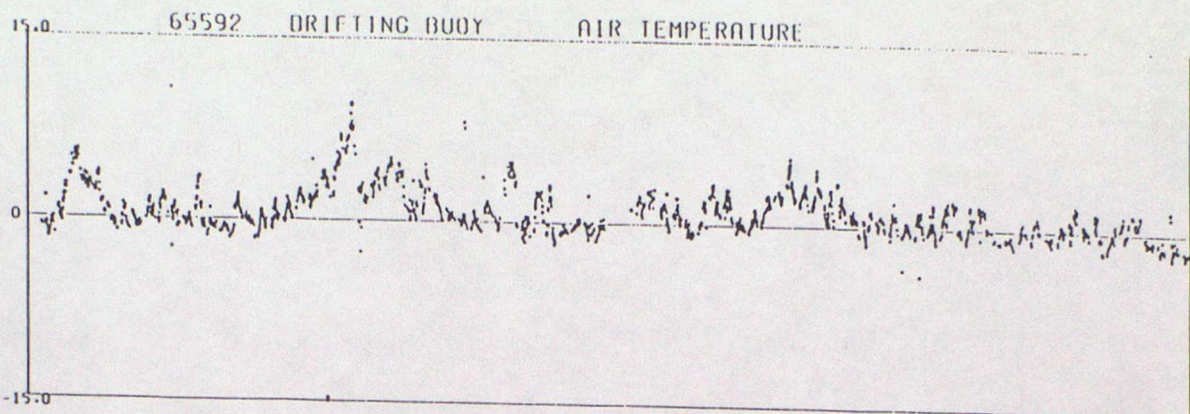


DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



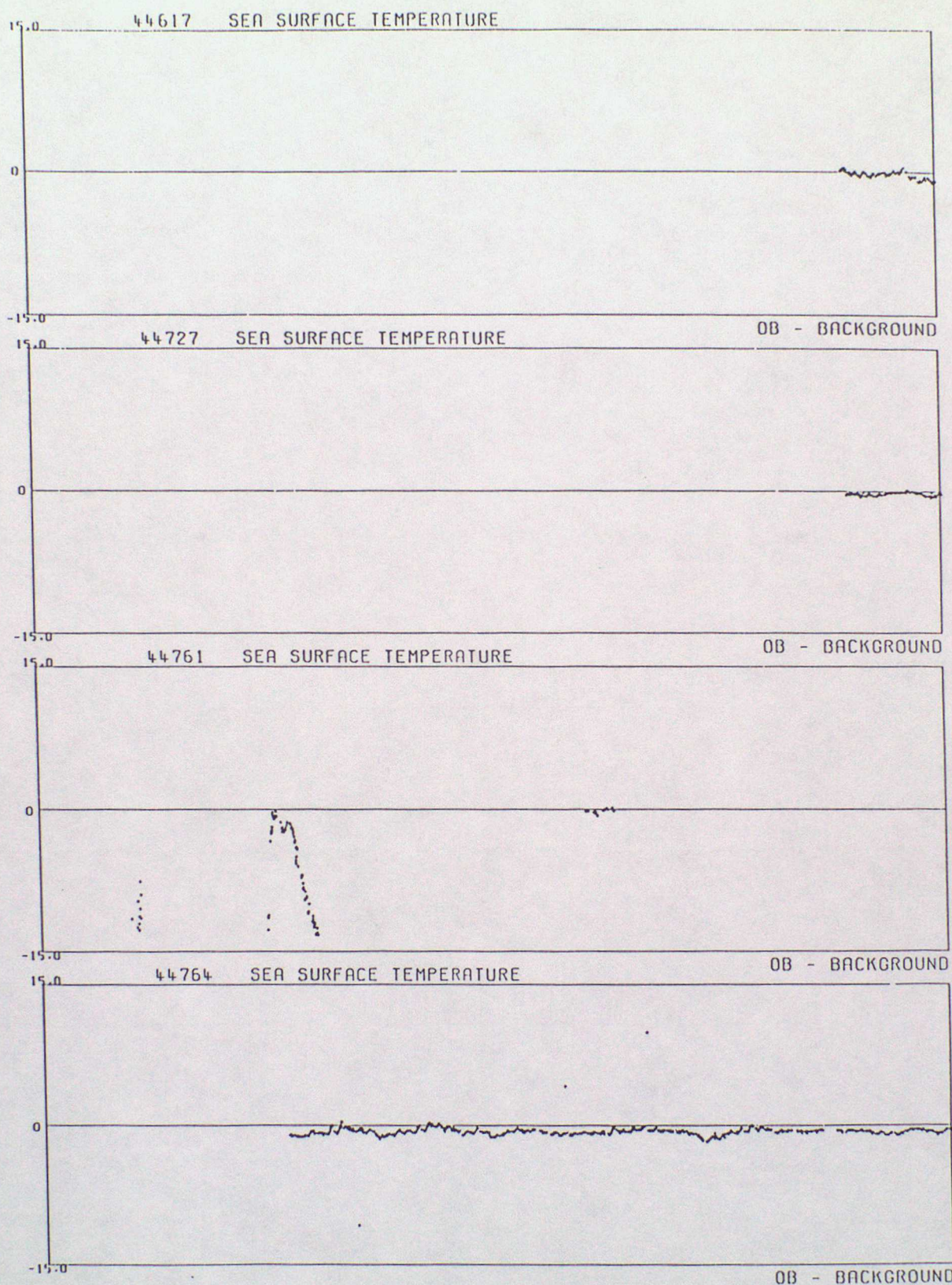
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS BACKGROUND FIELD)



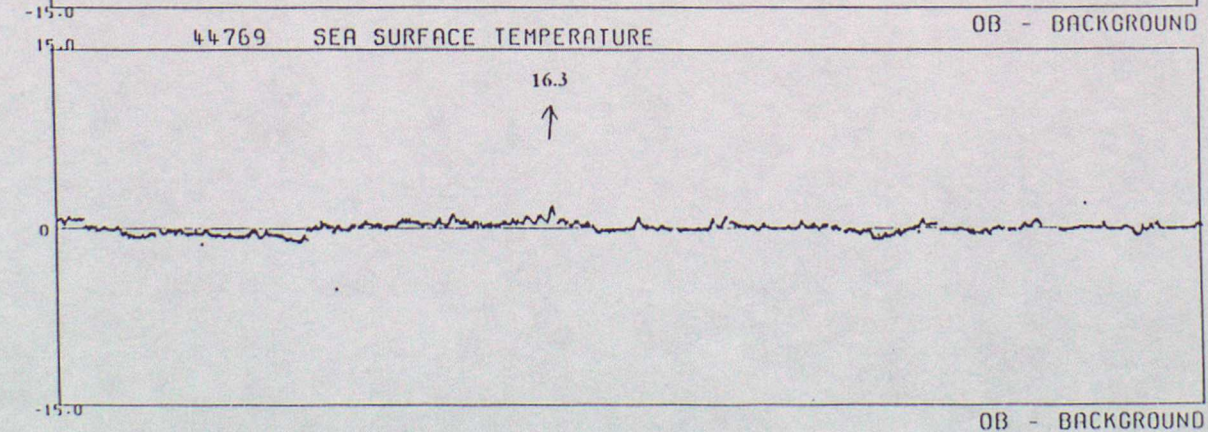
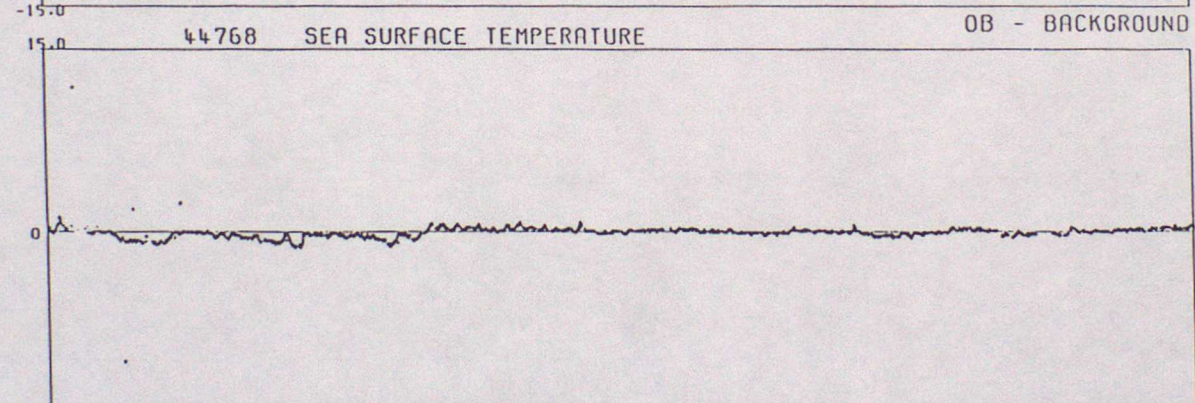
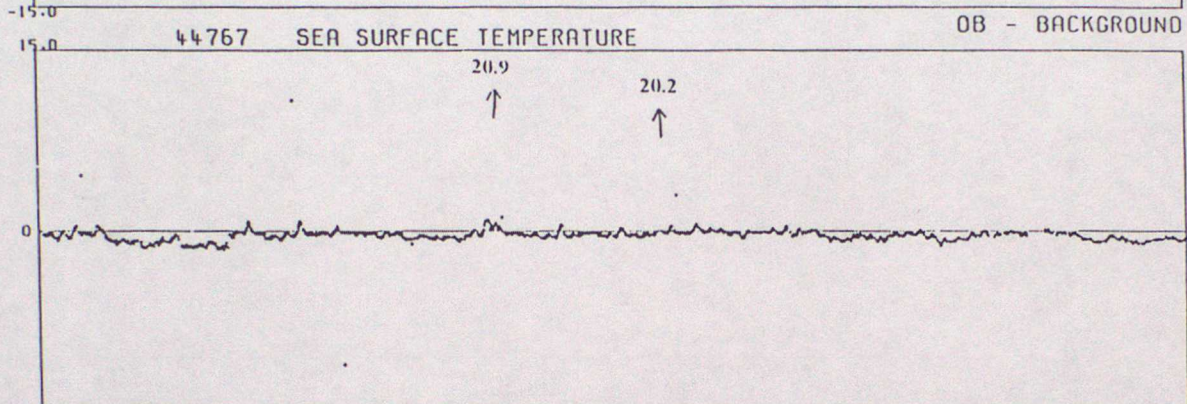
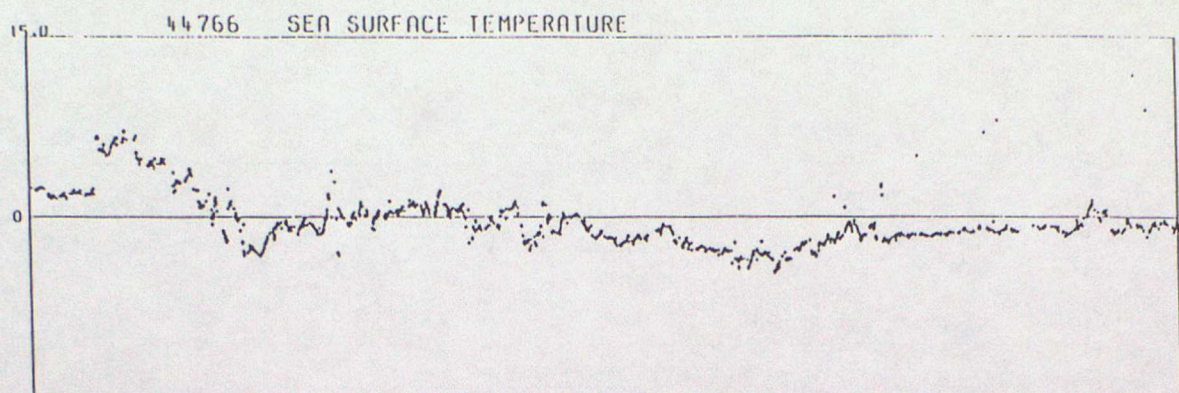


ANNEX D - TIME SERIES PLOTS OF SEA SURFACE TEMPERATURE

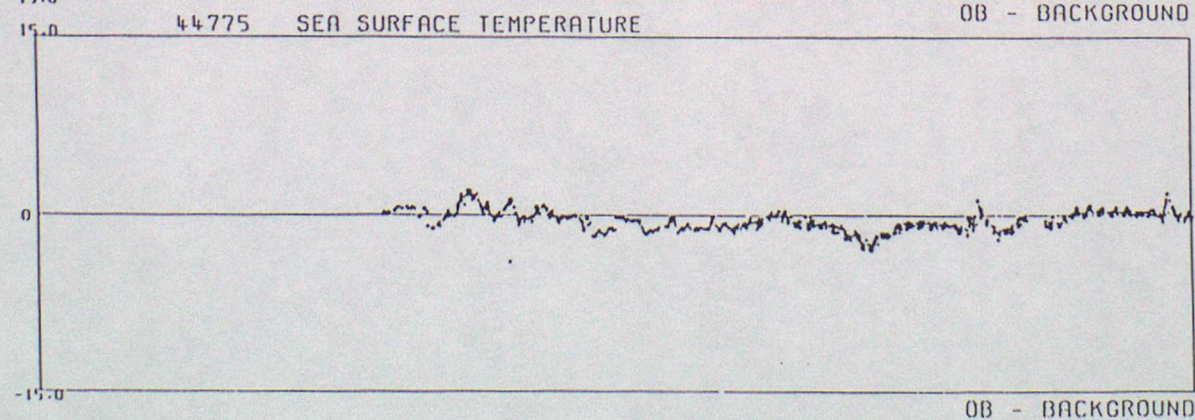
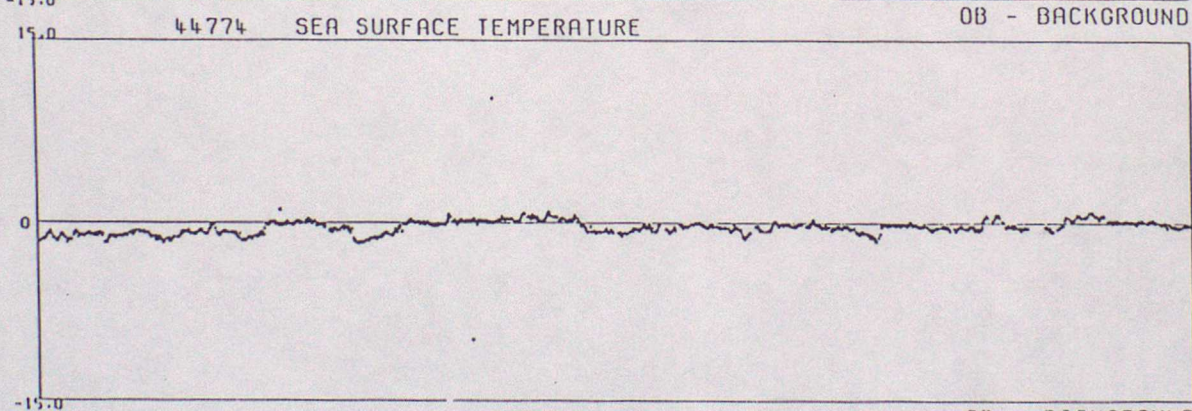
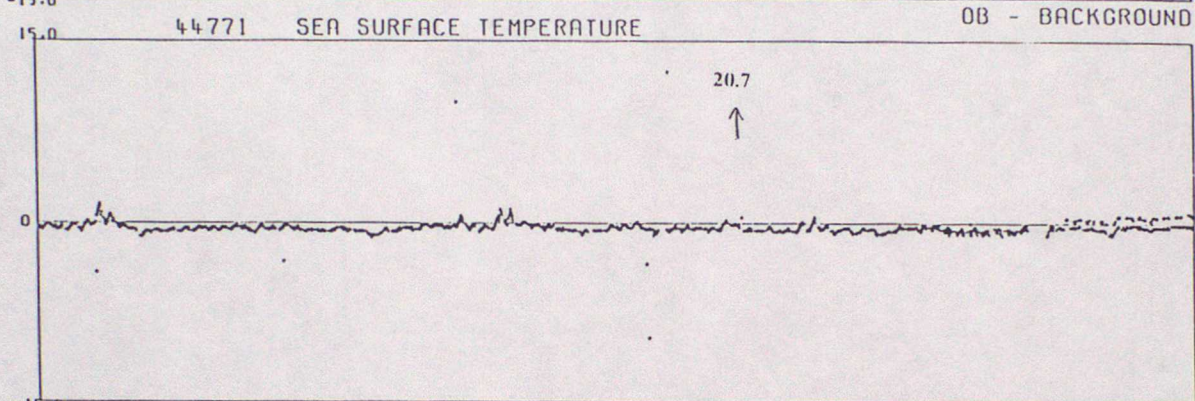
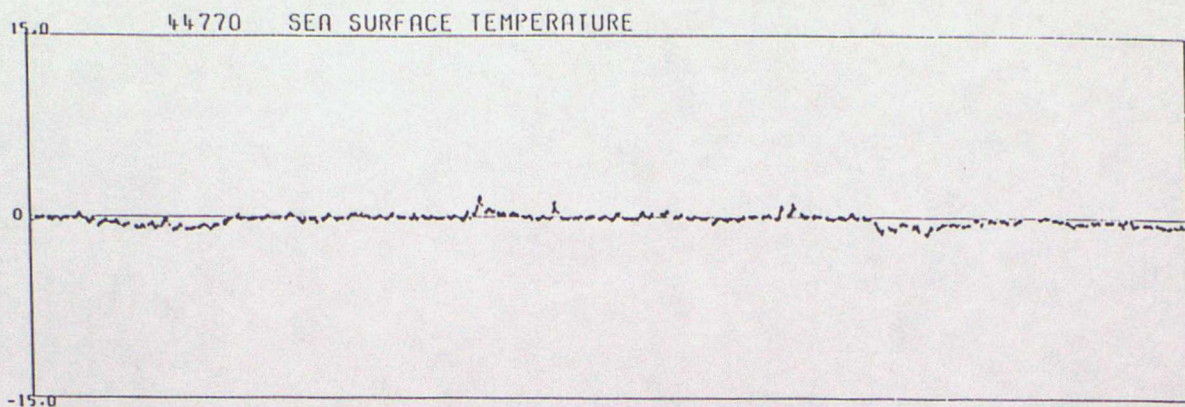
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



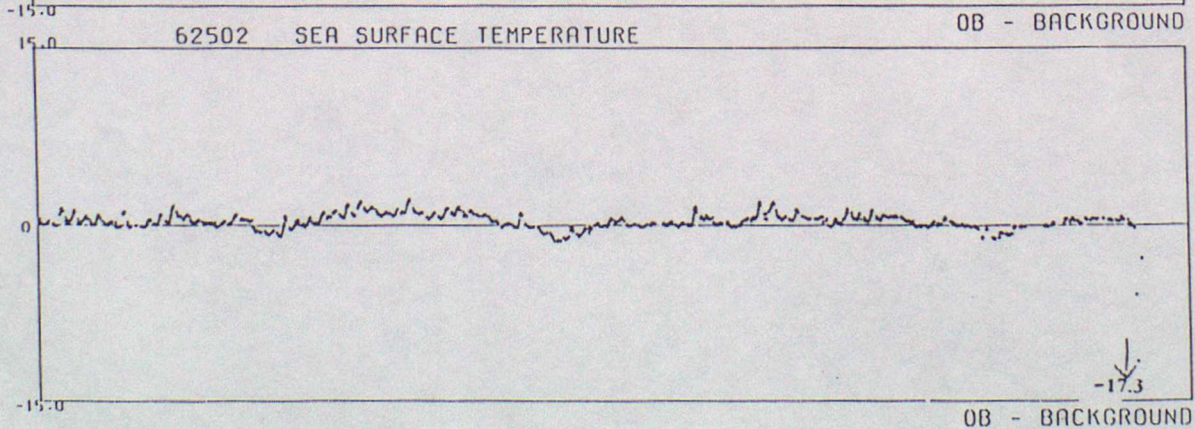
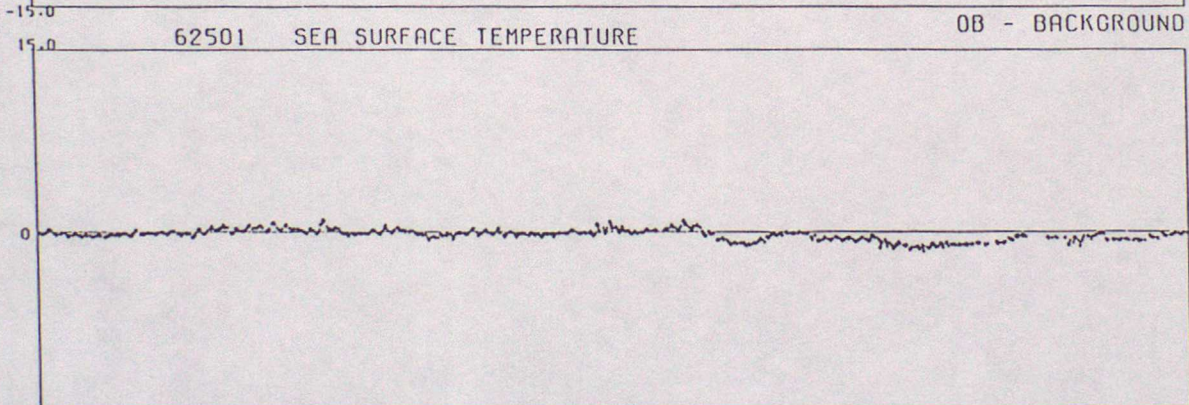
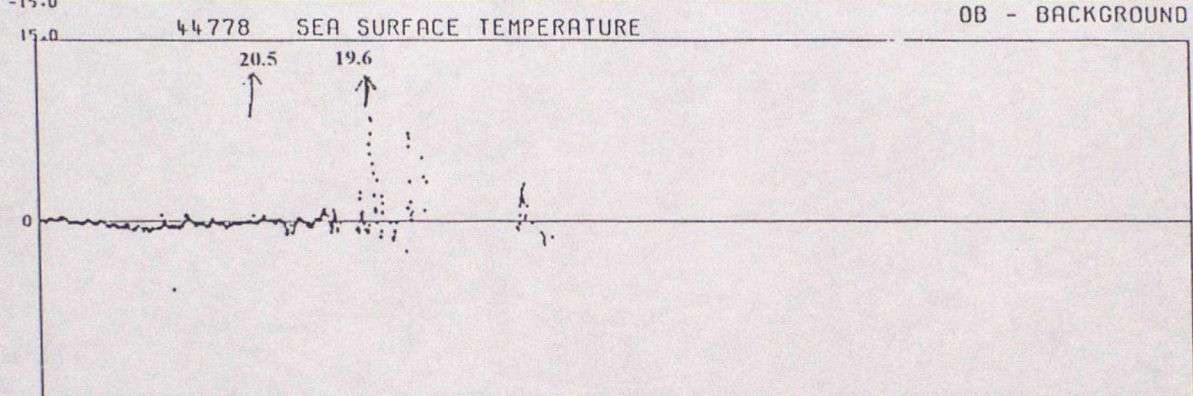
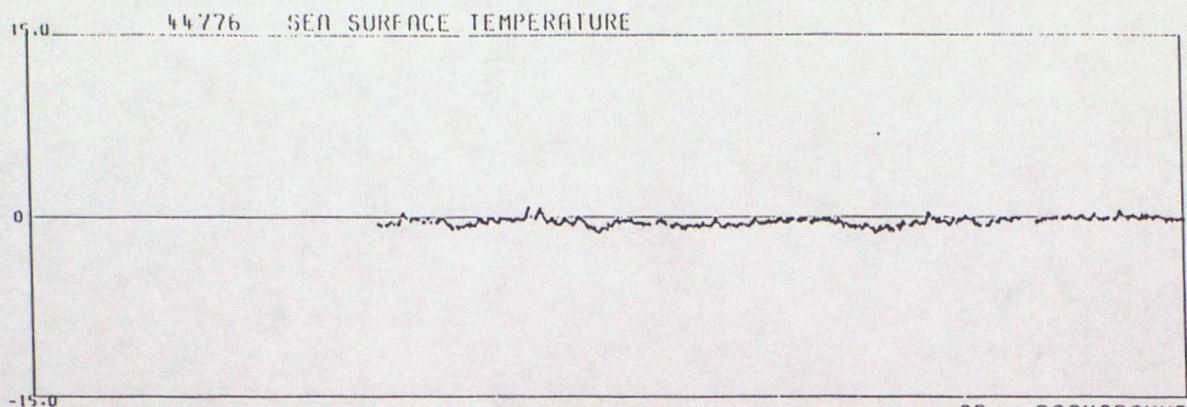
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



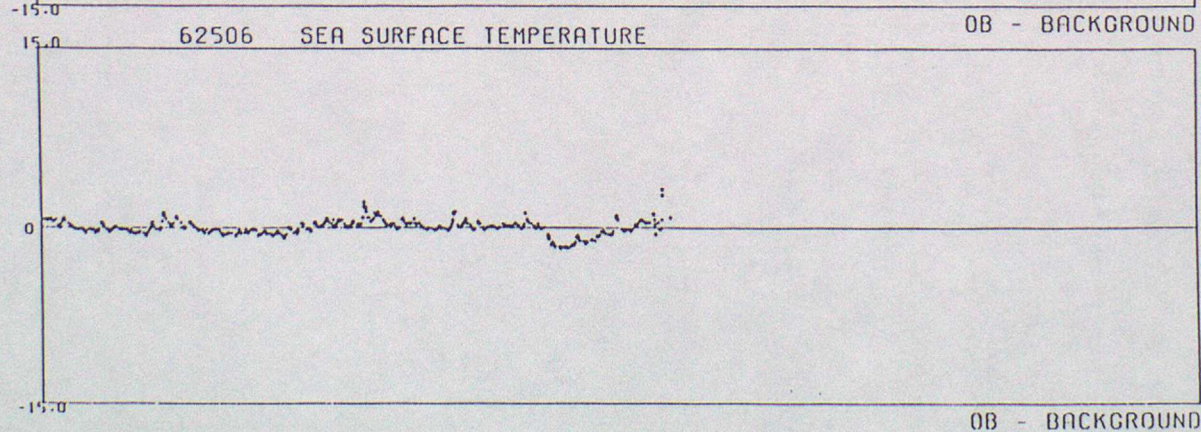
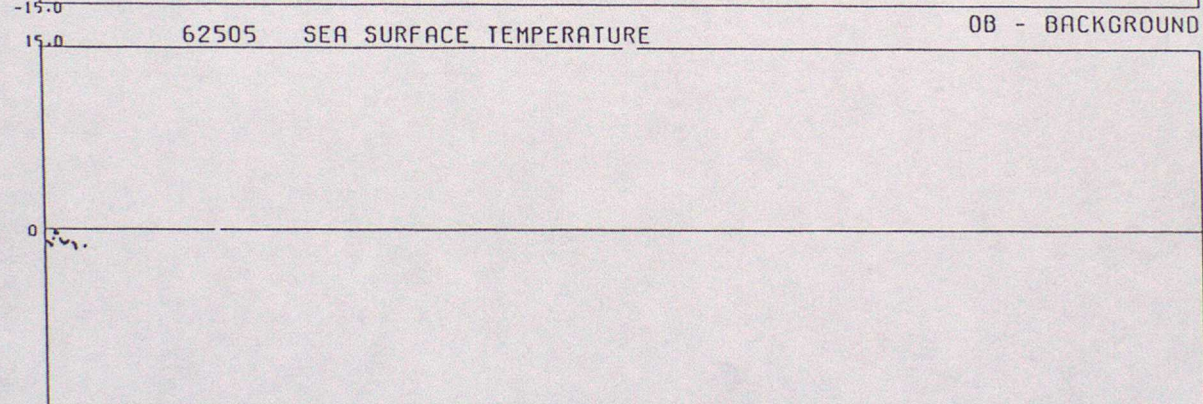
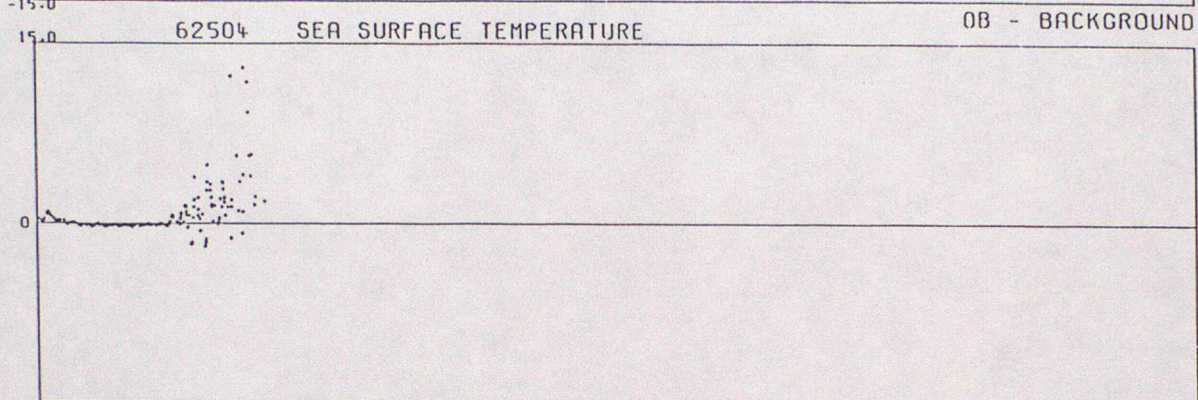
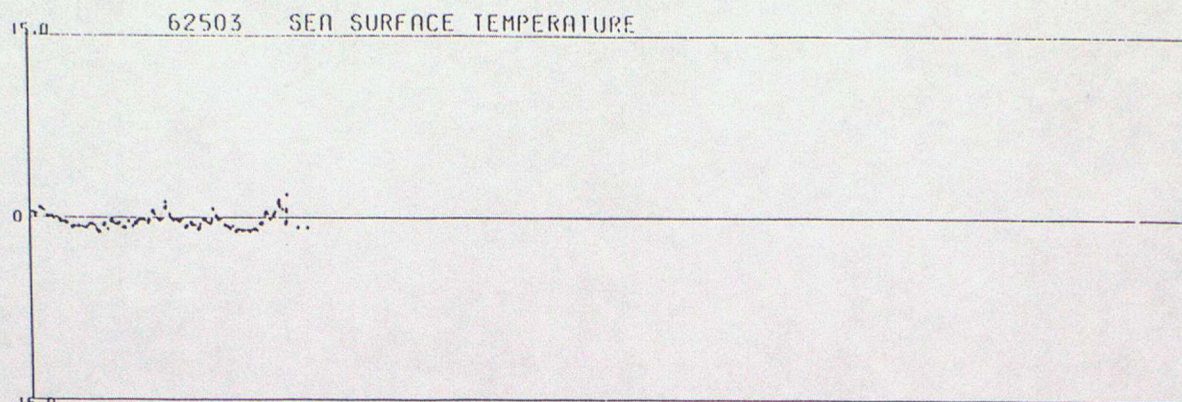
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

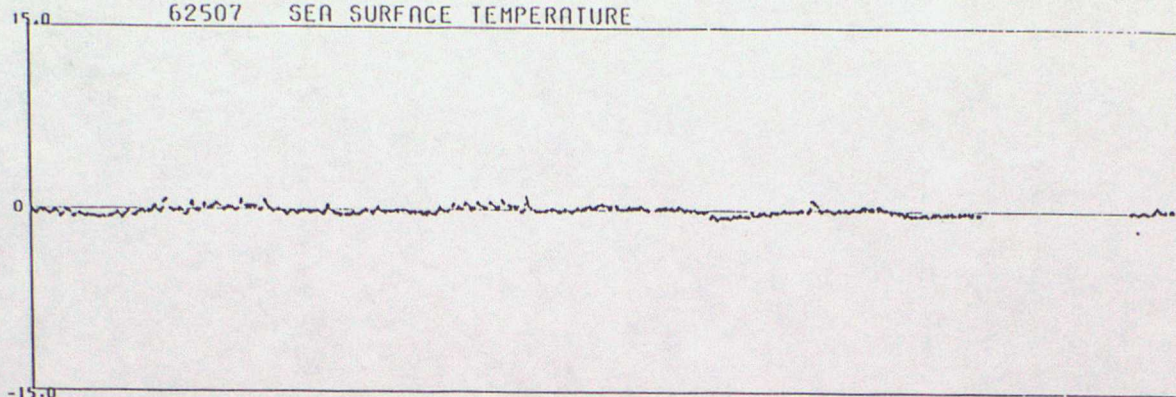


DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



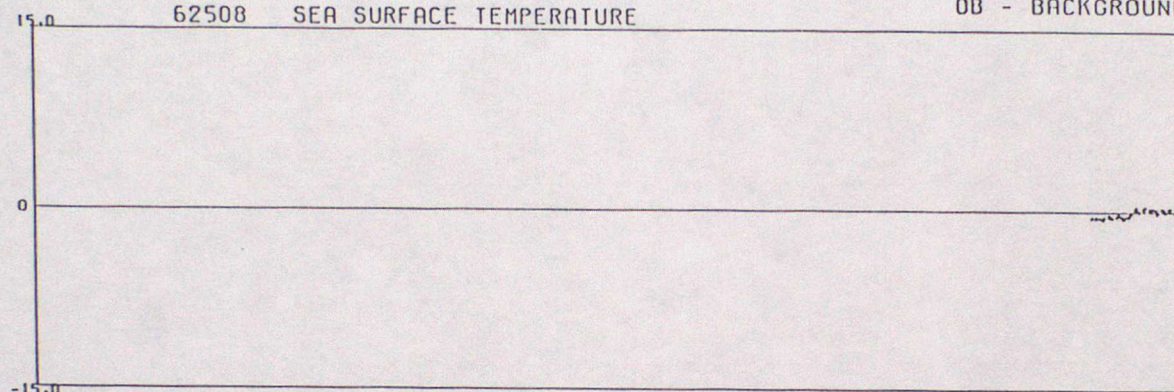
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

62507 SEA SURFACE TEMPERATURE



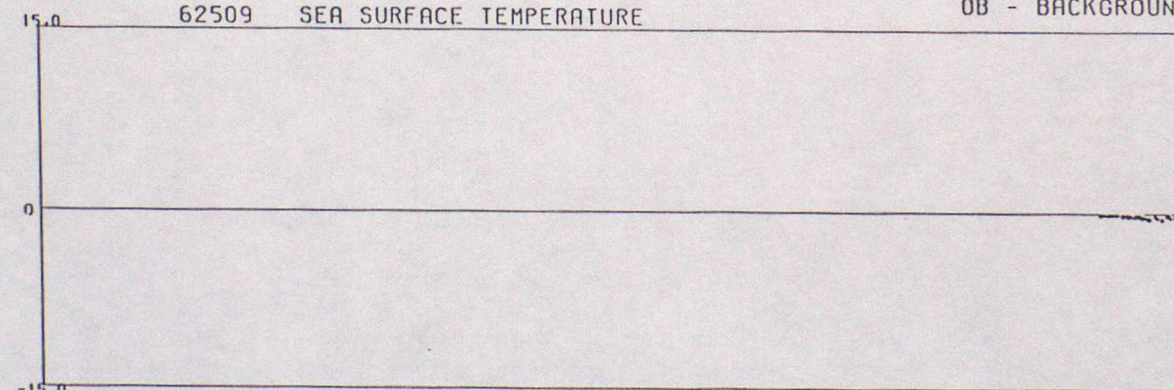
62508 SEA SURFACE TEMPERATURE

OB - BACKGROUND



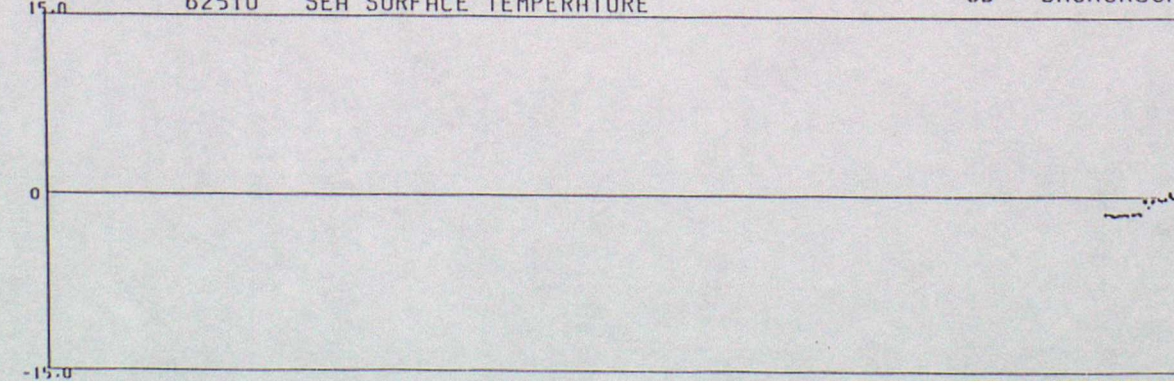
62509 SEA SURFACE TEMPERATURE

OB - BACKGROUND



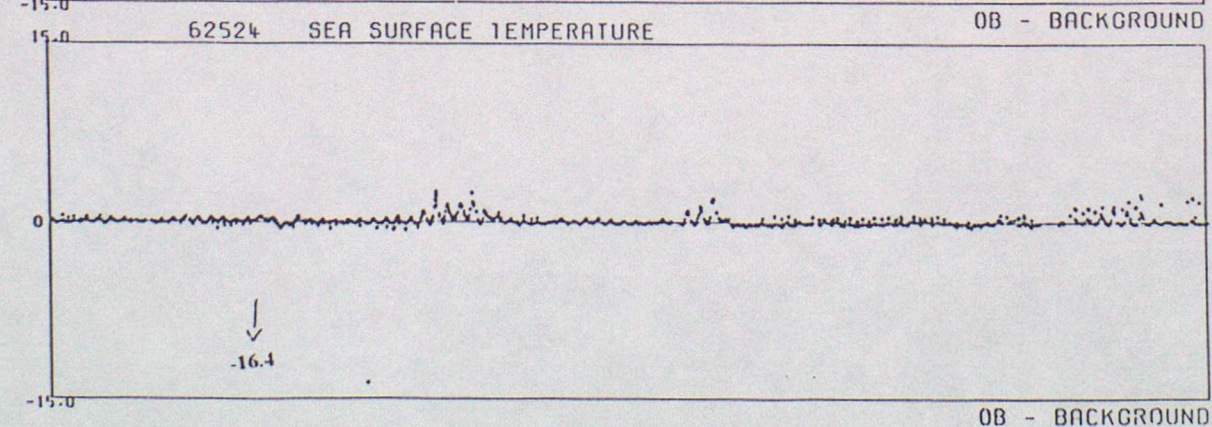
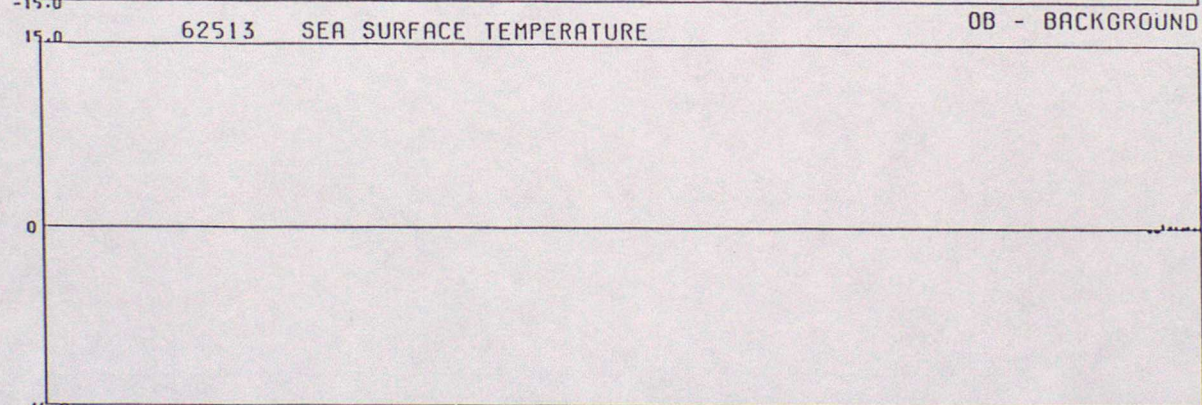
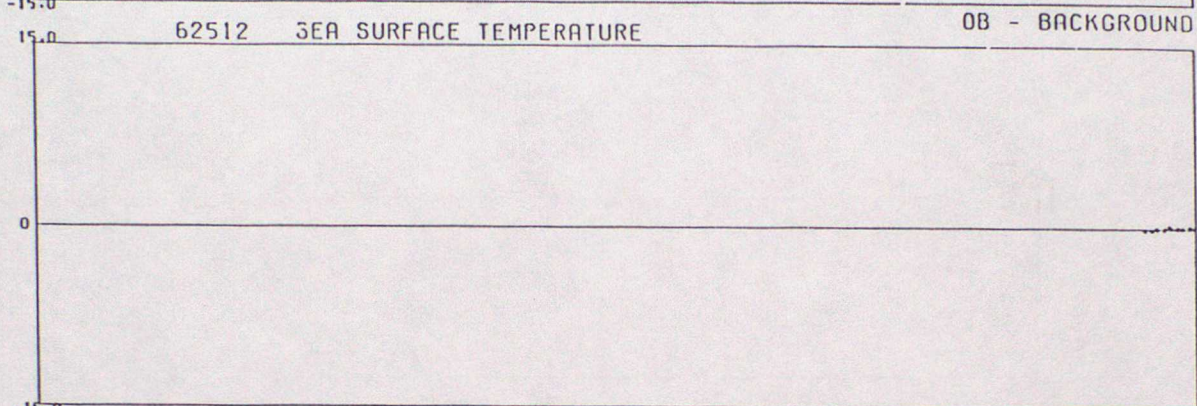
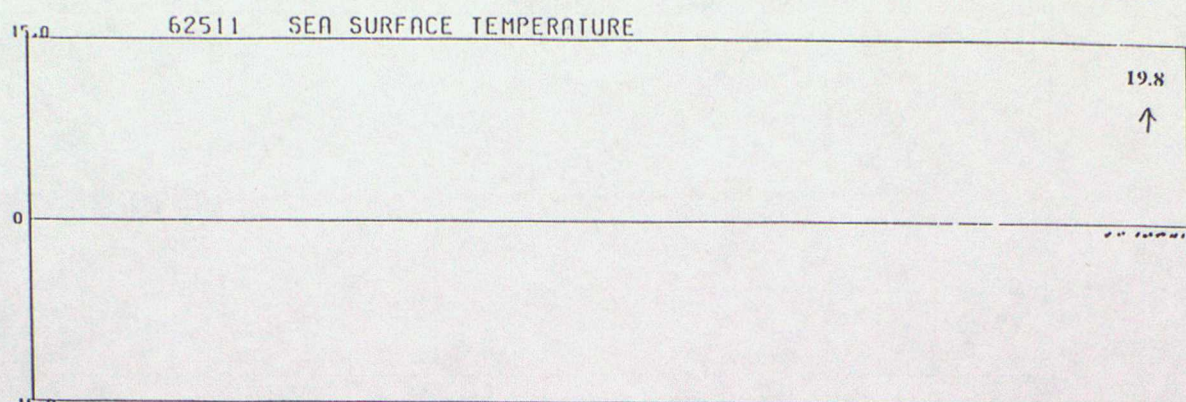
62510 SEA SURFACE TEMPERATURE

OB - BACKGROUND

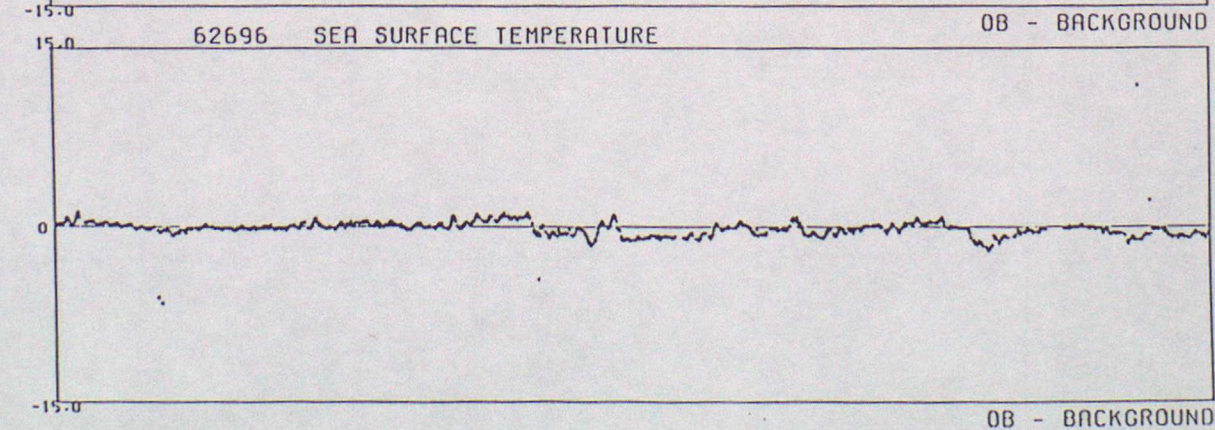
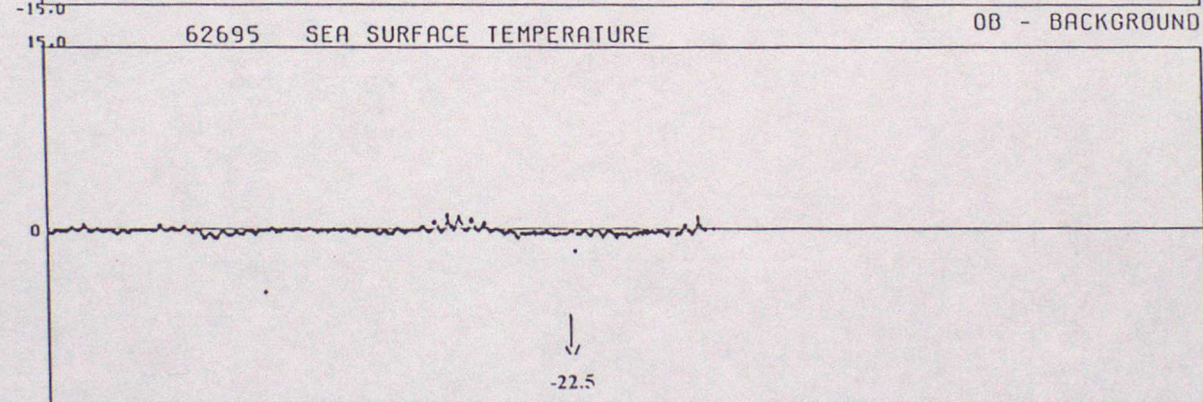
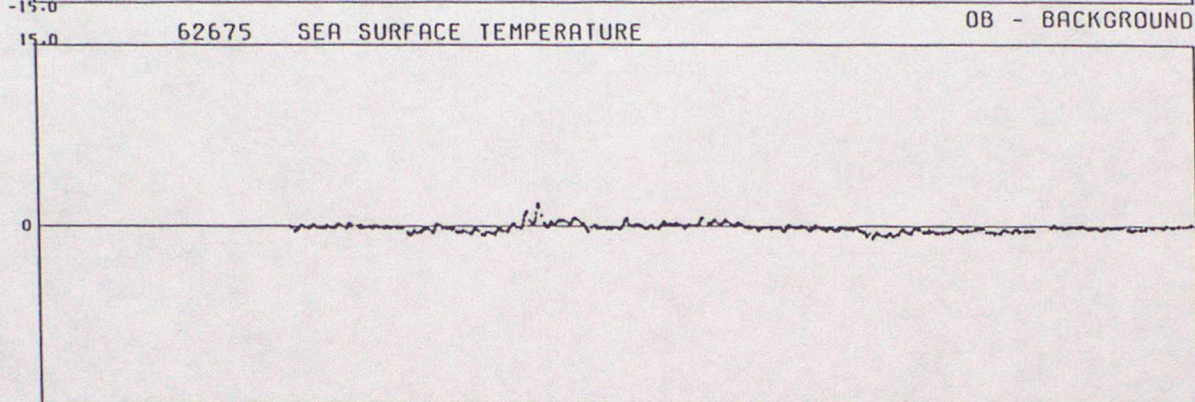
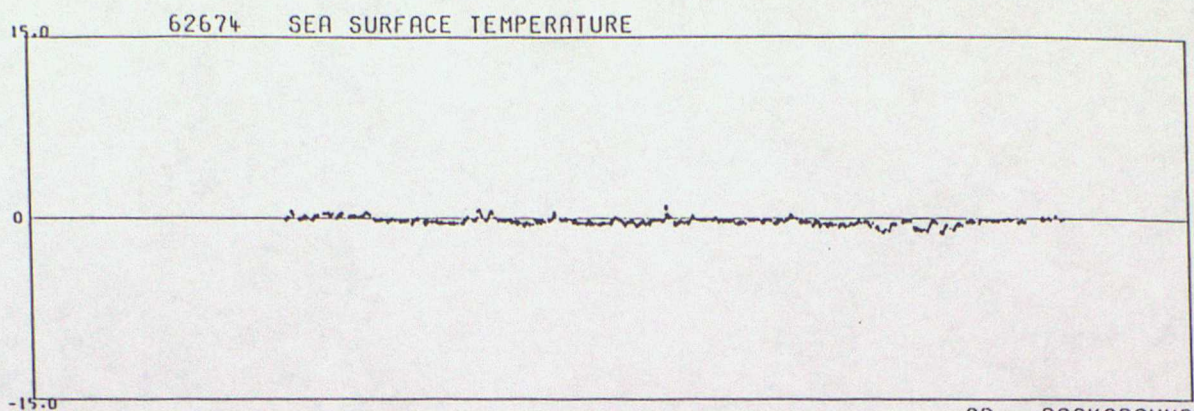


OB - BACKGROUND

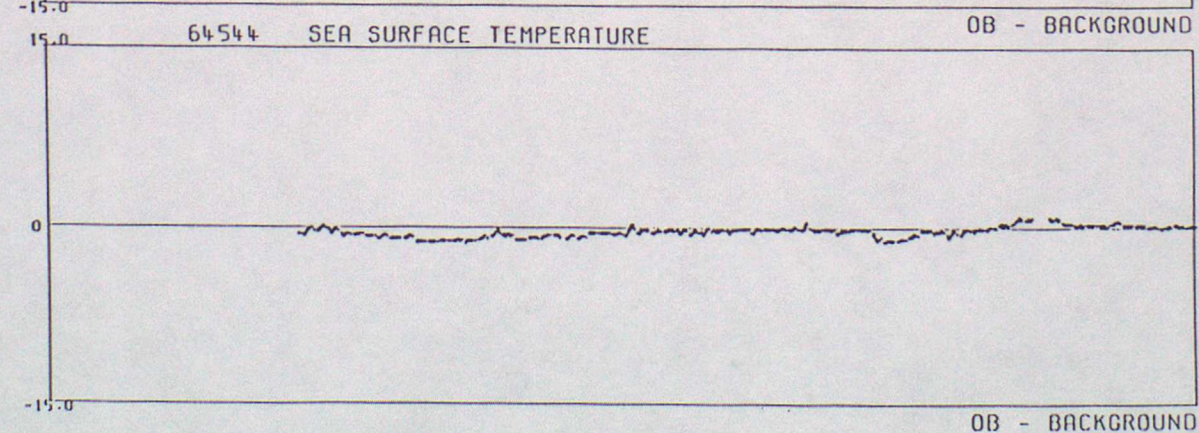
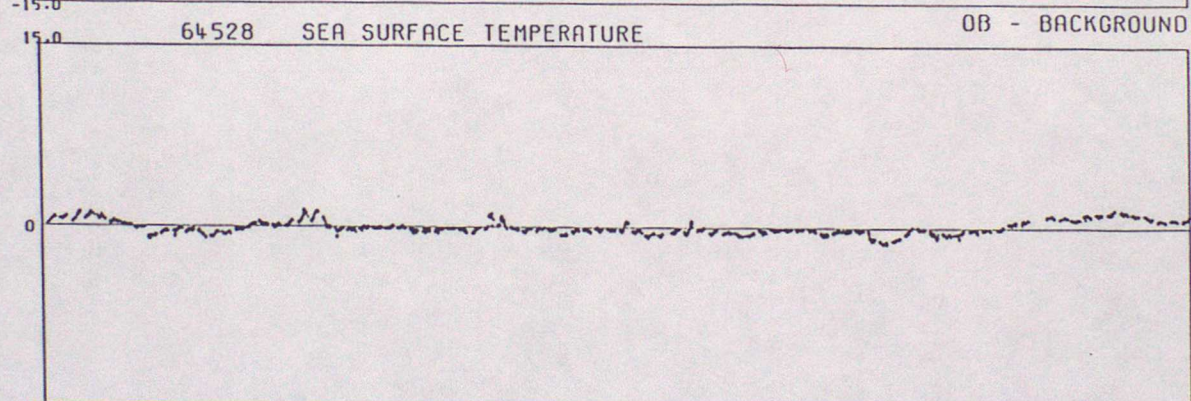
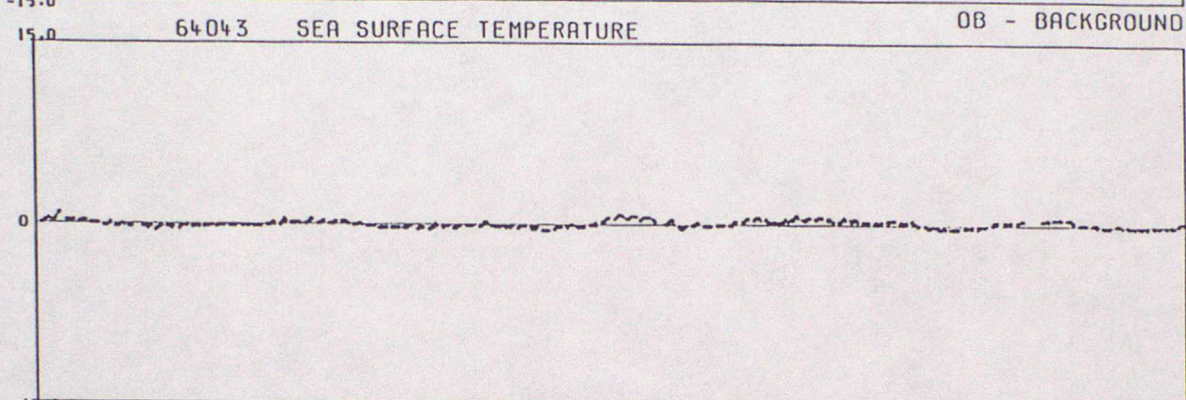
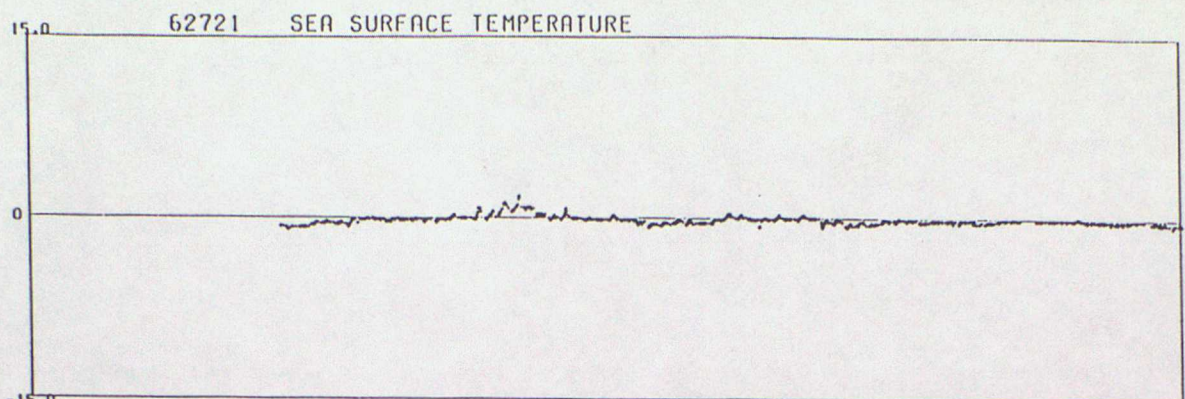
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



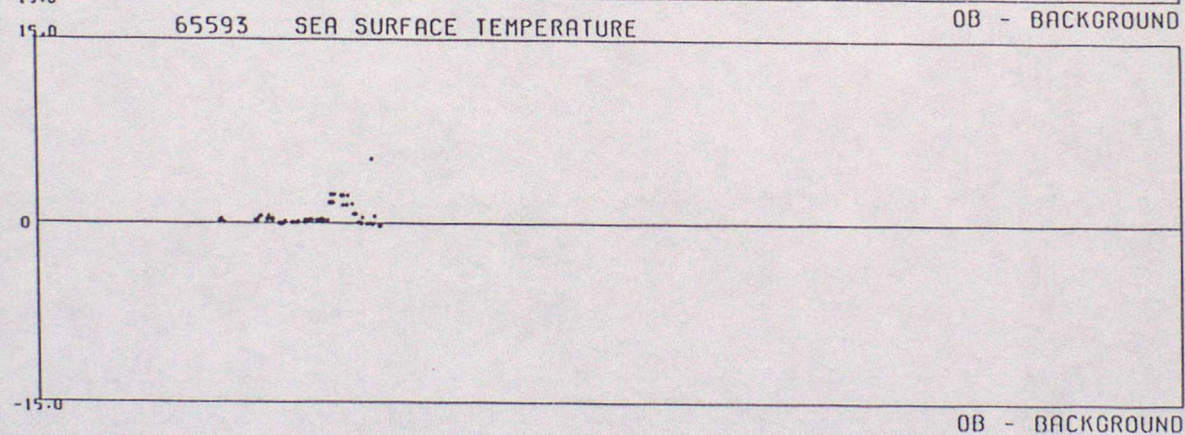
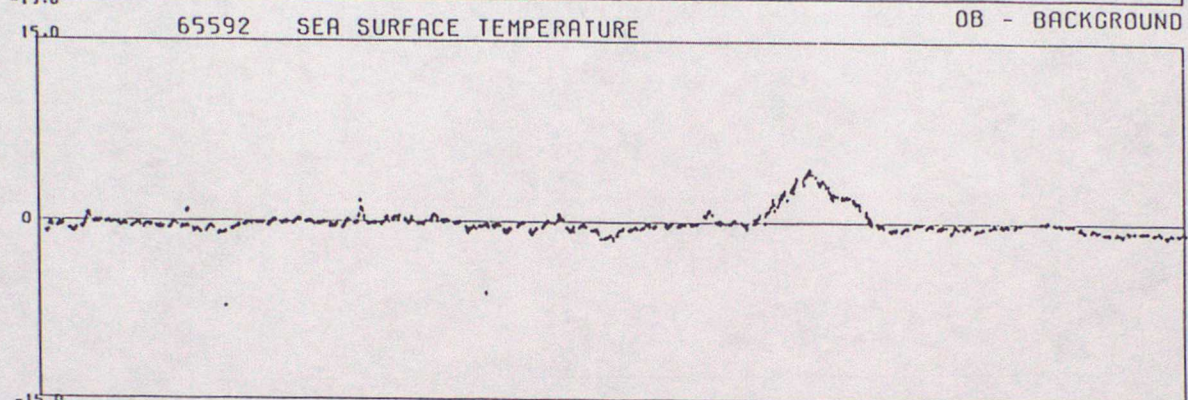
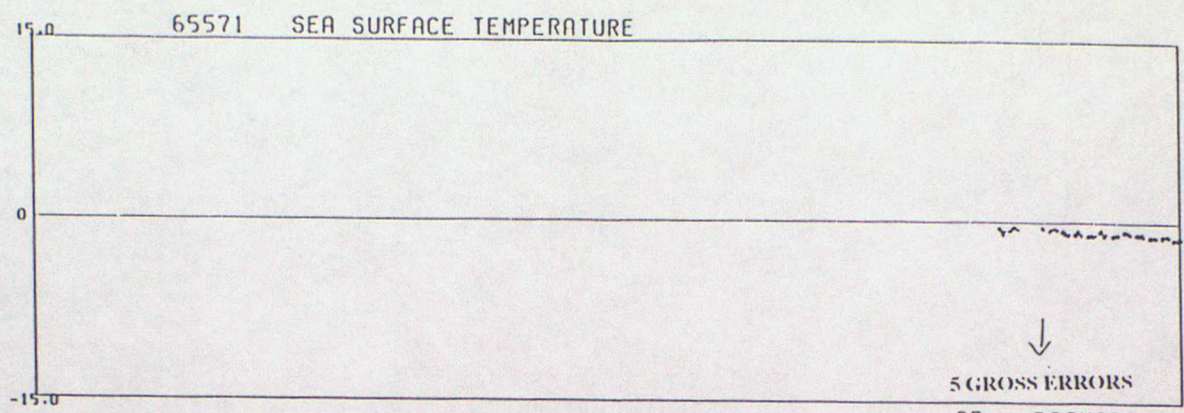
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

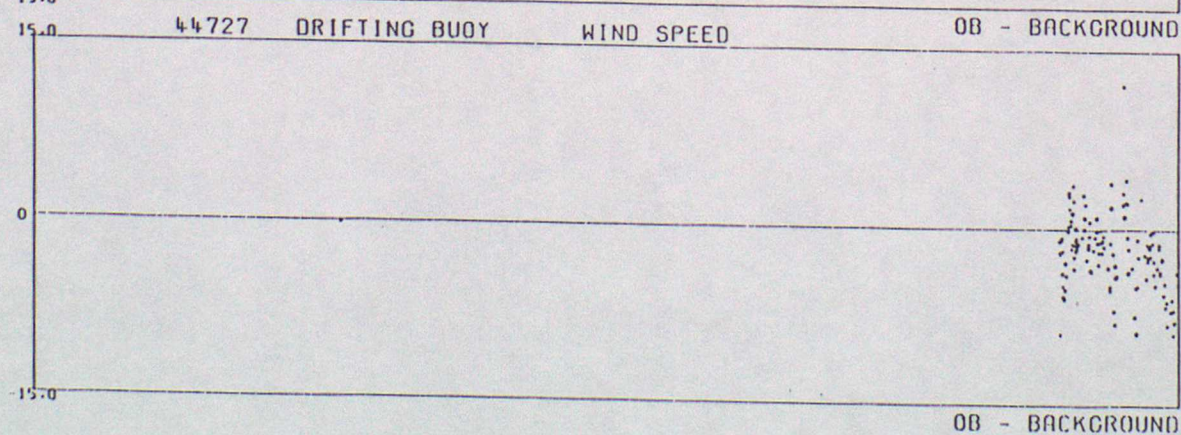
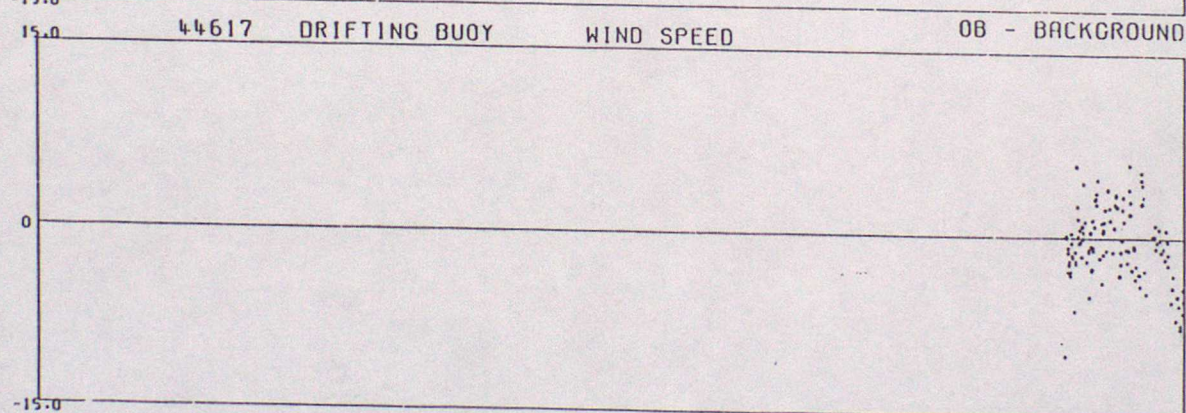
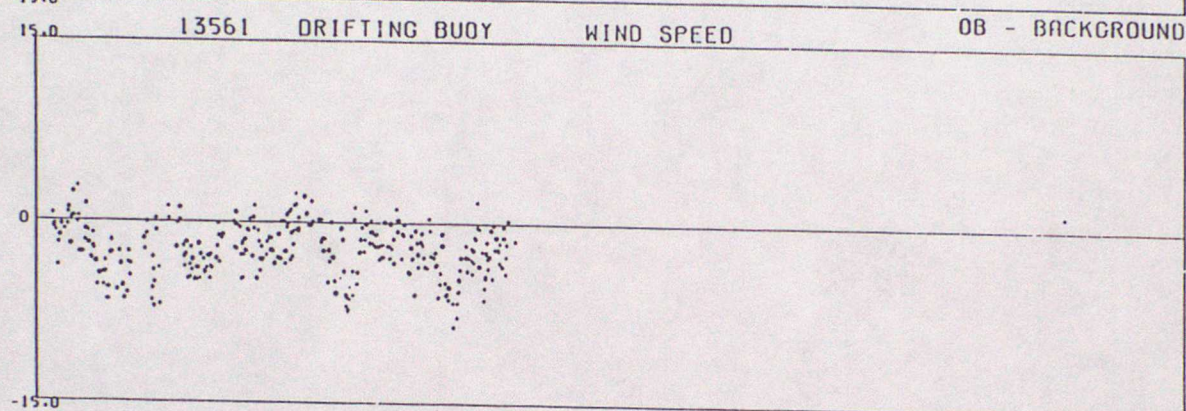
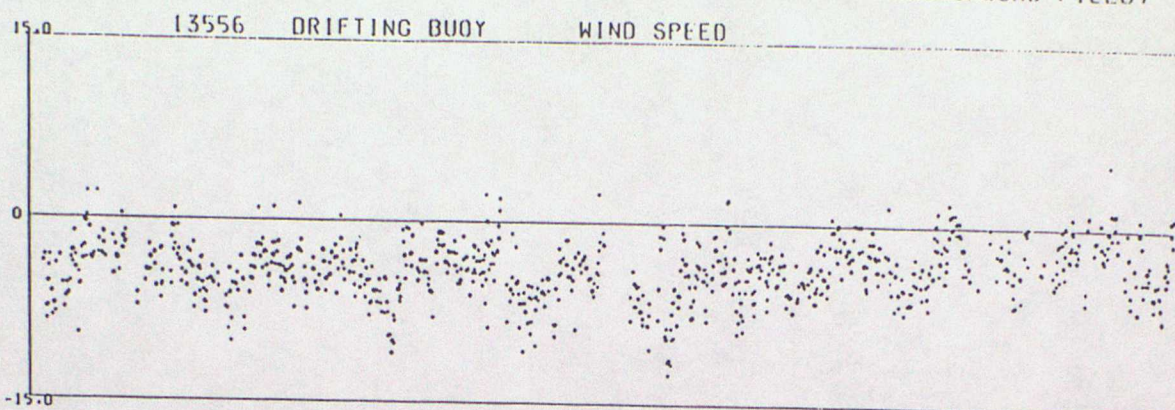


DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

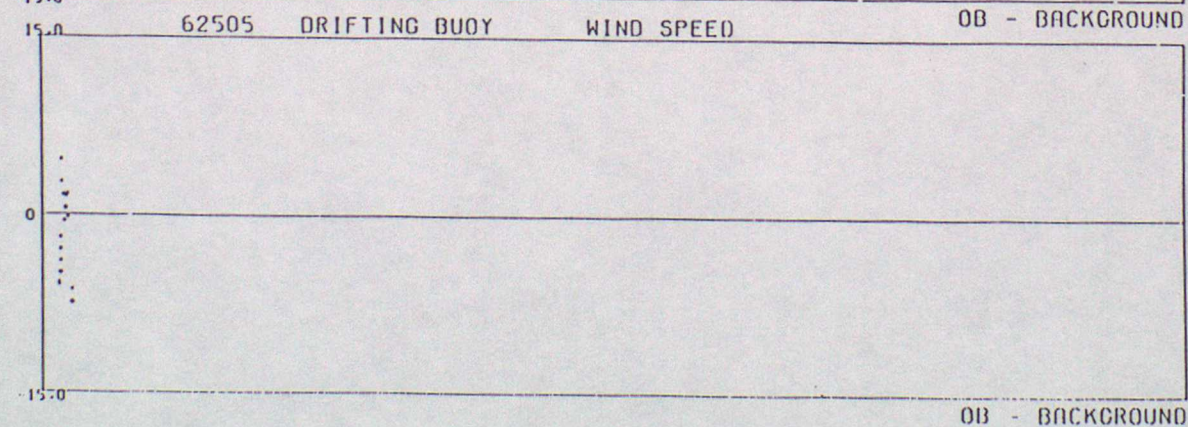
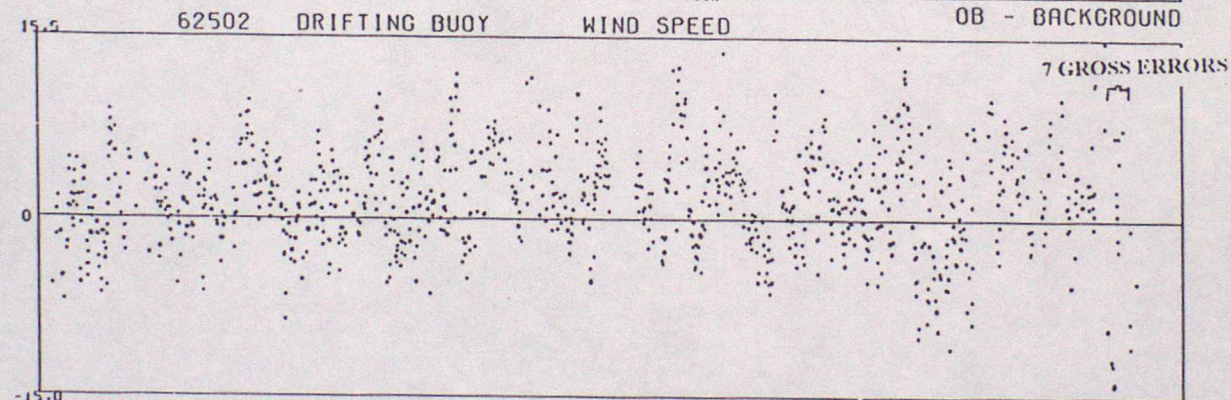
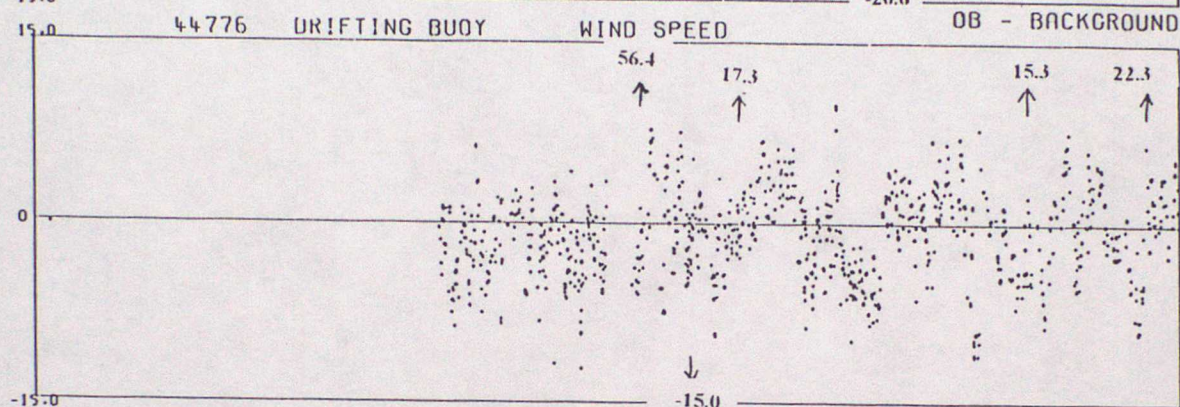
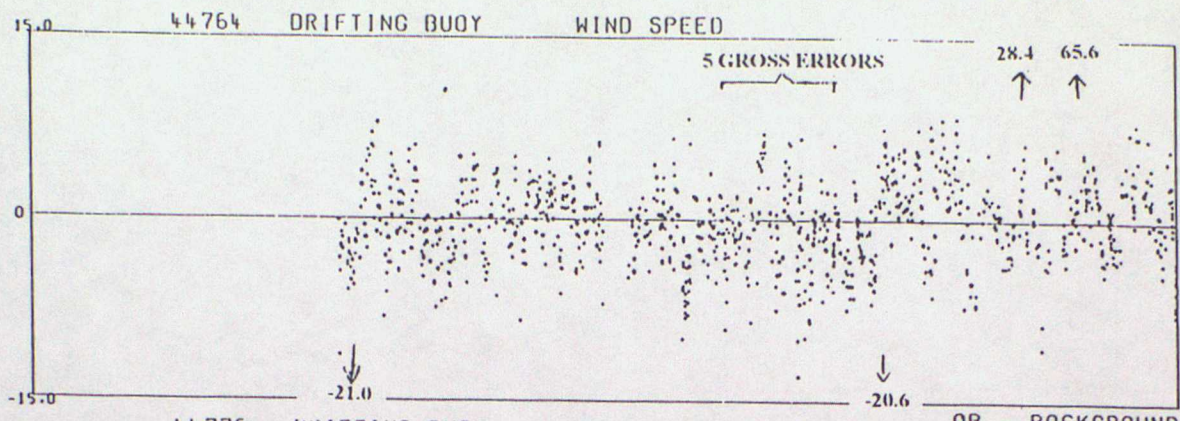


ANNEX E - TIME SERIES PLOTS OF WIND SPEED

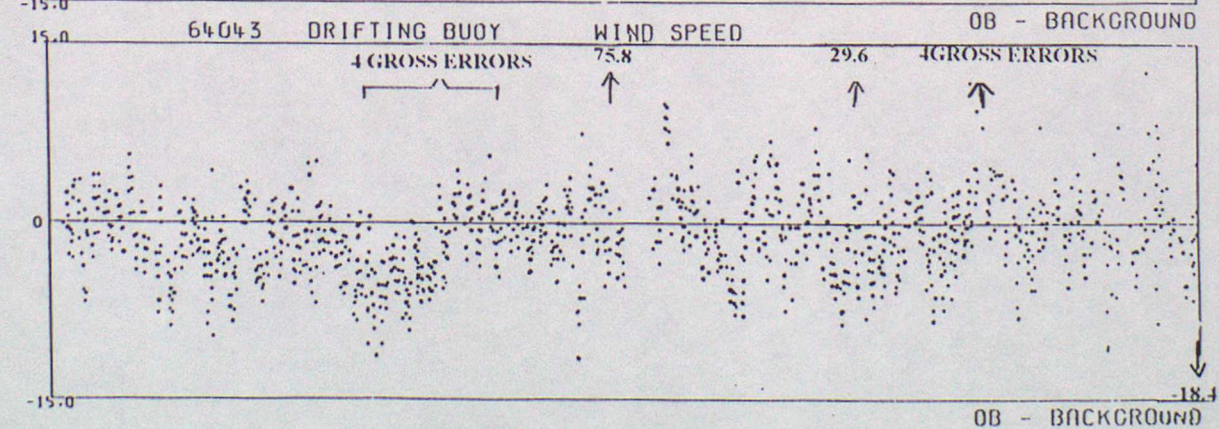
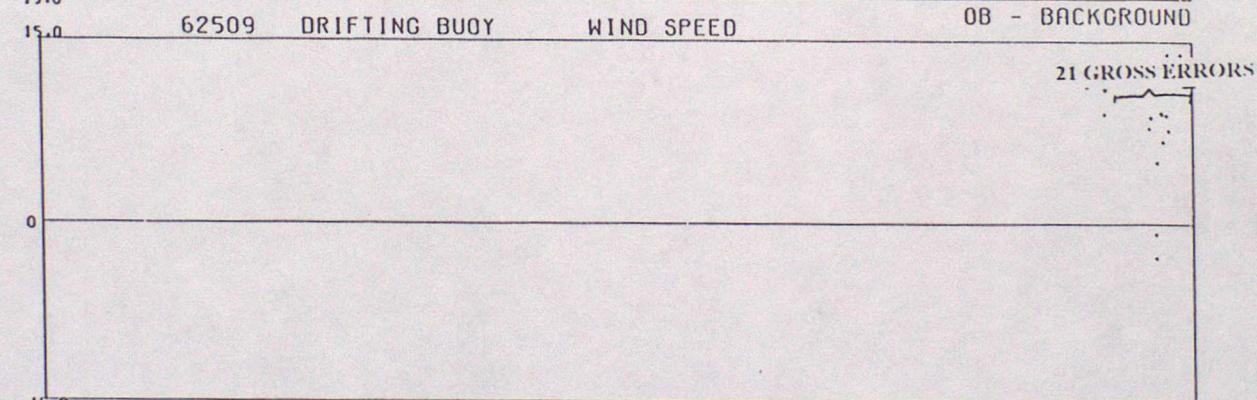
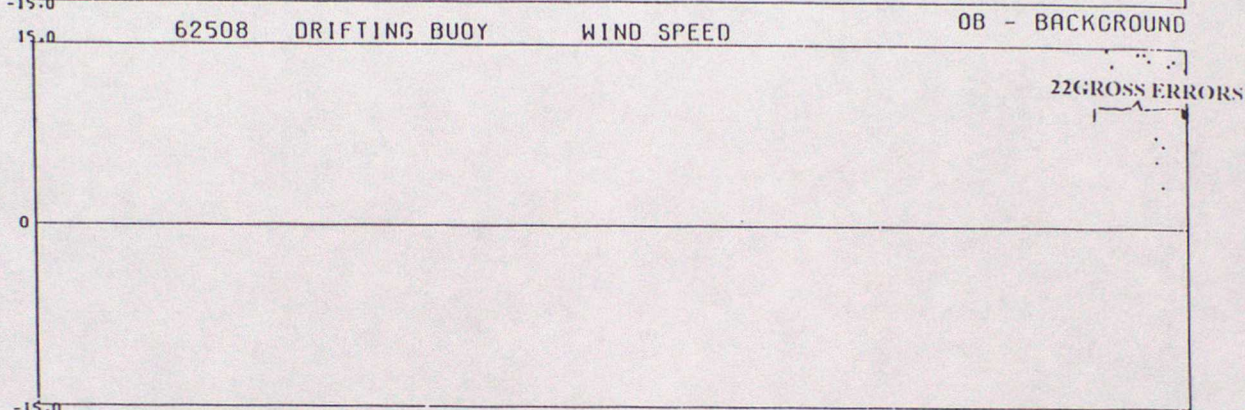
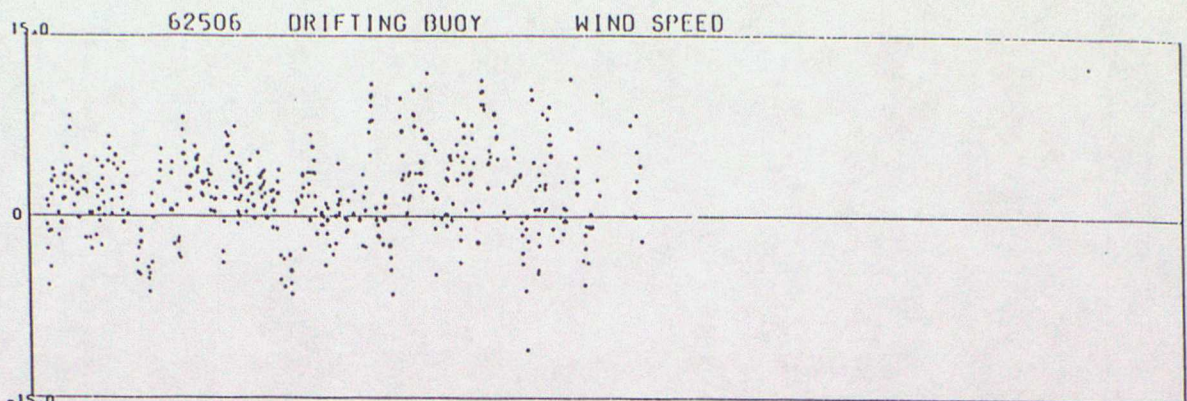
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

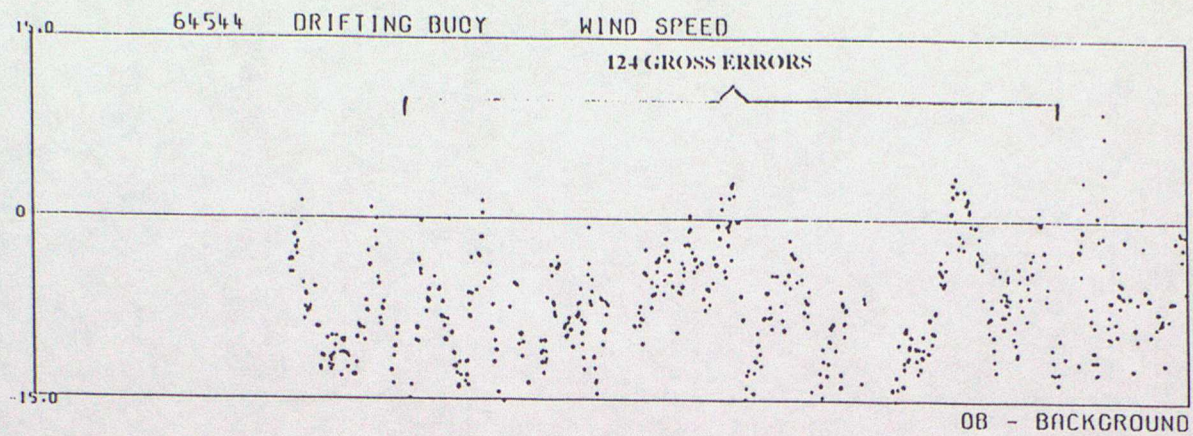


DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



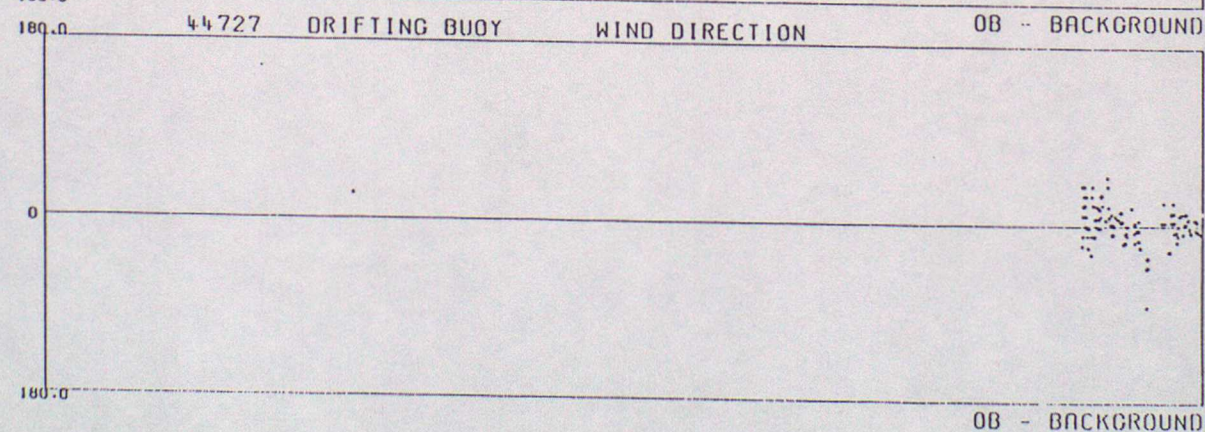
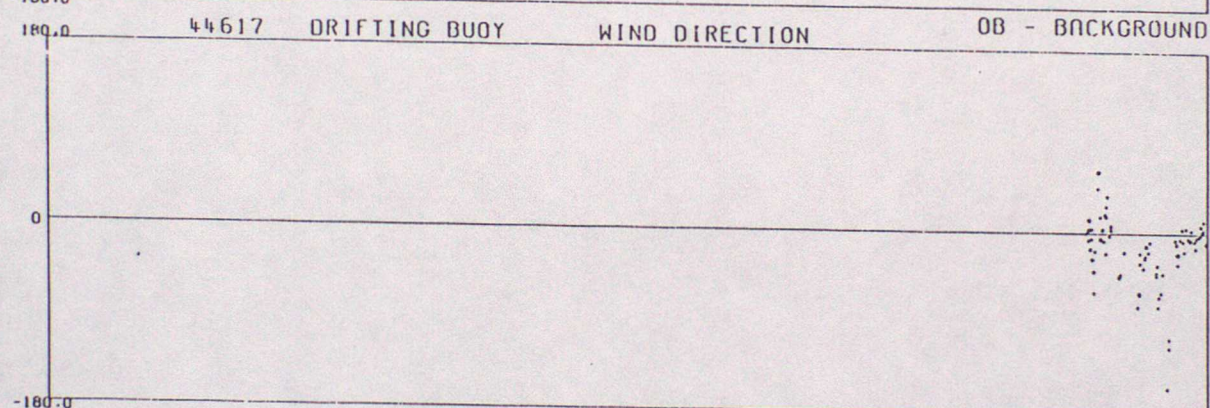
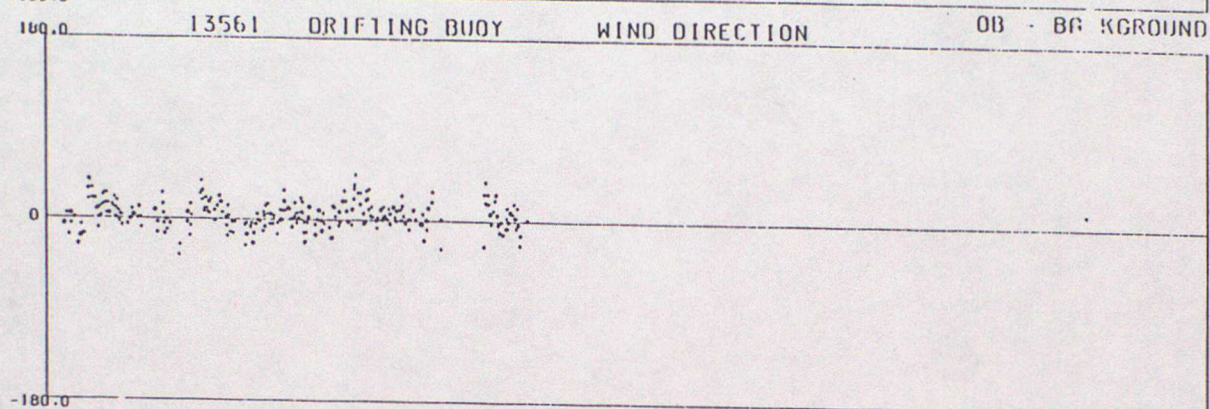
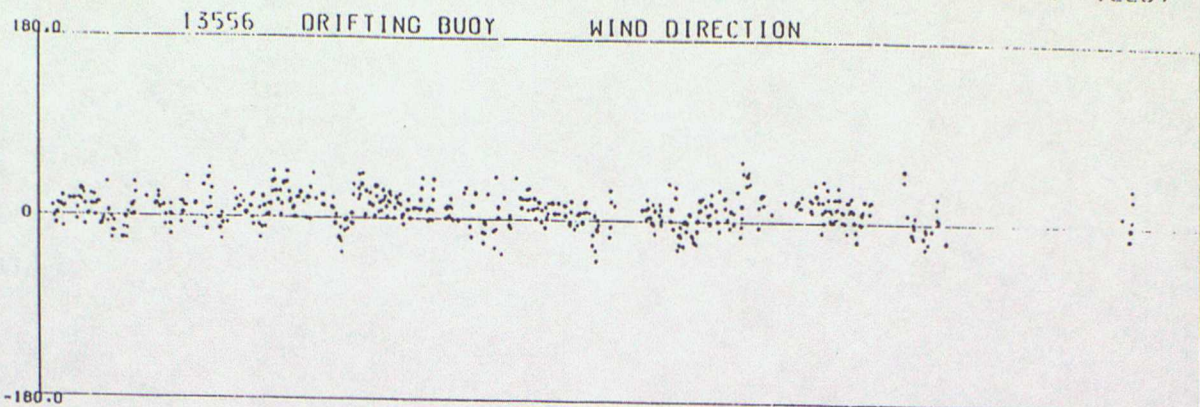
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



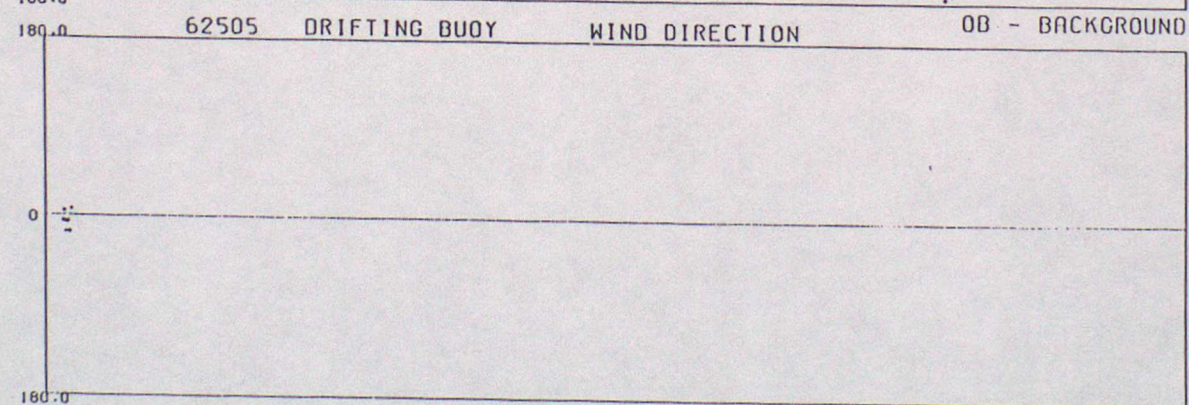
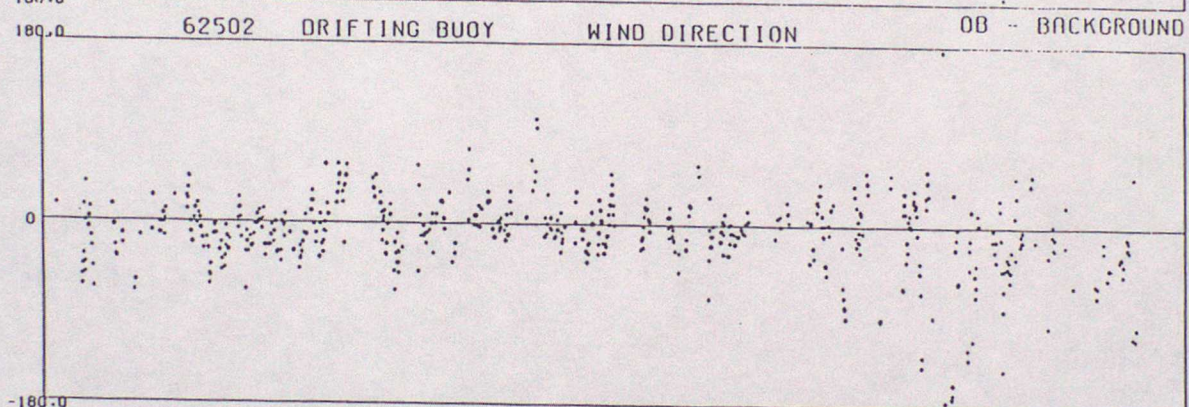
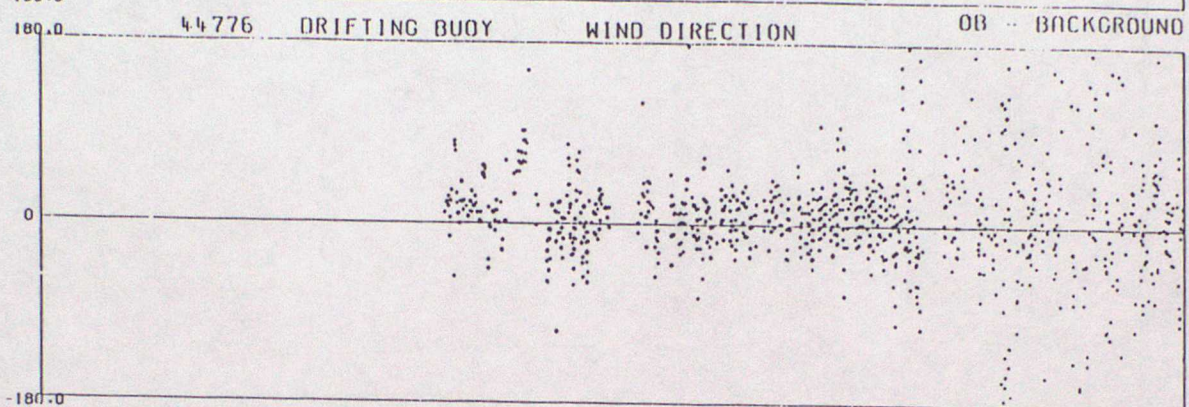
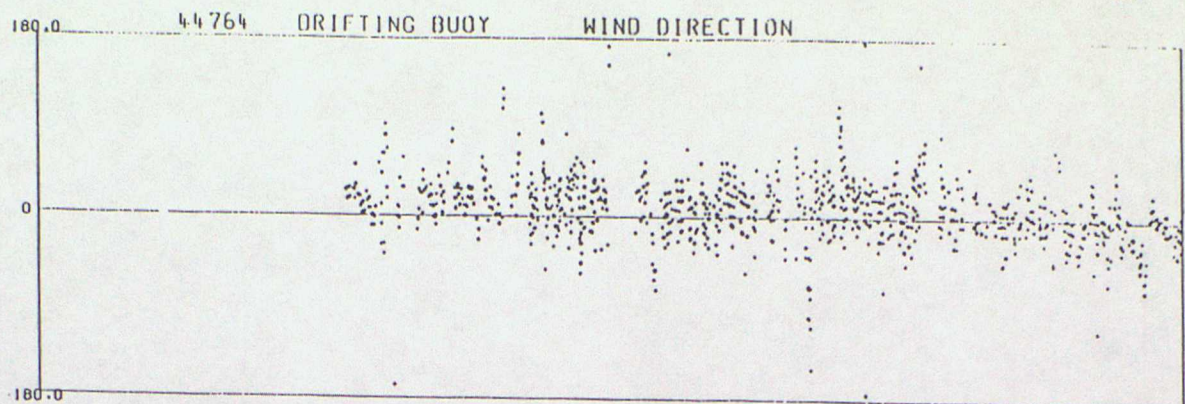


ANNEX F - TIME SERIES PLOTS OF WIND DIRECTION

DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)

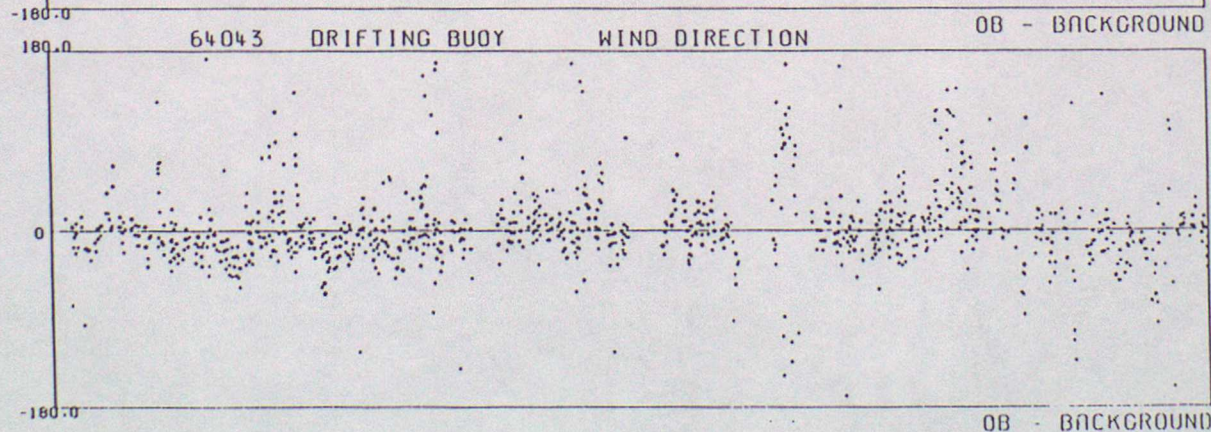
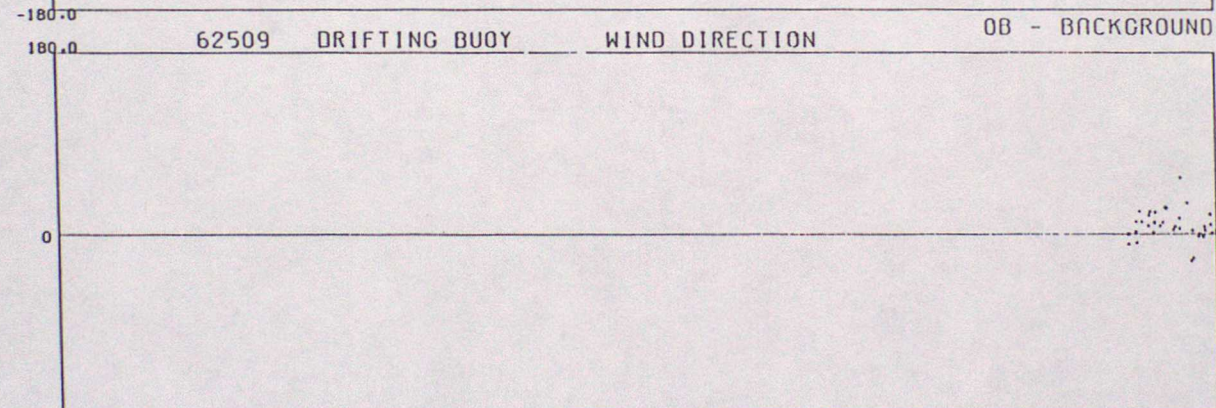
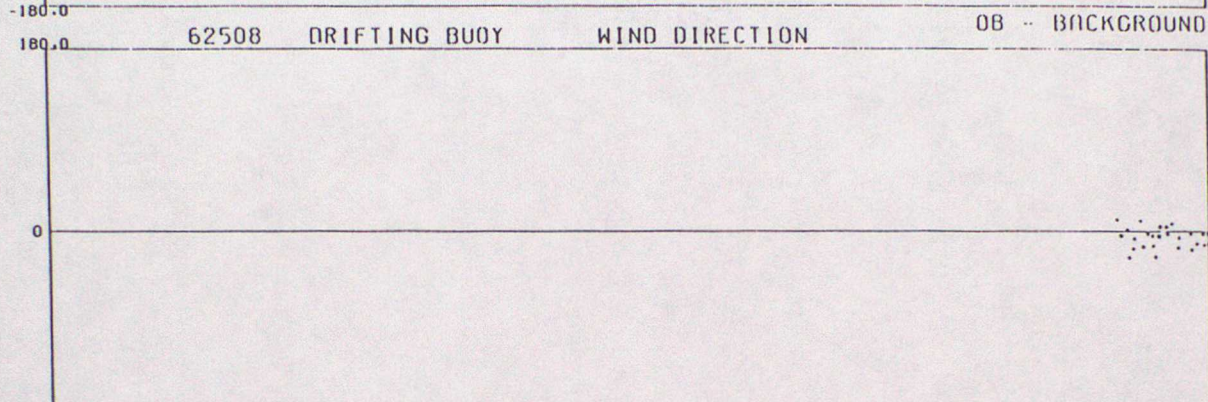
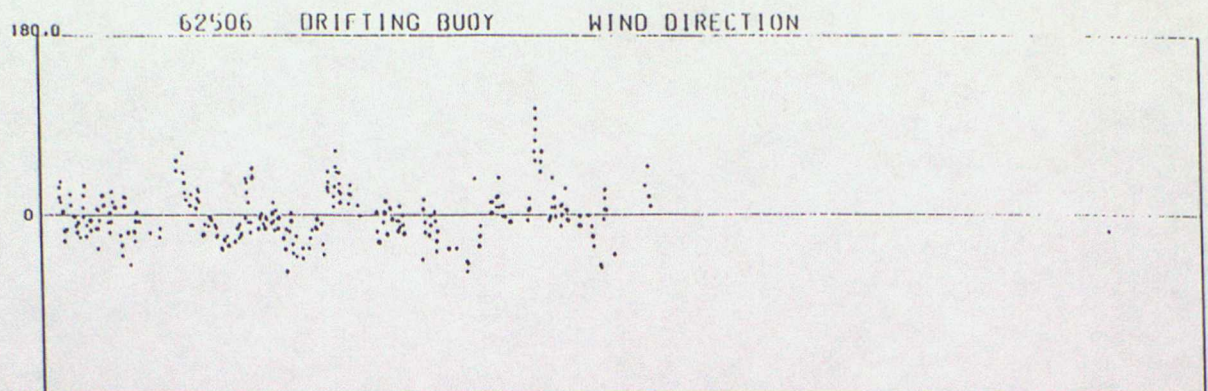


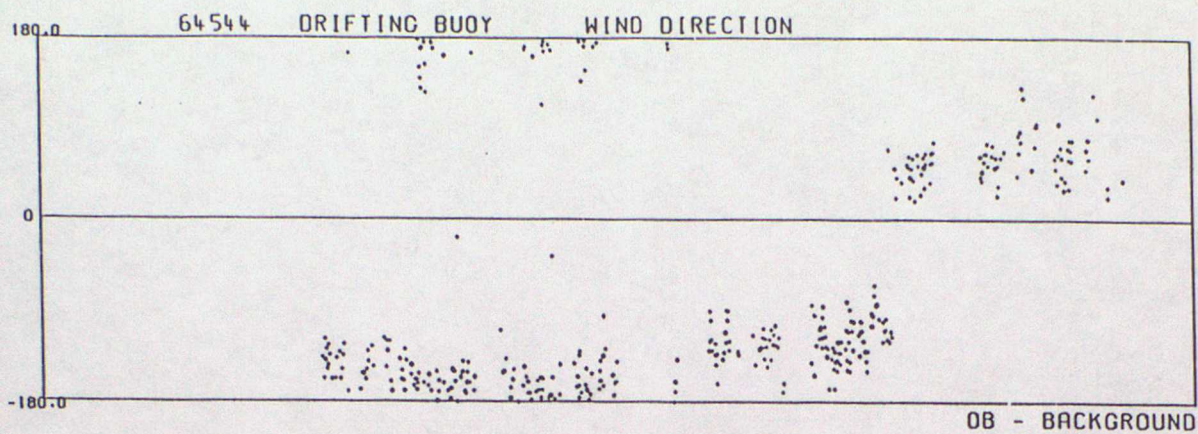
DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)



OB - BACKGROUND

DATA FROM 00Z ON 01/07/1994 TO 23Z ON 30/09/1994 (OBS - BACKGROUND FIELD)





ANNEX G - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

			Elements Reported						Reporting Period
WMO No.	Argos No.	Owner	PP	Pt	TT	FF	DD	SST	
13556	15526	F	*			*	*		01/07 - 30/09
13561	15531	F	*			*	*		01/07 - 30/09
44617	??	?	*	*	*	*	*	*	21/09 - 30/09
44727	??	?	*	*	*	*	*	*	21/09 - 30/09
44743	1370	UK	*						01/07 - 30/09
44761	9308	UK	*	*	*			*	01/07 - 30/09
44764	6306	UK	*	*	*	*	*	*	25/07 - 30/09
44766	4274	N	*	*	*			*	01/07 - 30/09
44767	6297	UK	*	*	*			*	01/07 - 30/09
44768	6295	UK	*	*				*	01/07 - 30/09
44769	6291	UK	*	*	*			*	01/07 - 30/09
44770	3039	N	*	*	*			*	01/07 - 30/09
44771	6290	UK	*	*	*			*	01/07 - 30/09
44774	6289	UK	*	*	*			*	01/07 - 30/09
44775	6293	UK	*	*	*			*	28/07 - 30/09
44776	6305	UK	*	*	*	*	*	*	28/07 - 30/09
44778	1259	UK	*	*	*			*	01/07 - 10/08
62501	10116	F	*	*				*	01/07 - 30/09
62502	15503	F	*			*	*	*	01/07 - 27/09
62503	10110	F	*	*				*	01/07 - 22/07
62504	10111	F	*	*				*	01/07 - 17/07
62505	10117	F	*	*		*	*	*	01/07 - 03/07
62506	10118	F	*	*		*	*	*	01/07 - 19/08
62507	14470	F	*	*				*	01/07 - 30/09
62508	??	F	*	*		*	*	*	23/09 - 30/09
62509	??	F	*	*	*	*	*	*	23/09 - 30/09
62510	??	F	*	*				*	23/09 - 30/09
62511	??	F	*	*				*	23/09 - 30/09
62512	??	F	*	*				*	23/09 - 30/09
62513	??	?	*	*				*	23/09 - 30/09

KEY

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

			Elements Reported						
WMO No.	Argos No.	Owner	PP	Pt	TT	FF	DD	SST	Reporting Period
62514	1356	F	*						01/07 - 30/09
62524	4625	UK	*	*	*			*	01/07 - 30/09
62674	11223	US	*		*			*	20/07 - 20/09
62675	11221	US	*		*			*	20/07 - 30/09
62695	2956	UK	*	*	*		*	*	01/07 - 22/08
62696	6288	UK	*	*	*			*	01/07 - 30/09
62671	12698	US	*		*			*	20/07 - 30/09
64043	6271	UK	*	*	*	*	*	*	01/07 - 30/09
64528	9306	NL	*	*	*			*	01/07 - 30/09
64544	14631	US	*		*	*	*	*	20/07 - 30/09
65571	??	?	*	*	*			*	16/09 - 30/09
65592	9309	NL	*	*	*			*	01/07 - 30/09
65593	3677	N	*	*	*			*	15/07 - 09/08

KEY

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

TT - Air temperature
SST - Sea surface temperature

