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OBSERVATIONS, PLANS AND REQUIREMENTS BRANCH

Quality Evaluation Section

**FORTY-SEVENTH QUARTERLY REPORT  
ON DRIFTING BUOYS  
IN THE NORTH ATLANTIC**

**JULY TO SEPTEMBER 1998**

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2<sup>nd</sup> December 1998

This report has not been published.  
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## 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. GENERAL PERFORMANCE

The following few sub-sections describe the general performance of the drifting buoys throughout the quarter.

### (a) Location Accuracy

The location accuracy was good with 73 out of 77 of the buoys reporting having a '% of observations with acceptable positions' greater than 95% (compared to 60 out of 68 last quarter).

### (b) Data timeliness

(see note 9 of section 6 for definition of terms.)

Timeliness	Last quarter.	This quarter
Very Good	51	60
Good	5	4
Satisfactory	4	7
Poor	4	0
Very poor	4	6
Total no. of buoys	68	77



(c) Data availability

(see note 9 of section 6 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	2	5	24	20
Good	5	11	8	12
Satisfactory	12	9	7	7
Poor	6	9	3	3
Very Poor	--	--	1	1

The total number of buoy days in the quarter was 5058 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 4906) and the number of 'buoy hours' with at least one observation was 77353 (compared with 77401 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 15.29 (last quarter the figure was 15.78).

**3. SUMMARY OF PRESSURE PERFORMANCE**

**NOTE 1**

Although buoys 64563 and 65562 (both North of 50°N) were reporting at the beginning of the period, pressure ob-bg (observation – background) values were not available until 10/7/98 and 11/07/98 respectively.

(a) Buoy deployments, etc.

**North of 50deg N**

There were 36 buoys reporting pressure at the beginning of the period. This figure includes buoys 48518 and 63666 which were not included in the last report, but were both reporting on the first day of this quarter. 32 buoys were operating at the end of the period. 7 new buoys were deployed (44767, 44770, 62514, 62515, 62517, 65581 and 65599). 11 buoys ceased reporting pressure (44609, 44616, 44621, 44727, 44765, 44771, 62553, 62673, 62803, 63666 and 64530).

**South of 50deg N**

There were 16 buoys reporting pressure at the beginning of the period. This figure includes buoy 41521 which was not included in the last report, but was reporting on the first day of this quarter. 28 buoys were reporting at the end of the period. 18 new buoys were deployed (41504, 41505, 41528, 41625, 41629, 41635, 44760, 44772, 62508, 62511, 62512, 62513, 62516, 62518, 62519, 62520, 62554 and 62755). 6 buoys ceased reporting (44760, 62508, 62509, 62551, 62557 and 62755).

Although buoy 62758 reported pressure throughout the period, this data was no longer available in the OPD (Observation Processing Databank) after 07/09/98.



(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°N the Revised RMS differences should be less than 2.0 hPa and for buoys north of 50°N 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:-

- 41635 - This buoy reported a bias of +1.2 from the start of its life until the end of the period.
- 44743 - Pressure data showed a larger than normal scatter during the early part of September.
- 44772 - Pressure data showed a larger than normal scatter, from the start of the buoys life until the end of the period.
- 44925 - Pressure data showed a larger than normal scatter, particularly during September.
- 62516 - This buoy reported a bias of +0.9 from the start of its life until the end of the period.
- 62518 - Data from this buoy became erroneous from 29/09/98 until the end of the period.
- 62557 - Data from this buoy became erroneous from 24/07/98 until the end of its life(03/08/98).



### Biases

Six 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.	Buoy bias (hPa)	Period of reports
44774	-1.1	01/07 – 30/09
44901	0.8	01/07 – 30/09
44912	0.7	01/07 – 30/09
62511	0.7	02/07 – 30/09
62517	-1.5	28/09 – 30/09
62755	-0.7	03/07 – 18/07

### Summary of Pressure Performance

Pressure Summary	Last Quarter	This Quarter
Acceptable	56	64
Suspect - RMS	7	7
Suspect - Bias	5	6
Total no. of buoys	68	77

### (4) Air Temperatures

The following table shows the mean and standard deviation of observation minus background differences for air temperatures.

(Note : The calculations below exclude the majority of gross errors. However, gross errors within +/-20 °C of the background value are included. Therefore, in some instances, the figures may be slightly misleading.)



Air Temperature				Air Temperature			
WMO No.	Mean	St. Dev	No. of Obs	WMO No.	Mean	St. Dev	No. of Obs
13906	---	---	---	41504	0.9	1.0	428
41505	---	---	---	41521	0.8	1.1	815
41528	---	---	---	41597	---	---	---
41625	0.8	1.5	436	41629	0.6	1.5	423
41635	---	---	---	44601	---	---	---
44602	---	---	---	44603	---	---	---
44604	---	---	---	44606	---	---	---
44609	---	---	---	44613	0.8	1.3	2192
44616	---	---	---	44617	0.4	1.2	3626
44621	1.4	1.0	2093	44726	---	---	---
44727	0.5	1.1	5874	44742	0.1	1.3	2514
44743	---	---	---	44760	0.3	2.7	92
44765	---	---	---	44767	---	---	---
44768	---	---	---	44770	---	---	---
44771	---	---	---	44772	---	---	---
44773	-0.4	1.9	3945	44774	0.3	1.4	2870
44775	0.7	1.1	3983	44776	---	---	---
44778	0.0	1.8	3747	44779	---	---	---



	Air Temperature				Air Temperature		
WMO No.	Mean	St. Dev	No. of Obs	WMO No.	Mean	St. Dev	No. of Obs
44780	0.4	1.5	4283	44901	---	---	---
44912	---	---	---	44925	---	---	---
48518	3.6	4.5	2064	62506	0.3	0.7	1567
62508	---	---	---	62509	---	---	---
62510	---	---	---	62511	---	---	---
62512	---	---	---	62513	---	---	---
62514	---	---	---	62515	---	---	---
62516	---	---	---	62517	-0.6	0.7	46
62518	---	---	---	62519	---	---	---
62520	---	---	---	62551	---	---	---
62553	0.0	0.8	1126	62554	---	---	---
62557	---	---	---	62673	3.3	2.0	267
62674	0.7	1.4	1340	62755	---	---	---
62758	---	---	---	62803	---	---	---
63666	-1.1	2.1	459	64528	0.3	0.9	3858
64529	0.2	1.4	4288	64530	---	---	---
64561	---	---	---	64563	0.1	1.0	5433
65562	0.3	0.8	5601	65571	0.5	1.7	4681
65581	0.1	1.0	1337	65591	0.5	1.7	2991
65592	0.4	1.7	4708	65597	0.1	3.1	4251
65599	2.6	1.6	25				



### *Summary*

Buoys 44621 (+1.4), 62673 (+3.3) and 63666 (-1.1) all showed a significant air temperature bias.

Data from buoy 48518 (3.6) became totally erratic between in the second half of the report period.

Although data from buoy 65599 showed a bias of +2.6, it should be noted that only 25 reports were received.

### (5) Winds

The following table shows the mean and standard deviation of observation minus background differences for wind speed and direction.

(Note : Buoy 62673 reported occasional wind speeds but no wind directions. Subsequently, no analysis was carried out on this buoy.)



WMO No.	Period	Wind Speed (kn)			Wind Direction (deg)		
		Mean	St. Dev.	No. of Obs	Mean	St. Dev.	No. of Obs
41504	13/08 30/09	-2.3	4.8	385	8.8	24.3	337
41521	01/07 30/09	-0.2	2.9	798	-4.7	23.9	752
41625	13/08 30/09	-1.0	3.1	403	11.8	33.9	359
41629	13/08 30/09	-0.8	3.9	403	6.6	32.0	367
41635	24/07 30/09	0.0	2.4	94	2.4	19.0	94
44601	01/07 30/09	1.8	4.5	1362	4.5	32.5	1275
44602	01/07 30/09	1.1	5.0	1178	9.2	37.1	1118
44609	01/07 14/09	0.4	6.6	2510	3.5	27.7	2332
44621	01/07 10/09	1.3	8.0	223	-6.9	26.0	200
44773	01/07 30/09	-6.1	5.4	3673	-9.0	18.0	2183
62517	28/09 30/09	0.6	3.1	61	-26.6	32.5	60
62551	01/07 15/07	1.3	3.3	180	-3.1	26.6	173
62553	17/07 21/08	-0.9	9.2	1357	-5.5	22.8	1215
62674	01/07 30/09	-4.4	5.6	1318	-4.9	23.5	835
62755	03/07 18/07	-1.0	2.5	209	6.8	20.0	185
62758	01/07 30/09	-1.2	6.4	1321	-10.0	27.6	1115
65599	29/09 30/09	-0.4	3.4	25	11.2	22.3	25

Buoys 41504 (-2.3), 44773 (-6.1) and 62674 (-4.4) all showed a significant wind speed bias.

Buoys 41625 (11.8), 62517 (-26.6) and 62758 (-10.0) all showed a significant wind direction bias. Also, buoy 65599 showed a bias of 11.2 but only 25 reports were received.



## 6. 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, i.e. 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 (i.e. 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	13906/??	41504/??	41505/??
Argos Id.No.	??	??	??
Period within area	01/07 - 30/09	13/08 - 30/09	13/08 - 30/09
Mean Latitude	26.3	25.7	25.6
Mean Longitude	-49.1	-66.7	-68.9
No. of obs received	943	444	427
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	99.3
% of Present			
Pressure	100.0	98.0	96.0
P. Tendency	32.1	0.0	0.0
Air Temperature	0.0	98.2	0.0
Wind Speed/Dir.	0.0/0.0	88.1/97.1	0.0/0.0
Sea-surface Temp.	32.1	98.0	98.6
Median delay(min)	69	21	21
Number of days	92	48	49
Mean no. of obs/day	10.3	9.3	8.7
No. of hours with obs	872	405	395
Mean no. of hours/day with obs	9.5	8.4	8.1
% of hour periods without an ob	60.5	64.8	66.4
Mean (Ob-Bg)	-0.3	0.4	0.4
RMS (Ob-Bg)	0.9	1.1	1.2
<b>unflagged data</b>			
Mean (Ob-Bg)	-0.3	0.4	0.3
RMS (Ob-Bg)	0.9	1.1	1.3
<b>all data</b>			
Revised RMS (Ob-Bg)	0.9	1.1	1.3
% of data flagged	14	9	9
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	41521/??	41528/??	41597/F
Argos Id.No.	??	??	6753
Period within area	01/07 - 30/09	13/08 - 30/09	01/07 - 30/09
Mean Latitude	23.5	26.5	32.2
Mean Longitude	-56.6	-69.8	-22.3
No. of obs received	849	432	1822
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	100.0	100.0	100.0
% of Present			
Pressure	97.9	95.6	99.7
P. Tendency	0.0	0.0	9.0
Air Temperature	97.9	0.0	0.0
Wind Speed /Dir.	96.3/97.5	0.0/0.0	0.0/0.0
Sea-surface Temp.	98.1	98.8	99.8
Median delay(Min)	27	20	52
Number of days	92	49	92
Mean no. of obs/day	9.2	8.8	19.8
No. of hours with obs	796	400	1305
Mean no. of hours/day with obs	8.7	8.2	14.2
% of hour periods without an ob	63.9	66.0	40.9
Mean (Ob-Bg)	0.2	0.5	0.0
RMS (Ob-Bg)	0.9	1.1	0.7
<b>unflagged data</b>			
Mean (Ob-bg)	0.2	0.5	0.0
RMS (Ob-Bg)	0.9	1.1	0.7
<b>all data</b>			
Revised RMS (Ob-Bg)	0.9	1.1	0.7
% of data flagged	10	9	39
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Satisfactory
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	41625/??	41629/??	41635/??
Argos Id.No.	??	??	??
Period within area	13/08 - 30/09	13/08 - 30/09	24/07 - 30/09
Mean Latitude	29.7	26.4	21.6
Mean Longitude	-69.3	-70.1	-52.3
No. of obs received	454	436	1902
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	99.8	99.7
% of Present			
Pressure	97.6	97.7	98.5
P. Tendency	0.0	0.0	0.0
Air Temperature	98.7	98.9	0.0
Wind Speed/Dir.	91.4/94.9	94.0/96.8	52.6/6.0
Sea-surface Temp.	97.8	98.6	17.1
Median delay(min)	20	20	332
Number of days	48	48	69
Mean no. of obs/day	9.5	9.1	27.6
No. of hours with obs	420	404	1283
Mean no. of hours/day with obs	8.8	8.4	18.6
% of hour periods without an ob	63.5	64.9	22.5
Mean (Ob-Bg)	0.3	0.3	1.2
RMS (Ob-Bg)	1.0	1.1	1.8
<b>unflagged data</b>			
Mean (Ob-bg)	0.1	0.0	-1.3
RMS (Ob-Bg)	0.9	5.1	10.8
<b>all data</b>			
Revised RMS (Ob-Bg)	0.9	1.1	3.6
% of data flagged	10	9	44
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Poor
Comments			



# ANNEX A - Cont.

Wmo No./Country	44601/F	44602/F	44603/F
Argos Id.No.	5878	5883	6571
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	54.2	52.3	54.5
Mean Longitude	-45.5	-37.2	-45.4
No. of obs received	2547	2431	2860
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	100.0	100.0	100.0
% of Present			
Pressure	98.4	97.9	99.4
P. Tendency	3.1	3.1	7.2
Air Temperature	0.0	0.0	0.0
Wind Speed /Dir.	57.3/59.6	52.7/57.1	0.0/0.0
Sea-surface Temp.	60.4	57.8	99.7
Median delay(Min)	146	177	50
Number of days	92	92	92
Mean no. of obs/day	27.7	26.4	31.1
No. of hours with obs	2044	1976	1777
Mean no. of hours/day with obs	22.2	21.5	19.3
% of hour periods without an ob	7.4	10.5	19.5
Mean (Ob-Bg)	0.5	0.5	-0.1
RMS (Ob-Bg)	1.2	1.2	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	44.4	25.5	-0.1
RMS (Ob-Bg)	137.6	103.8	1.1
<b>all data</b>			
Revised RMS (Ob-Bg)	1.4	1.2	1.1
% of data flagged	29	23	53
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Satisfactory	Satisfactory	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44604/F	44606/F	44609/F
Argos Id.No.	6572	6148	5879
Period within area	01/07 - 30/09	01/07 - 30/09	01/07- 14/09
Mean Latitude	47.7	52.5	58.9
Mean Longitude	-36.6	-44.9	-21.1
No. of obs received	2060	3513	3656
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	99.8
% of Present			
Pressure	99.3	98.9	97.9
P. Tendency	8.0	17.1	15.2
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir.	0.0/0.0	0.0/0.0	72.2/75.1
Sea-surface Temp.	99.5	72.2	76.4
Median delay(min)	44	48	53
Number of days	92	92	76
Mean no. of obs/day	22.4	38.2	48.1
No. of hours with obs	1454	1950	1721
Mean no. of hours/day with obs	15.8	21.2	22.6
% of hour periods without an ob	34.1	11.7	5.6
Mean (Ob-Bg)	0.4	0.1	0.5
RMS (Ob-Bg)	1.2	1.1	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	0.3	0.0	0.4
RMS (Ob-Bg)	1.3	1.3	2.0
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	1.3	1.5
% of data flagged	43	56	55
Operating at end of period	YES	YES	NO
Performance			
Availability	Satisfactory	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44613/UK	44616/UK	44617/UK
Argos Id.No.	28467	12661	27644
Period within area	01/07 - 30/09	01/07 - 02/08	01/07 - 30/09
Mean Latitude	39.9	51.3	54.1
Mean Longitude	-35.3	-21.5	-15.8
No. of obs received	2262	1001	3784
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	99.5	99.8	99.8
% of Present			
Pressure	98.9	98.1	97.8
P. Tendency	93.0	85.4	92.6
Air Temperature	98.2	0.0	97.6
Wind Speed /Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	1.2	96.5	22.9
Median delay(Min)	21	21	23
Number of days	92	33	92
Mean no. of obs/day	24.6	30.3	41.1
No. of hours with obs	1159	473	1554
Mean no. of hours/day with obs	12.6	14.3	16.9
% of hour periods without an ob	47.5	40.3	29.6
Mean (Ob-Bg)	0.0	0.2	0.1
RMS (Ob-Bg)	1.1	1.1	1.0
<b>unflagged data</b>			
Mean (Ob-bg)	-0.2	-1.0	-0.2
RMS (Ob-Bg)	5.1	11.7	6.1
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	1.5	1.2
% of data flagged	59	64	67
Operating at end of period	YES	NO	YES
Performance			
Availability	Satisfactory	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44621/UK	44726/UK	44727/UK
Argos Id.No.	27652	12539	3098
Period within area	01/07 - 10/09	01/07 - 30/09	01/07 - 28/09
Mean Latitude	55.3	54.6	59.8
Mean Longitude	-9.1	-37.2	-17.3
No. of obs received	2197	4028	6155
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	94.9	99.9	99.9
% of Present			
Pressure	98.9	98.1	99.0
P. Tendency	95.8	93.2	93.1
Air Temperature	96.8	0.0	96.8
Wind Speed/Dir.	10.2/52.2	0.0/0.0	0.0/0.0
Sea-surface Temp.	0.0	98.9	98.5
Median delay(min)	30	21	22
Number of days	72	92	90
Mean no. of obs/day	30.5	43.8	68.4
No. of hours with obs	1140	1609	1712
Mean no. of hours/day with obs	15.8	17.5	19.0
% of hour periods without an ob	34.0	27.1	20.7
Mean (Ob-Bg)	-0.3	-0.1	0.0
RMS (Ob-Bg)	1.1	1.2	1.0
<b>unflagged data</b>			
Mean (Ob-bg)	-0.5	-0.1	-0.2
RMS (Ob-Bg)	3.5	3.1	5.2
<b>all data</b>			
Revised RMS (Ob-Bg)	1.6	1.5	1.4
% of data flagged	57	69	78
Operating at end of period	NO	YES	NO
Performance			
Availability	Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44742/UK	44743/UK	44760/??
Argos Id. No.	28471	12541	??
Period within area	01/07 - 30/09	01/07 - 30/09	24/07 - 05/08
Mean Latitude	45.5	45.3	33.0
Mean Longitude	-31.6	-50.3	-30.0
No. of obs received	2603	2333	153
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	99.6	99.6	100.0
% of Present			
Pressure	98.8	97.9	88.9
P. Tendency	91.7	93.1	69.3
Air Temperature	98.2	0.0	84.3
Wind Speed /Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	98.8	98.8	82.4
Median delay(Min)	21	21	24
Number of days	92	92	13
Mean no. of obs/day	28.3	25.4	11.8
No. of hours with obs	1268	1222	122
Mean no. of hours/day with obs	13.8	13.3	3.0
% of hour periods without an ob	42.6	44.7	87.5
Mean (Ob-Bg)	-0.1	-0.2	-0.5
RMS (Ob-Bg)	1.1	1.2	0.9
<b>unflagged data</b>			
Mean (Ob-bg)	-0.4	0.0	-0.5
RMS (Ob-Bg)	6.5	4.1	1.3
<b>all data</b>			
Revised RMS (Ob-Bg)	1.5	2.2	1.3
% of data flagged	62	60	21
Operating at end of period	YES	YES	NO
Performance			
Availability	Good	Good	Poor
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44765/UK	44767/UK	44768/UK
Argos Id.No.	12662	12576	26746
Period within area	01/07 - 05/08	06/07 - 30/09	01/07 - 30/09
Mean Latitude	57.9	52.5	57.7
Mean Longitude	-48.1	-46.2	-17.3
No. of obs received	964	2234	4472
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	100.0	100.0	100.0
% of Present			
Pressure	93.7	97.4	98.2
P. Tendency	80.3	93.2	93.6
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.	93.6	97.9	83.0
Median delay(Min)	32	25	23
Number of days	36	87	92
Mean no. of obs/day	26.8	25.7	48.6
No. of hours with obs	557	1297	1684
Mean no. of hours/day with obs	15.5	14.9	18.3
% of hour periods without an ob	35.5	37.9	23.7
Mean (Ob-Bg)	-0.3	-0.4	0.2
RMS (Ob-Bg)	1.0	1.4	1.0
<b>unflagged data</b>			
Mean (Ob-bg)	-0.6	-0.5	0.0
RMS (Ob-Bg)	6.5	4.8	4.8
<b>all data</b>			
Revised RMS (Ob-Bg)	1.8	2.0	1.3
% of data flagged	53	53	70
Operating at end of period	NO	YES	YES
Performance			
Availability	Good	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44770/UK	44771/UK	44772/UK
Argos Id.No.	12542	12659	12577
Period within area	06/07 - 30/09	01/07 - 04/07	25/08 - 30/09
Mean Latitude	57.9	53.9	49.2
Mean Longitude	-33.8	-19.0	-34.4
No. of obs received	4172	61	802
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.9	98.4	59.7
% of Present			
Pressure	98.5	96.7	98.1
P. Tendency	94.2	70.5	93.5
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.	99.0	93.4	98.6
Median delay(min)	22	28	21
Number of days	87	4	37
Mean no. of obs/day	48.0	15.3	21.7
No. of hours with obs	1556	38	466
Mean no. of hours/day with obs	17.9	9.5	12.6
% of hour periods without an ob	25.5	60.4	47.5
Mean (Ob-Bg)	-0.5	0.4	-0.3
RMS (Ob-Bg)	1.3	0.8	1.6
<b>unflagged data</b>			
Mean (Ob-bg)	-0.6	-3.3	-0.5
RMS (Ob-Bg)	3.3	22.8	3.0
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	0.7	3.0
% of data flagged	70	51	57
Operating at end of period	YES	NO	YES
Performance			
Availability	Very Good	Satisfactory	Satisfactory
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44773/UK	44774/UK	44775/UK
Argos Id.No.	26751	28472	26741
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	55.9	51.3	56.6
Mean Longitude	-12.7	-41.5	-34.0
No. of obs received	4159	2969	4257
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.8	99.8	91.3
% of Present			
Pressure	98.3	98.7	98.0
P. Tendency	93.6	93.2	92.4
Air Temperature	97.0	98.1	95.7
Wind Speed/Dir.	92.4/94.1	0.0/0.0	0.0/0.0
Sea-surface Temp.	98.6	98.4	85.9
Median delay(min)	23	22	21
Number of days	92	92	92
Mean no. of obs/day	45.2	32.3	46.3
No. of hours with obs	1644	1441	1698
Mean no. of hours/day with obs	17.9	15.7	18.5
% of hour periods without an ob	25.5	34.7	23.1
Mean (Ob-Bg)	0.0	-1.1	0.2
RMS (Ob-Bg)	1.0	1.8	1.4
<b>unflagged data</b>			
Mean (Ob-bg)	-0.2	-1.4	0.6
RMS (Ob-Bg)	4.2	5.1	5.9
<b>all data</b>			
Revised RMS (Ob-Bg)	1.2	2.1	2.9
% of data flagged	68	63	72
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Good	Very Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44776/UK	44778/UK	44779/UK
Argos Id.No.	12540	28473	12543
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	48.3	55.7	43.9
Mean Longitude	-43.3	-56.8	-43.0
No. of obs received	2851	3919	2509
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.6	99.6	99.0
% of Present			
Pressure	98.7	98.0	98.7
P. Tendency	94.6	93.2	94.0
Air Temperature	0.0	97.6	0.0
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	98.8	98.4	98.9
Median delay(min)	21	21	22
Number of days	92	92	92
Mean no. of obs/day	31.0	42.6	27.3
No. of hours with obs	1371	1623	1249
Mean no. of hours/day with obs	14.9	17.6	13.6
% of hour periods without an ob	37.9	26.5	43.4
Mean (Ob-Bg)	-0.1	-0.3	0.0
RMS (Ob-Bg)	1.1	1.2	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	-0.2	-0.4	-0.3
RMS (Ob-Bg)	3.8	3.5	6.3
<b>all data</b>			
Revised RMS (Ob-Bg)	1.4	1.5	1.3
% of data flagged	61	69	60
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44780/UK	44901/??	44912/US
Argos Id.No.	26742	??	??
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	58.2	55.2	52.4
Mean Longitude	-16.5	-45.7	-25.0
No. of obs received	4496	576	451
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.7	99.8	99.1
% of Present			
Pressure	98.2	88.5	89.8
P. Tendency	92.4	28.1	31.9
Air Temperature	97.4	0.0	0.0
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	98.5	92.2	95.1
Median delay(min)	23	74	89
Number of days	92	92	92
Mean no. of obs/day	48.9	6.3	4.9
No. of hours with obs	1665	408	366
Mean no. of hours/day with obs	18.1	4.4	4.0
% of hour periods without an ob	24.6	81.5	83.4
Mean (Ob-Bg)	0.2	0.8	0.7
RMS (Ob-Bg)	1.0	1.5	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	0.0	0.9	0.9
RMS (Ob-Bg)	5.3	1.8	2.0
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	1.8	2.1
% of data flagged	70	30	21
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Poor	Very Poor
Pressure Quality	Acceptable	Suspect	Suspect
Timeliness	Very Good	Good	Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44925/US	48518/??	62506/F
Argos Id.No.	??	??	5826
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	54.8	74.2	47.0
Mean Longitude	-51.6	-17.6	-9.6
No. of obs received	580	2334	1866
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.3	100.0	100.0
% of Present			
Pressure	89.8	98.5	90.6
P. Tendency	36.2	0.0	76.8
Air Temperature	0.0	91.8	94.3
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	0.0	0.0	91.7
Median delay(min)	75	126	28
Number of days	92	92	92
Mean no. of obs/day	6.3	25.4	20.3
No. of hours with obs	426	1723	1371
Mean no. of hours/day with obs	4.6	18.7	14.9
% of hour periods without an ob	80.7	22.0	37.9
Mean (Ob-Bg)	0.6	-0.3	0.0
RMS (Ob-Bg)	1.7	1.0	0.9
<b>unflagged data</b>			
Mean (Ob-bg)	-0.3	-0.3	0.0
RMS (Ob-Bg)	3.6	1.0	0.9
<b>all data</b>			
Revised RMS (Ob-Bg)	3.6	1.0	0.9
% of data flagged	34	42	39
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Good	Satisfactory
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Good	Satisfactory	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62508/??	62509/??	62510/??
Argos Id.No.	??	??	??
Period within area	17/07 - 15/09	01/07 - 03/09	01/07 - 30/09
Mean Latitude	46.7	45.6	46.1
Mean Longitude	-6.2	-4.7	-5.0
No. of obs received	2512	2411	3364
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	100.0
% of Present			
Pressure	72.6	69.8	70.5
P. Tendency	0.0	0.0	0.0
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.	74.0	70.1	71.1
Median delay(min)	29	28	28
Number of days	61	65	92
Mean no. of obs/day	41.2	37.1	36.6
No. of hours with obs	1066	1068	1515
Mean no. of hours/day with obs	17.5	16.4	16.5
% of hour periods without an ob	27.2	31.5	31.4
Mean (Ob-Bg)	0.2	0.0	0.2
RMS (Ob-Bg)	0.8	0.8	0.9
<b>unflagged data</b>			
Mean (Ob-bg)	0.2	0.0	0.2
RMS (Ob-Bg)	0.8	1.5	0.9
<b>all data</b>			
Revised RMS (Ob-Bg)	0.8	0.8	0.9
% of data flagged	62	58	59
Operating at end of period	NO	NO	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62511/F	62512/??	62513/F
Argos Id.No.	12729	??	12731
Period within area	02/07 - 30/09	21/09 - 30/09	21/09 - 30/09
Mean Latitude	46.3	47.5	46.4
Mean Longitude	-11.8	-18.9	-19.0
No. of obs received	968	397	363
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	97.8	100.0	100.0
% of Present			
Pressure	85.0	84.9	84.6
P. Tendency	0.0	0.0	0.0
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.	44.7	44.6	45.5
Median delay(min)	439	454	437
Number of days	91	10	10
Mean no. of obs/day	10.6	39.7	36.3
No. of hours with obs	580	217	218
Mean no. of hours/day with obs	6.4	21.7	21.8
% of hour periods without an ob	73.4	9.6	9.2
Mean (Ob-Bg)	0.7	-0.1	0.0
RMS (Ob-Bg)	1.1	1.0	1.0
<b>unflagged data</b>			
Mean (Ob-bg)	0.7	0.0	0.0
RMS (Ob-Bg)	1.1	1.0	0.9
<b>all data</b>			
Revised RMS (Ob-Bg)	1.1	1.0	0.9
% of data flagged	38	47	46
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Very Good	Very Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Poor	Very Poor	Very Poor
Comments			



# ANNEX A - Cont.

Wmo No./Country	62514/F	62515/F	62516/??
Argos Id.No.	6151	6569	1363
Period within area	18/08 - 30/09	18/08 - 30/09	18/09 - 30/09
Mean Latitude	53.5	57.9	45.5
Mean Longitude	-33.6	-34.0	-11.7
No. of obs received	1085	1949	200
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.9	99.8	100.0
% of Present			
Pressure	98.1	98.6	99.5
P. Tendency	7.1	11.5	3.5
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.	80.5	77.9	99.5
Median delay(min)	52	54	41
Number of days	44	44	13
Mean no. of obs/day	24.7	44.3	15.4
No. of hours with obs	675	971	147
Mean no. of hours/day with obs	15.3	22.1	11.3
% of hour periods without an ob	36.1	8.0	52.9
Mean (Ob-Bg)	0.5	0.3	0.9
RMS (Ob-Bg)	1.2	1.2	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	0.5	0.3	1.3
RMS (Ob-Bg)	1.2	1.2	2.2
<b>all data</b>			
Revised RMS (Ob-Bg)	1.2	1.2	2.2
% of data flagged	52	62	40
Operating at end of period	YES	YES	YES
Performance			
Availability	Satisfactory	Very Good	Satisfactory
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62517/F	62518/??	62519/F
Argos Id.No.	5823	6149	6570
Period within area	28/09 - 30/09	21/09 - 30/09	21/09 - 30/09
Mean Latitude	50.5	48.5	44.9
Mean Longitude	-18.8	-18.8	-19.0
No. of obs received	69	325	321
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	100.0
% of Present			
Pressure	91.3	92.3	98.8
P. Tendency	84.1	17.2	18.4
Air Temperature	95.7	0.0	0.0
Wind Speed/Dir.	92.8/94.2	0.0/0.0	0.0/0.0
Sea-surface Temp.	91.3	70.2	0.0
Median delay(min)	35	47	52
Number of days	3	10	10
Mean no. of obs/day	23.0	32.5	32.1
No. of hours with obs	41	198	192
Mean no. of hours/day with obs	13.7	19.8	19.2
% of hour periods without an ob	43.1	17.5	20.0
Mean (Ob-Bg)	-1.5	0.3	-0.3
RMS (Ob-Bg)	2.3	1.1	1.0
<b>unflagged data</b>			
Mean (Ob-bg)	-1.8	0.9	-0.3
RMS (Ob-Bg)	2.4	2.8	1.0
<b>all data</b>			
Revised RMS (Ob-Bg)	2.3	2.8	1.0
% of data flagged	54	54	51
Operating at end of period	YES	YES	YES
Performance			
Availability	Satisfactory	Good	Good
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62520/F	62551/??	62553/F
Argos Id.No.	14431	??	3009
Period within area	21/09 - 30/09	01/07 - 15/07	01/07 - 21/08
Mean Latitude	44.0	44.5	51.1
Mean Longitude	-17.9	-10.8	-11.6
No. of obs received	245	360	1689
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	100.0
% of Present			
Pressure	92.7	97.8	92.1
P. Tendency	86.9	0.0	80.9
Air Temperature	0.0	0.0	93.0
Wind Speed/Dir.	0.0/0.0	53.9/58.1	89.5/88.0
Sea-surface Temp.	92.2	58.3	92.5
Median delay(min)	31	139	30
Number of days	10	15	52
Mean no. of obs/day	24.5	24.0	32.5
No. of hours with obs	170	297	1006
Mean no. of hours/day with obs	17.0	19.8	19.3
% of hour periods without an ob	29.2	17.5	19.4
Mean (Ob-Bg)	-0.4	0.3	0.1
RMS (Ob-Bg)	1.3	0.9	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	-0.5	0.3	-0.6
RMS (Ob-Bg)	1.3	0.9	6.4
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	0.9	1.5
% of data flagged	45	17	53
Operating at end of period	YES	NO	NO
Performance			
Availability	Good	Satisfactory	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Satisfactory	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62554/F	62557/F	62673/??
Argos Id.No.	14430	27930	??
Period within area	21/09 - 30/09	01/07 - 03/08	01/07 - 17/07
Mean Latitude	47.2	44.1	64.1
Mean Longitude	-17.5	-6.8	-21.9
No. of obs received	270	1044	300
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	96.4	100.0
% of Present			
Pressure	93.3	99.9	99.3
P. Tendency	79.3	40.7	0.0
Air Temperature	0.0	0.0	90.7
Wind Speed/Dir.	0.0/0.0	0.0/0.0	98.3/0.0
Sea-surface Temp.	92.6	75.7	98.7
Median delay(min)	31	57	139
Number of days	10	34	17
Mean no. of obs/day	27.0	30.7	17.6
No. of hours with obs	176	597	243
Mean no. of hours/day with obs	17.6	17.6	14.3
% of hour periods without an ob	26.7	26.8	40.4
Mean (Ob-Bg)	-0.2	0.2	-0.4
RMS (Ob-Bg)	1.0	1.0	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	-0.2	1.8	-0.5
RMS (Ob-Bg)	1.0	6.8	1.3
<b>all data</b>			
Revised RMS (Ob-Bg)	1.0	5.5	1.4
% of data flagged	47	58	36
Operating at end of period	YES	NO	NO
Performance			
Availability	Good	Good	Satisfactory
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Satisfactory
Comments			



# ANNEX A - Cont.

Wmo No./Country	62674/??	62755/??	62758/F
Argos Id.No.	??	??	15516
Period within area	01/07 - 30/09	03/07 - 18/07	01/07 - 30/09
Mean Latitude	62.8	45.7	44.7
Mean Longitude	-18.3	-6.1	-24.8
No. of obs received	1465	283	2052
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	100.0
% of Present			
Pressure	98.5	30.7	31.1
P. Tendency	0.0	0.0	0.0
Air Temperature	93.2	0.0	0.0
Wind Speed/Dir.	98.0/97.3	89.4/90.1	77.0/77.3
Sea-surface Temp.	98.4	86.6	90.8
Median delay(min)	139	248	253
Number of days	92	15	92
Mean no. of obs/day	15.9	18.9	22.3
No. of hours with obs	1149	266	1976
Mean no. of hours/day with obs	12.5	17.7	21.5
% of hour periods without an ob	48.0	26.1	10.5
Mean (Ob-Bg)	-0.3	-0.7	-0.2
RMS (Ob-Bg)	1.1	1.9	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	-0.3	-1.0	-0.3
RMS (Ob-Bg)	1.1	2.4	1.4
<b>all data</b>			
Revised RMS (Ob-Bg)	1.1	2.4	1.4
% of data flagged	33	14	5
Operating at end of period	YES	NO	YES
Performance			
Availability	Satisfactory	Satisfactory	Satisfactory
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Satisfactory	Very Poor	Very Poor
Comments			



# ANNEX A - Cont.

Wmo No./Country	62803/UK	63666/??	64528/NL
Argos Id.No.	3209	??	4274
Period within area	01/07 - 04/09	01/07 - 07/09	01/07 - 30/09
Mean Latitude	62.7	70.3	57.2
Mean Longitude	3.7	-20.5	-15.0
No. of obs received	975	526	4059
% of obs with valid Time and Date	99.9	100.0	100.0
% of obs with acceptable position	34.5	99.6	99.7
% of Present			
Pressure	99.9	92.2	97.9
P. Tendency	93.5	90.3	86.1
Air Temperature	0.0	93.2	97.1
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	99.5	0.0	69.2
Median delay(min)	20	140	25
Number of days	66	69	92
Mean no. of obs/day	14.8	7.6	44.1
No. of hours with obs	705	505	1537
Mean no. of hours/day with obs	10.7	7.3	16.7
% of hour periods without an ob	55.5	69.5	30.4
Mean (Ob-Bg)	-0.5	-0.1	-0.4
RMS (Ob-Bg)	1.5	1.0	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	-0.3	-0.1	-0.5
RMS (Ob-Bg)	1.8	1.0	2.6
<b>all data</b>			
Revised RMS (Ob-Bg)	1.8	1.0	1.2
% of data flagged	41	2	69
Operating at end of period	NO	NO	YES
Performance			
Availability	Satisfactory	Poor	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Satisfactory	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	64529/D	64530/UK	64561/UK
Argos Id.No.	6669	12666	1247
Period within area	01/07 - 30/09	01/07 - 09/07	01/07 - 30/09
Mean Latitude	62.4	61.0	49.7
Mean Longitude	-30.2	-58.5	-9.3
No. of obs received	4757	400	2624
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	98.6	99.8	99.7
% of Present			
Pressure	93.2	97.0	98.2
P. Tendency	69.1	87.0	92.3
Air Temperature	97.1	0.0	0.0
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	61.1	88.0	98.6
Median delay(min)	26	21	23
Number of days	92	9	92
Mean no. of obs/day	51.7	44.4	28.5
No. of hours with obs	1597	169	1317
Mean no. of hours/day with obs	17.4	18.8	14.3
% of hour periods without an ob	27.7	21.8	40.4
Mean (Ob-Bg)	-0.4	0.2	0.3
RMS (Ob-Bg)	1.3	0.9	1.0
<b>unflagged data</b>			
Mean (Ob-bg)	-0.5	-0.5	-0.2
RMS (Ob-Bg)	2.5	8.2	7.4
<b>all data</b>			
Revised RMS (Ob-Bg)	1.6	1.6	1.3
% of data flagged	74	70	60
Operating at end of period	YES	NO	YES
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	64563/NL	65562/D	65571/IR
Argos Id.No.	3679	4270	4275
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	59.2	59.0	60.6
Mean Longitude	-25.9	-12.0	-27.7
No. of obs received	5799	5897	5116
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.9	99.6	99.8
% of Present			
Pressure	95.5	97.5	95.1
P. Tendency	70.0	73.7	65.1
Air Temperature	97.1	97.0	97.2
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	63.9	65.9	75.2
Median delay(min)	22	22	22
Number of days	92	92	92
Mean no. of obs/day	63.0	64.1	55.6
No. of hours with obs	1675	1689	1698
Mean no. of hours/day with obs	18.2	18.4	18.5
% of hour periods without an ob	24.1	23.5	23.1
Mean (Ob-Bg)	-0.3	-0.3	-0.2
RMS (Ob-Bg)	1.3	1.0	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	-0.4	-0.4	-0.1
RMS (Ob-Bg)	2.7	1.3	3.8
<b>all data</b>			
Revised RMS (Ob-Bg)	1.5	1.1	1.5
% of data flagged	78	77	73
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	65581/D	65591/UK	65592/NL
Argos Id.No.	2294	26748	3675
Period within area	06/08 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	58.8	61.0	62.8
Mean Longitude	-36.8	-38.8	-24.0
No. of obs received	1577	3207	5064
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	99.2
% of Present			
Pressure	86.7	96.3	96.2
P. Tendency	60.0	91.9	65.0
Air Temperature	96.9	96.9	97.0
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	71.0	0.3	79.2
Median delay(min)	27	31	22
Number of days	56	92	92
Mean no. of obs/day	28.2	34.9	55.0
No. of hours with obs	867	1600	1724
Mean no. of hours/day with obs	15.5	17.4	18.7
% of hour periods without an ob	35.5	27.5	21.9
Mean (Ob-Bg)	-0.4	-0.1	-0.3
RMS (Ob-Bg) <b>unflagged data</b>	1.2	1.2	1.2
Mean (Ob-bg)	-0.4	-0.5	-0.3
RMS (Ob-Bg) <b>all data</b>	1.3	5.8	3.0
Revised RMS (Ob-Bg)	1.3	1.6	1.5
% of data flagged	54	59	73
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



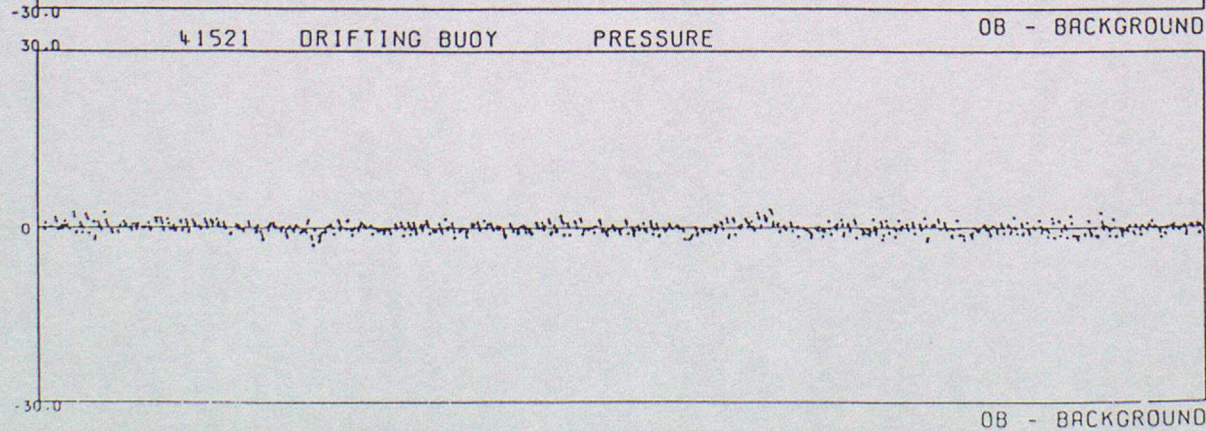
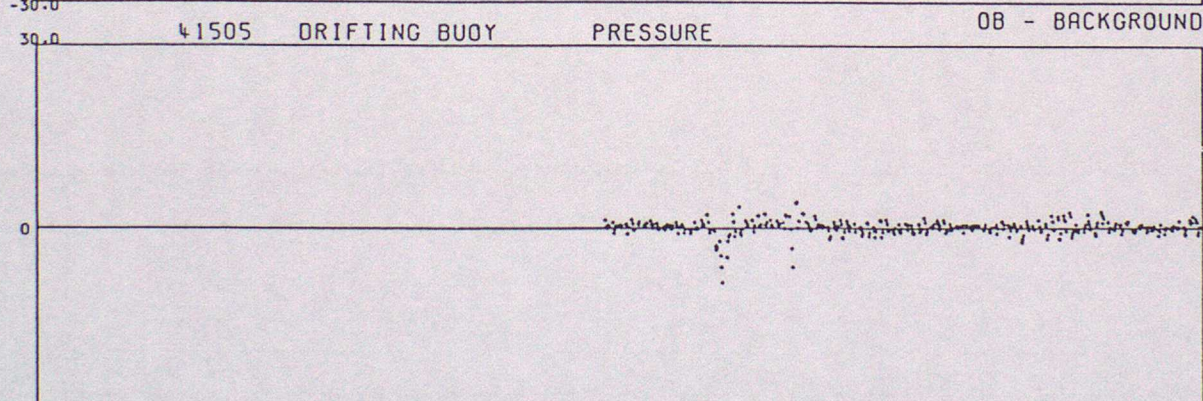
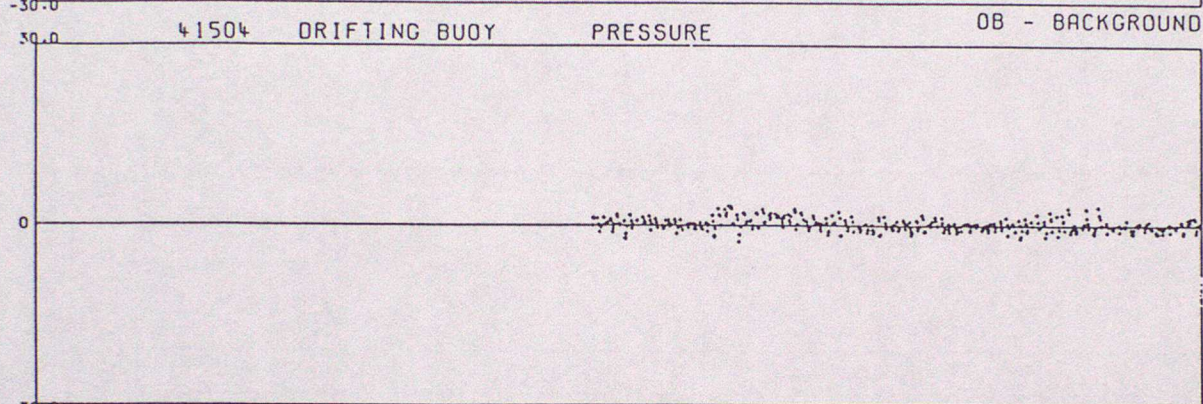
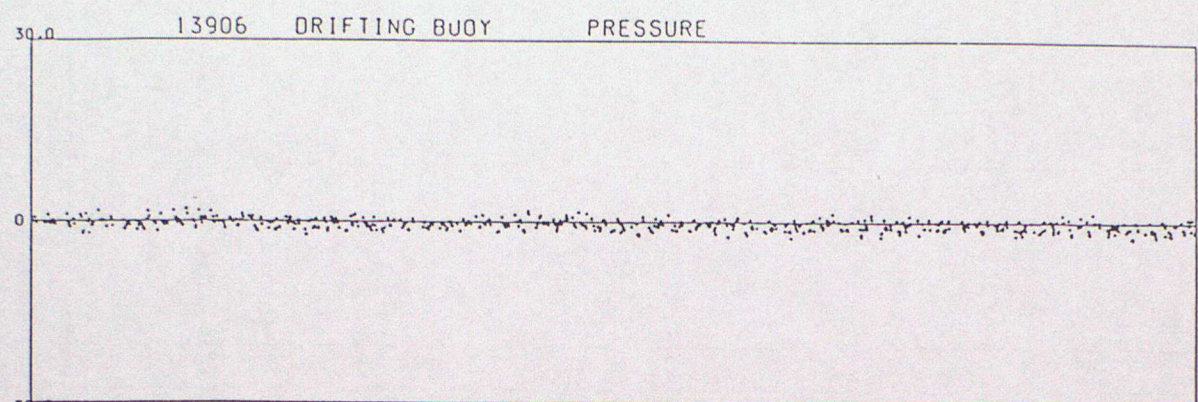
# ANNEX A - Cont.

Wmo No./Country	65597/NL	65599/UK
Argos Id.No.	4273	28477
Period within area	01/07 - 30/09	29/09 - 30/09
Mean Latitude	54.3	59.3
Mean Longitude	-15.4	-35.9
No. of obs received	4490	30
% of obs with valid Time and Date	100.0	100.0
% of obs with acceptable position	99.5	100.0
% of Present		
Pressure	97.2	90.0
P. Tendency	73.4	83.3
Air Temperature	97.6	96.7
Wind Speed/Dir.	0.0/0.0	83.3/83.3
Sea-surface Temp.	62.8	90.0
Median delay(min)	22	50
Number of days	92	2
Mean no. of obs/day	48.8	15.0
No. of hours with obs	1479	20
Mean no. of hours/day with obs	16.1	10.0
% of hour periods without an ob	33.0	58.3
Mean (Ob-Bg)	-0.4	-0.1
RMS (Ob-Bg)	1.1	0.9
<b>unflagged data</b>		
Mean (Ob-bg)	-0.4	0.0
RMS (Ob-Bg)	2.5	0.9
<b>all data</b>		
Revised RMS (Ob-Bg)	1.5	0.9
% of data flagged	74	36
Operating at end of period	YES	YES
Performance		
Availability	Very Good	Satisfactory
Pressure Quality	Acceptable	Acceptable
Timeliness	Very Good	Very Good
Comments		



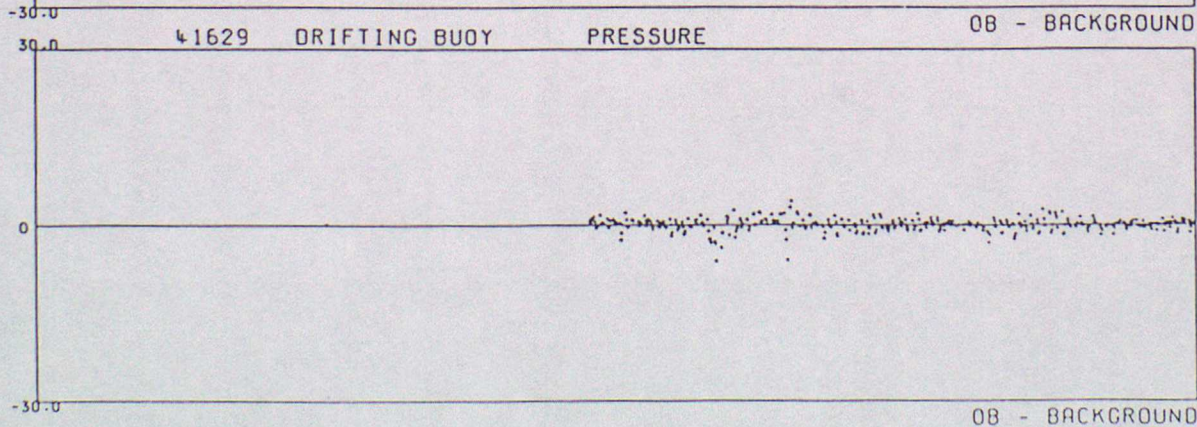
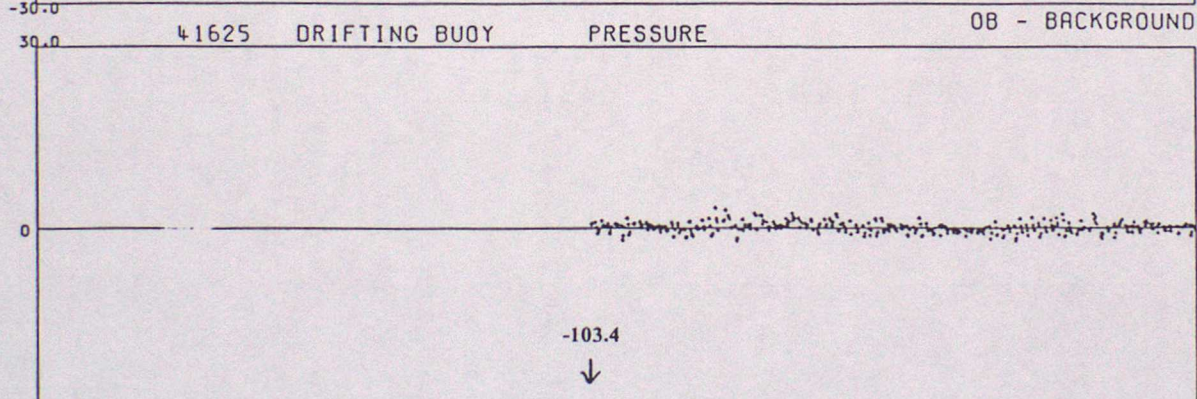
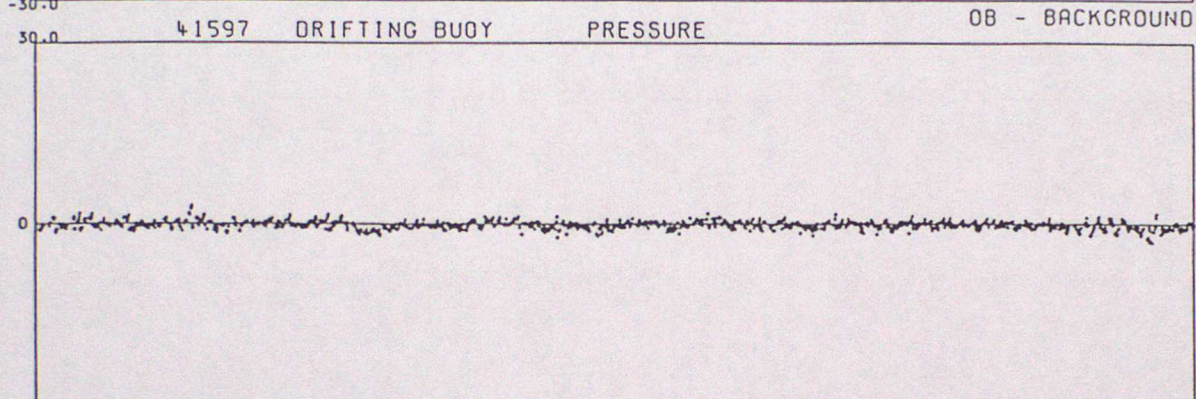
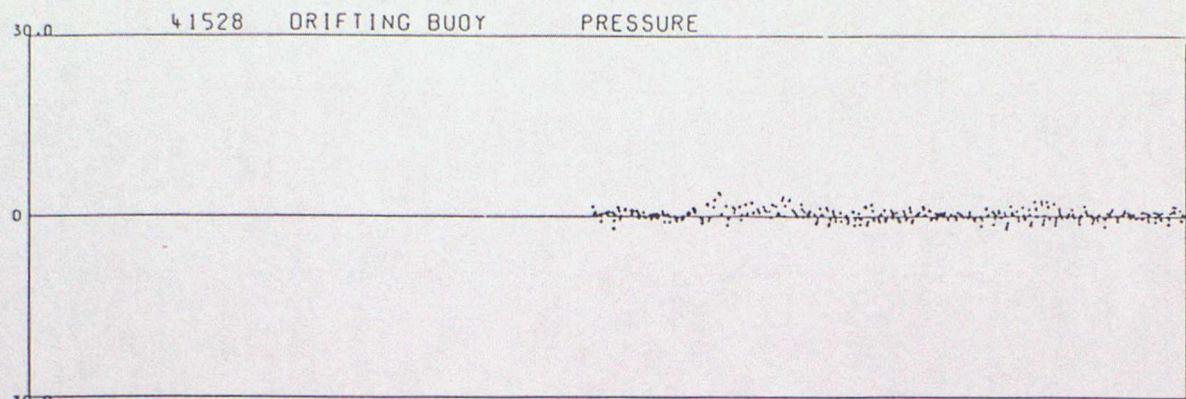
## ANNEX B - TIME SERIES PLOTS OF PRESSURE

DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



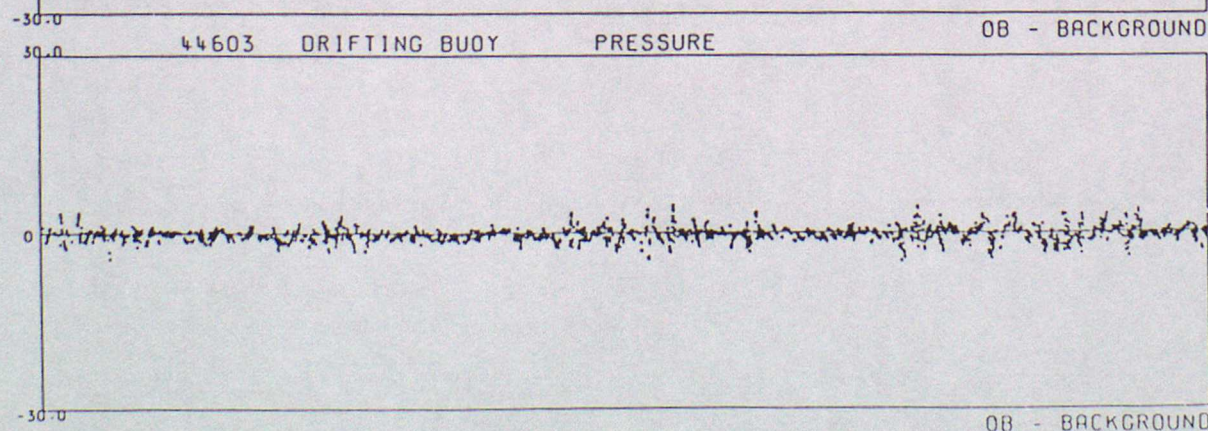
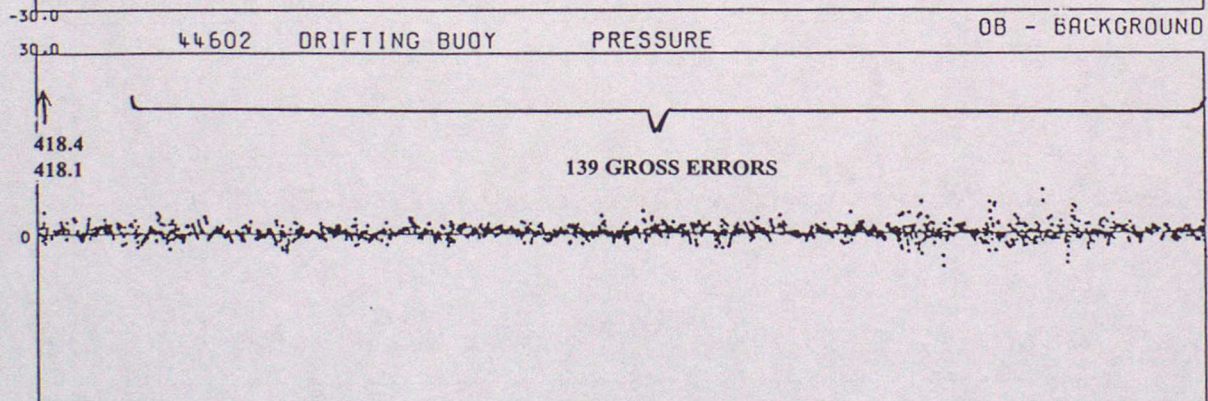
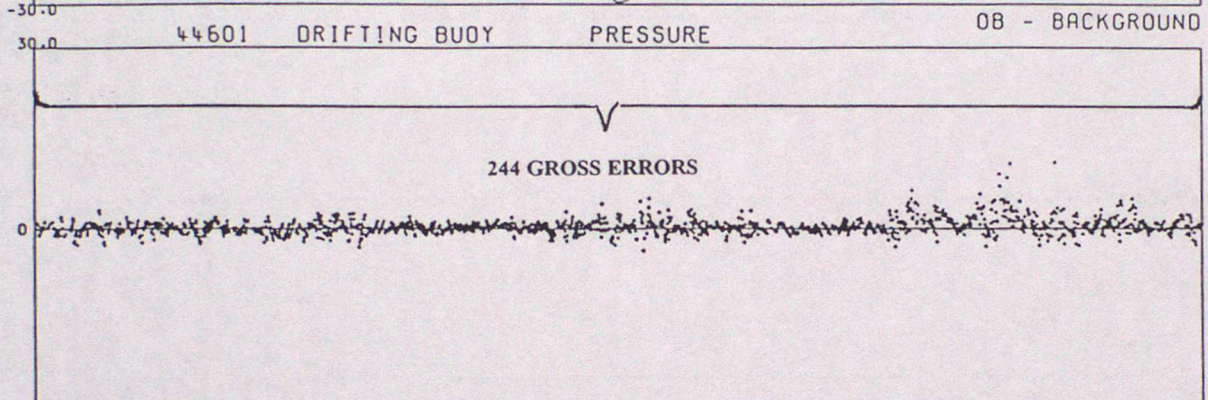
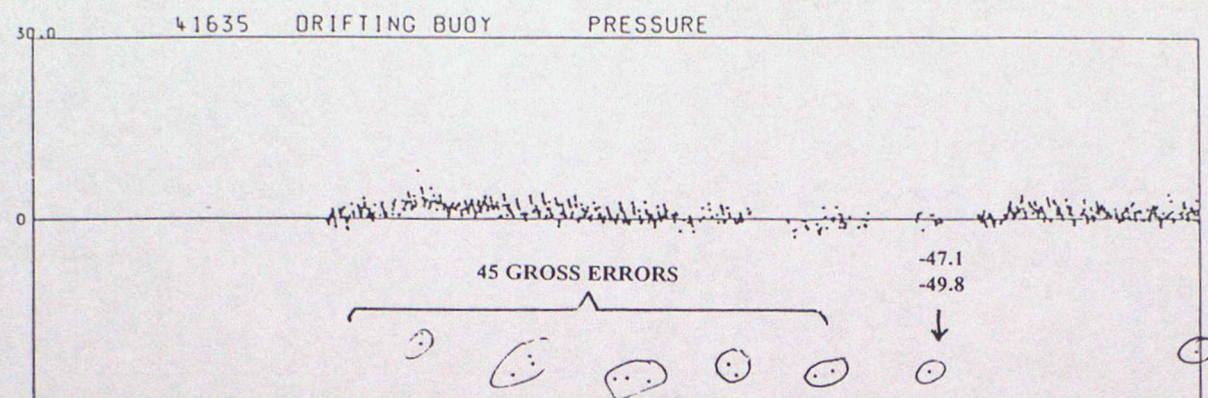


DATA FROM GOZ ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



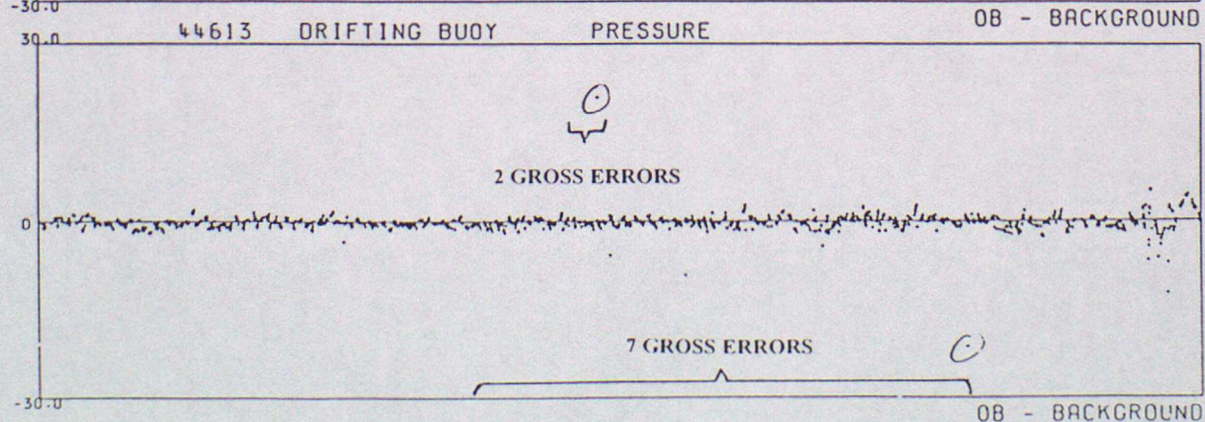
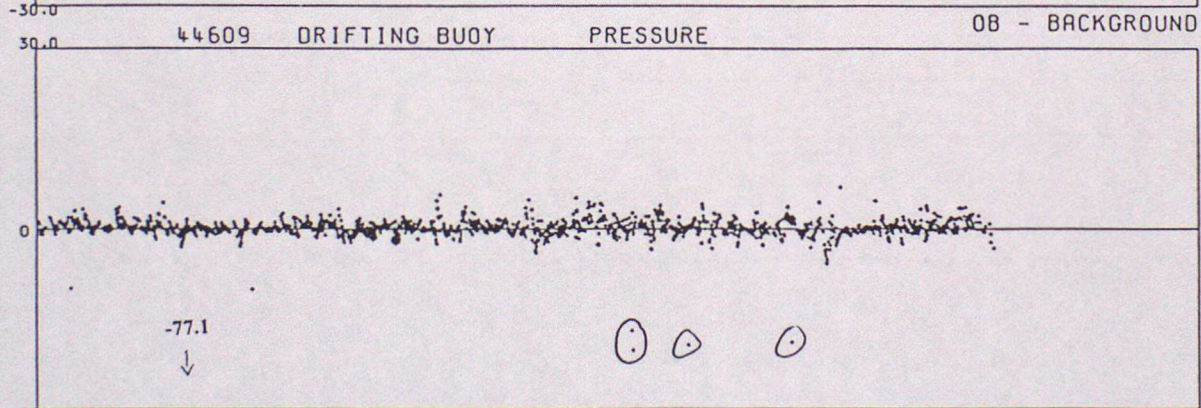
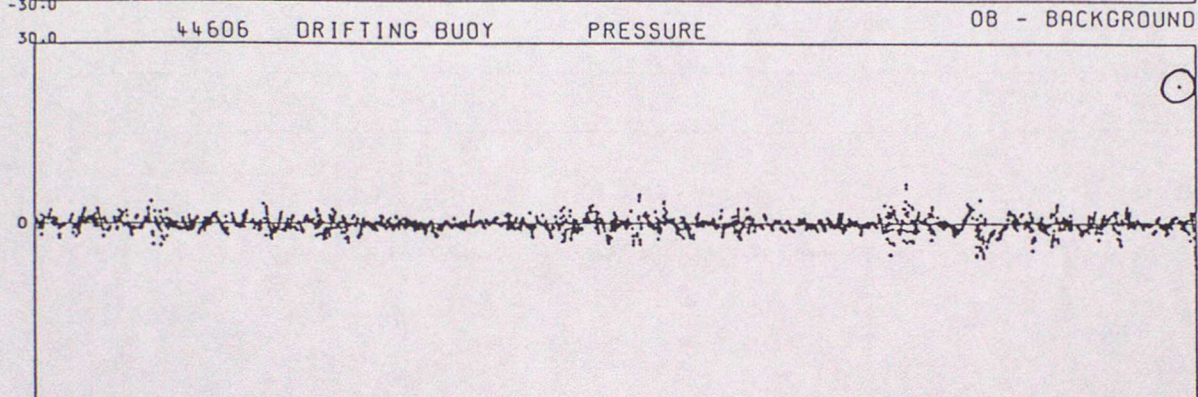
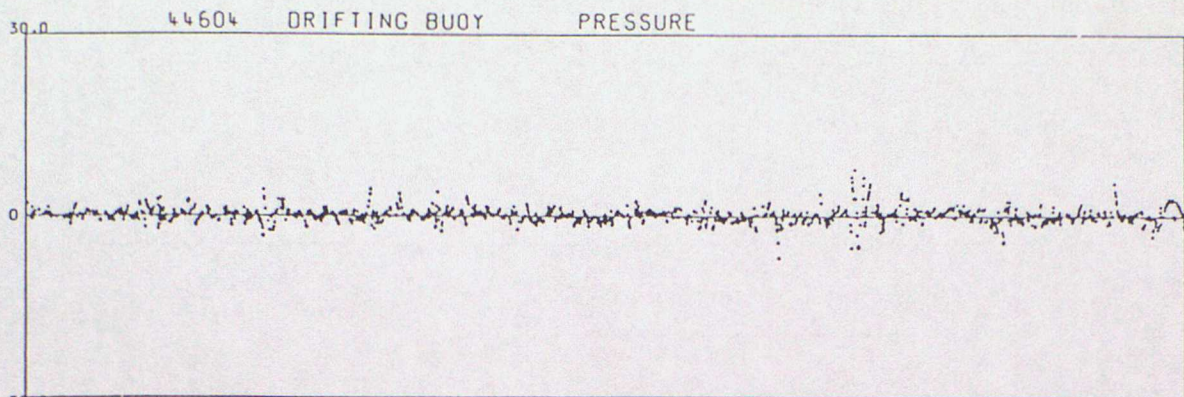


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



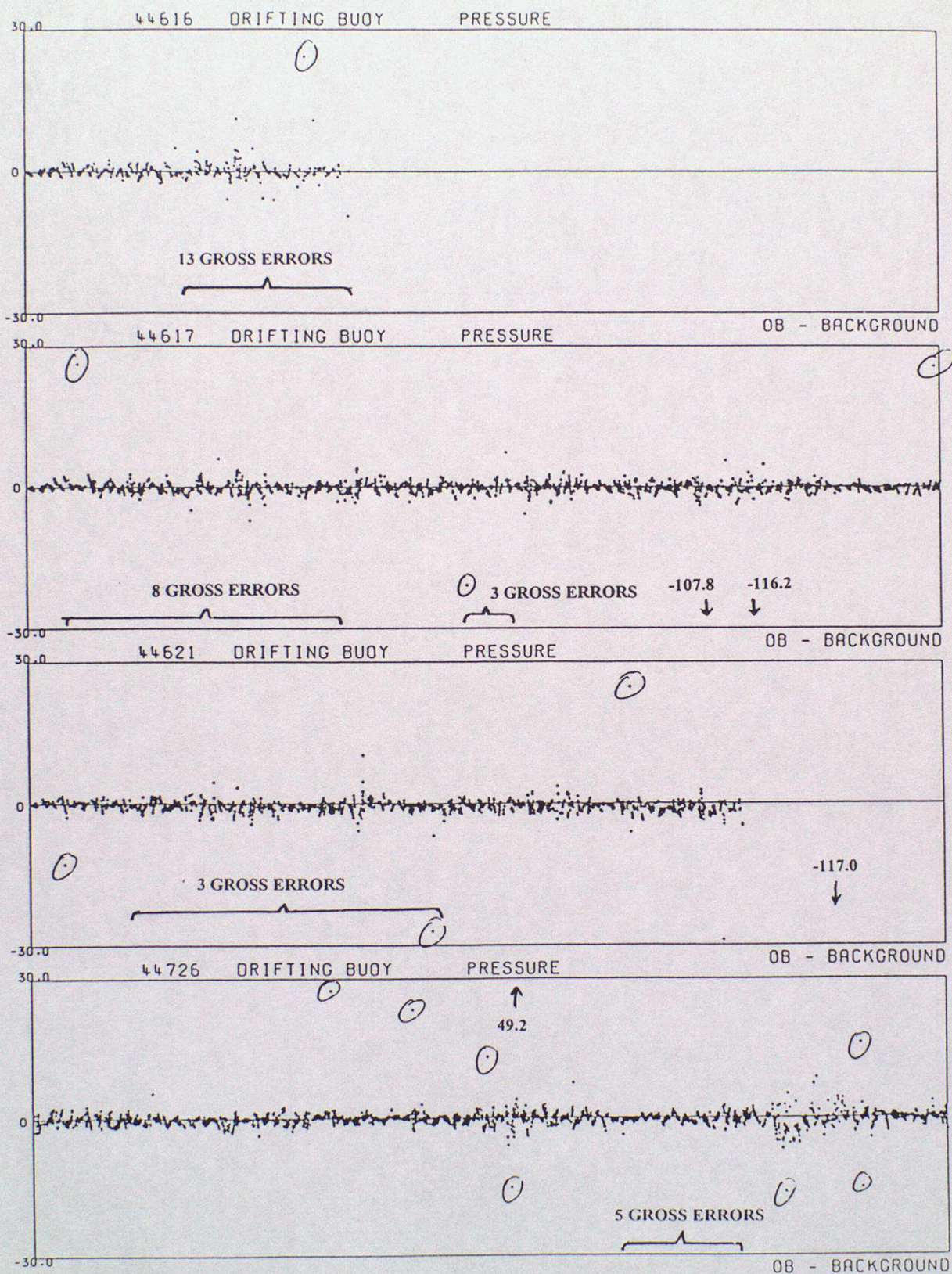


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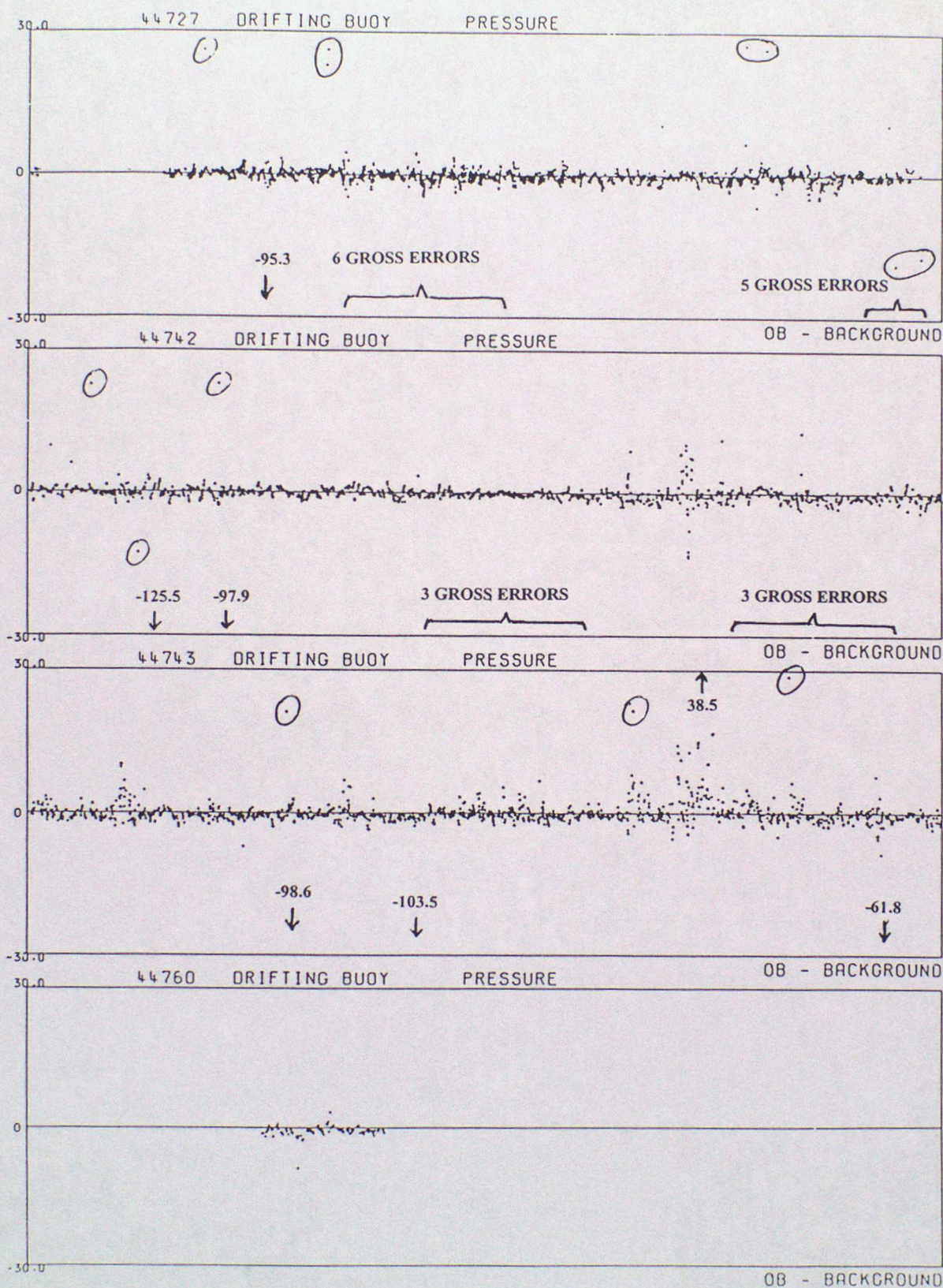


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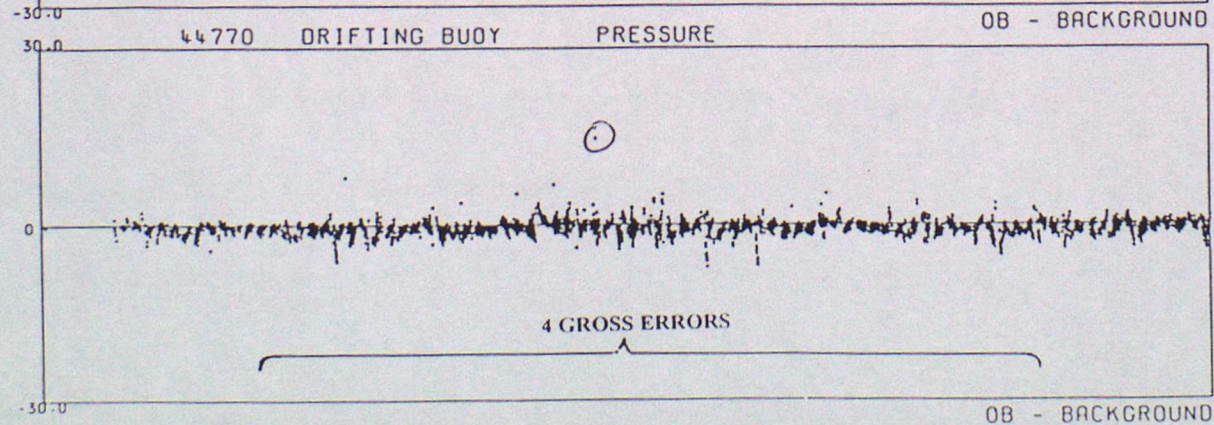
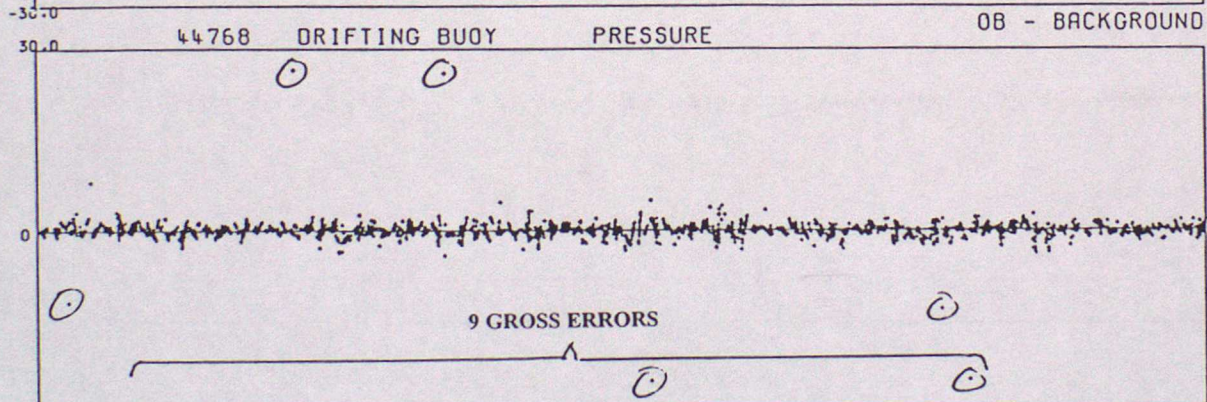
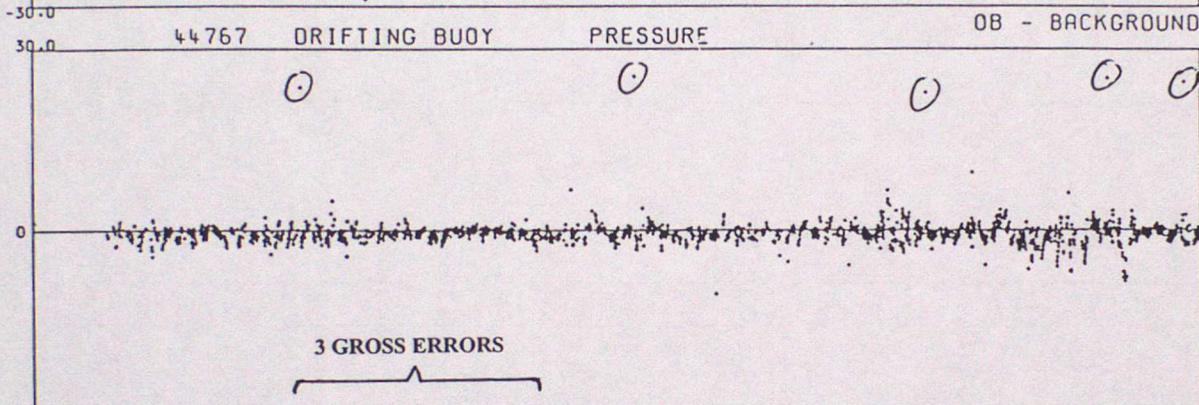
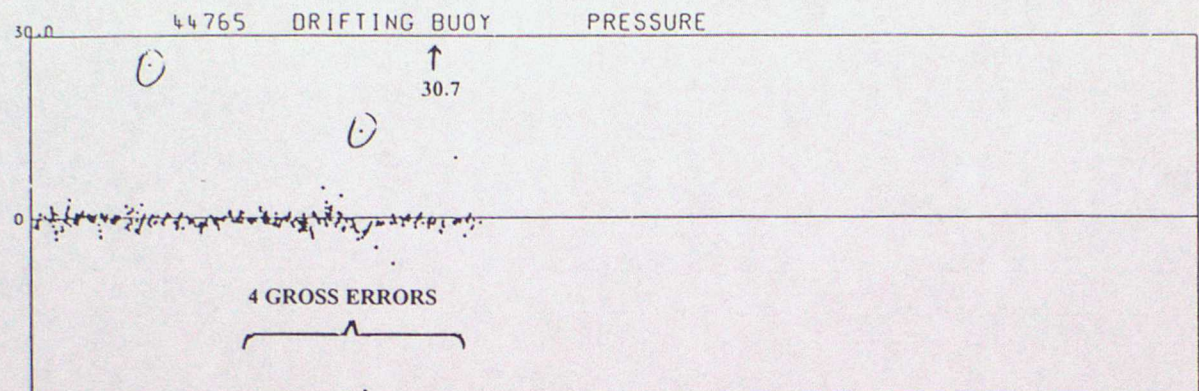


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OPS - BACKGROUND FIELD)



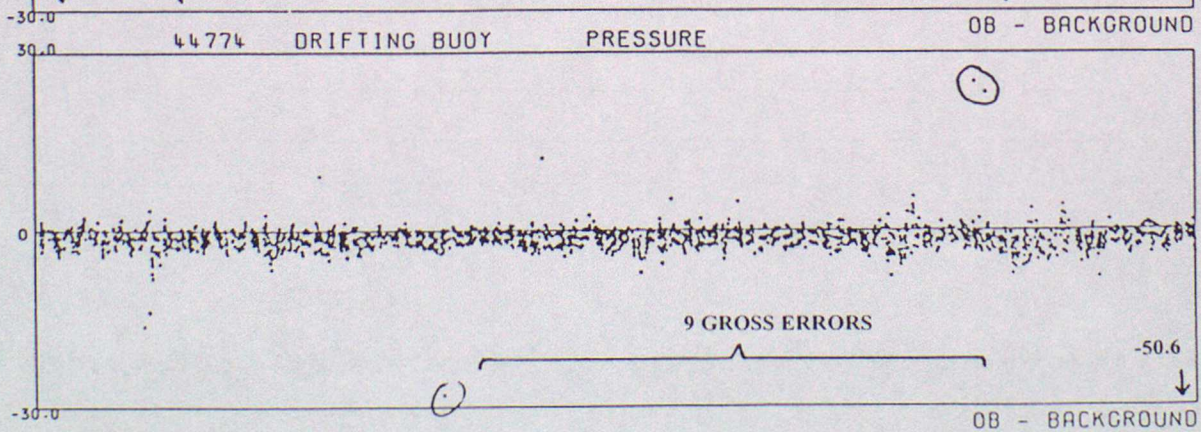
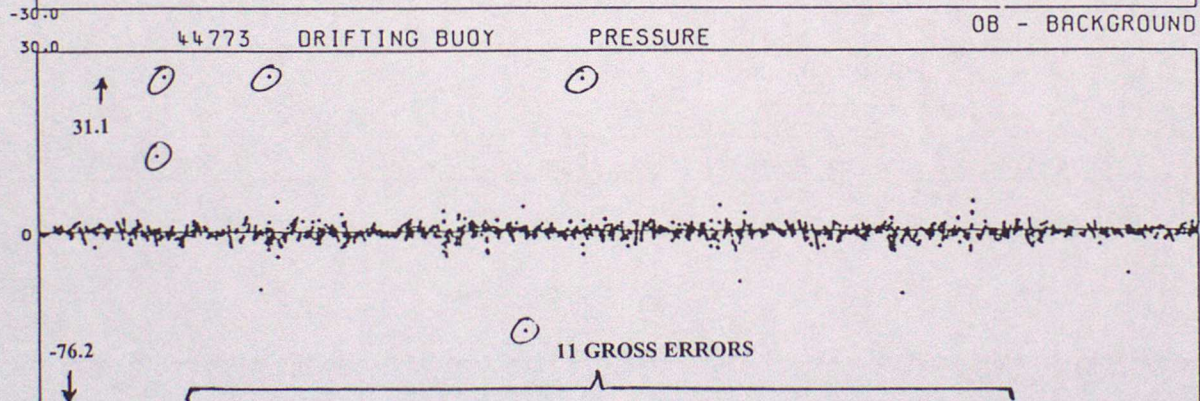
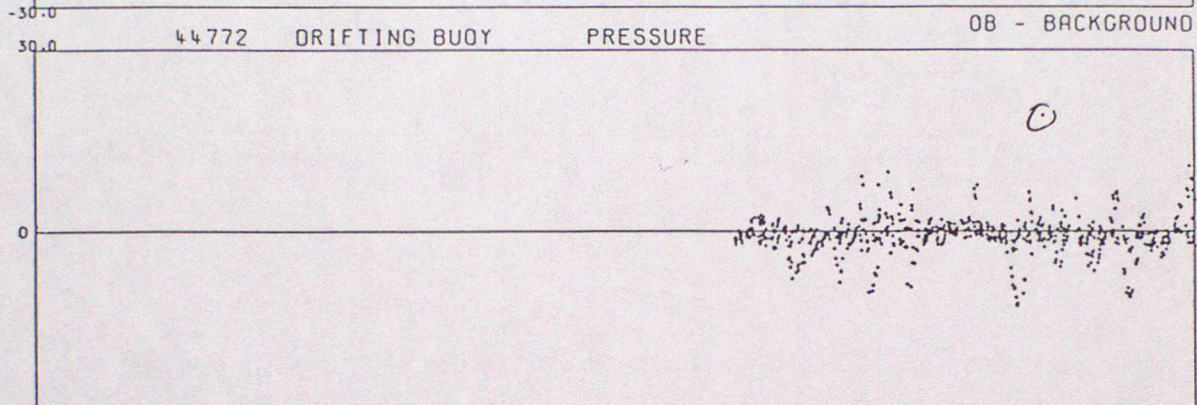
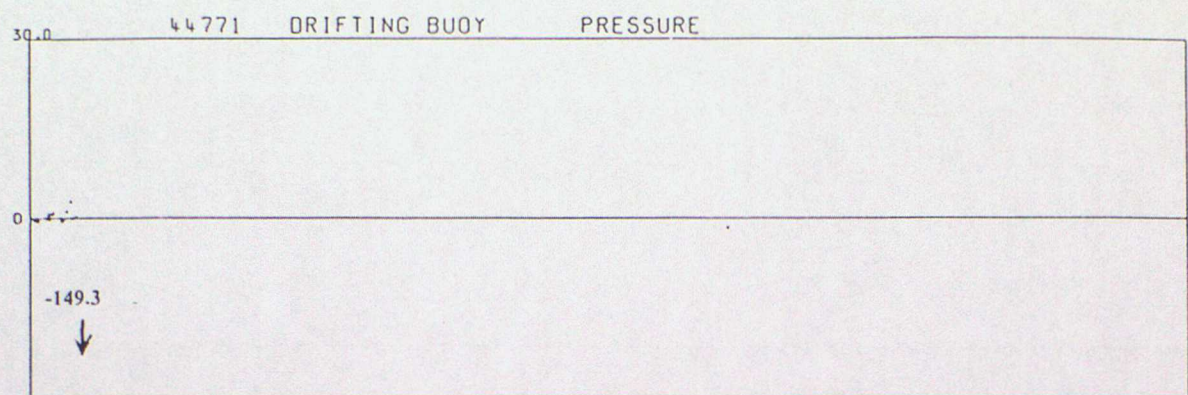


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



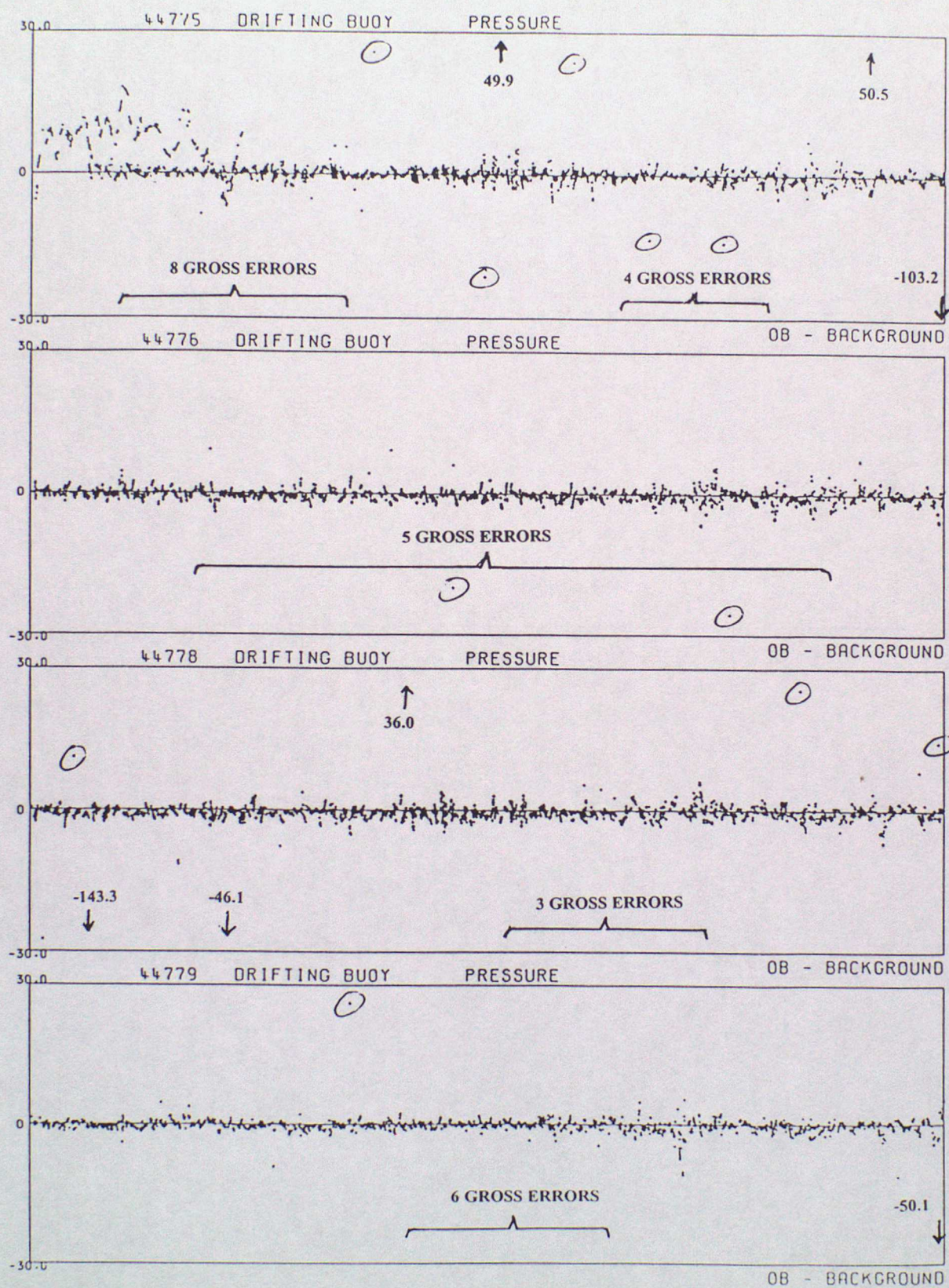


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



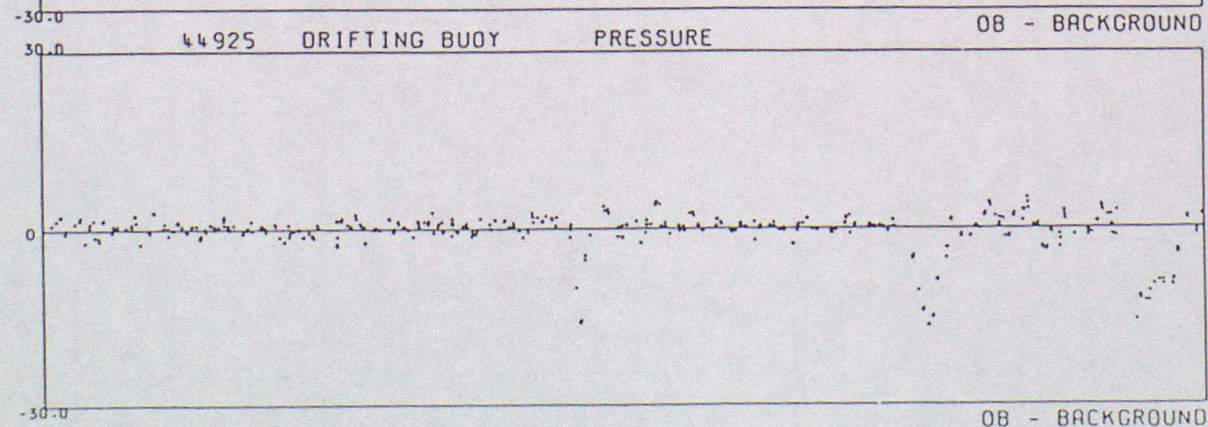
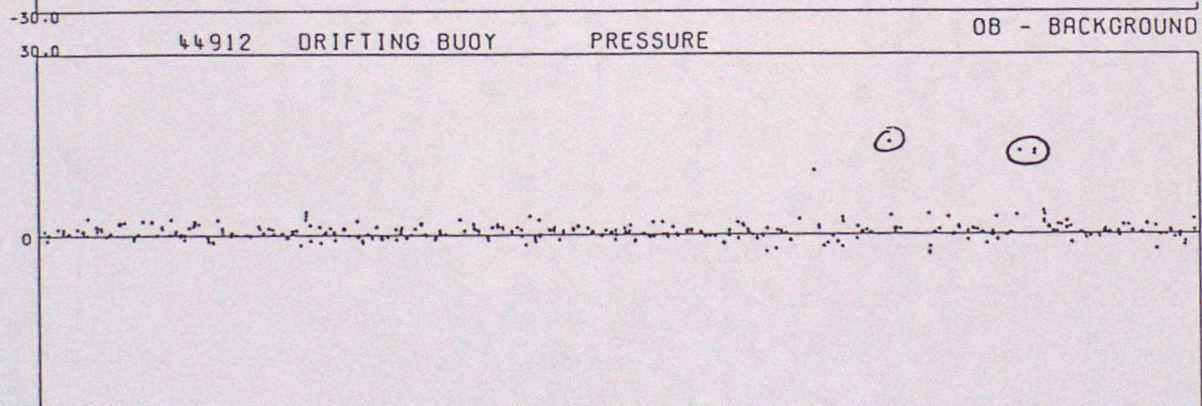
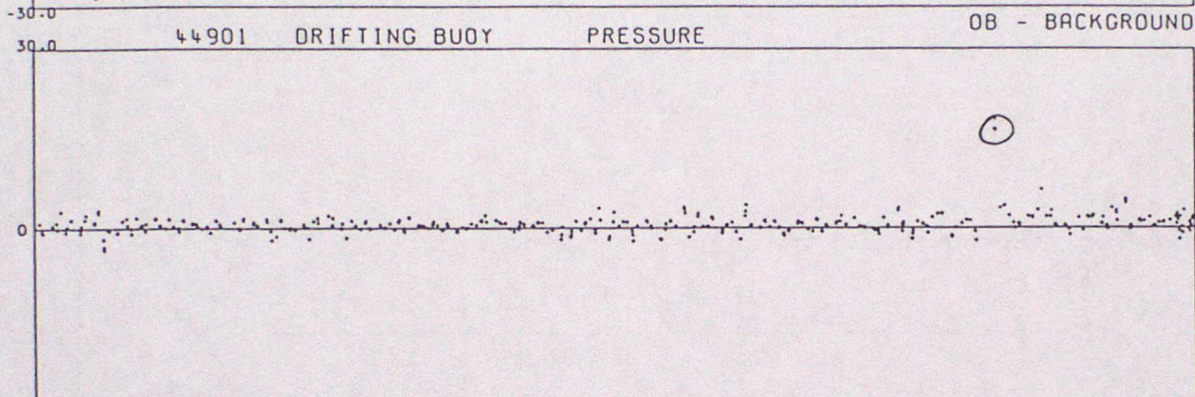
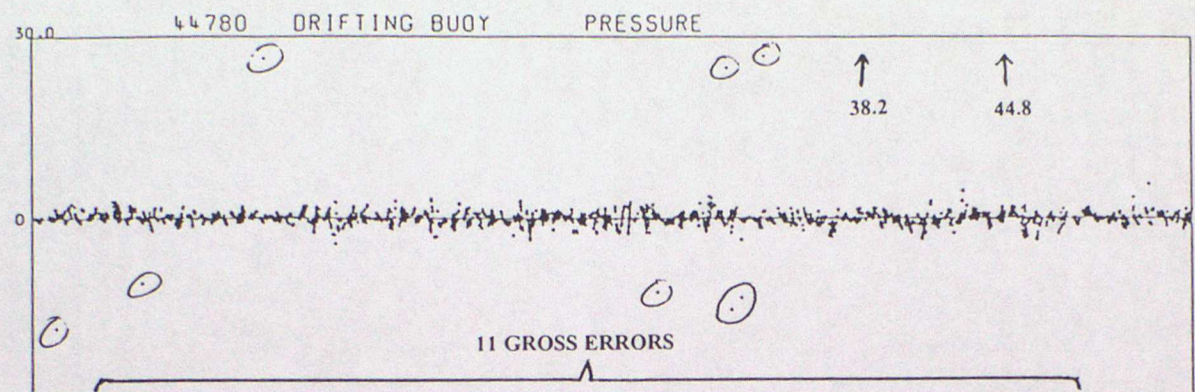


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



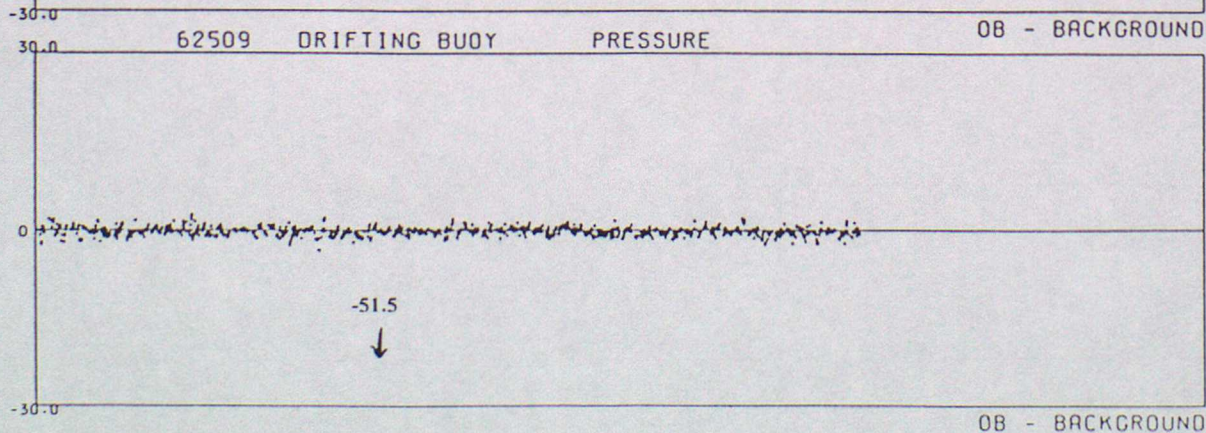
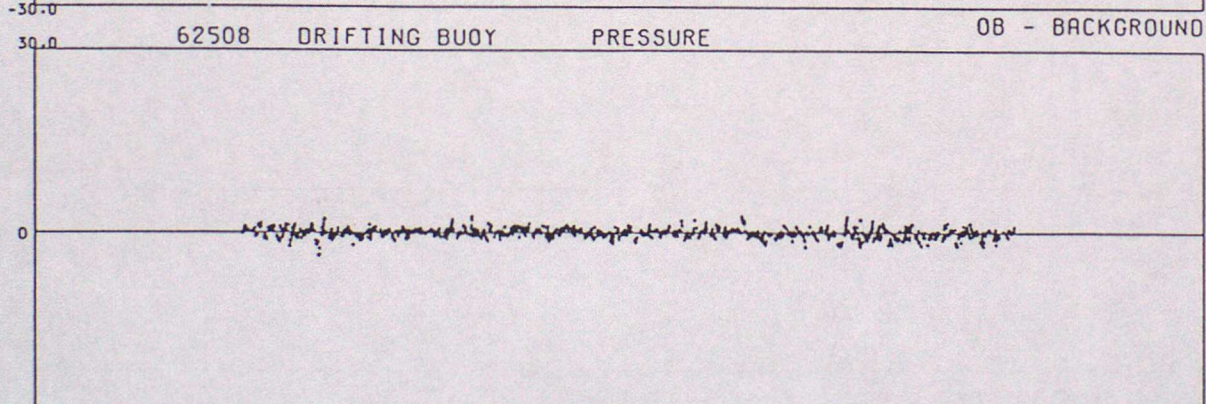
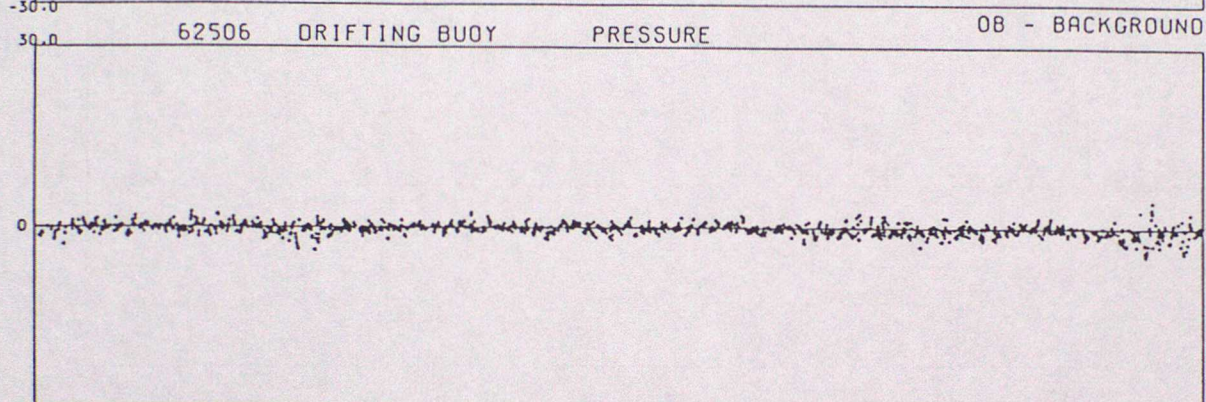
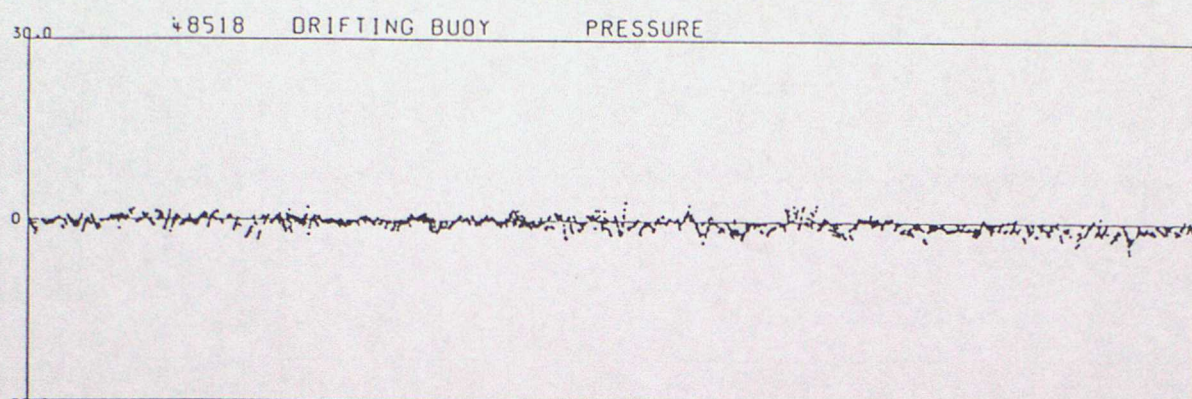


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



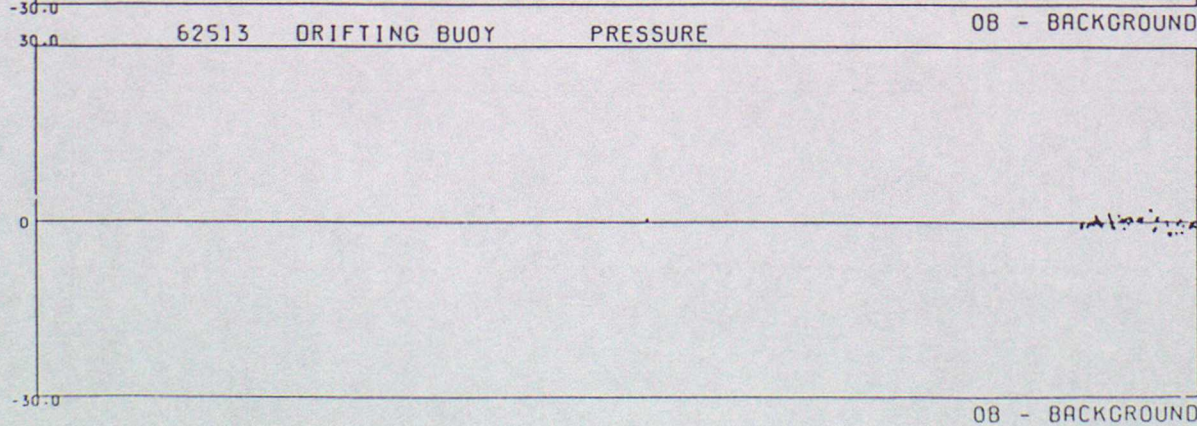
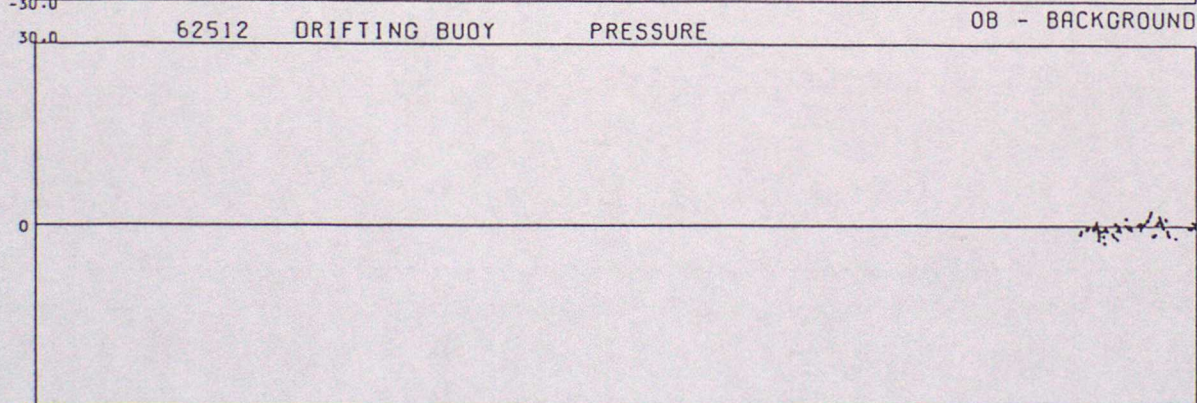
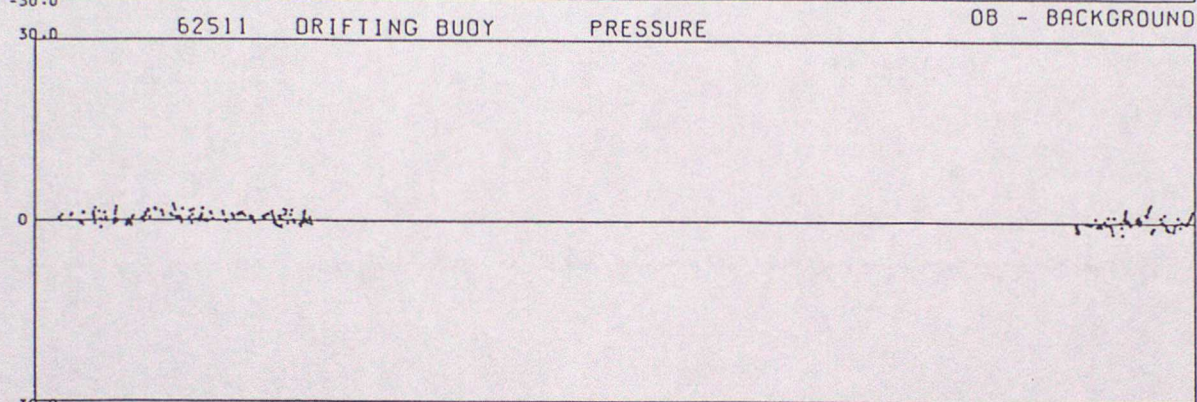
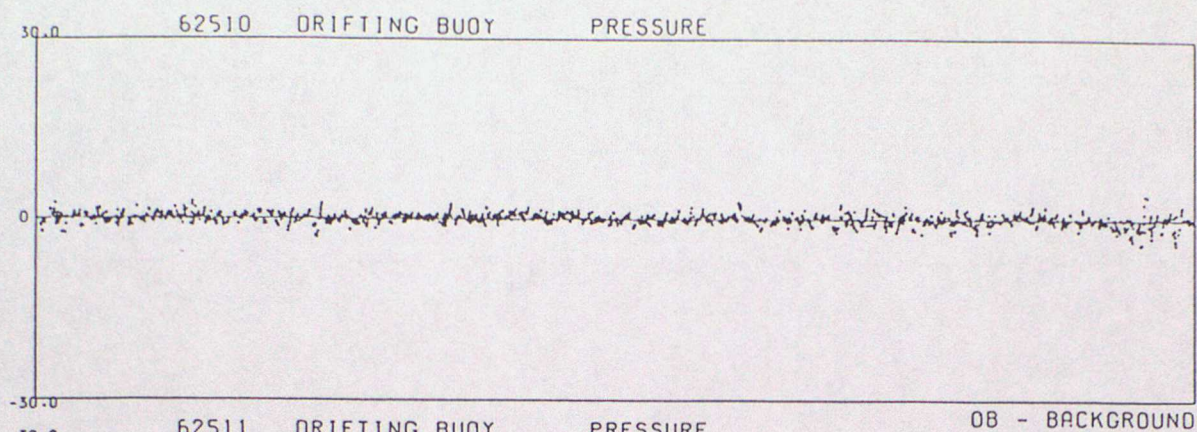


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



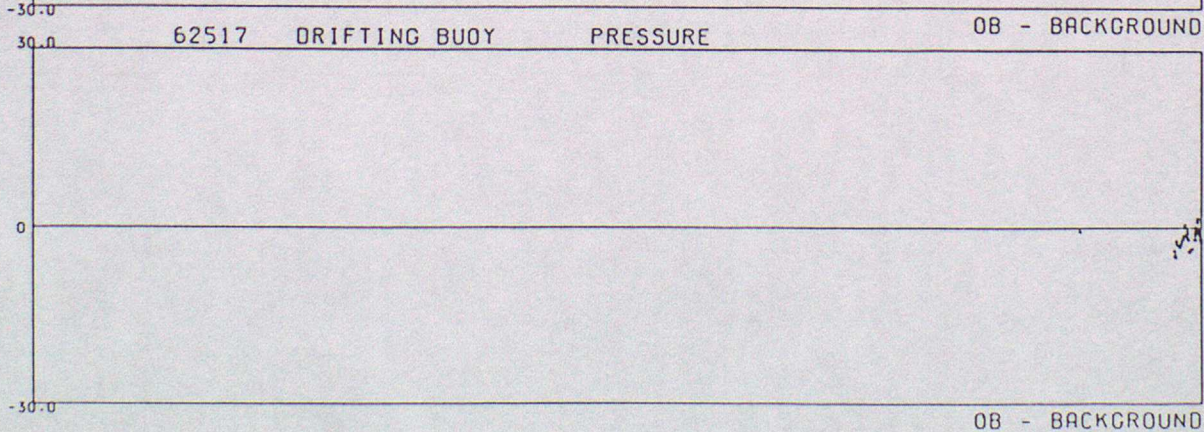
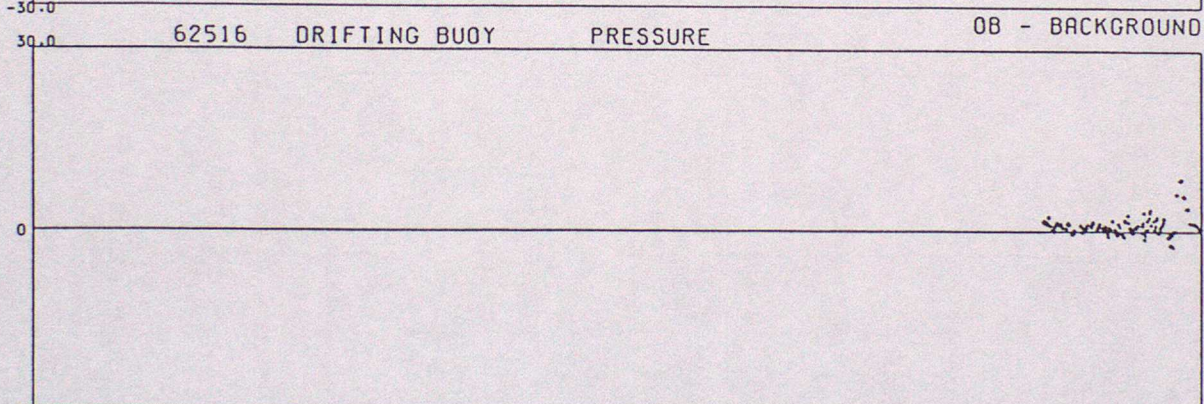
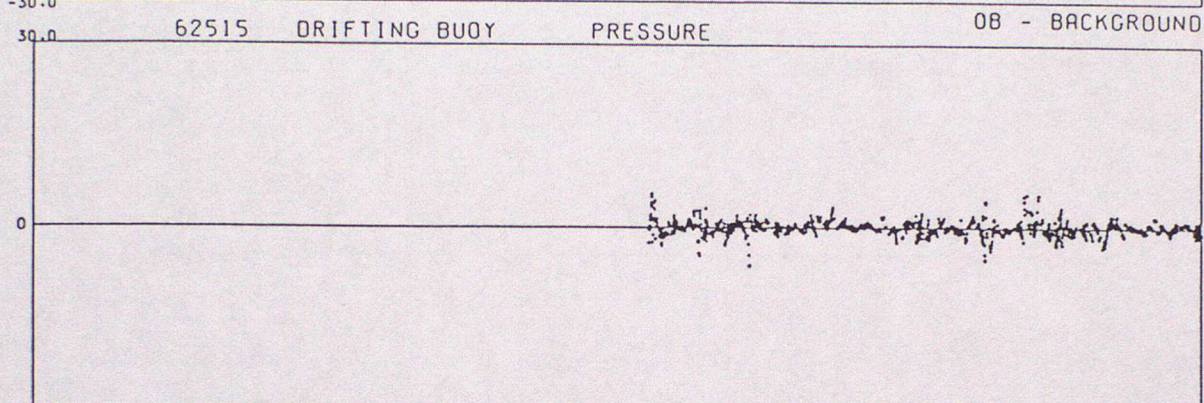
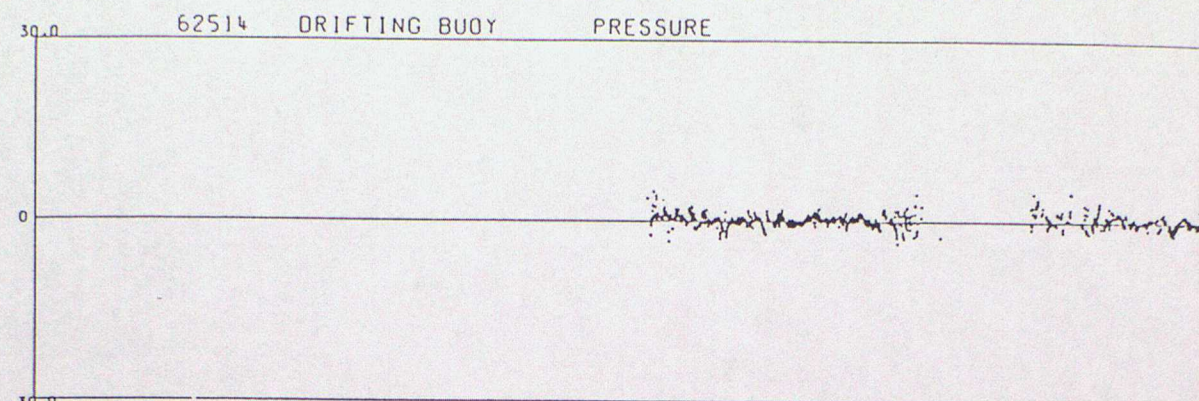


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



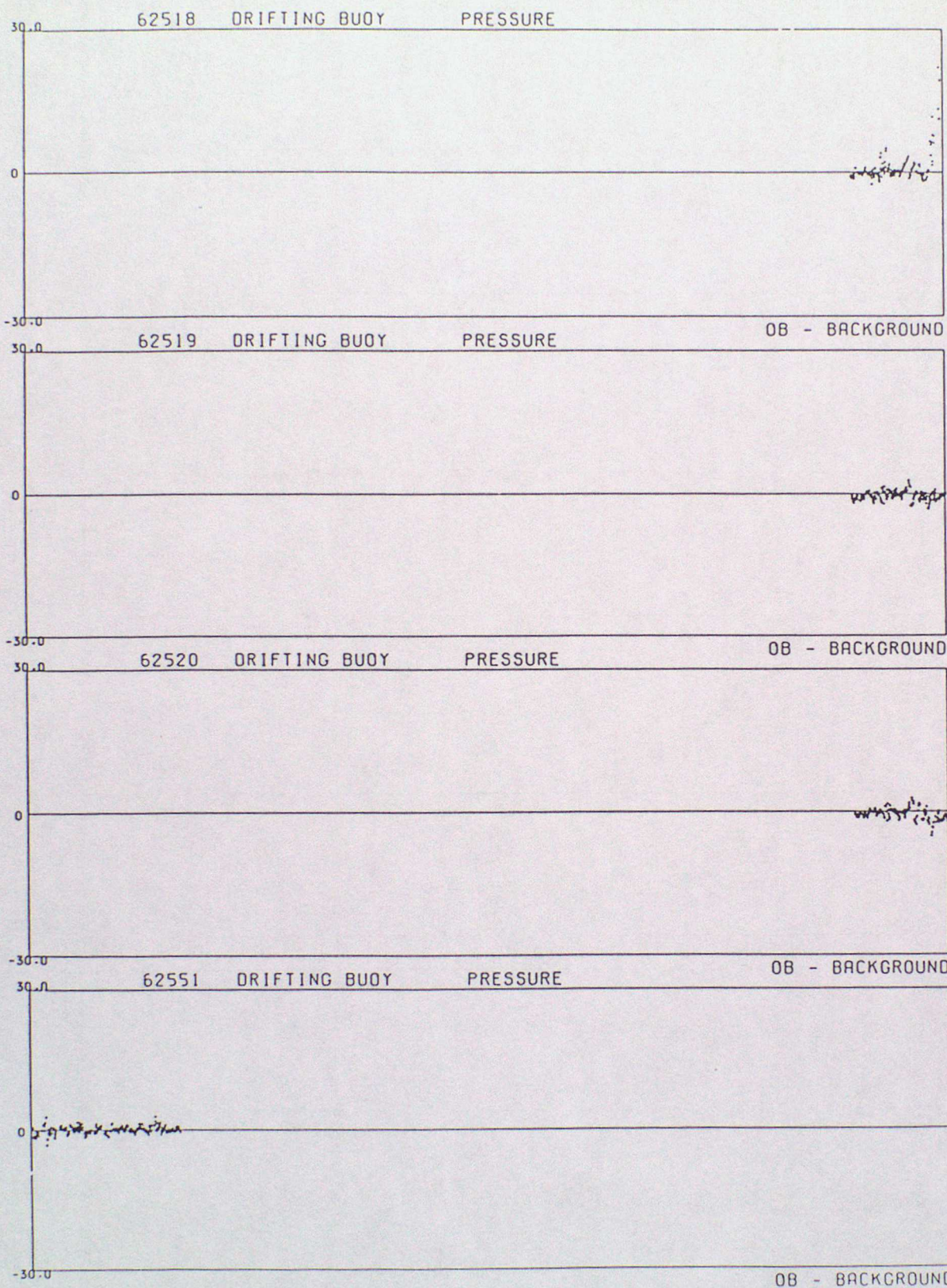


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



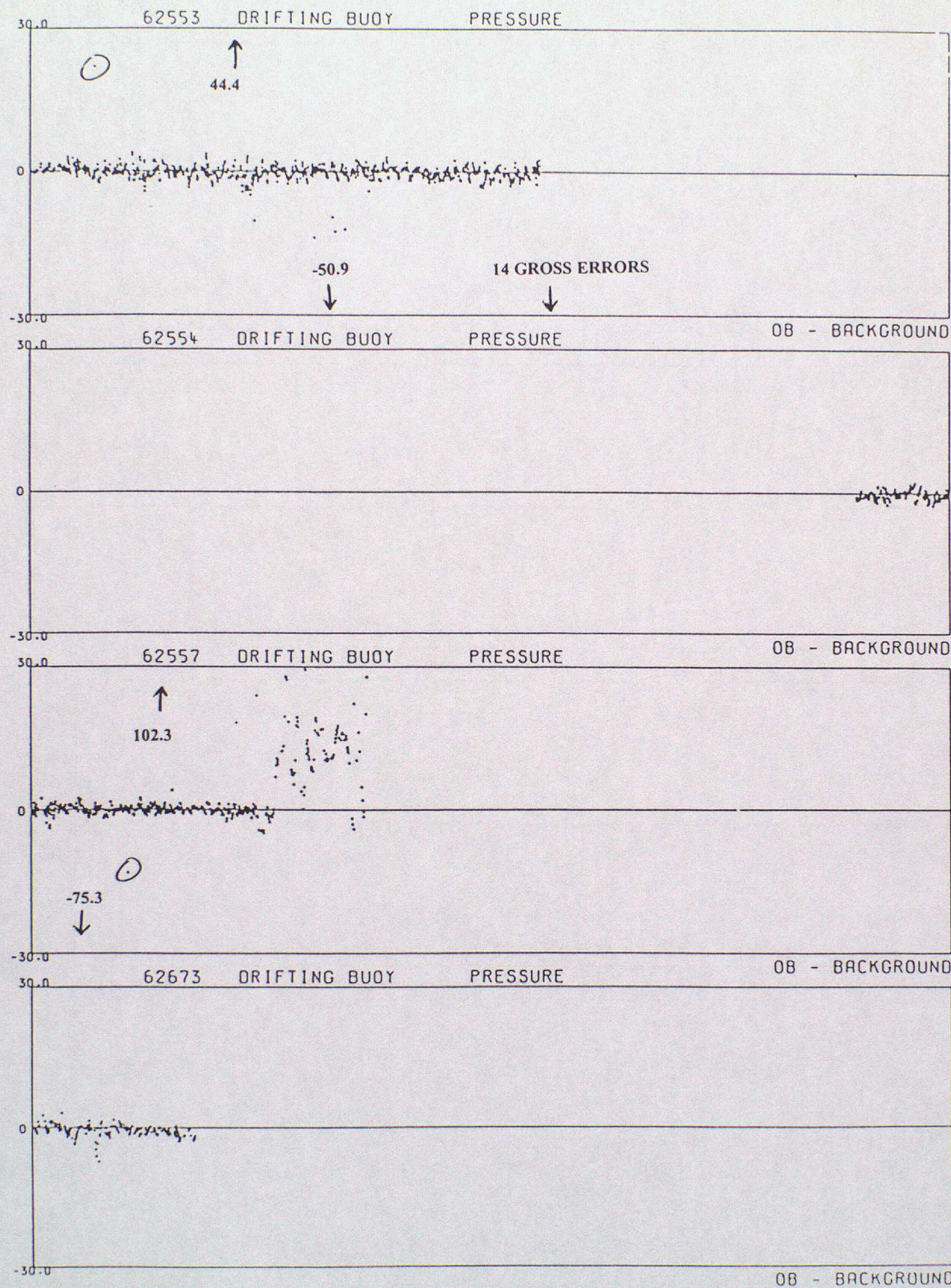


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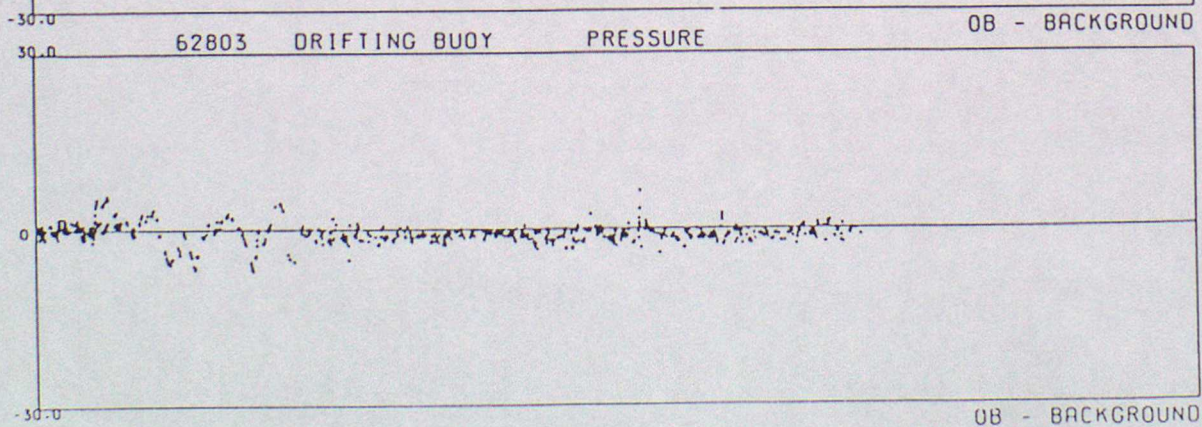
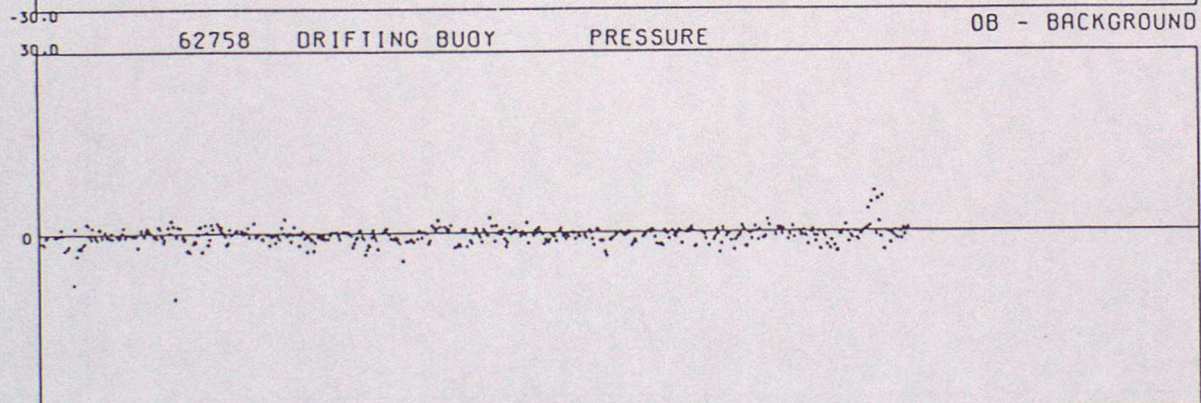
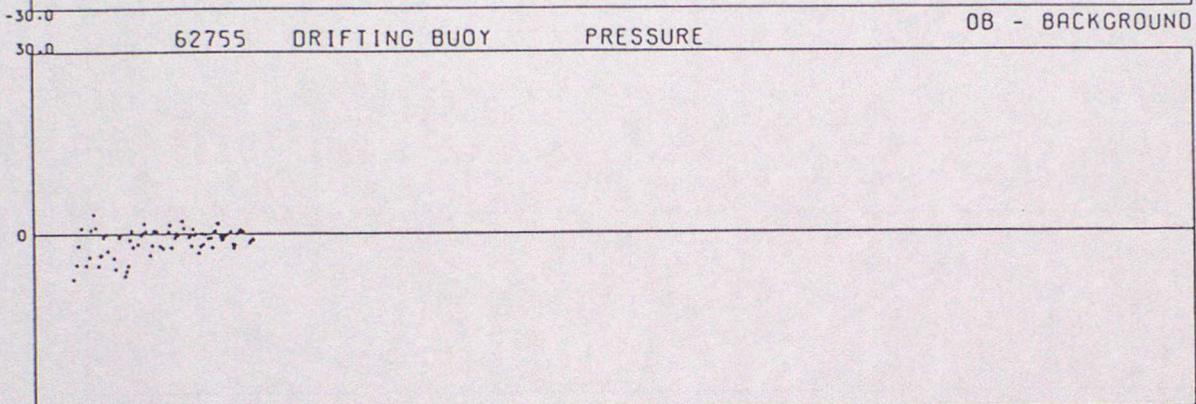
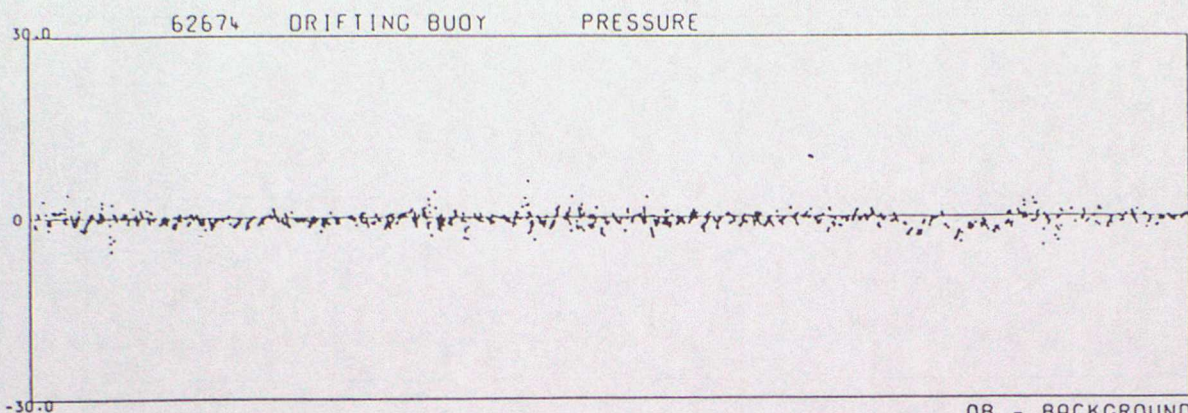


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



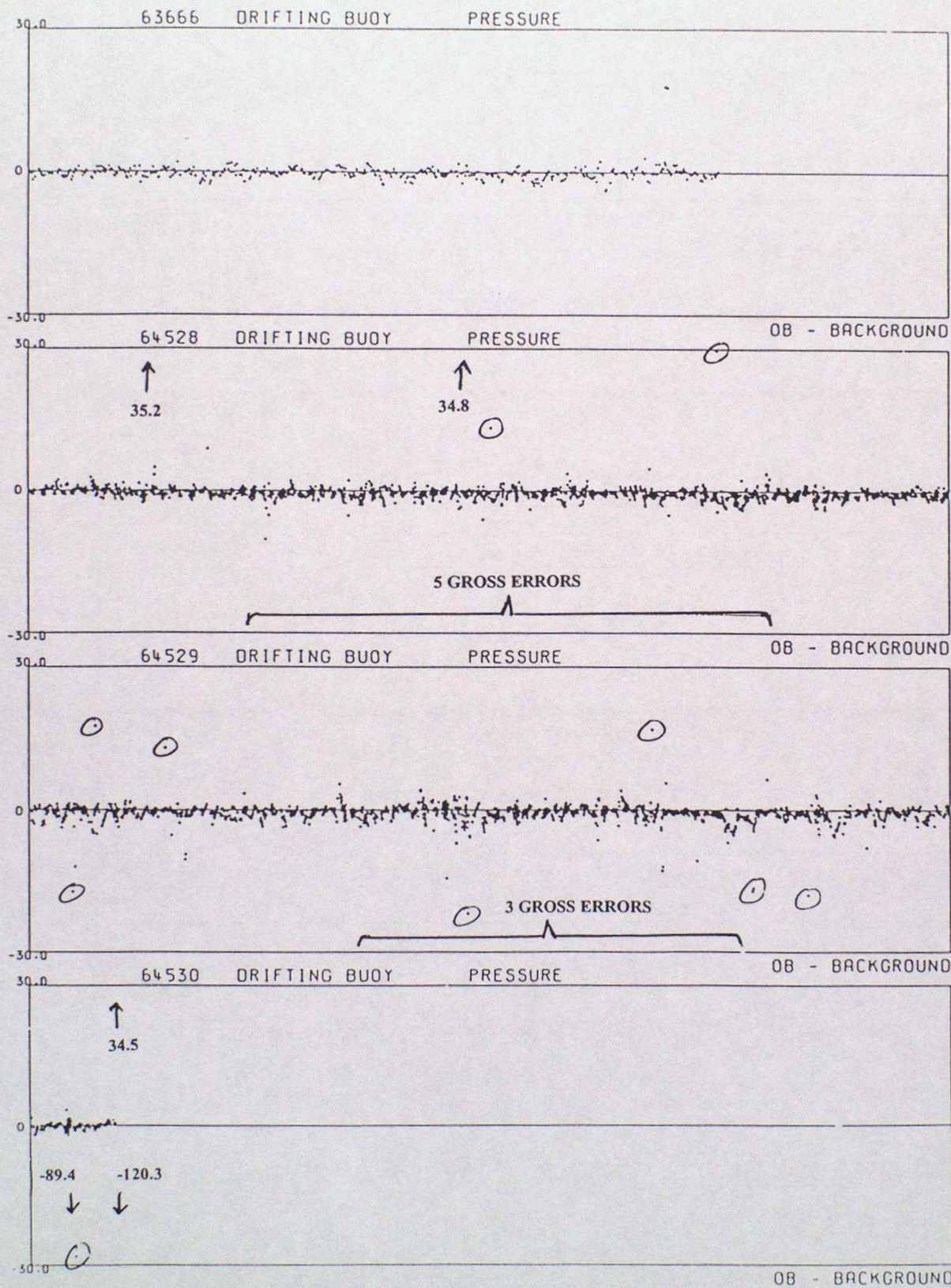


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



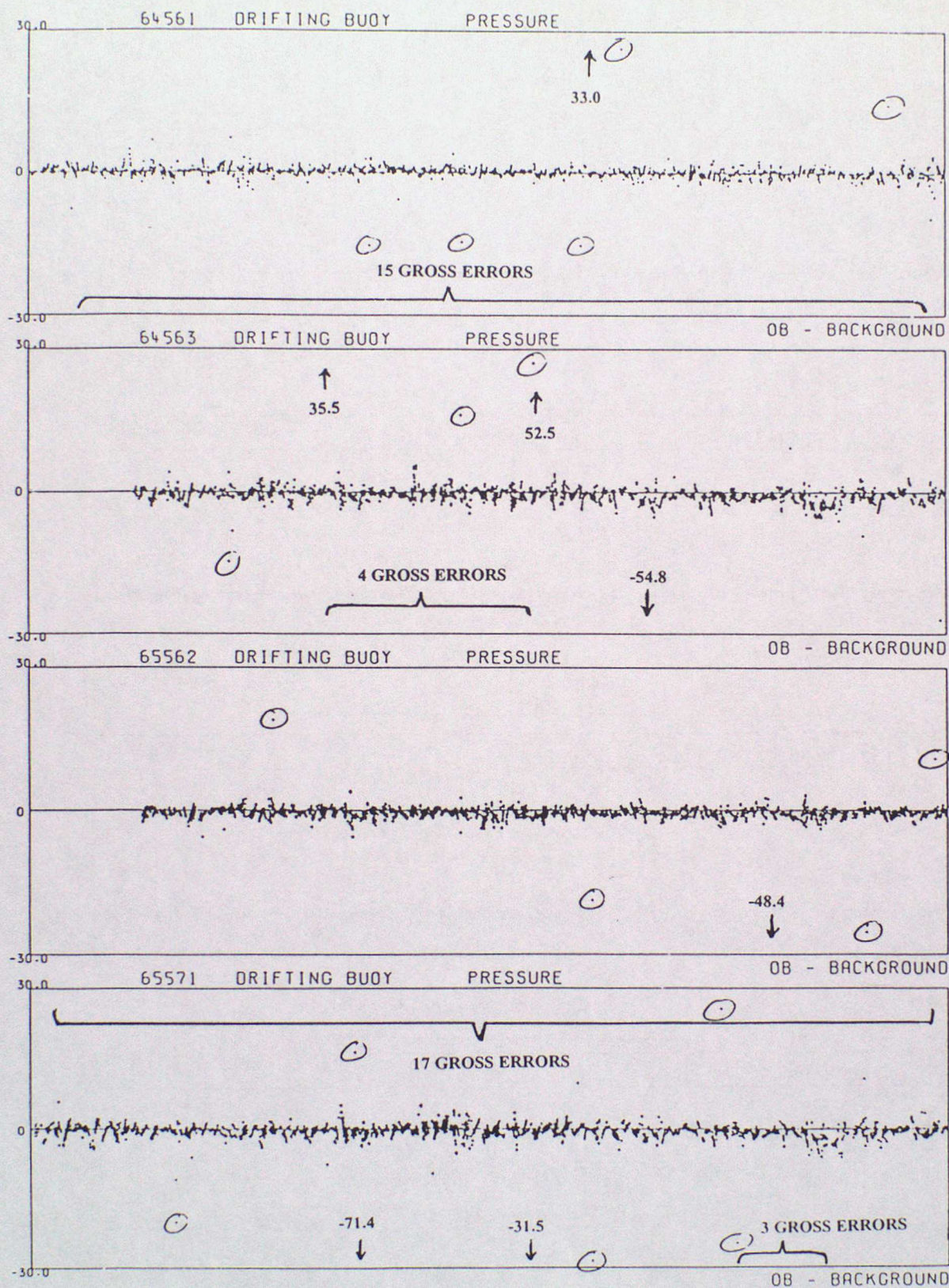


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



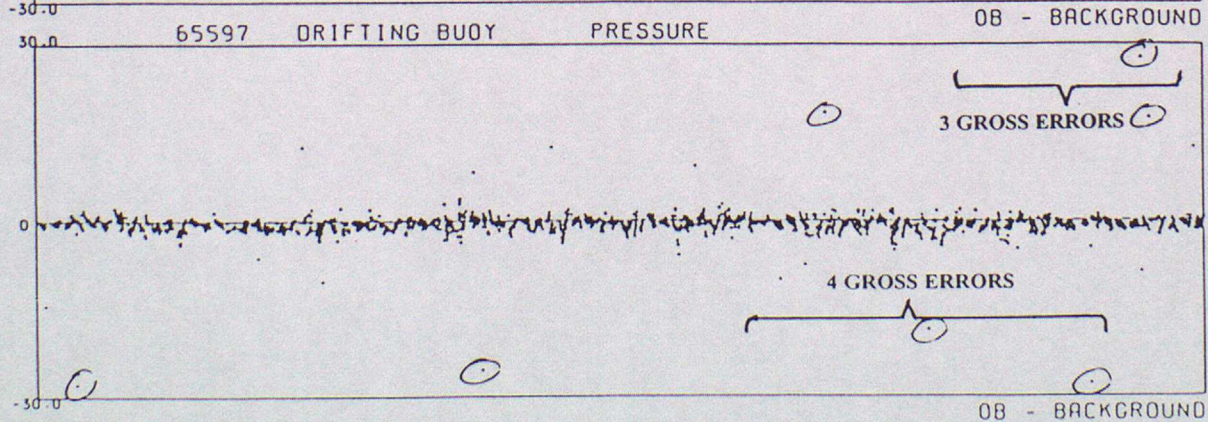
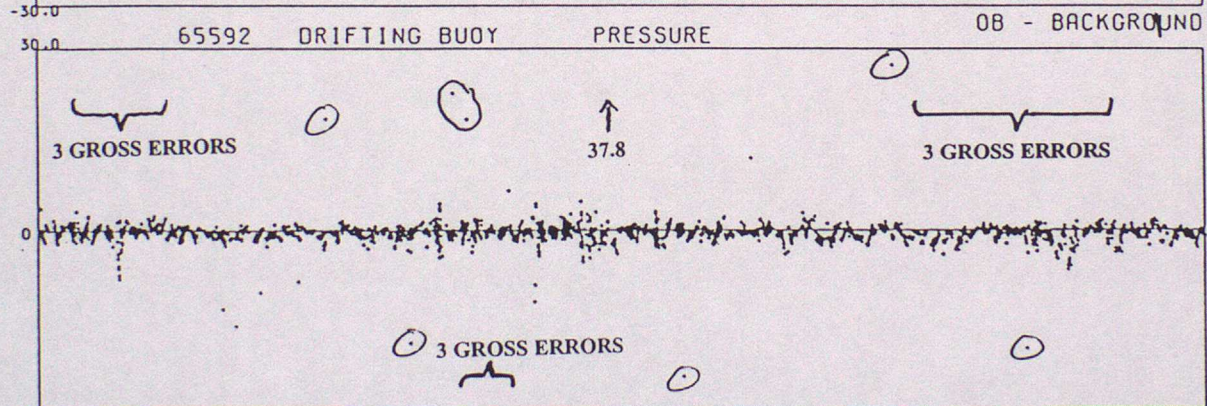
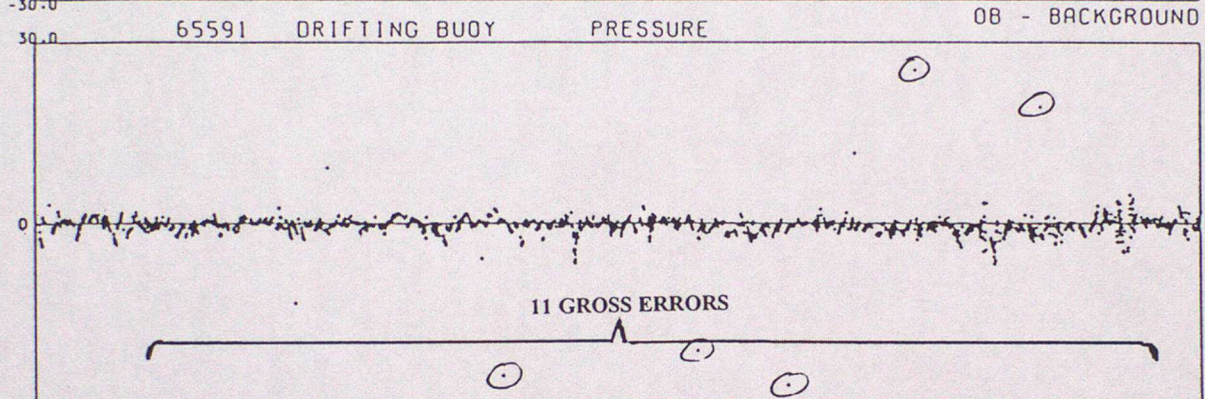
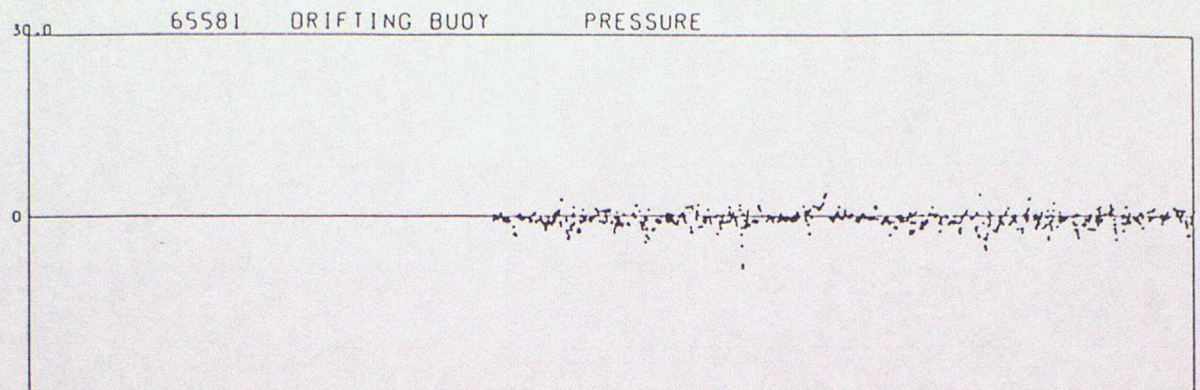


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)

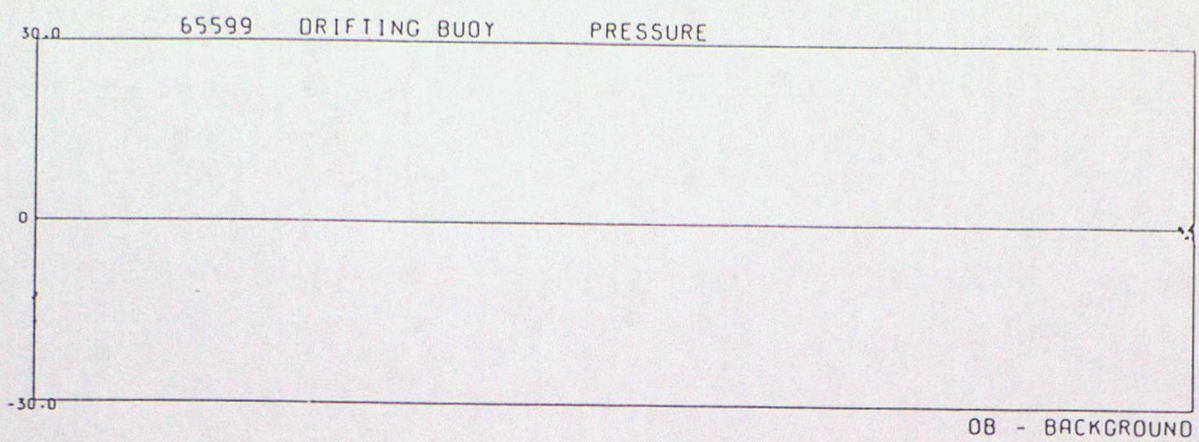




DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1996 (OBS - BACKGROUND FIELD)



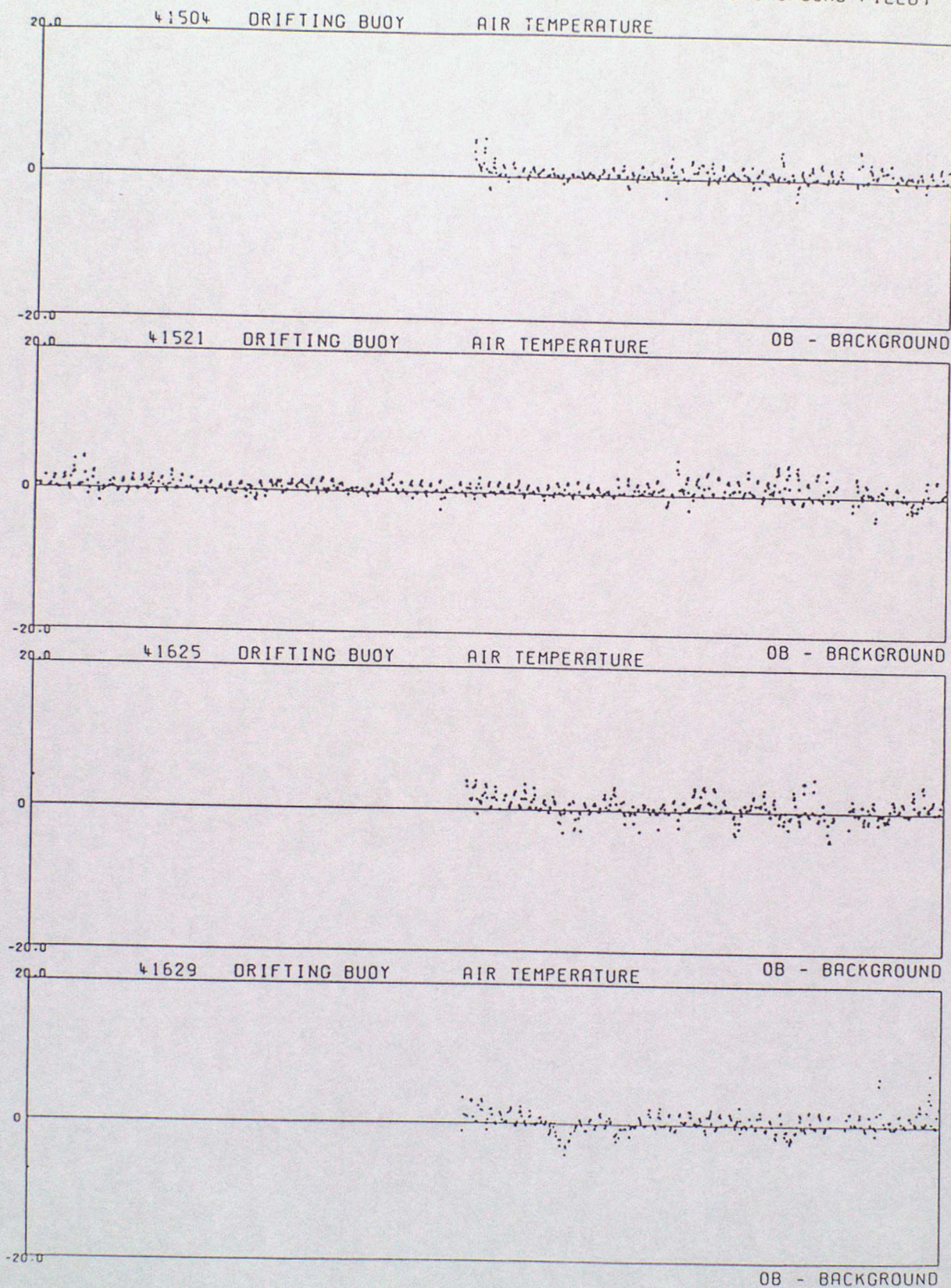






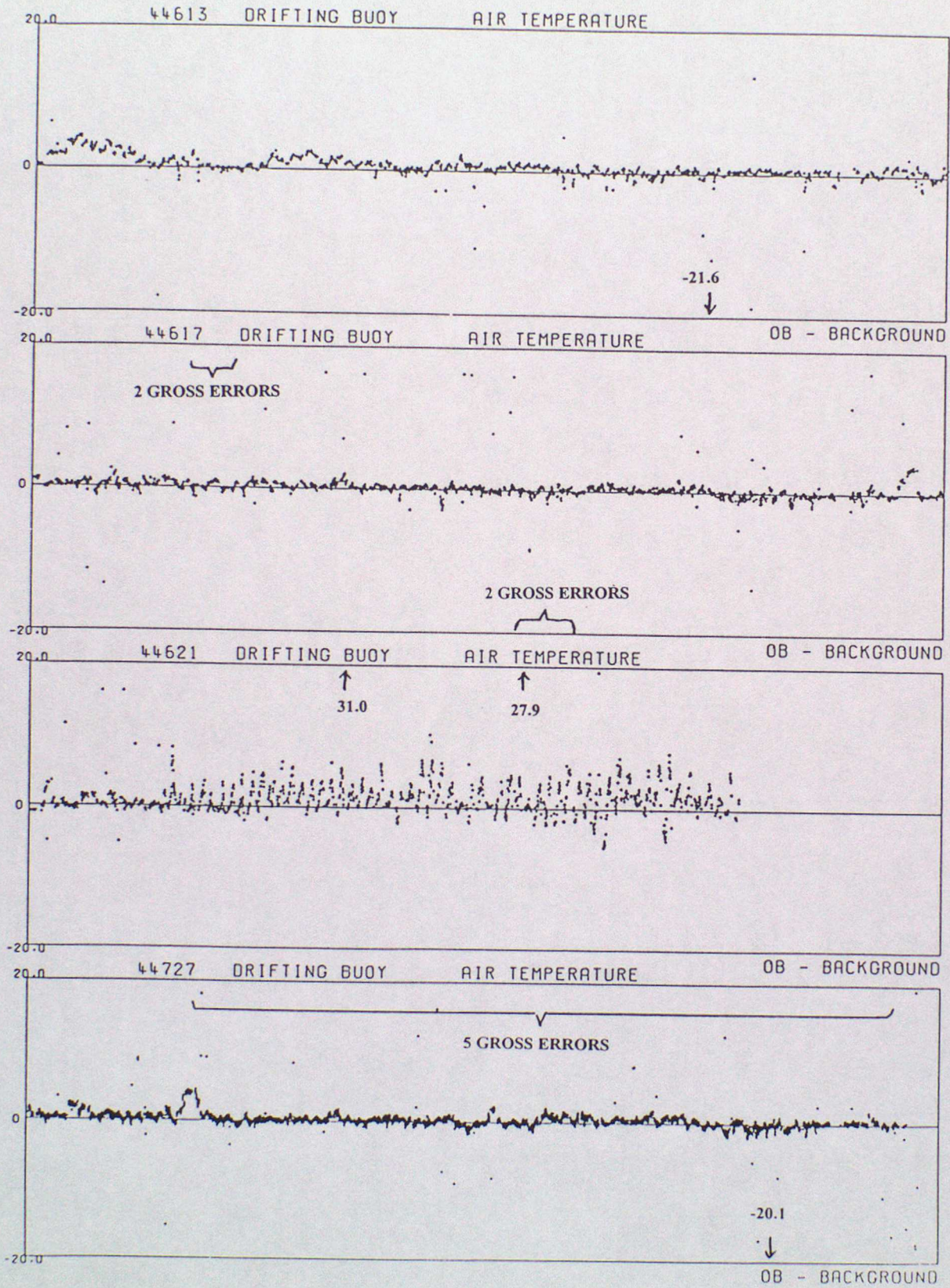
## ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



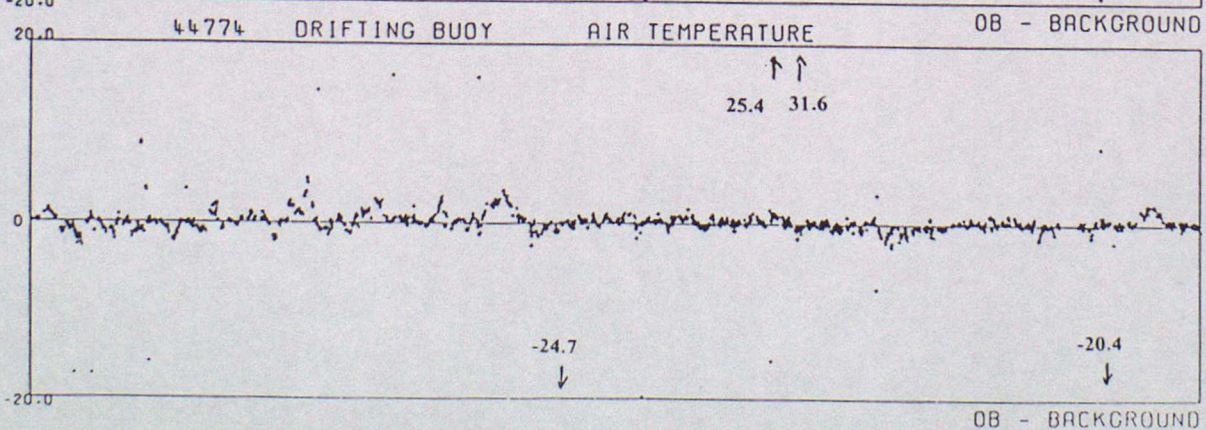
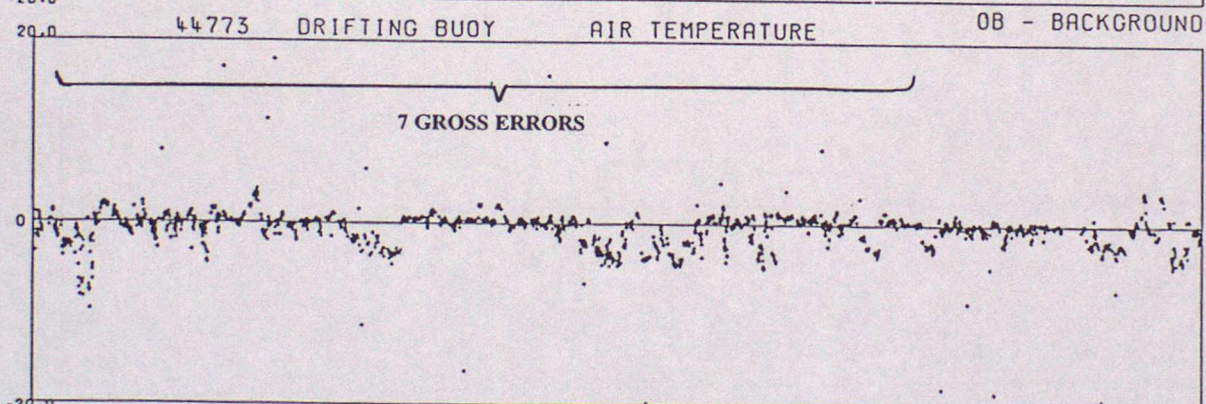
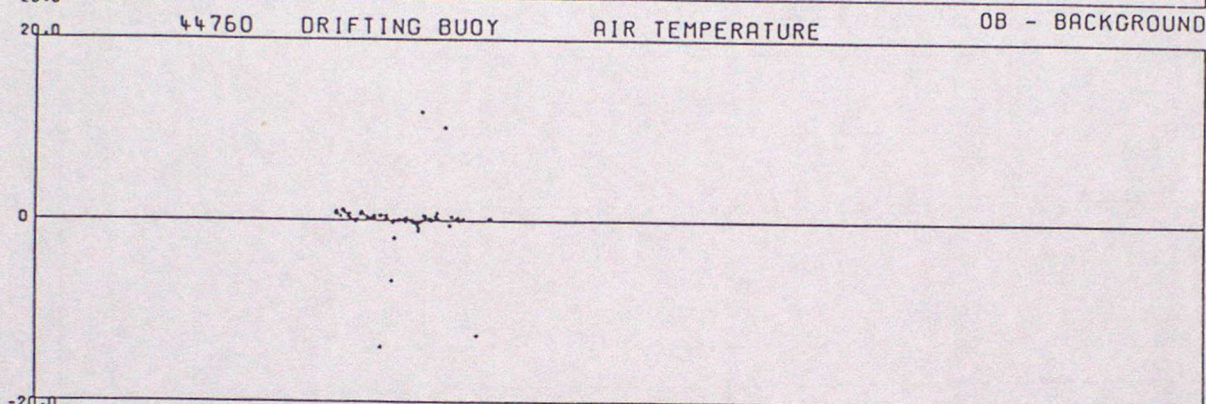
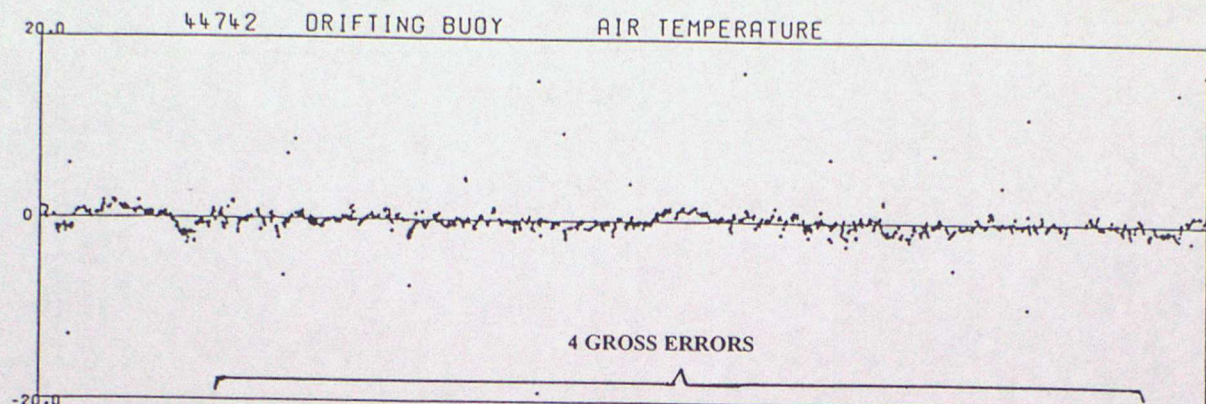


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



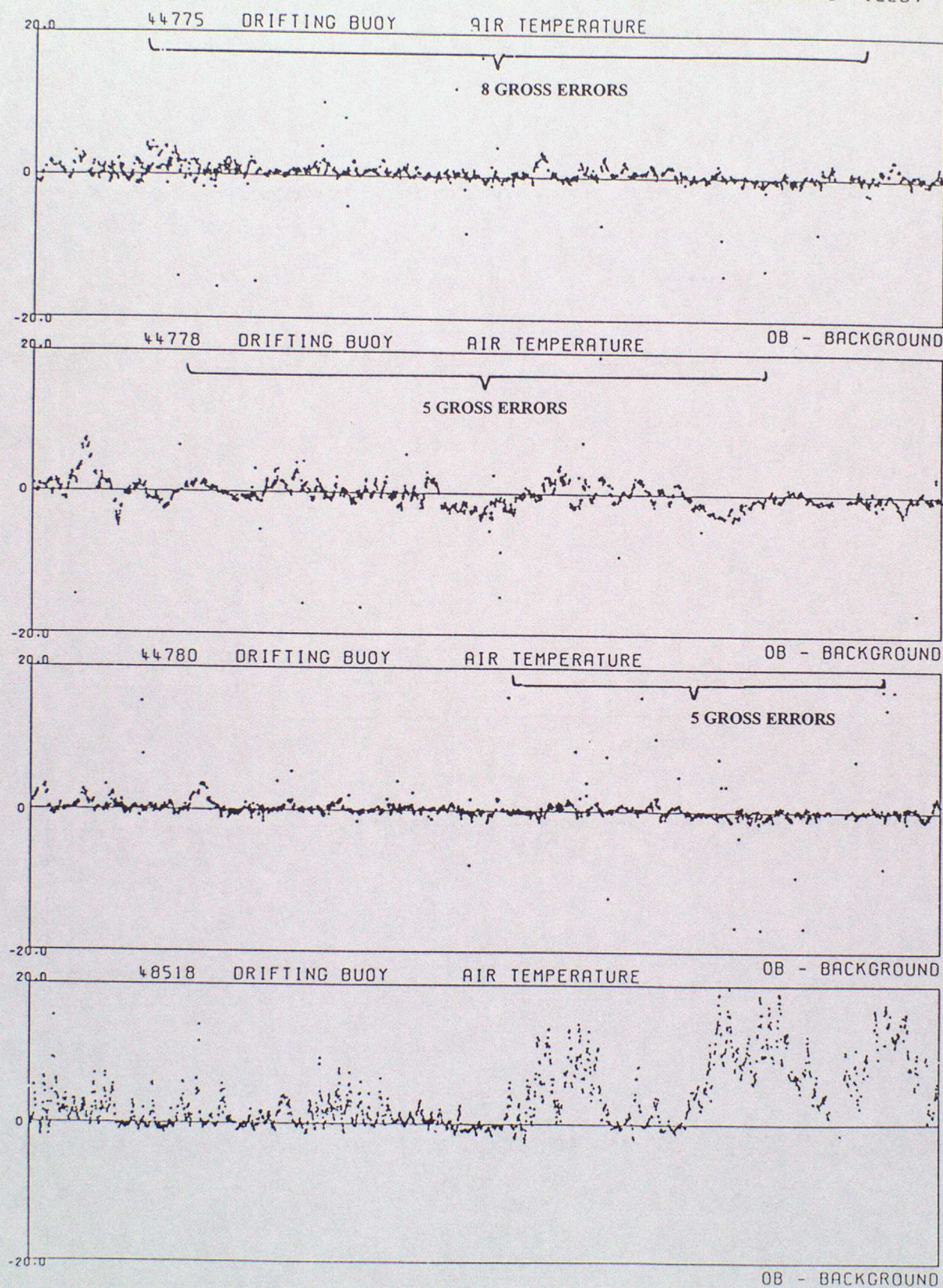


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



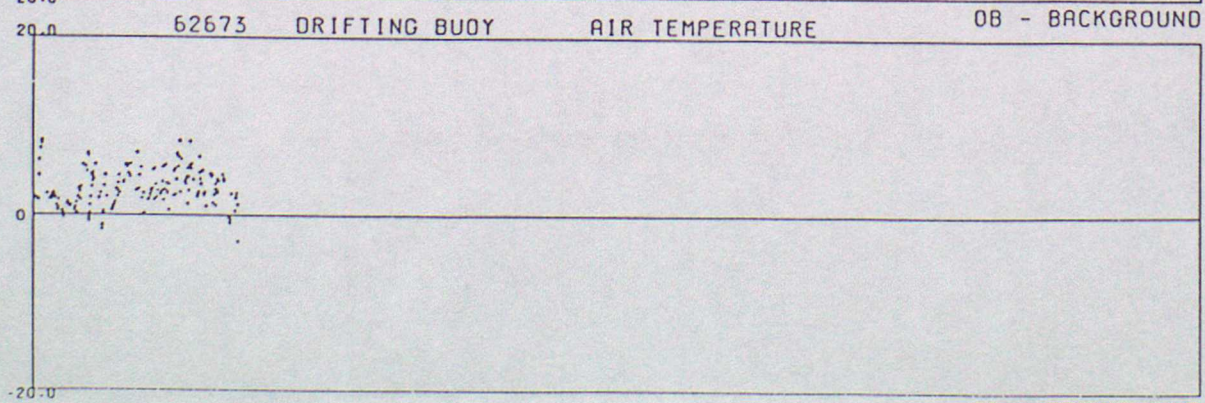
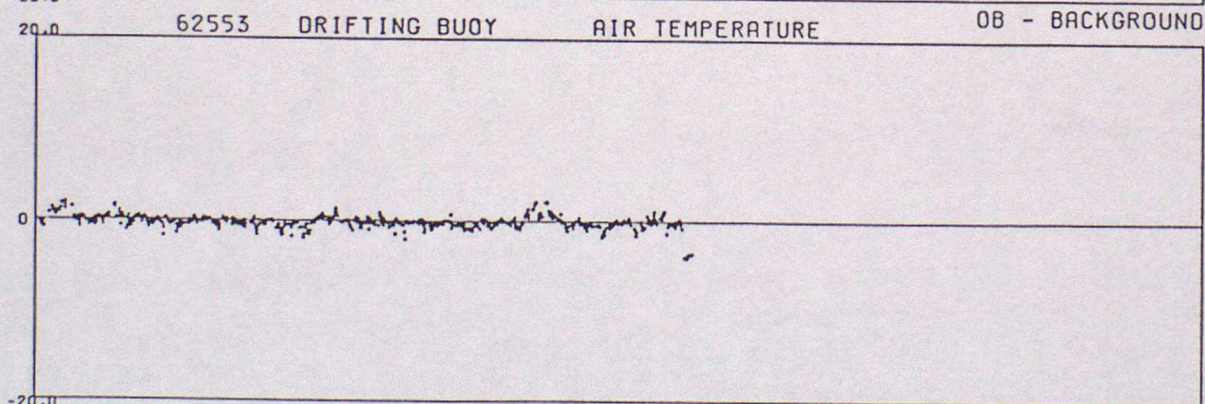
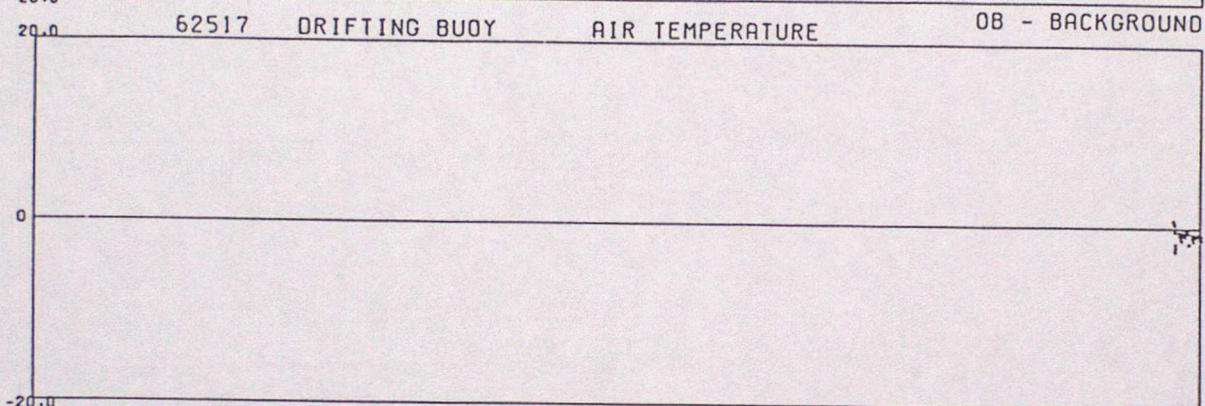
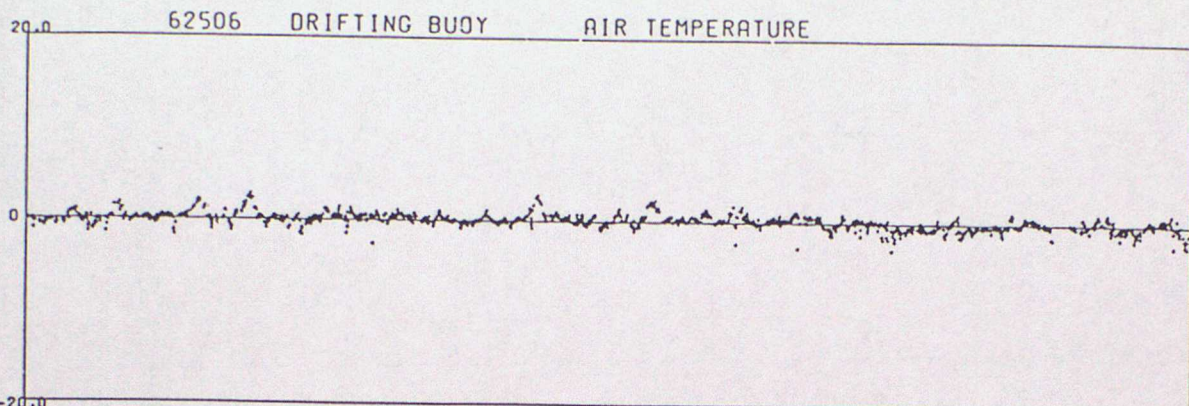


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)





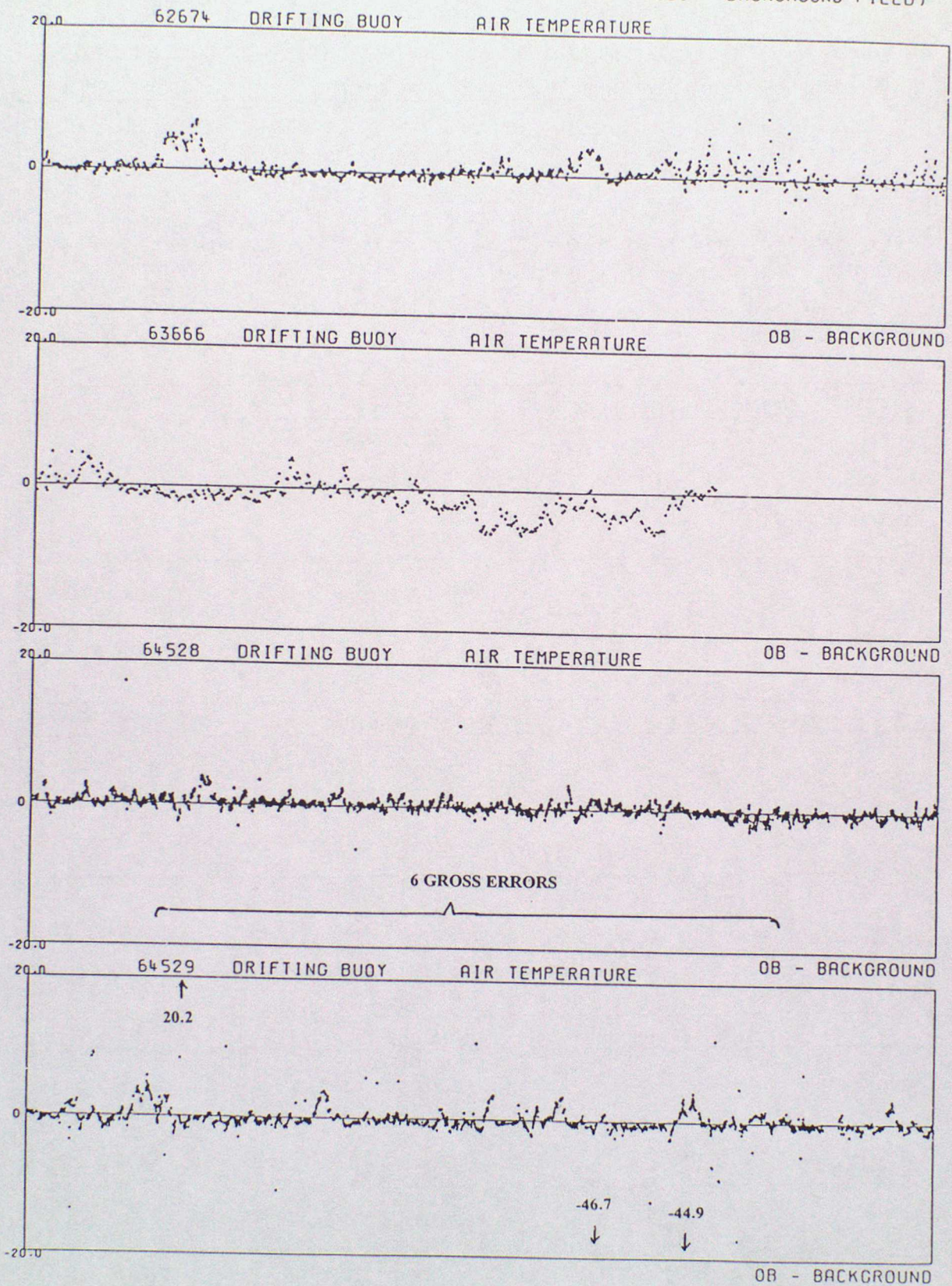
DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



OB - BACKGROUND

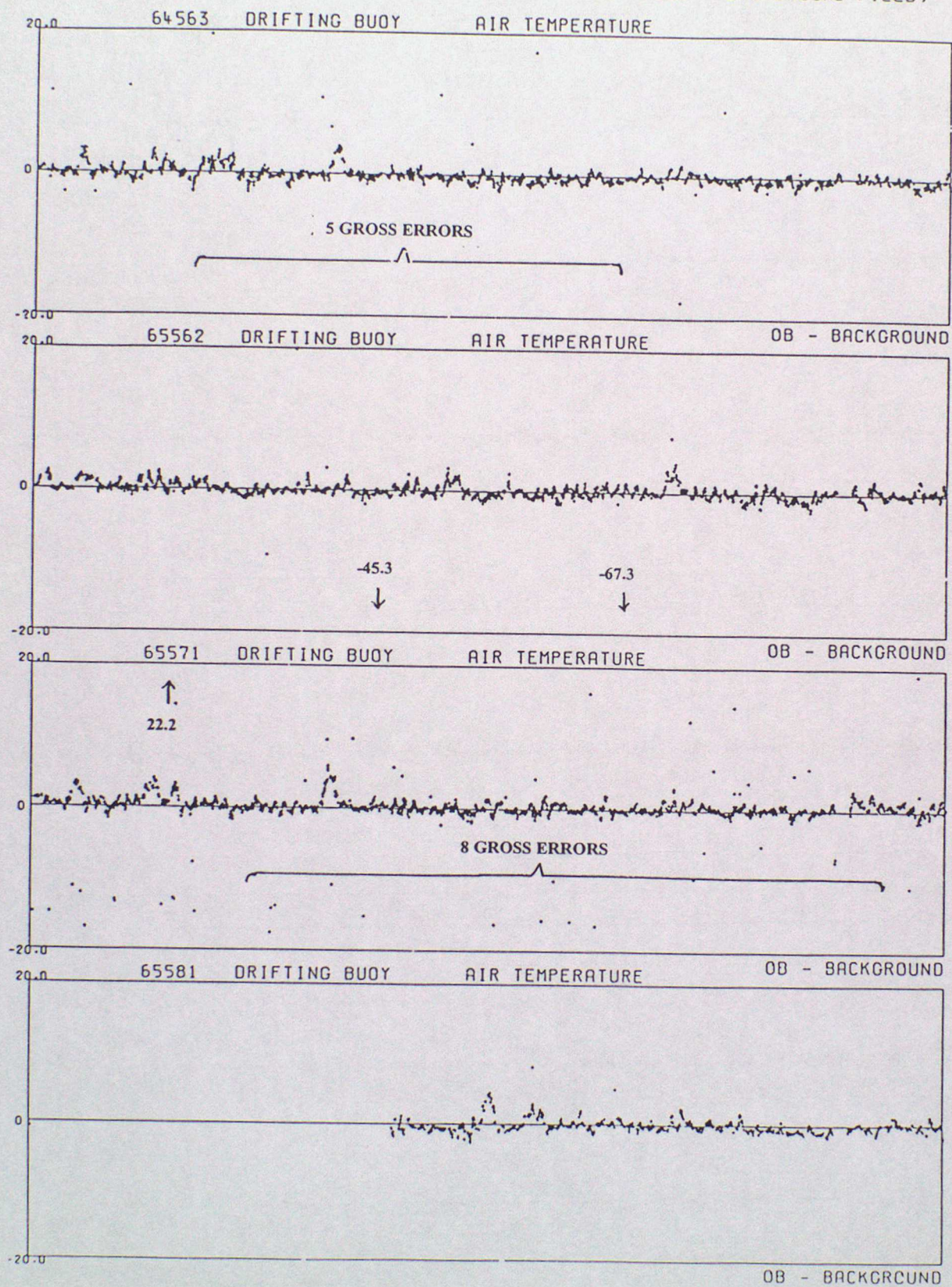


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



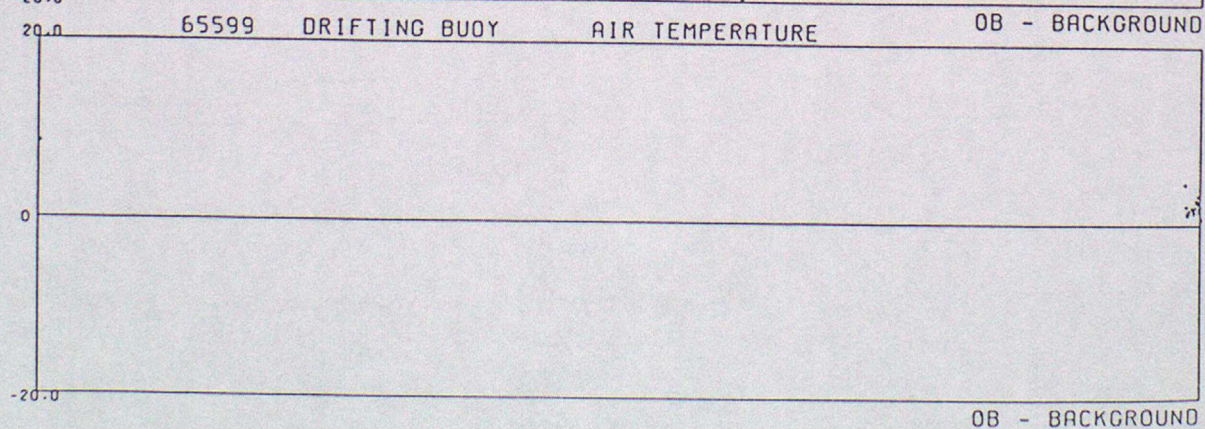
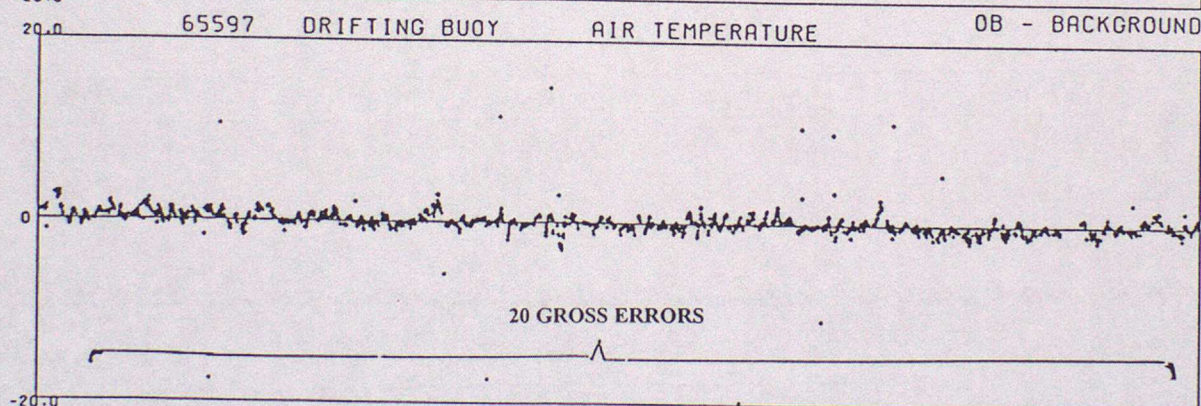
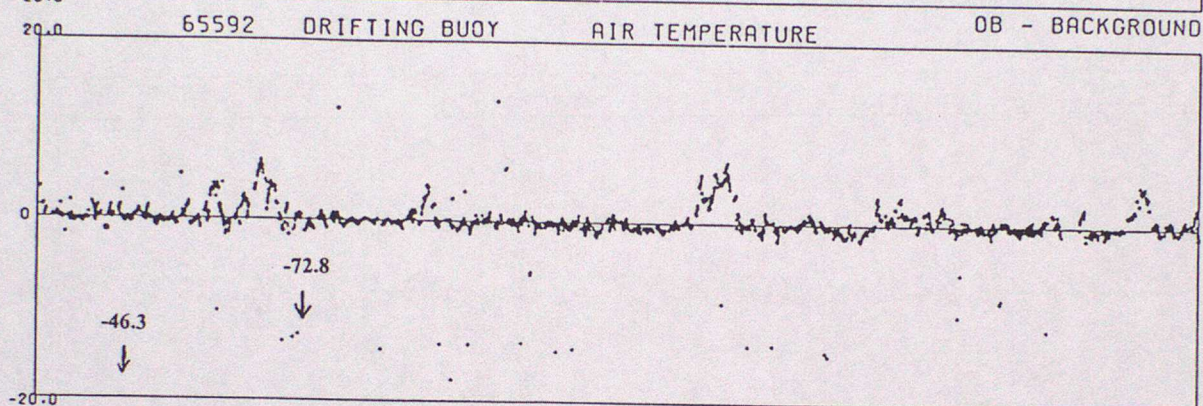
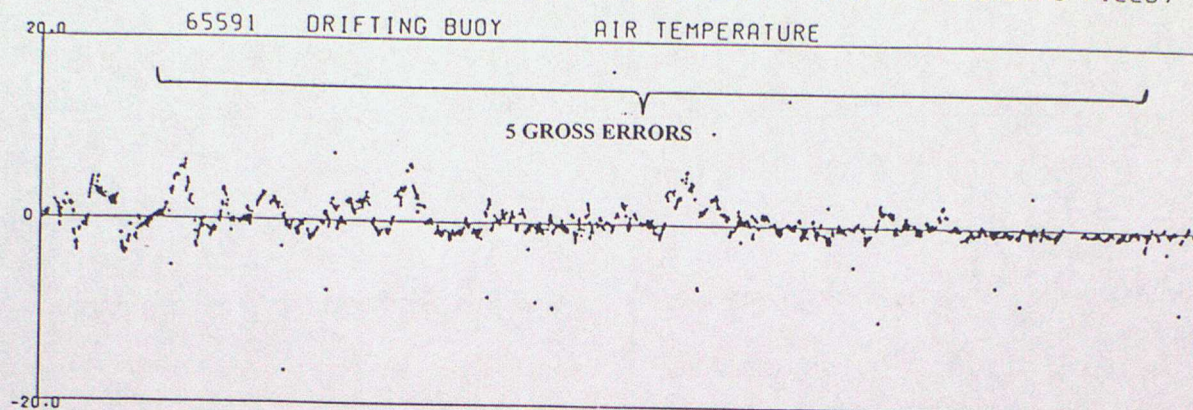


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)





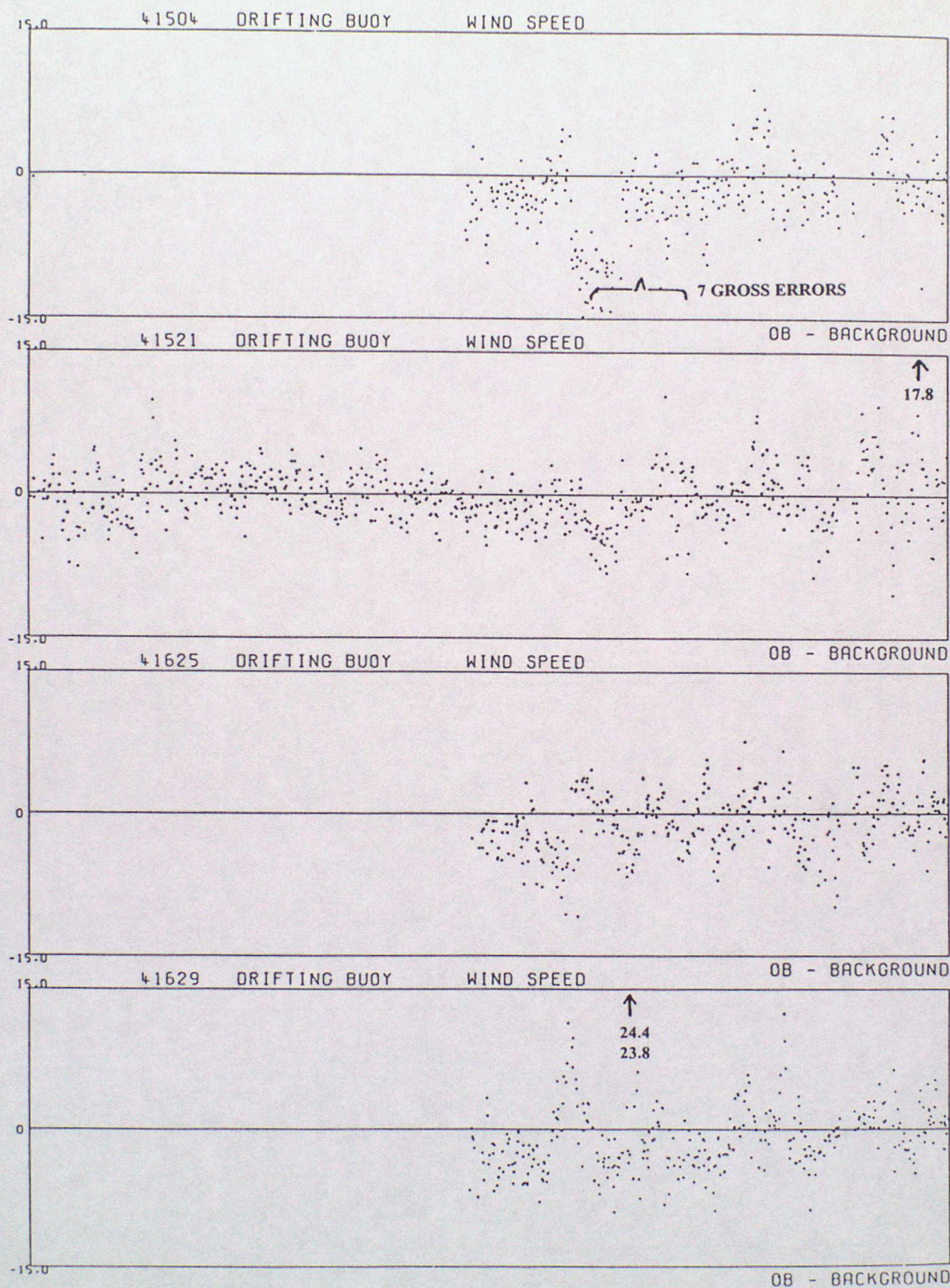
DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)





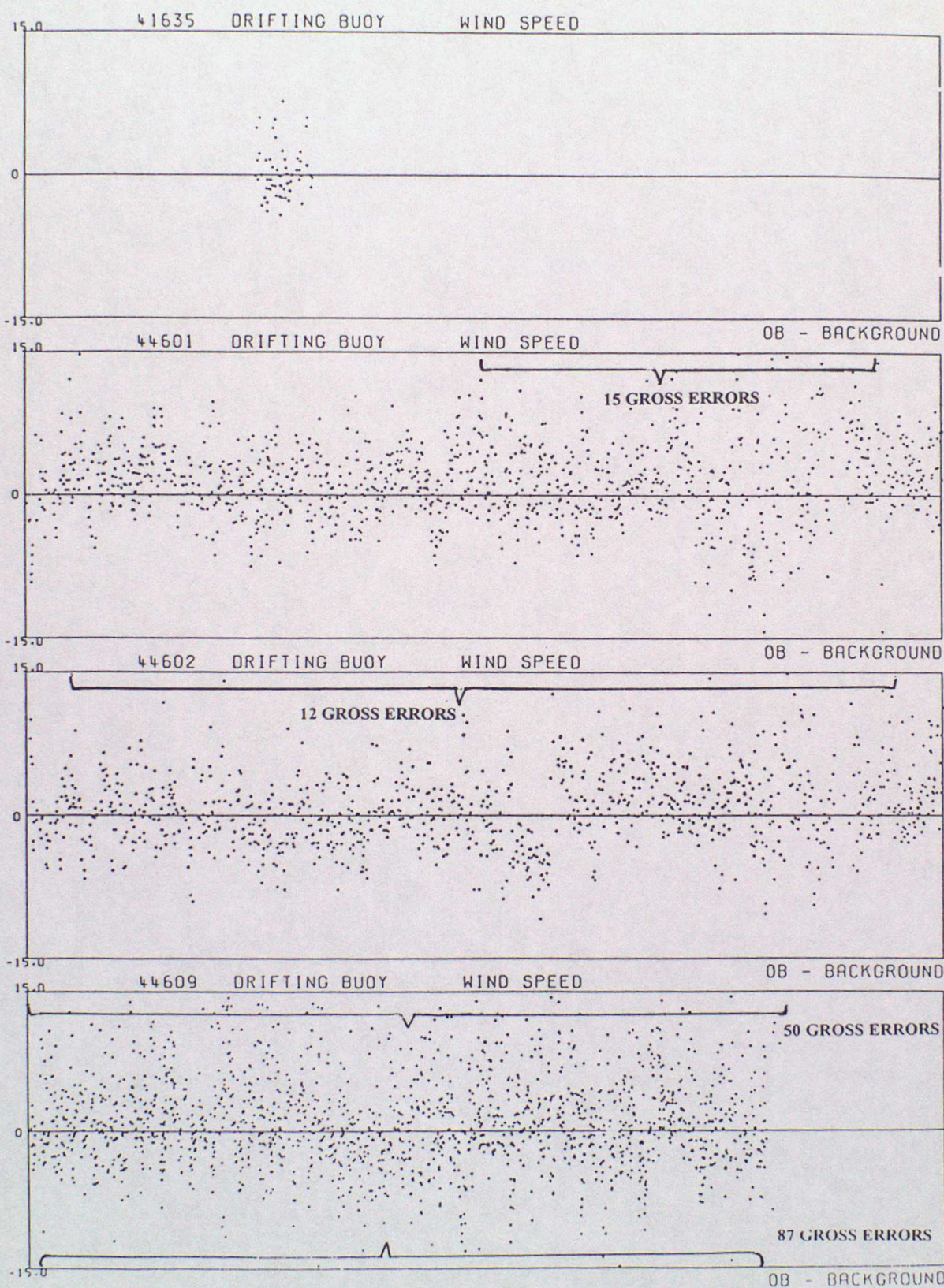
## ANNEX D - TIME SERIES PLOTS OF WIND SPEED

DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



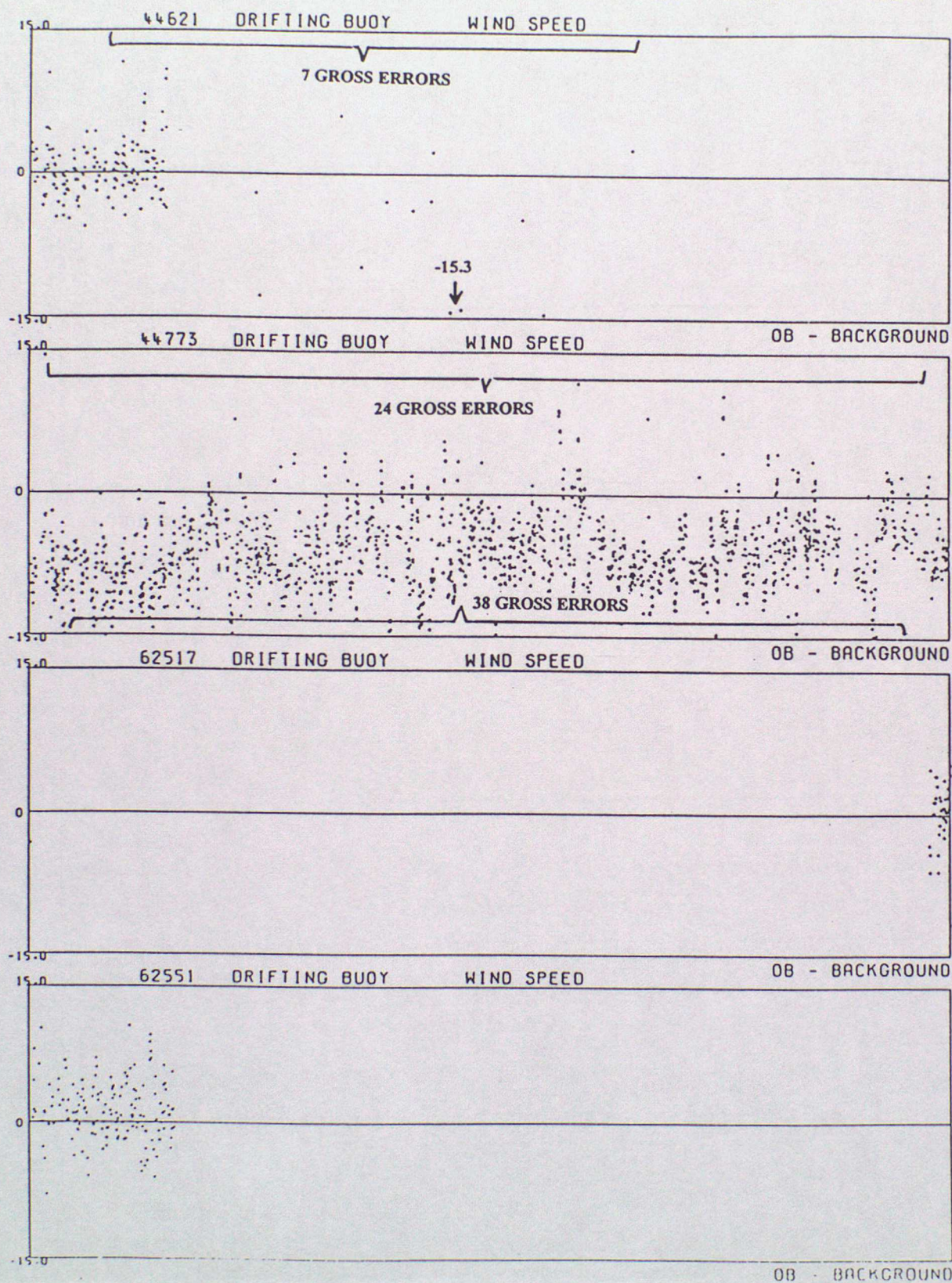


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



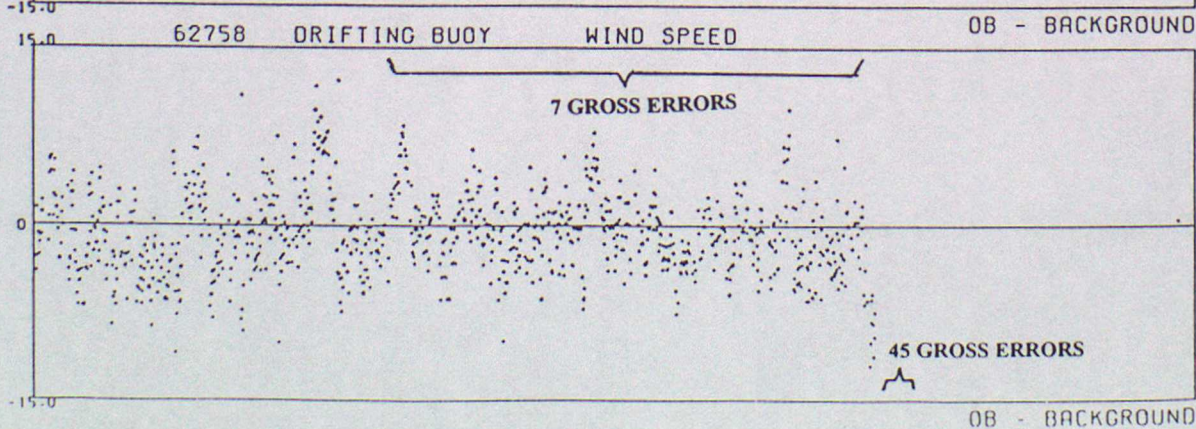
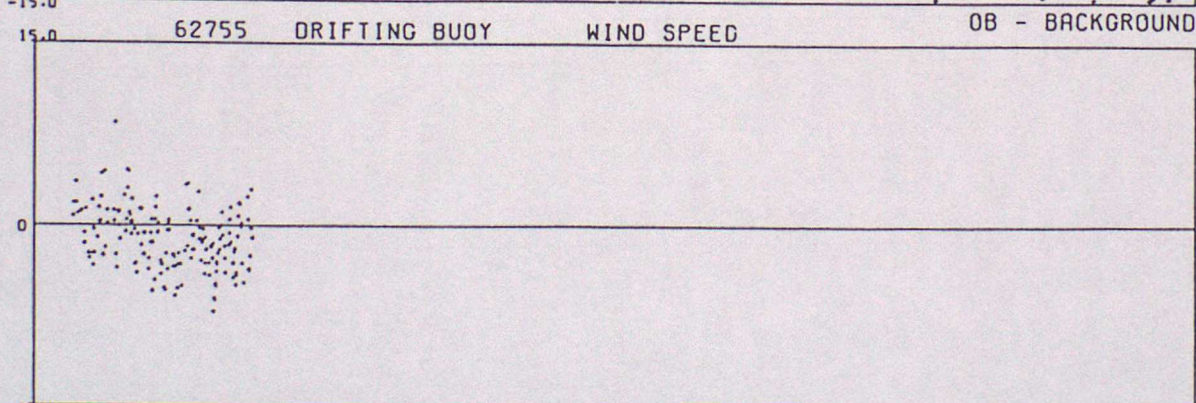
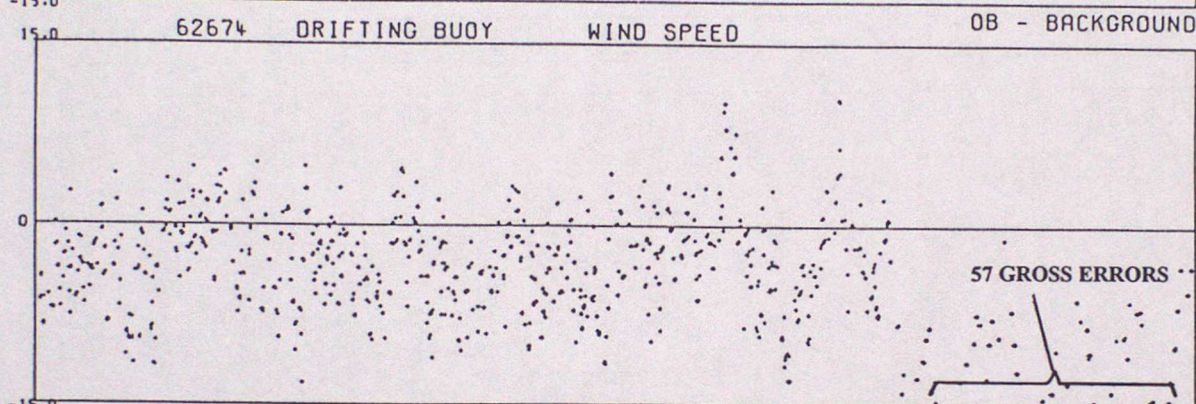
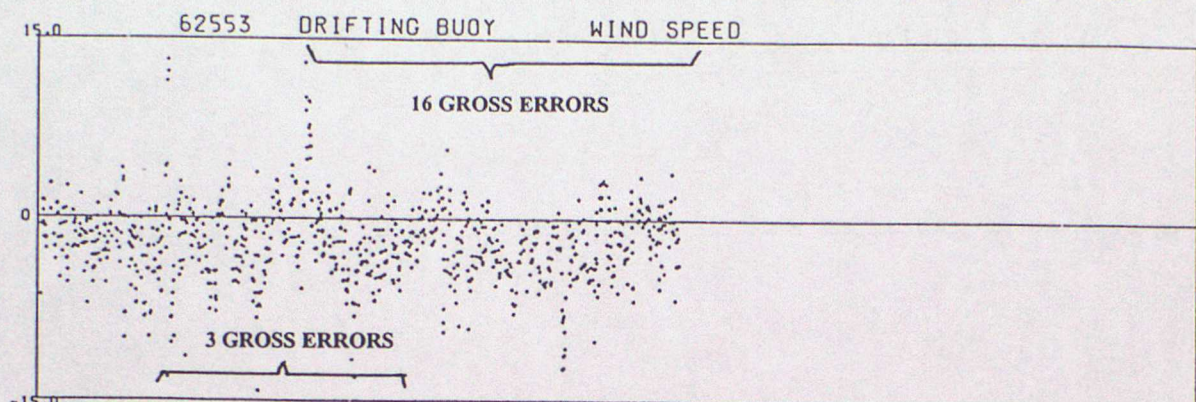


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)

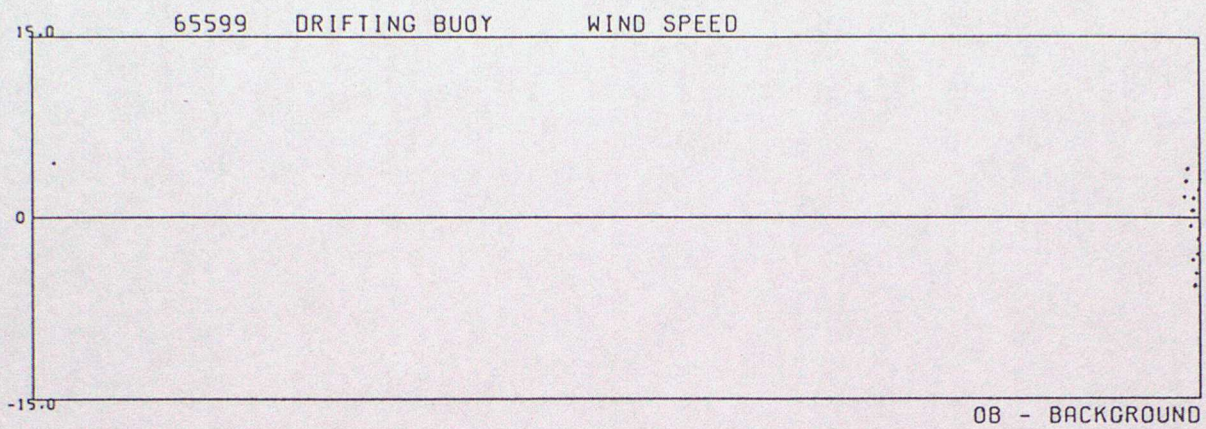




DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



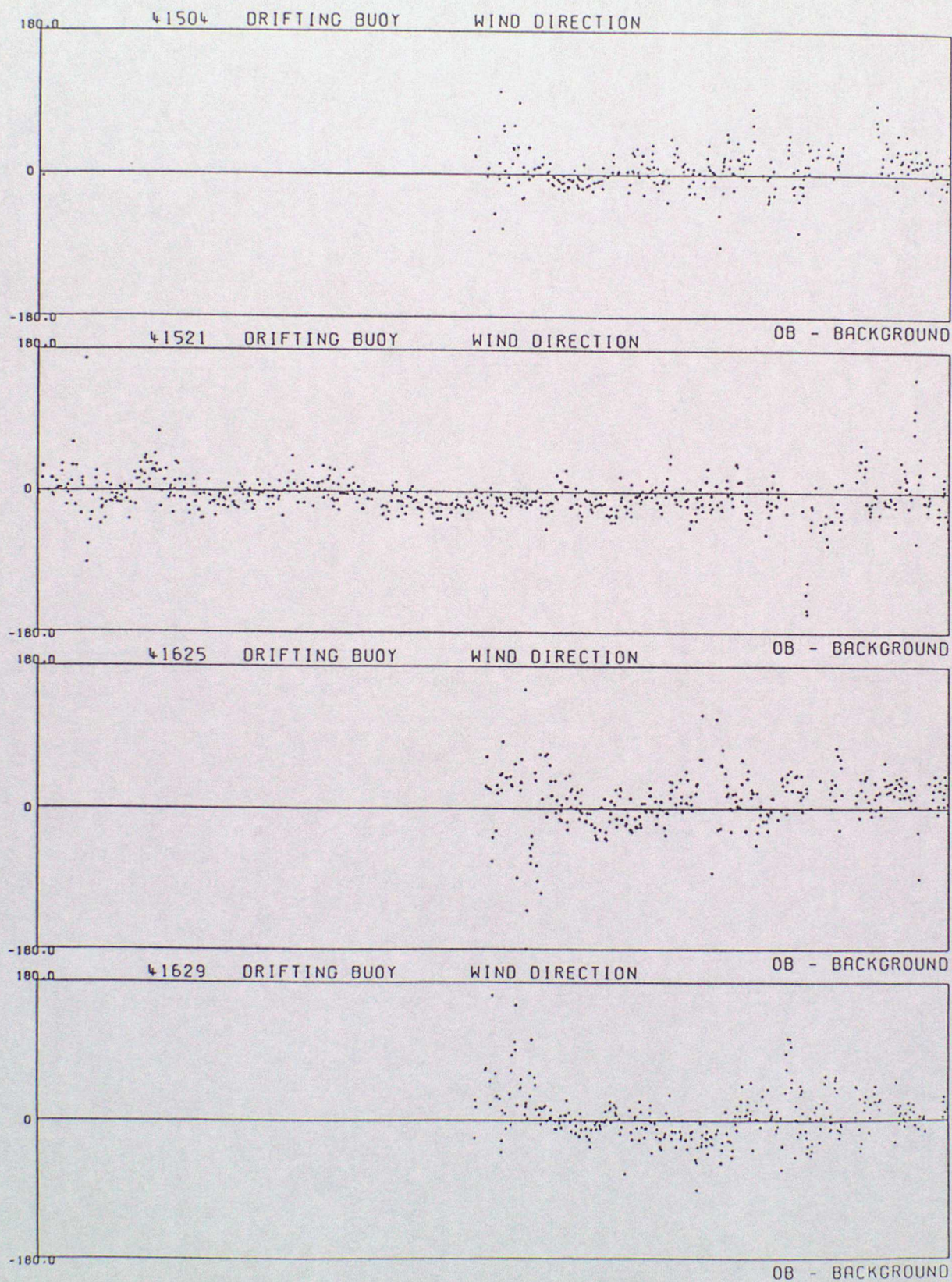






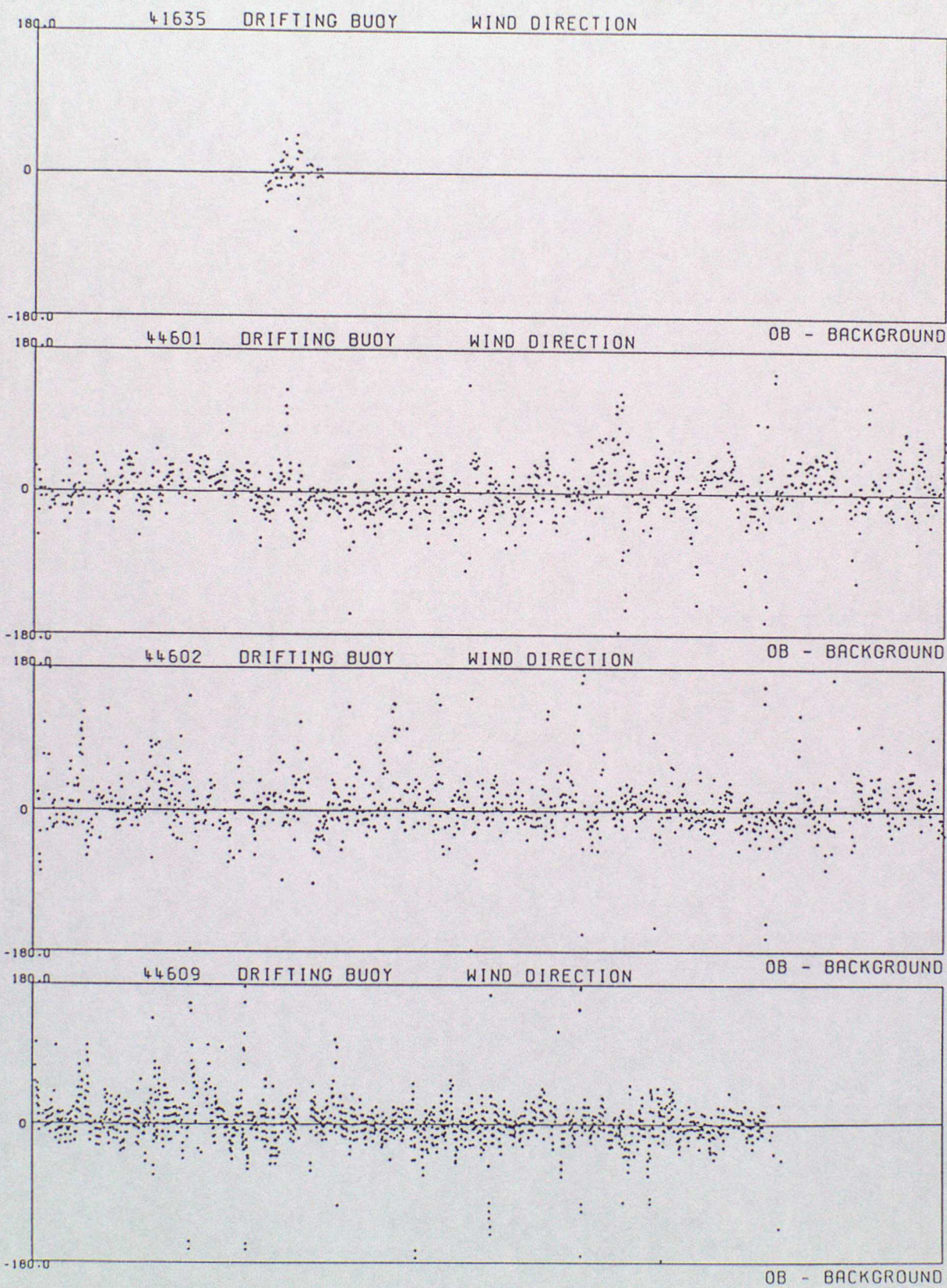
## ANNEX E - TIME SERIES PLOTS OF WIND DIRECTION

DATA FROM 00Z GN 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



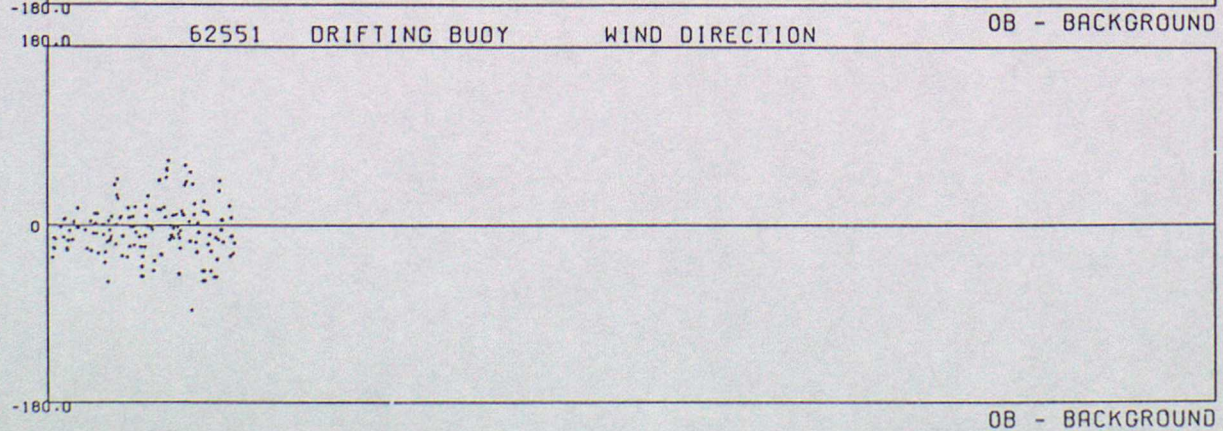
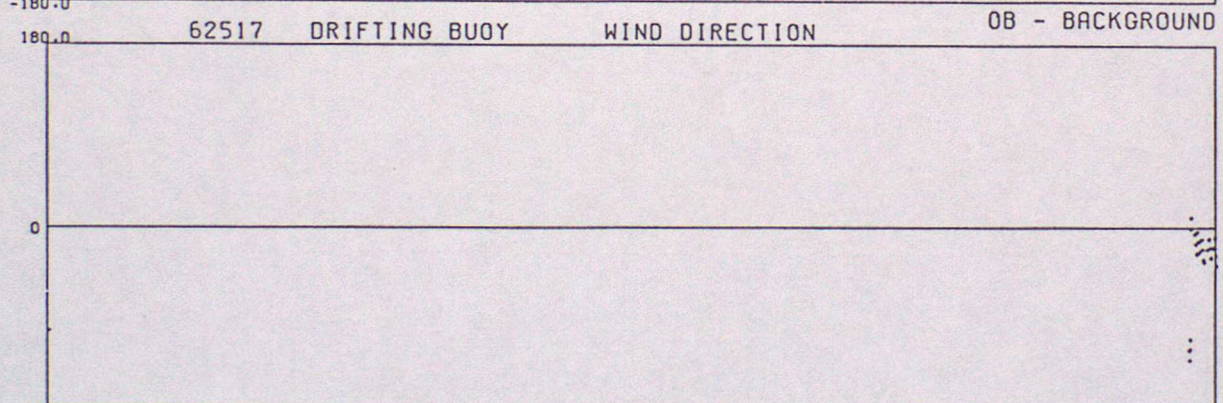
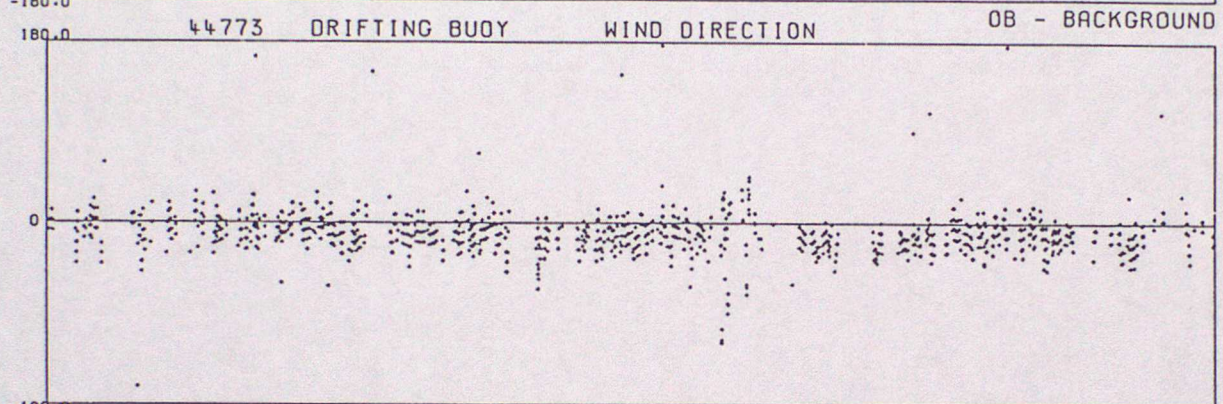
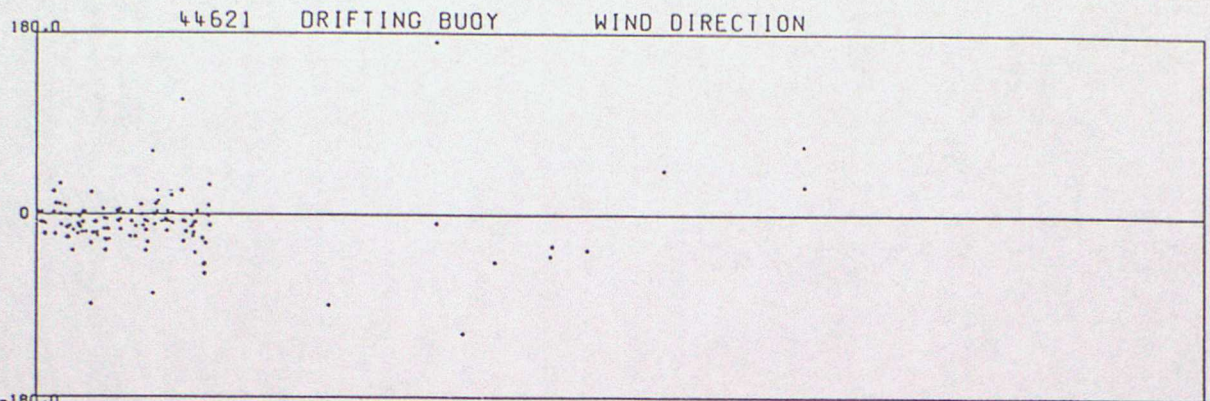


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)



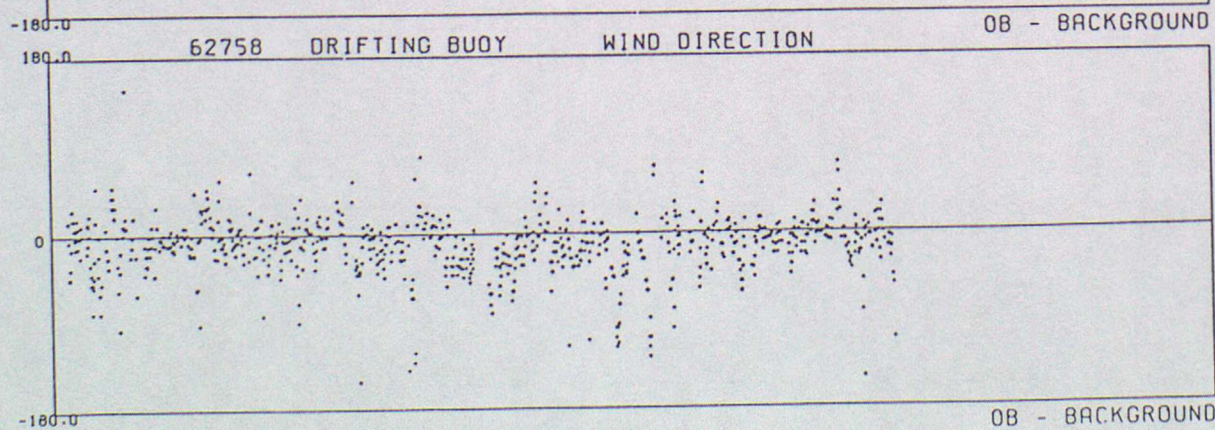
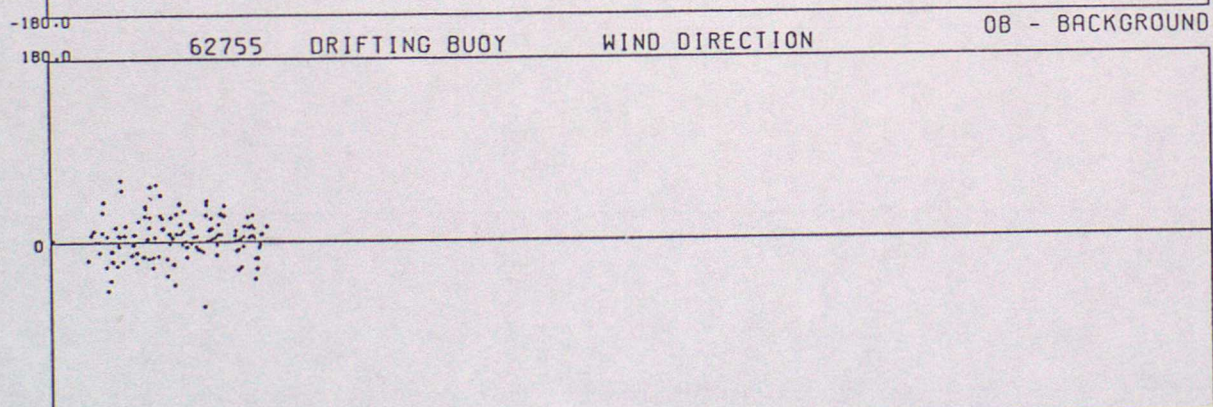
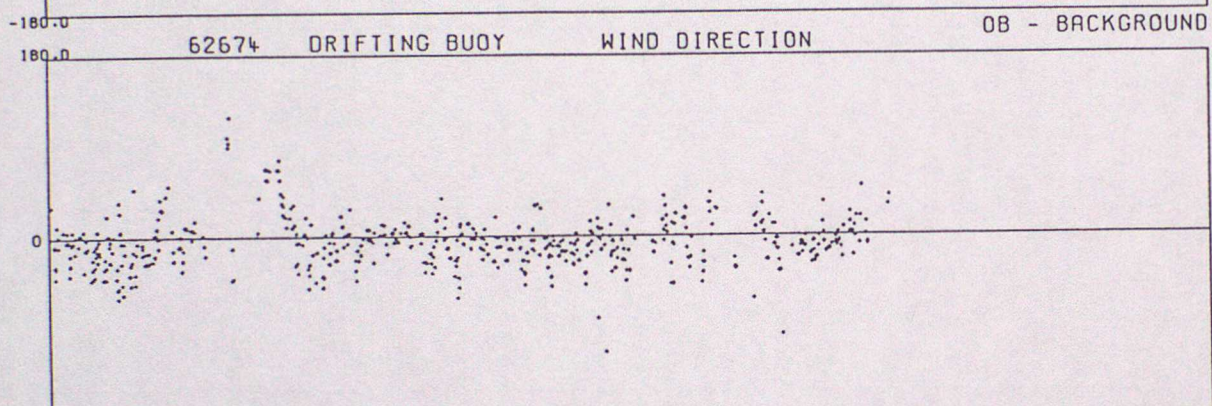
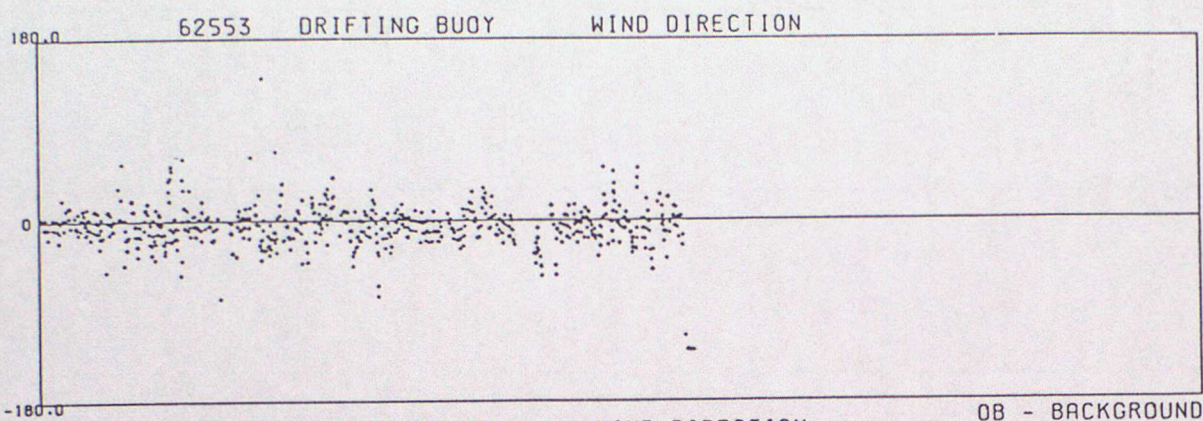


DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)

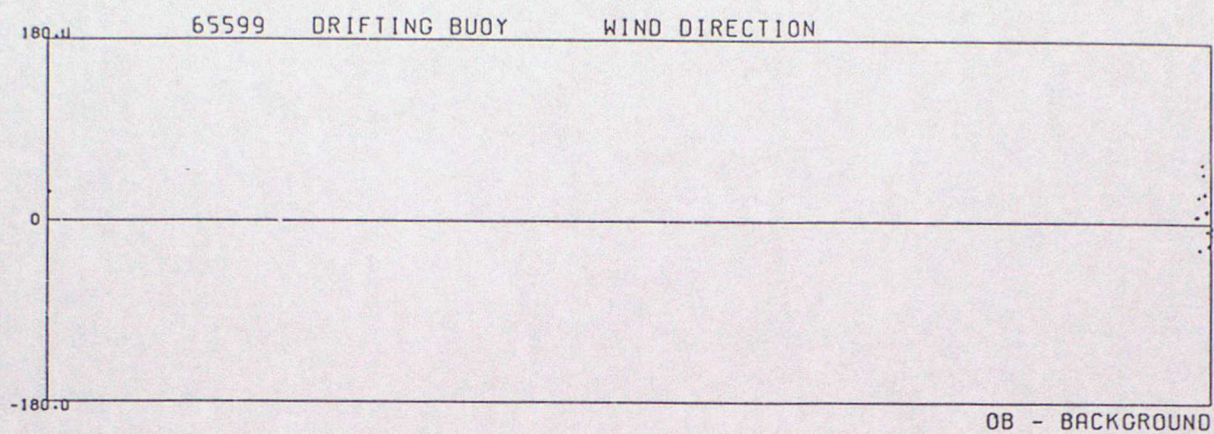




DATA FROM 00Z ON 01/07/1998 TO 23Z ON 30/09/1998 (OBS - BACKGROUND FIELD)









# ANNEX F - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
13906			*	*				*	01/07 - 30/09
41504			*		*	*	*	*	13/08 - 30/09
41505			*					*	13/08 - 30/09
41521			*		*	*	*	*	01/07 - 30/09
41528			*					*	13/08 - 30/09
41597	6753	F	*	*				*	01/07 - 30/09
41625			*		*	*	*	*	13/08 - 30/09
41629			*		*	*	*	*	13/08 - 30/09
41635			*			*	*	*	24/07 - 30/09
44601	5878	F	*	*		*	*	*	01/07 - 30/09
44602	5883	F	*	*		*	*	*	01/07 - 30/09
44603	6571	F	*	*				*	01/07 - 30/09
44604	6572	F	*	*				*	01/07 - 30/09
44606	6148	F	*	*				*	01/07 - 30/09
44609	5879	F	*	*		*	*	*	01/07 - 14/09
44613	28467	UK	*	*	*			*	01/07 - 30/09
44616	12661	UK	*	*				*	01/07 - 02/08
44617	27644	UK	*	*	*			*	01/07 - 30/09
44621	27652	UK	*	*	*	*	*		01/07 - 10/09
44726	12539	UK	*	*				*	01/07 - 30/09
44727	3098	UK	*	*	*			*	01/07 - 28/09
44742	28471	UK	*	*	*			*	01/07 - 30/09
44743	12541	UK	*	*				*	01/07 - 30/09
44760			*	*	*			*	24/07 - 05/08
44765	12662	UK	*	*				*	01/07 - 05/08
44767	12576	UK	*	*				*	06/07 - 30/09
44768	26746	UK	*	*				*	01/07 - 30/09
44770	12542	UK	*	*				*	06/07 - 30/09
44771	12695	UK	*	*				*	01/07 - 04/07
44772	12577	UK	*	*				*	25/08 - 30/09
44773	26751	UK	*	*	*	*	*	*	01/07 - 30/09
44774	28472	UK	*	*	*			*	01/07 - 30/09
44775	26741	UK	*	*	*			*	01/07 - 30/09
44776	12540	UK	*	*				*	01/07 - 30/09

## KEY

PP - Pressure  
 TT - Air Temperature  
 DD - Wind Direction

Pt - Pressure tendency  
 FF - Wind Speed  
 SST - Sea Surface Temperature



# ANNEX F - Cont.

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
44778	28473	UK	*	*	*			*	01/07 - 30/09
44779	12543	UK	*	*				*	01/07 - 30/09
44780	26742	UK	*	*	*			*	01/07 - 30/09
44901			*	*				*	01/07 - 30/09
44912		US	*	*				*	01/07 - 30/09
44925		US	*	*					01/07 - 30/09
48518			*		*				01/07 - 30/09
62506	5826	F	*	*	*			*	01/07 - 30/09
62508			*					*	17/07 - 15/09
62509			*					*	01/07 - 03/09
62510			*					*	01/07 - 30/09
62511	12729	F	*					*	02/07 - 30/09
62512			*					*	21/09 - 30/09
62513	12731	F	*					*	21/09 - 30/09
62514	6151	F	*	*				*	18/08 - 30/09
62515	6569	F	*	*				*	18/08 - 30/09
62516	1363		*	*				*	18/09 - 30/09
62517	5823	F	*	*	*	*	*	*	28/09 - 30/09
62518	6149		*	*				*	21/09 - 30/09
62519	6570	F	*	*					21/09 - 30/09
62520	14431	F	*	*				*	21/09 - 30/09
62551			*			*	*	*	01/07 - 15/07
62553	3009	F	*	*	*	*	*	*	01/07 - 21/08
62554	14430	F	*	*				*	21/09 - 30/09
62557	27930	F	*	*				*	01/07 - 03/08
62673			*		*	*		*	01/07 - 17/07
62674			*		*	*	*	*	01/07 - 30/09
62755			*			*	*	*	03/07 - 18/07
62758	15516	F	*			*	*	*	01/07 - 30/09 +
62803	3209	UK	*	*				*	01/07 - 04/09
63666			*	*	*				01/07 - 07/09
64528	4274	NL	*	*	*			*	01/07 - 30/09
64529	6669	D	*	*	*			*	01/07 - 30/09
64530	12666	UK	*	*				*	01/07 - 09/07

## KEY

- |   |                               |
|---|-------------------------------|
| PP - Pressure   | Pt - Pressure tendency        |
| TT - Air Temperature  | FF - Wind Speed               |
| DD - Wind Direction   | SST - Sea Surface Temperature |
| + - Pressure ceased reporting before the end of the period<br>but other elements continued to report. |                               |



# ANNEX F - Cont.

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
64561	1247	UK	*	*				*	01/07 - 30/09
64563	3679	NL	*	*	*			*	01/07 - 30/09
65562	4270	D	*	*	*			*	01/07 - 30/09
65571	4275	IR	*	*	*			*	01/07 - 30/09
65581	2294	D	*	*	*			*	06/08 - 30/09
65591	26748	UK	*	*	*			*	01/07 - 30/09
65592	3675	NL	*	*	*			*	01/07 - 30/09
65597	4273	NL	*	*	*			*	01/07 - 30/09
65599	28477	UK	*	*	*	*	*	*	29/09 - 30/09

## KEY

PP - Pressure

TT - Air Temperature

DD - Wind Direction

Pt - Pressure tendency

FF - Wind Speed

SST - Sea Surface Temperature



