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**OBSERVATIONS, PLANS AND REQUIREMENTS BRANCH**

**Quality Evaluation Section**

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

**JULY TO SEPTEMBER 1997**

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16th October 1997

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 50 out of 56 of the buoys reporting having a '% of observations with acceptable positions' greater than 95% (compared to 63 out of 67 last quarter).

### (b) Data timeliness

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

Timeliness	Last quarter.	This quarter
Very Good	42	37
Good	15	12
Satisfactory	4	5
Poor	2	1
Very poor	4	1
Total no. of buoys	67	56



(c) 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	1	--	17	12
Good	6	5	8	13
Satisfactory	13	11	8	1
Poor	7	6	4	4
Very Poor	1	--	2	4

The total number of buoy days in the quarter was 4,655 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 4,897) and the number of 'buoy hours' with at least one observation was 67,761 (compared with 74,157 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 14.56 (last quarter the figure was 15.14).

**3. SUMMARY OF PRESSURE PERFORMANCE**

(a) Buoy deployments, etc.

NOTE

Although buoys 44727, 62803, 64528 and 65594 (all north of 50 degN) were reporting at the beginning of the period, pressure data failed to reach the Observation Processing Databanks (OPD) until 8/7, 3/7, 5/7 and 12/7 respectively.

North of 50deg N

There were 31 buoys reporting pressure at the beginning of the period. This figure includes buoys 62554, 62556 and 62927 which drifted north of 50 degN during this quarter. The figure also includes the buoys from the note above. 31 buoys were operating at the end of the period. 3 new buoys were deployed (44771, 44901 and 44924). 3 buoys ceased reporting pressure (44777, 44924 and 65598).

South of 50deg N

There were 19 buoys reporting pressure at the beginning of the period. Buoy 13910 drifted into the area during the period. 17 buoys were reporting at the end of the period. 3 new buoys were deployed (62557, 62558 and 62570). 5 buoys ceased reporting (41530, 44607, 44779, 62503 and 62518).



### (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:-

- 44742 - A large number of reports were received with incorrect positions from the Sondre Stromfjord LUT between 20/7 and 25/8.
- 44777 - Data from this buoy showed a bias of approximately -8.0 hPa from 9/7 until the end of the buoy's life on 29/9.
- 44924 - This buoy only produced 22 observations, all of which were erroneous.

#### Biases

8 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)	Ship bias (hPa)	Period of reports
13903	+1.1	-0.2	01/07 - 30/09
13911	+0.9	+0.2	01/07 - 30/09
41922	+1.7	+0.2	01/07 - 30/09
44901	+0.6	+0.2	02/07 - 30/09
44912	+0.8	-0.6	01/07 - 30/09
44925	+0.8	+0.4	01/07 - 30/09
62712	+0.6	+0.2	01/07 - 30/09
62927	+0.7	+0.1	01/07 - 30/09

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.



#### (4) 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
13903	---	---	---	0.1(-1.6)	0.4(10.9)	289 (66)
13910	---	---	---	0.2(-0.5)	0.4(2.9)	281 (64)
13911	---	---	---	0.3(-0.4)	0.4(2.7)	278 (79)
41529	0.9(0.5)	1.4(1.6)	792 (156)	---	---	---
41530	0.8(0.6)	1.0(1.7)	440 (123)	0.1(0.2)	0.4(1.1)	509 (89)
41922	---	---	---	0.4(-0.3)	0.4(2.6)	279 (83)
44513	0.2(0.9)	0.9(4.2)	966 (523)	0.4(-0.4)	0.5(8.2)	1141 (419)
44605	---	---	---	-0.2(-0.4)	1.1(5.7)	1980 (171)
44607	---	---	---	-0.2(-0.7)	1.8(7.2)	1821 (108)
44608	---	---	---	-0.3(0.2)	1.5(11.1)	2449 (97)
44613	0.3(1.0)	2.6(1.8)	3213 (51)	0.8(1.8)	1.9(12.6)	3308 (40)
44621	0.4(1.5)	1.5(8.3)	2071 (103)	-0.6(-0.3)	2.3(11.8)	587 (87)
44624	2.4(1.0)	5.6(5.2)	53 (260)	0.0(-0.9)	1.8(8.3)	3475 (200)
44726	2.2(0.6)	1.6(4.4)	3270 (491)	0.1(-0.2)	1.2(6.3)	3422 (281)

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
44727	0.9(2.4)	1.5(9.5)	4950 (69)	0.5(0.0)	1.0(15.6)	5391 (50)
44728	-0.4(1.2)	1.4(6.4)	3476 (135)	0.7(-0.8)	0.8(7.3)	3591 (95)
44742	1.6(0.9)	3.5(2.2)	1430 (290)	2.3(-0.4)	3.3(6.3)	1519 (254)
44743	---	---	---	-0.5(-0.5)	1.4(7.6)	1932 (543)
44760	0.6(0.1)	1.2(3.5)	1017 (140)	-0.3(-0.4)	0.8(2.9)	1323 (106)
44762	0.2(1.1)	1.1(3.4)	1672 (305)	---	---	---
44768	3.9(0.9)	1.2(2.2)	20 (65)	0.0(0.2)	0.7(16.8)	2744 (43)
44769	0.0(0.5)	3.2(2.3)	2385 (87)	0.6(-1.0)	2.1(8.9)	2446 (76)
44771	---	---	---	-0.1(-1.3)	1.0(7.7)	848 (101)
44773	0.6(0.7)	1.0(2.1)	3009 (60)	-2.2(-0.1)	0.7(16.9)	3051 (42)
44775	0.5(1.0)	2.0(1.8)	3104 (43)	-0.5(2.5)	0.9(14.8)	2889 (29)
44777	---	---	---	2.1(-1.1)	3.6(6.4)	64 (503)
44779	---	---	---	-1.0(-1.3)	3.2(10.3)	1653 (123)
44901	---	---	---	0.3(-0.7)	0.4(0.8)	574 (125)
44911	---	---	---	---	---	---
44912	---	---	---	-0.3(-1.2)	0.9(7.2)	510 (115)
44924	---	---	---	---	---	---
44925	---	---	---	0.9(-0.7)	0.6(0.8)	606 (135)
62503	---	---	---	0.1(0.4)	0.5(2.2)	1103 (154)
62515	---	---	---	0.1(-0.8)	0.4(9.1)	1276 (375)

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
62518	---	---	---	0.1(-0.6)	0.4(7.9)	1590 (501)
62552	0.2(1.0)	0.8(4.1)	1816 (554)	0.3(-0.5)	0.9(8.0)	2615 (452)
62553	0.1(1.2)	0.8(4.9)	1432 (298)	0.0(-0.7)	0.3(7.2)	2104 (255)
62554	---	---	---	0.2(-1.0)	0.3(9.8)	2193 (374)
62555	---	---	---	-0.1(-0.6)	1.7(8.2)	1309 (330)
62556	---	---	---	0.1(-0.9)	1.6(9.5)	1667 (394)
62557	---	---	---	0.4(-0.7)	0.9(7.2)	291 (289)
62558	---	---	---	---	---	---
62570	---	---	---	-0.1(-0.8)	0.2(9.3)	249 (416)
62697	0.5(1.3)	1.8(8.4)	2620 (99)	-0.5(-1.1)	2.1(8.3)	2653 (87)
62712	---	---	---	-0.3(-0.4)	1.2(8.1)	1503 (430)
62713	---	---	---	-1.1(-0.4)	3.4(5.8)	1723 (179)
62803	-0.1(1.0)	1.3(5.2)	4968 (226)	0.2(0.0)	0.9(8.2)	5206 (147)
62804	0.2(1.0)	0.8(4.3)	2460 (424)	---	---	---
62927	---	---	---	-0.1(0.0)	0.5(2.1)	509 (212)
64528	-0.2(0.9)	10.4(1.6)	4873 (36)	0.6(3.0)	0.8(16.3)	3379 (24)
64561	24.6(2.0)	20.4(7.1)	5 (141)	0.2(-0.4)	1.2(1.7)	2767 (112)
64563	0.9(2.1)	2.3(6.1)	4803 (201)	0.5(-0.7)	1.0(0.8)	3036 (135)

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
65594	0.1(1.3)	1.2(6.4)	4960 (135)	-0.1(-0.8)	1.1(7.3)	5749 (94)
65596	-0.1(1.3)	1.4(7.5)	1969 (127)	-0.3(-0.6)	0.7(2.6)	1150 (103)
65597	0.8(1.9)	1.9(6.0)	4666 (202)	0.4(-0.6)	0.6(1.2)	2888 (136)
65598	1.2(1.9)	3.4(6.0)	1921 (198)	0.8(-0.7)	1.7(0.9)	1245 (127)

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

Buoys 44624 (2.4), 44726 (2.2) and 65598 (1.2) all showed significant air temperature biases.

A number of spurious positional reports were produced by Sondre Stromfjord for buoy 44742 (1.6) between 20/7 and 25/8, producing a 'second' trace on the air temperature graph in Annex C.

Buoy 44768 (3.9) produced only 20 reports and buoy 64561 (24.6) produced 5 erroneous reports.

Buoys 44742 (2.3), 44773 (-2.2), 44777 (2.1), 44779 (-1.0) and 62713 (-1.1) all showed a significant sea surface temperature bias.

SST data from buoys 44605, 44607 and 44608, reported via the Sondre Stromfjord LUT were approximately 1.5°C, 10°C and 5°C too low during much of July. Data from buoy 44613, reported via the Oslo LUT was approximately 5°C too high from the beginning of the period until mid-August.

A number of spurious positional reports were produced by Sondre Stromfjord for buoys 44742 and 62697, producing a 'second' trace on the sea surface temperature graphs in Annex D.



## (5) 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.

(Note : Buoys 44513 and 62712 reported occasional wind speeds, but no wind directions. Buoys 41529 and 44613 reported occasional wind directions but no wind speeds. Buoy 62518 reported occasional wind speeds and directions of 0 knots and 0 degrees respectively. Subsequently, no analysis was carried out on any of the above mentioned buoys.)

WMO No.	Period	Wind Speed (kn)		Wind Direction (deg)		No. of Obs
		Mean	St. Dev.	Mean	St. Dev.	
41530	01/07 - 24/08	-2.9(3.6)	2.6(9.8)	16.3(-2.7)	13.8(35.4)	351 (104)
44621	01/07 - 30/09	-0.4(4.4)	4.5(12.7)	-30.7(-2.9)	30.5(44.6)	799 (68)
44624	01/07 - 30/09	-1.6(1.7)	4.4(10.5)	-14.6(-7.8)	54.1(27.1)	2228 (228)
44726	01/07 - 30/09	-4.5(2.4)	4.9(10.3)	2.8(-8.4)	23.2(30.4)	1819 (411)
44742	01/07 - 30/09	-0.2(2.0)	3.5(5.6)	-1.9(0.1)	23.7(27.3)	1082 (243)
44762	01/07 - 30/09	-1.3(1.8)	3.2(5.6)	-1.2(-1.2)	23.1(27.7)	928 (256)
44773	01/07 - 30/09	-0.7(-2.7)	3.9(10.4)	-6.7(-7.4)	26.4(39.3)	2790 (33)
62552	01/07 - 30/09	-1.7(2.0)	3.1(9.3)	0.2(-5.2)	16.3(27.5)	2190 (465)
62553	01/07 - 30/09	0.0(1.6)	3.7(6.2)	1.6(-4.9)	20.1(29.2)	1845 (268)
62570	16/09 - 30/09	-1.4(2.1)	3.0(5.7)	3.9(-2.6)	15.6(29.4)	241 (442)
62697	01/07 - 30/09	-7.3(4.2)	5.9(12.8)	8.9(-4.2)	34.2(43.2)	140 (74)
62803	01/07 - 30/09	-10.8(2.6)	8.9(12.1)	-6.1(-8.2)	36.9(26.9)	340 (193)

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



Buoys 41530, 44726, 62697 and 62803 all showed a significant negative wind speed bias.

Buoys 41530, 44621, 44624, 44773, 62697 and 62803 all showed a significant wind direction bias.



## 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.

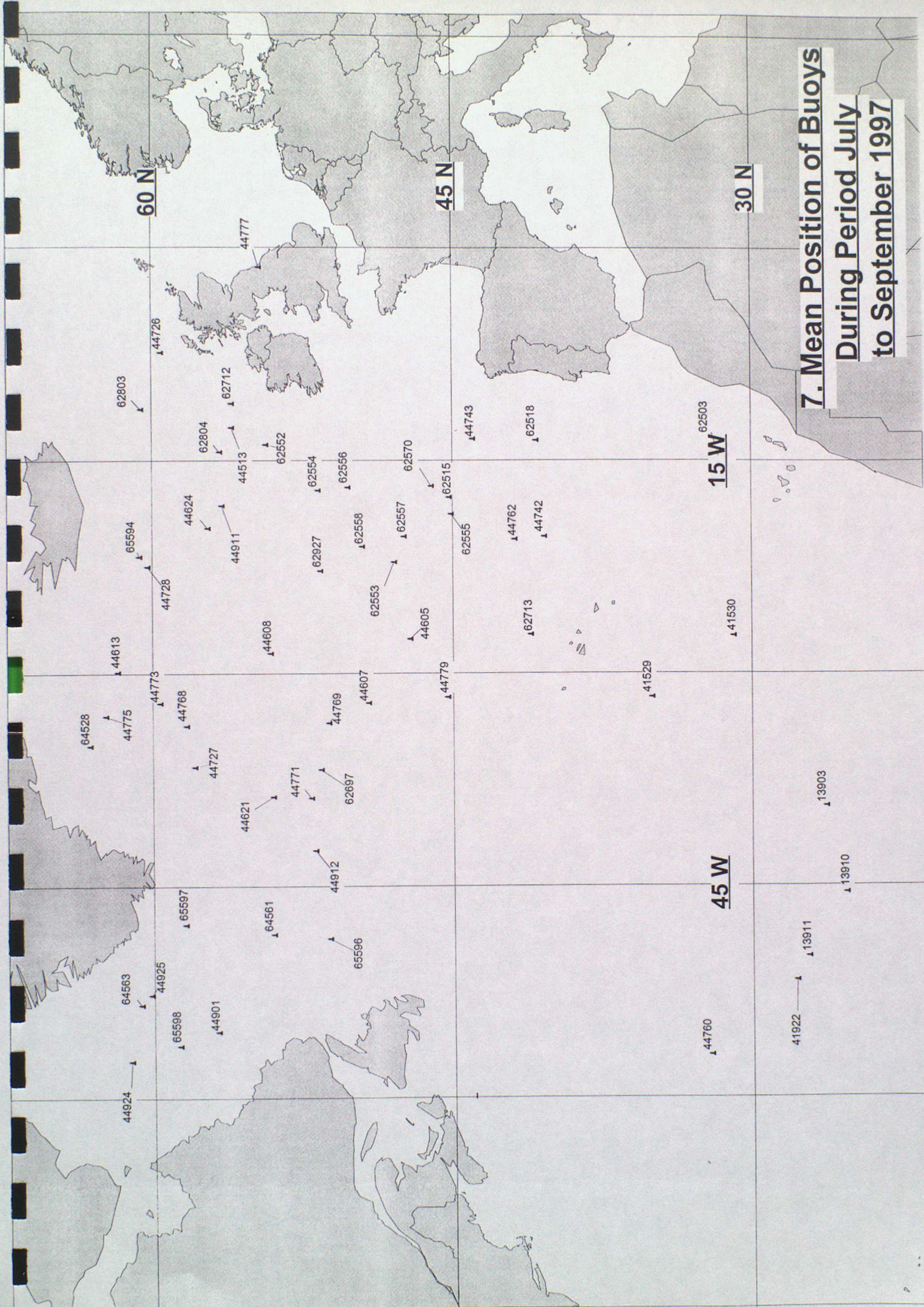
Performance	Availability (mean no. of obs/day)	Timeliness (median delay in mins)
Very Good	> 35	< 60
Good	25 - 35	60 - 119
Satisfactory	15 - 24	120 - 179
Poor	5 - 14	180 - 239
Very Poor	< 5	> 240

(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





**7. Mean Position of Buoys  
During Period July  
to September 1997**

62803

44726

62712

44777

62804

44513

62552

62554

62556

62570

62557

62515

44743

62518

65594

44728

44613

44773

64528

44775

44768

44727

44621

44771

62697

44912

64561

65596

65597

64563

44925

65598

44901

44924

62503

41530

41529

44779

44769

44607

44605

62553

44762

44742

62713

44760

41922

413911

413910

413903



# ANNEX A - TABLE OF STATISTICS

Wmo No./Country	13903/??	13910/??	13911/??
Argos Id.No.	????	????	????
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	26.3	25.3	27.2
Mean Longitude	-39.4	-45.5	-50.0
No. of obs received	1016	1014	1019
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	99.7
% of Present			
Pressure	100.0	100.0	100.0
P. Tendency	29.3	29.4	30.2
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.	29.3	29.4	30.3
Median delay(min)	133	98	82
Number of days	92	92	92
Mean no. of obs/day	11.0	11.0	11.1
No. of hours with obs	939	929	944
Mean no. of hours/day with obs	10.2	10.1	10.3
% of hour periods without an ob	57.5	57.9	57.1
Mean (Ob-Bg)	1.1	0.1	0.9
RMS (Ob-Bg)	1.3	0.8	1.2
<b>unflagged data</b>			
Mean (Ob-Bg)	1.1	0.1	0.9
RMS (Ob-Bg)	1.3	0.8	1.3
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	0.8	1.3
% of data flagged	13	12	15
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Suspect	Acceptable	Suspect
Timeliness	Satisfactory	Good	Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	41529/US	41530/US	41922/??
Argos Id.No.	????	????	????
Period within area	01/07 - 30/09	01/07 - 24/08	01/07 - 30/09
Mean Latitude	35.0	30.9	27.8
Mean Longitude	-31.7	-27.4	-51.7
No. of obs received	887	514	1016
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	100.0	100.0	99.6
% of Present			
Pressure	92.9	91.8	100.0
P. Tendency	0.0	0.0	30.2
Air Temperature	92.3	91.6	0.0
Wind Speed /Dir.	0.0/16.5	85.0/84.6	0.0/0.0
Sea-surface Temp.	0.0	92.0	30.2
Median delay(Min)	91	129	78
Number of days	92	55	92
Mean no. of obs/day	9.6	9.3	11.0
No. of hours with obs	800	483	945
Mean no. of hours/day with obs	8.7	8.8	10.3
% of hour periods without an ob	63.8	63.3	57.1
Mean (Ob-Bg)	0.3	0.2	1.7
RMS (Ob-Bg)	0.8	0.7	1.9
<b>unflagged data</b>			
Mean (Ob-bg)	0.3	0.2	1.7
RMS (Ob-Bg)	0.8	0.7	1.9
<b>all data</b>			
Revised RMS (Ob-Bg)	0.8	0.7	1.9
% of data flagged	11	9	14
Operating at end of period	YES	NO	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Good	Satisfactory	Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44513/US	44605/F	44607/F
Argos Id.No.	????	27933	27937
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 17/09
Mean Latitude	56.1	47.2	49.3
Mean Longitude	-12.7	-27.6	-32.1
No. of obs received	1105	2754	2525
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	99.7	99.9
% of Present			
Pressure	96.0	100.0	100.0
P. Tendency	0.0	50.9	49.7
Air Temperature	95.7	0.0	0.0
Wind Speed/Dir.	93.7/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	96.7	75.9	75.6
Median delay(min)	143	50	48
Number of days	92	92	79
Mean no. of obs/day	12.0	29.9	32.0
No. of hours with obs	948	1829	1627
Mean no. of hours/day with obs	10.3	19.9	20.6
% of hour periods without an ob	57.1	17.1	14.2
Mean (Ob-Bg)	0.2	0.4	0.5
RMS (Ob-Bg)	1.1	1.1	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	0.2	0.4	0.5
RMS (Ob-Bg)	1.4	1.1	1.2
<b>all data</b>			
Revised RMS (Ob-Bg)	1.1	1.1	1.2
% of data flagged	17	49	50
Operating at end of period	YES	YES	NO
Performance			
Availability	Poor	Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Satisfactory	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44608/F	44613/UK	44621/UK
Argos Id.No.	27938	3306	26752
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	54.2	61.8	54.1
Mean Longitude	-28.6	-29.9	-38.7
No. of obs received	3183	3464	2191
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	99.8	99.7	100.0
% of Present			
Pressure	99.9	93.8	97.2
P. Tendency	54.4	86.5	92.2
Air Temperature	0.0	94.6	96.8
Wind Speed /Dir.	0.0/0.0	0.0/36.2	40.8/76.6
Sea-surface Temp.	81.3	95.8	26.1
Median delay(Min)	51	30	28
Number of days	92	92	92
Mean no. of obs/day	34.6	37.7	23.8
No. of hours with obs	1942	1600	1382
Mean no. of hours/day with obs	21.1	17.4	15.0
% of hour periods without an ob	12.1	27.5	37.5
Mean (Ob-Bg)	0.4	0.1	-0.1
RMS (Ob-Bg)	1.3	1.2	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	0.4	-1.3	-0.2
RMS (Ob-Bg)	1.3	14.4	4.0
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	1.3	1.1
% of data flagged	52	63	47
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Very Good	Satisfactory
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44624/UK	44726/UK	44727/UK
Argos Id.No.	2958	2955	3098
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	57.3	59.6	58.0
Mean Longitude	-19.8	-7.4	-36.6
No. of obs received	3490	3418	5512
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.7	99.7	99.7
% of Present			
Pressure	97.8	98.1	99.0
P. Tendency	84.7	84.1	94.7
Air Temperature	1.6	98.0	98.9
Wind Speed/Dir.	70.2/70.3	86.8/66.6	0.0/0.0
Sea-surface Temp.	98.4	98.3	99.1
Median delay(min)	24	27	24
Number of days	92	92	92
Mean no. of obs/day	37.9	37.2	59.9
No. of hours with obs	1651	1624	1840
Mean no. of hours/day with obs	17.9	17.7	20.0
% of hour periods without an ob	25.4	26.3	16.7
Mean (Ob-Bg)	0.1	0.4	0.1
RMS (Ob-Bg)	1.2	1.1	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	-0.1	0.1	-0.2
RMS (Ob-Bg)	4.5	4.8	6.3
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	1.1	1.3
% of data flagged	62	61	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	44728/UK	44742/UK	44743/UK
Argos Id.No.	1254	26753	1248
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	60.3	40.4	44.0
Mean Longitude	-22.5	-20.4	-13.5
No. of obs received	3638	1467	1863
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	99.6	89.9	99.8
% of Present			
Pressure	97.7	98.1	98.7
P. Tendency	85.8	87.9	26.2
Air Temperature	98.0	98.4	0.0
Wind Speed /Dir.	0.0/0.0	94.2/75.0	0.0/0.0
Sea-surface Temp.	98.0	98.4	99.1
Median delay(Min)	25	26	23
Number of days	92	92	92
Mean no. of obs/day	39.5	15.9	20.3
No. of hours with obs	1675	1067	1157
Mean no. of hours/day with obs	18.2	11.6	12.6
% of hour periods without an ob	24.2	51.7	47.5
Mean (Ob-Bg)	0.2	0.2	0.4
RMS (Ob-Bg)	1.3	0.8	0.9
<b>unflagged data</b>			
Mean (Ob-bg)	0.1	1.4	-0.3
RMS (Ob-Bg)	3.3	4.8	8.4
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	4.6	0.9
% of data flagged	63	38	48
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Satisfactory	Satisfactory
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44760/UK	44762/UK	44768/UK
Argos Id.No.	2947	26754	26746
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	32.1	41.9	58.4
Mean Longitude	-57.0	-20.6	-33.7
No. of obs received	1360	1706	3059
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.8	99.5	99.6
% of Present			
Pressure	99.1	98.6	96.8
P. Tendency	98.2	87.7	91.5
Air Temperature	99.2	98.4	0.7
Wind Speed/Dir.	0.0/0.0	89.0/63.7	0.0/0.0
Sea-surface Temp.	99.3	0.0	90.8
Median delay(min)	23	25	27
Number of days	92	92	92
Mean no. of obs/day	14.8	18.5	33.3
No. of hours with obs	1204	1123	1586
Mean no. of hours/day with obs	13.1	12.2	17.2
% of hour periods without an ob	45.4	49.2	28.3
Mean (Ob-Bg)	0.3	0.2	0.3
RMS (Ob-Bg)	0.9	0.8	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	0.2	0.1	0.1
RMS (Ob-Bg)	3.3	3.2	4.3
<b>all data</b>			
Revised RMS (Ob-Bg)	0.9	0.9	1.3
% of data flagged	12	43	59
Operating at end of period	YES	YES	YES
Performance			
Availability	Satisfactory	Satisfactory	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44769/UK	44771/UK	44773/UK
Argos Id. No.	26749	12659	26751
Period within area	01/07 - 30/09	03/09 - 30/09	01/07 - 30/09
Mean Latitude	51.3	52.2	59.7
Mean Longitude	-33.5	-38.8	-32.1
No. of obs received	2472	883	3183
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	99.5	99.3	99.9
% of Present			
Pressure	97.9	98.6	96.6
P. Tendency	92.6	93.4	91.5
Air Temperature	97.9	0.0	96.6
Wind Speed /Dir.	0.0/0.0	0.0/0.0	94.9/94.8
Sea-surface Temp.	98.4	99.3	97.0
Median delay(Min)	24	25	27
Number of days	92	28	92
Mean no. of obs/day	26.9	31.5	34.6
No. of hours with obs	1398	428	1616
Mean no. of hours/day with obs	15.2	15.3	17.6
% of hour periods without an ob	36.7	36.3	26.7
Mean (Ob-Bg)	0.0	0.3	0.0
RMS (Ob-Bg)	1.1	1.3	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	-0.1	-0.1	0.0
RMS (Ob-Bg)	4.4	7.1	2.6
<b>all data</b>			
Revised RMS (Ob-Bg)	1.2	1.5	1.2
% of data flagged	53	61	58
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44775/UK	44777/UK	44779/UK
Argos Id.No.	26741	1249	3186
Period within area	01/07 - 30/09	01/07 - 29/09	01/07 - 05/09
Mean Latitude	62.4	54.7	45.3
Mean Longitude	-33.0	-1.4	-31.7
No. of obs received	3292	145	1671
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.6	75.2	99.8
% of Present			
Pressure	96.3	100.0	98.3
P. Tendency	90.6	68.3	93.1
Air Temperature	96.2	0.0	0.0
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	89.6	99.3	96.1
Median delay(min)	28	25	24
Number of days	92	91	67
Mean no. of obs/day	35.8	1.6	24.9
No. of hours with obs	1654	135	937
Mean no. of hours/day with obs	18.0	1.5	14.0
% of hour periods without an ob	25.0	93.8	41.7
Mean (Ob-Bg)	0.3	-0.5	0.3
RMS (Ob-Bg)	1.1	1.5	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	0.3	-5.3	-0.5
RMS (Ob-Bg)	2.8	7.0	9.9
<b>all data</b>			
Revised RMS (Ob-Bg)	1.2	7.0	1.1
% of data flagged	59	61	55
Operating at end of period	YES	NO	NO
Performance			
Availability	Very Good	Very Poor	Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44901/??	44911/US	44912/US
Argos Id.No.	????	466	????
Period within area	02/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	56.9	56.5	52.0
Mean Longitude	-55.3	-18.2	-42.5
No. of obs received	538	510	432
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable positions	100.0	100.0	97.7
% of Present			
Pressure	86.2	85.5	95.1
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.	100.0	0.0	100.0
Median delay(Min)	78	526	102
Number of days	91	92	92
Mean no. of obs/day	5.9	5.5	4.7
No. of hours with obs	470	485	402
Mean no. of hours/day with obs	5.2	5.3	4.4
% of hour periods without an ob	78.3	77.9	81.7
Mean (Ob-Bg)	0.6	0.5	0.8
RMS (Ob-Bg)	1.2	1.0	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	0.7	0.5	0.8
RMS (Ob-Bg)	1.6	1.0	1.3
<b>all data</b>			
Revised RMS (Ob-Bg)	1.3	1.0	1.3
% of data flagged	14	3	9
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Very Poor
Pressure Quality	Suspect	Acceptable	Suspect
Timeliness	Good	Very Poor	Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	44924/US	44925/US	62503/F
Argos Id.No.	????	????	14427
Period within area	06/07 - 02/08	01/07 - 30/09	01/07 - 06/09
Mean Latitude	61.2	60.2	31.6
Mean Longitude	-57.4	-52.7	-14.7
No. of obs received	22	561	1285
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	90.9	94.3	100.0
% of Present			
Pressure	100.0	88.4	97.2
P. Tendency	0.0	0.0	90.4
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.	0.0	100.0	83.5
Median delay(min)	166	80	37
Number of days	28	92	68
Mean no. of obs/day	0.8	6.1	18.9
No. of hours with obs	19	465	1008
Mean no. of hours/day with obs	0.7	5.1	14.8
% of hour periods without an ob	97.1	78.8	38.3
Mean (Ob-Bg)	3.9	0.8	0.3
RMS (Ob-Bg)	3.9	1.2	0.8
<b>unflagged data</b>			
Mean (Ob-bg)	3.8	0.8	0.3
RMS (Ob-Bg)	7.0	1.5	0.8
<b>all data</b>			
Revised RMS (Ob-Bg)	7.0	1.4	0.8
% of data flagged	88	19	31
Operating at end of period	NO	YES	NO
Performance			
Availability	Very Poor	Poor	Satisfactory
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Satisfactory	Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62515/F	62518/F	62552/F
Argos Id.No.	14426	????	3008
Period within area	01/07 - 30/09	01/07 - 25/09	01/07 - 30/09
Mean Latitude	45.2	40.8	54.4
Mean Longitude	-17.6	-13.6	-13.9
No. of obs received	2065	1872	2739
% 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	100.0	31.8	95.1
P. Tendency	64.7	0.0	87.8
Air Temperature	0.0	0.0	71.3
Wind Speed/Dir.	0.0/0.0	1.7/1.8	93.8/93.2
Sea-surface Temp.	64.7	94.2	96.3
Median delay(min)	67	178	37
Number of days	92	87	92
Mean no. of obs/day	22.4	21.5	29.8
No. of hours with obs	1638	1831	1772
Mean no. of hours/day with obs	17.8	21.0	19.3
% of hour periods without an ob	25.8	12.5	19.6
Mean (Ob-Bg)	0.3	0.3	-0.1
RMS (Ob-Bg)	1.0	1.7	1.4
<b>unflagged data</b>			
Mean (Ob-bg)	0.4	0.3	-0.2
RMS (Ob-Bg)	1.1	1.7	3.4
<b>all data</b>			
Revised RMS (Ob-Bg)	1.1	1.7	1.5
% of data flagged	28	2	47
Operating at end of period	YES	NO	YES
Performance			
Availability	Satisfactory	Satisfactory	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Satisfactory	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62553/F	62554/F	62555/F
Argos Id.No.	3009	14430	27932
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	48.0	51.8	45.1
Mean Longitude	-22.2	-17.1	-18.8
No. of obs received	2210	2311	2103
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	100.0	99.9
% of Present			
Pressure	96.0	94.7	99.7
P. Tendency	88.6	85.9	59.2
Air Temperature	68.1	0.0	0.0
Wind Speed/Dir.	95.2/94.5	0.0/0.0	0.0/0.0
Sea-surface Temp.	96.5	95.5	66.2
Median delay(min)	28	36	64
Number of days	92	92	92
Mean no. of obs/day	24.0	25.1	22.9
No. of hours with obs	1592	1624	1587
Mean no. of hours/day with obs	17.3	17.7	17.3
% of hour periods without an ob	27.9	26.3	27.9
Mean (Ob-Bg)	0.2	0.4	0.0
RMS (Ob-Bg)	1.1	1.2	0.8
<b>unflagged data</b>			
Mean (Ob-bg)	-0.1	0.4	0.0
RMS (Ob-Bg)	4.2	1.1	0.9
<b>all data</b>			
Revised RMS (Ob-Bg)	1.2	1.1	0.9
% of data flagged	41	41	37
Operating at end of period	YES	YES	YES
Performance			
Availability	Satisfactory	Good	Satisfactory
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62556/F	62557/F	62558/F
Argos Id.No.	27935	????	????
Period within area	01/07 - 30/09	14/09 - 30/09	14/09 - 30/09
Mean Latitude	50.3	47.5	49.6
Mean Longitude	-16.9	-20.4	-21.1
No. of obs received	2495	525	490
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	99.4	99.6
% of Present			
Pressure	98.4	89.1	88.8
P. Tendency	61.4	45.5	52.7
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.	70.4	63.2	0.0
Median delay(min)	65	57	59
Number of days	92	17	17
Mean no. of obs/day	27.1	30.9	28.8
No. of hours with obs	1787	315	300
Mean no. of hours/day with obs	19.4	18.5	17.6
% of hour periods without an ob	19.2	22.9	28.8
Mean (Ob-Bg)	0.4	0.4	0.5
RMS (Ob-Bg)	1.1	1.3	1.3
<b>unflagged data</b>			
Mean (Ob-bg)	0.4	0.2	0.3
RMS (Ob-Bg)	1.8	1.3	5.3
<b>all data</b>			
Revised RMS (Ob-Bg)	0.9	1.3	1.3
% of data flagged	41	47	38
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62570/F	62697/UK	62712/UK
Argos Id.No.	????	2959	3188
Period within area	16/09 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	46.1	51.7	56.1
Mean Longitude	-16.8	-36.8	-11.0
No. of obs received	330	2726	2580
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.7	70.1	99.8
% of Present			
Pressure	28.2	97.1	93.1
P. Tendency	0.0	87.5	0.0
Air Temperature	0.0	98.2	0.0
Wind Speed/Dir.	88.8/89.1	84.2/8.6	14.5/0.0
Sea-surface Temp.	87.3	97.9	58.7
Median delay(min)	223	22	113
Number of days	15	92	92
Mean no. of obs/day	22.0	29.6	28.0
No. of hours with obs	291	1422	1527
Mean no. of hours/day with obs	19.4	15.5	16.6
% of hour periods without an ob	19.2	35.4	30.8
Mean (Ob-Bg)	-0.1	0.0	0.6
RMS (Ob-Bg)	1.4	1.2	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	-0.1	4.4	0.5
RMS (Ob-Bg)	1.4	48.2	1.7
<b>all data</b>			
Revised RMS (Ob-Bg)	1.4	2.7	1.2
% of data flagged	2	77	50
Operating at end of period	YES	YES	YES
Performance			
Availability	Satisfactory	Good	Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Poor	Very Good	Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62713/UK	62803/UK	62804/UK
Argos Id.No.	3185	3209	26743
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	41.1	60.6	56.7
Mean Longitude	-27.3	-11.4	-14.4
No. of obs received	2064	5269	2613
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.6	99.9	99.9
% of Present			
Pressure	98.8	99.5	97.0
P. Tendency	93.4	95.4	81.7
Air Temperature	0.0	99.4	96.9
Wind Speed/Dir.	0.0/0.0	13.6/54.2	0.0/0.0
Sea-surface Temp.	80.6	99.3	0.0
Median delay(min)	26	27	27
Number of days	92	92	92
Mean no. of obs/day	22.4	57.3	28.4
No. of hours with obs	1210	1824	1473
Mean no. of hours/day with obs	13.2	19.8	16.0
% of hour periods without an ob	45.0	17.5	33.3
Mean (Ob-Bg)	-0.1	0.2	0.2
RMS (Ob-Bg)	1.1	1.2	1.1
<b>unflagged data</b>			
Mean (Ob-bg)	-0.1	0.0	0.1
RMS (Ob-Bg)	3.3	7.2	2.5
<b>all data</b>			
Revised RMS (Ob-Bg)	1.1	1.3	1.1
% of data flagged	52	71	54
Operating at end of period	YES	YES	YES
Performance			
Availability	Satisfactory	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	62927/??	64528/NL	64561/UK
Argos Id.No.	????	4274	1247
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	51.7	63.2	54.1
Mean Longitude	-22.8	-35.1	-48.4
No. of obs received	423	5329	2895
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	100.0	99.8	99.9
% of Present			
Pressure	99.1	97.8	97.4
P. Tendency	0.0	77.8	91.2
Air Temperature	0.0	97.6	0.5
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	100.0	65.4	97.8
Median delay(min)	114	26	23
Number of days	92	92	92
Mean no. of obs/day	4.6	57.9	31.5
No. of hours with obs	394	1820	1552
Mean no. of hours/day with obs	4.3	19.8	16.9
% of hour periods without an ob	82.1	17.5	29.6
Mean (Ob-Bg)	0.7	-0.3	0.1
RMS (Ob-Bg)	1.2	1.3	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	0.7	-0.4	-0.1
RMS (Ob-Bg)	1.5	2.2	4.9
<b>all data</b>			
Revised RMS (Ob-Bg)	1.5	1.3	1.2
% of data flagged	8	73	59
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Poor	Very Good	Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Good	Very Good	Very Good
Comments			



# ANNEX A - Cont.

Wmo No./Country	64563/N	65594/UK	65596/NL
Argos Id.No.	3679	1252	3036
Period within area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	60.7	60.7	51.3
Mean Longitude	-53.4	-21.8	-48.7
No. of obs received	5133	5791	2298
% of obs with valid Time and Date	100.0	100.0	100.0
% of obs with acceptable position	99.6	99.6	97.6
% of Present			
Pressure	96.3	99.2	89.0
P. Tendency	73.2	96.0	57.8
Air Temperature	95.9	99.1	88.4
Wind Speed/Dir.	0.0/0.0	0.0/0.0	0.0/0.0
Sea-surface Temp.	62.0	99.3	53.5
Median delay(min)	24	25	27
Number of days	92	92	92
Mean no. of obs/day	55.8	62.9	25.0
No. of hours with obs	1803	1864	1259
Mean no. of hours/day with obs	19.6	20.3	13.7
% of hour periods without an ob	18.3	15.4	42.9
Mean (Ob-Bg)	-0.3	0.1	-0.3
RMS (Ob-Bg)	1.2	1.2	1.2
<b>unflagged data</b>			
Mean (Ob-bg)	-0.3	0.1	-0.2
RMS (Ob-Bg)	1.7	2.6	1.7
<b>all data</b>			
Revised RMS (Ob-Bg)	1.2	1.5	1.3
% of data flagged	72	73	56
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			



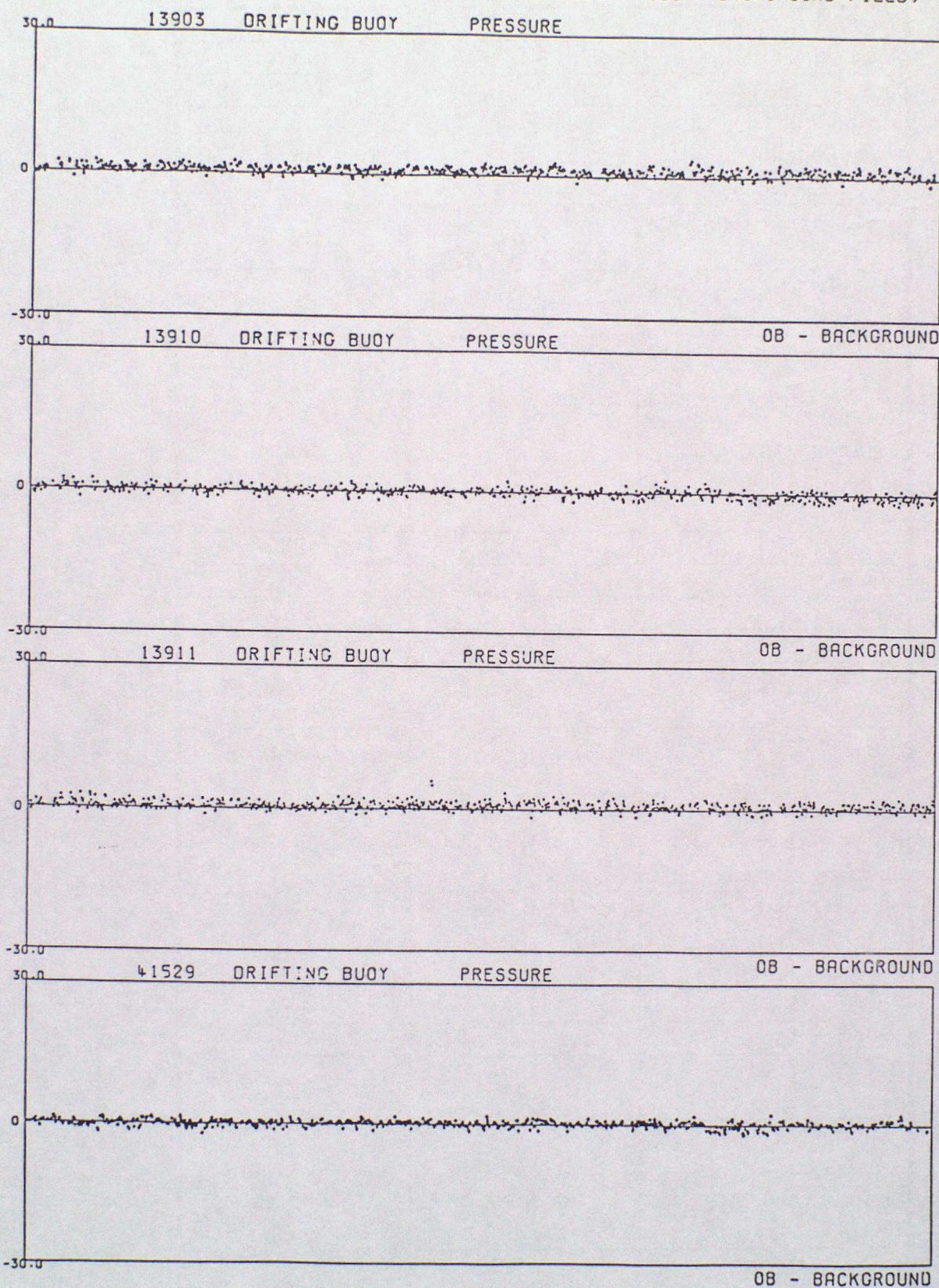
# ANNEX A - Cont.

Wmo No./Country	65597/NL	65598/D
Argos Id.No.	4273	9308
Period within area	01/07 - 30/09	01/07 - 25/08
Mean Latitude	58.5	58.8
Mean Longitude	-47.7	-56.3
No. of obs received	4886	2044
% of obs with valid Time and Date	100.0	100.0
% of obs with acceptable position	99.8	85.8
% of Present		
Pressure	96.5	96.0
P. Tendency	74.7	90.9
Air Temperature	96.4	95.5
Wind Speed/Dir.	0.0/0.0	0.0/0.0
Sea-surface Temp.	61.8	62.0
Median delay(min)	24	23
Number of days	92	56
Mean no. of obs/day	53.1	36.5
No. of hours with obs	1726	838
Mean no. of hours/day with obs	18.8	15.0
% of hour periods without an ob	21.7	37.5
Mean (Ob-Bg)	-0.3	-0.4
RMS (Ob-Bg)	1.3	1.1
<b>unflagged data</b>		
Mean (Ob-bg)	-0.3	-0.5
RMS (Ob-Bg)	2.1	2.8
<b>all data</b>		
Revised RMS (Ob-Bg)	1.3	1.1
% of data flagged	72	67
Operating at end of period	YES	NO
Performance		
Availability	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable
Timeliness	Very Good	Very Good
Comments		



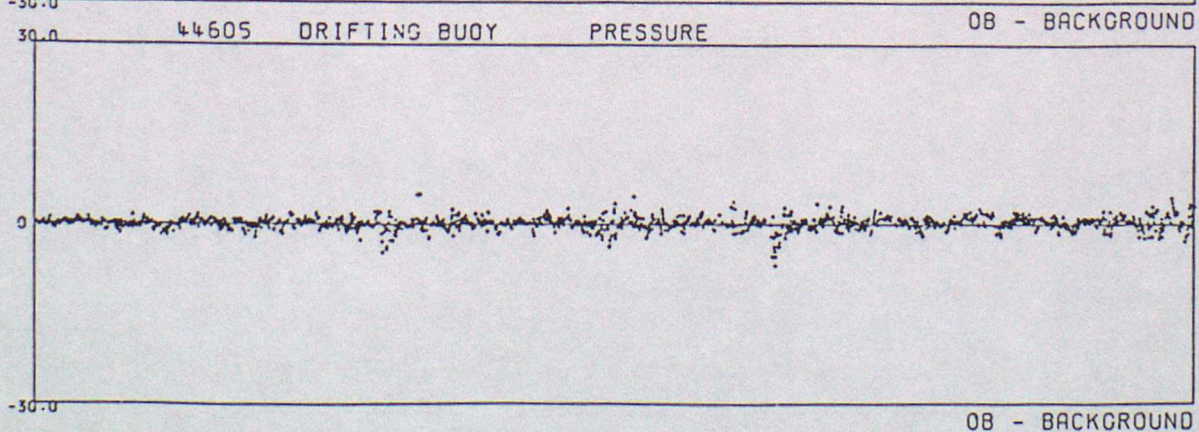
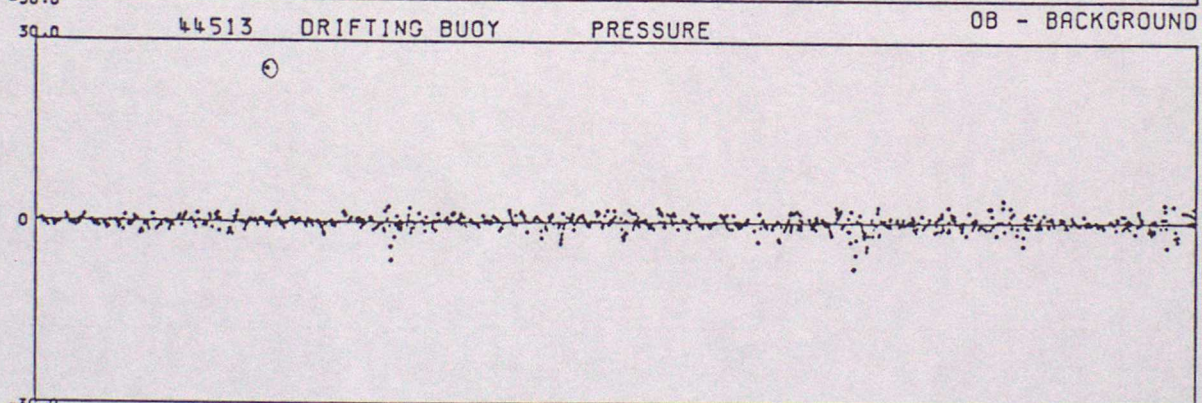
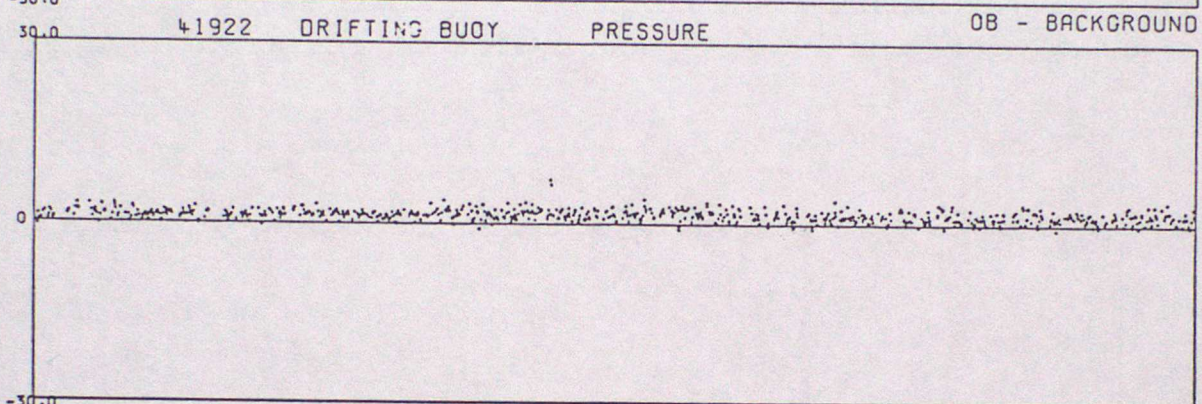
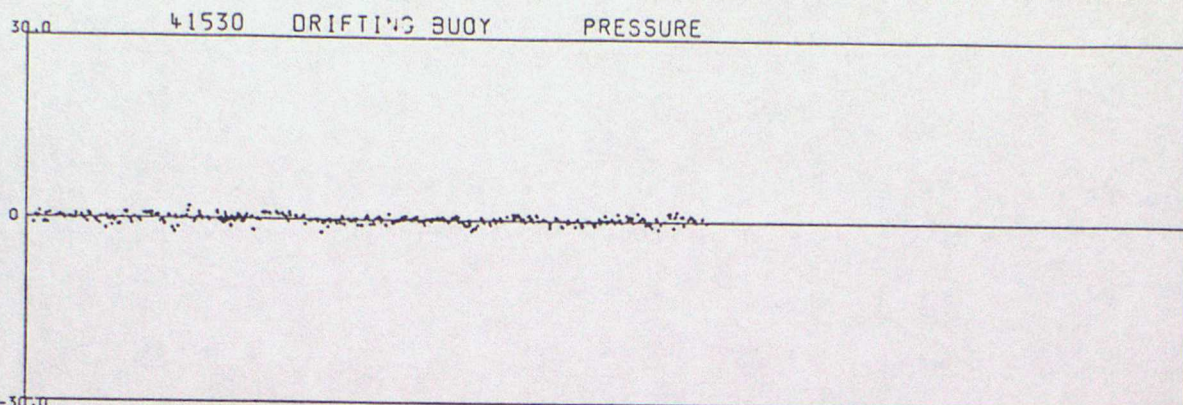
## ANNEX B - TIME SERIES PLOTS OF PRESSURE

DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



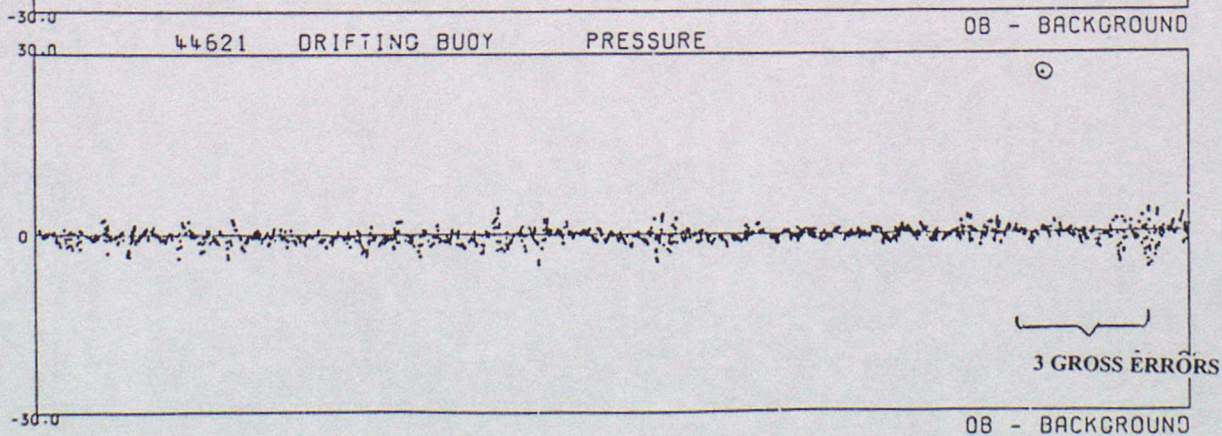
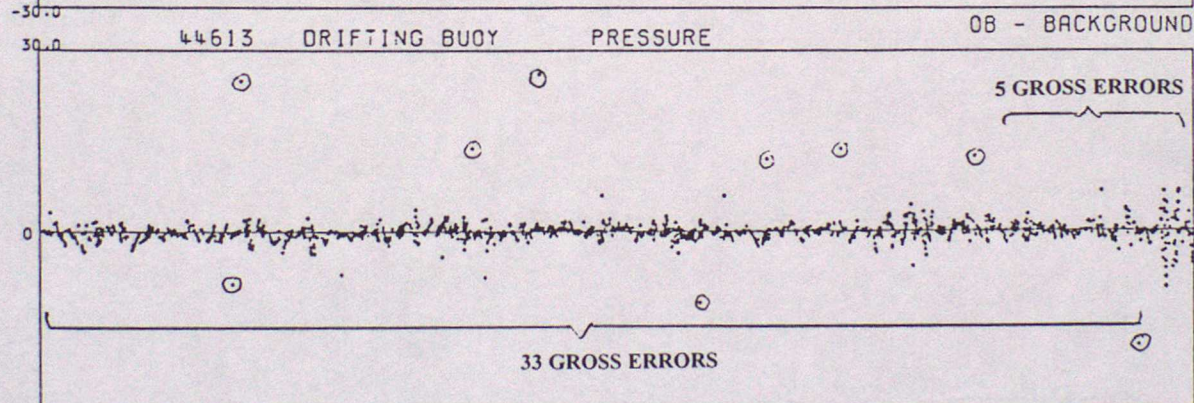
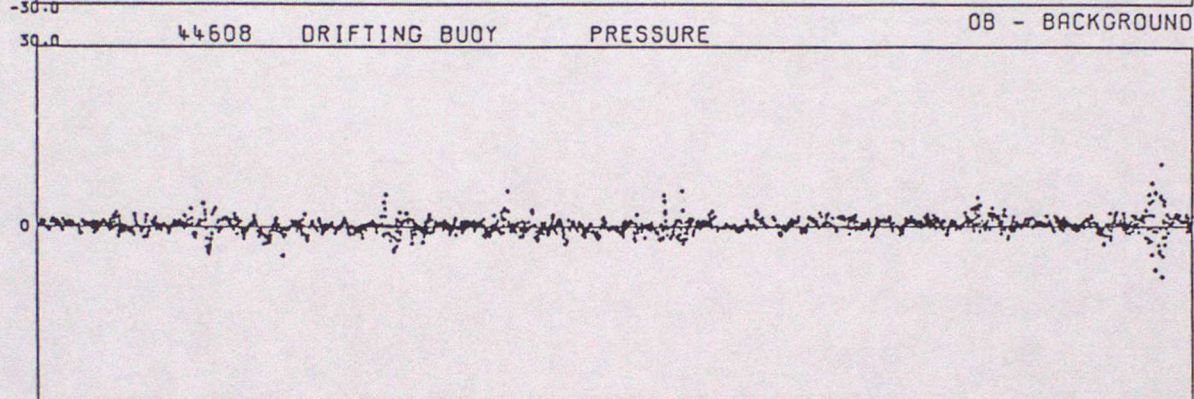
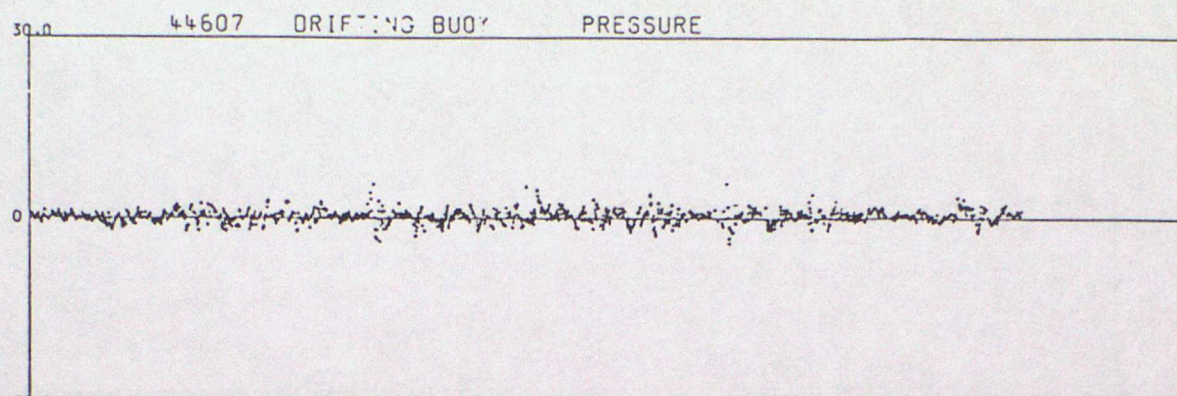


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



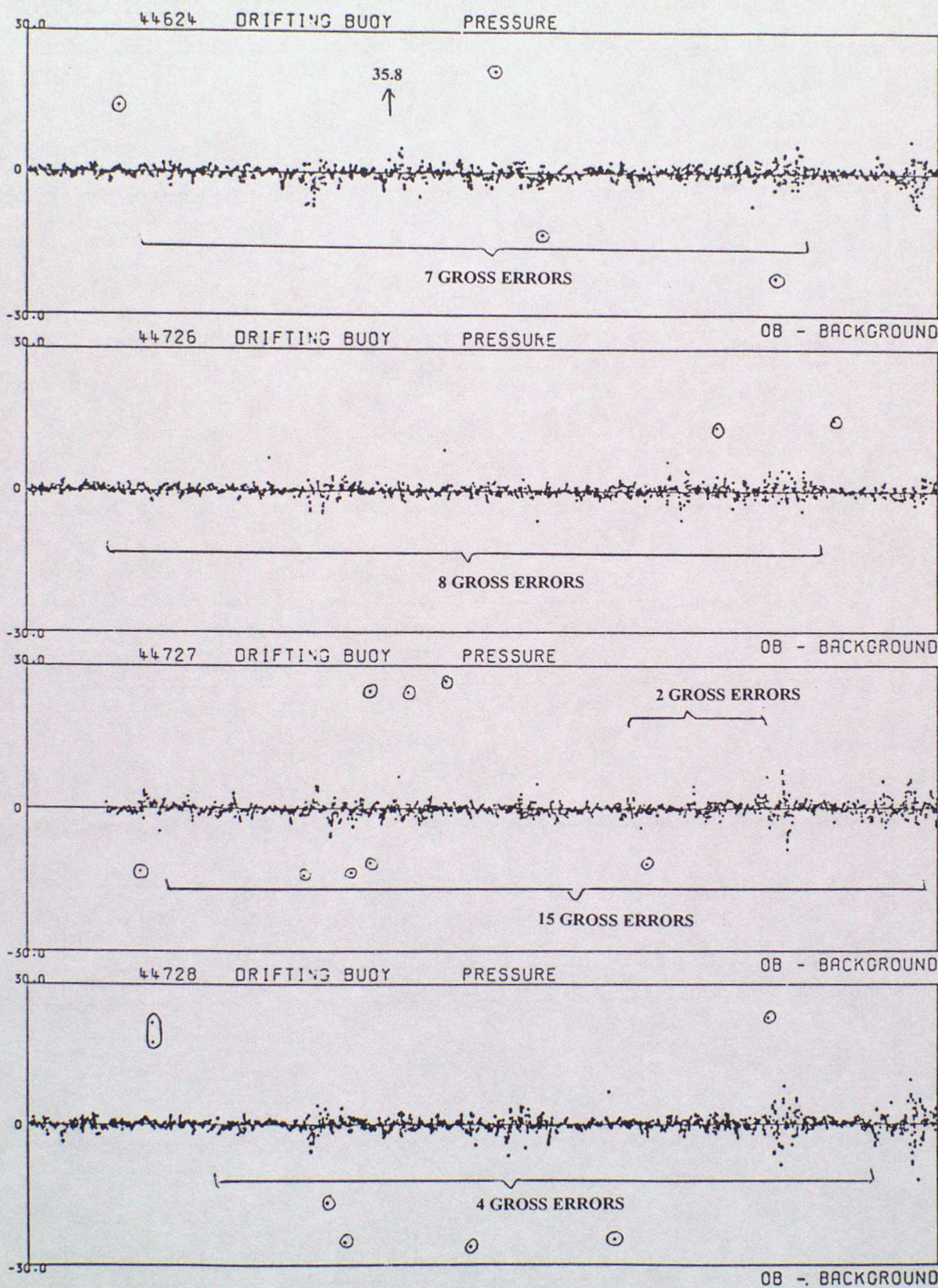


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (CES - BACKGROUND FIELD)



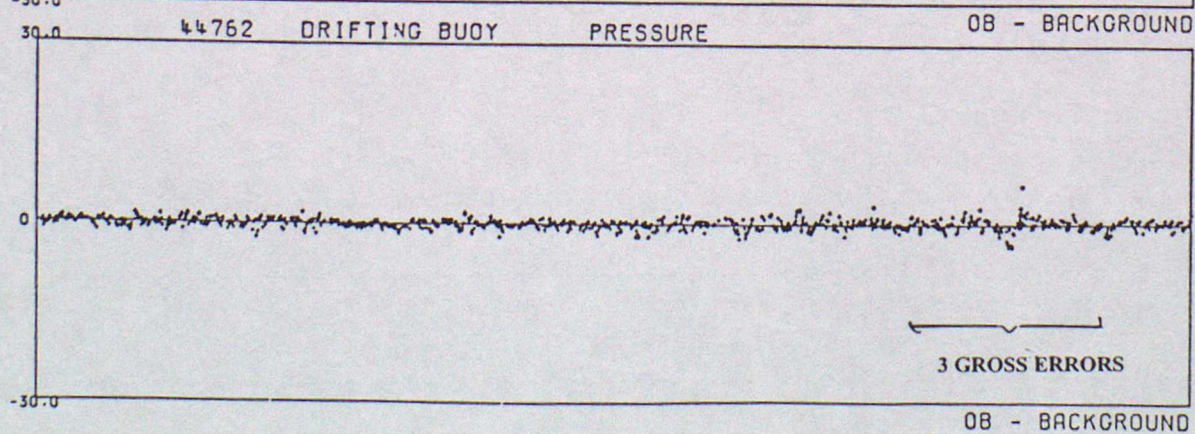
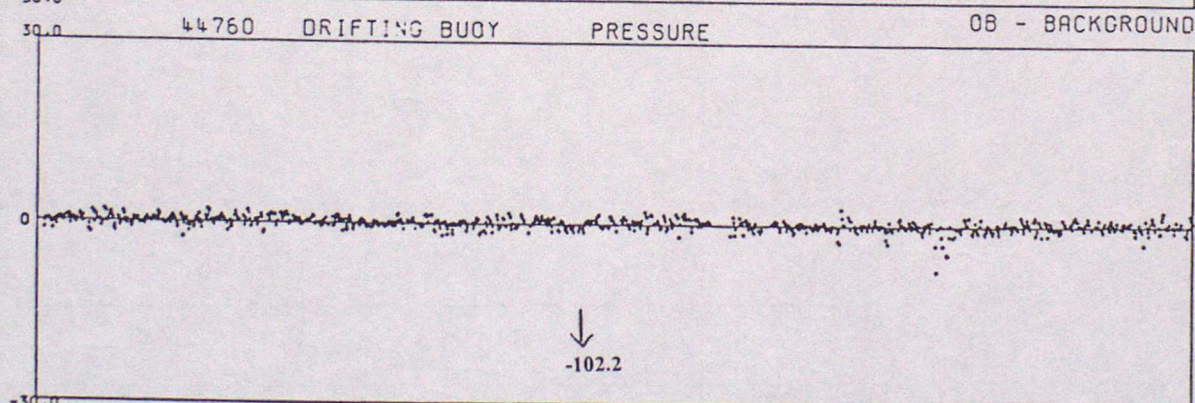
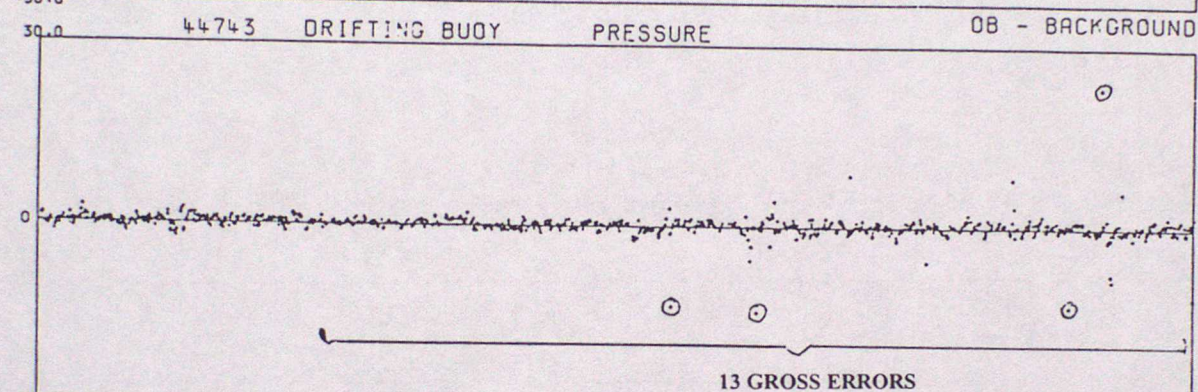
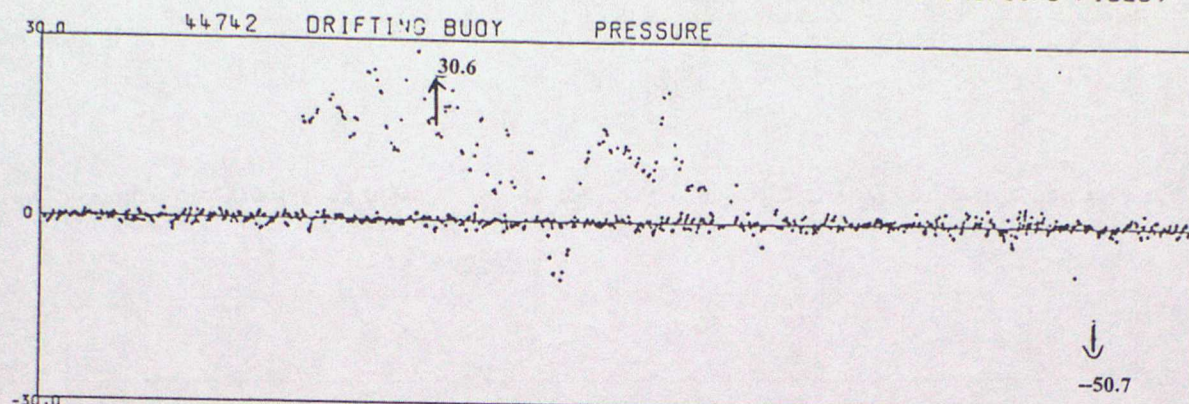


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



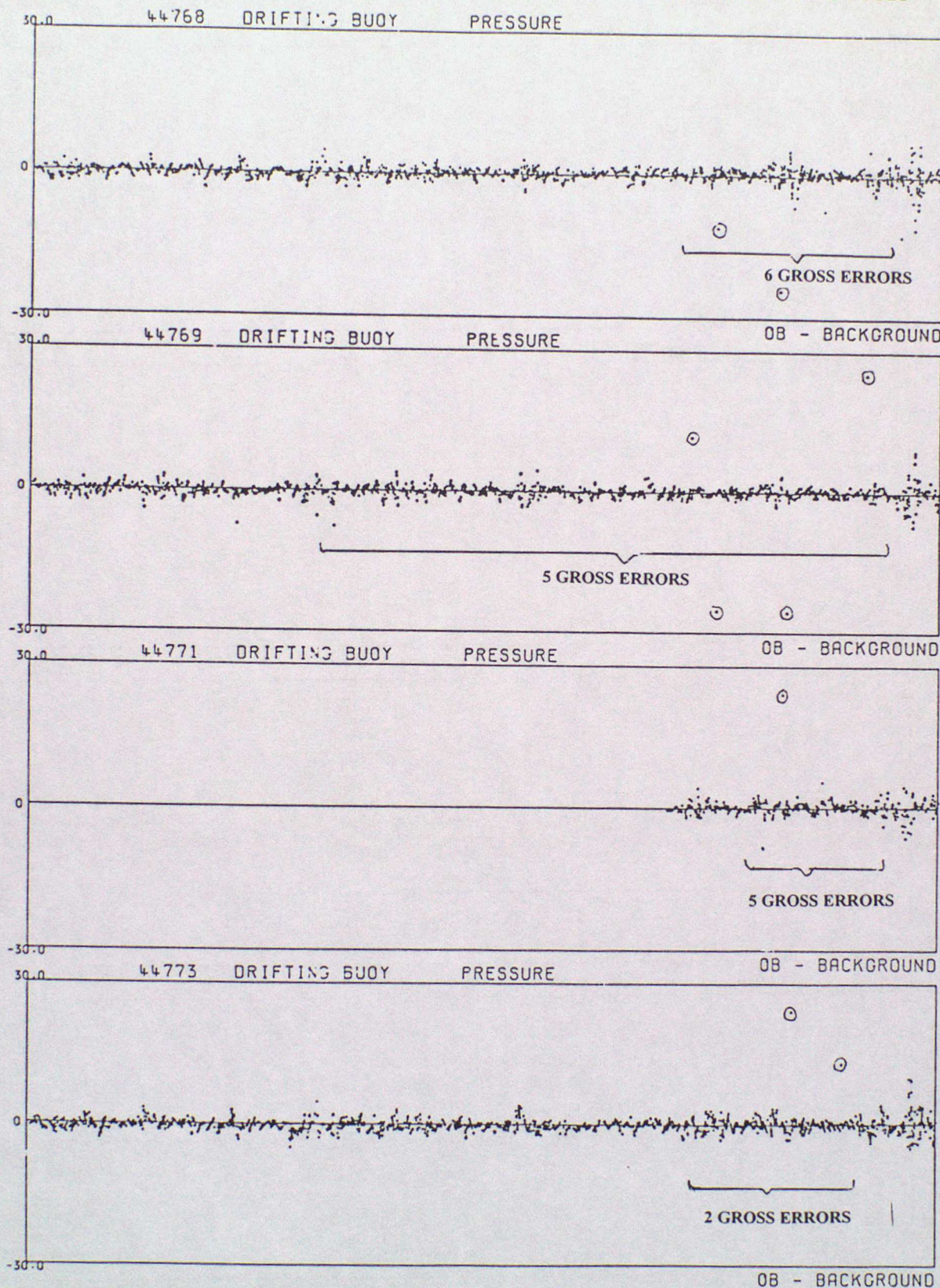


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



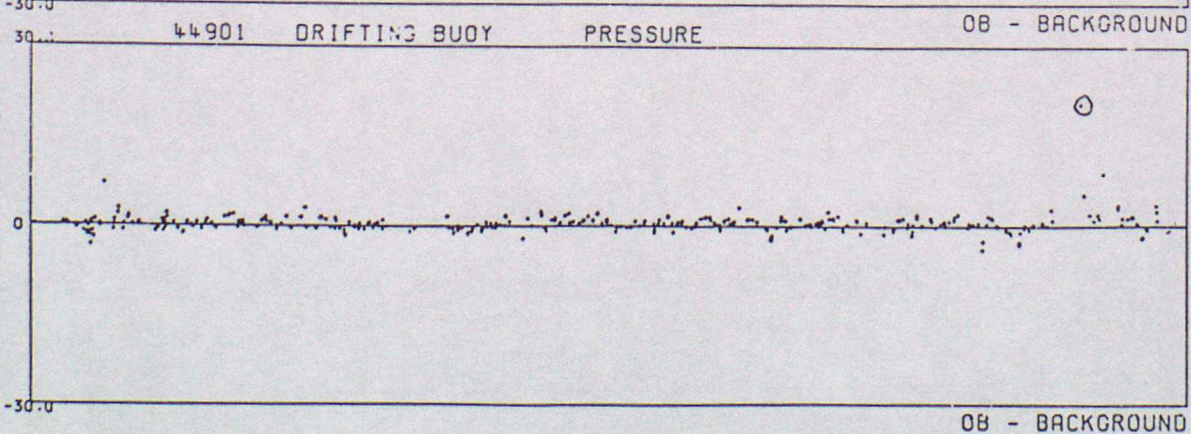
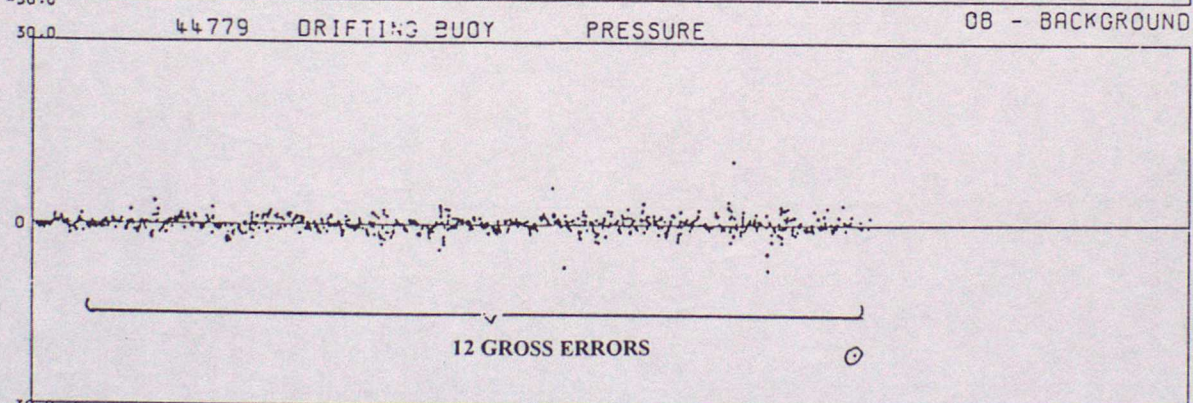
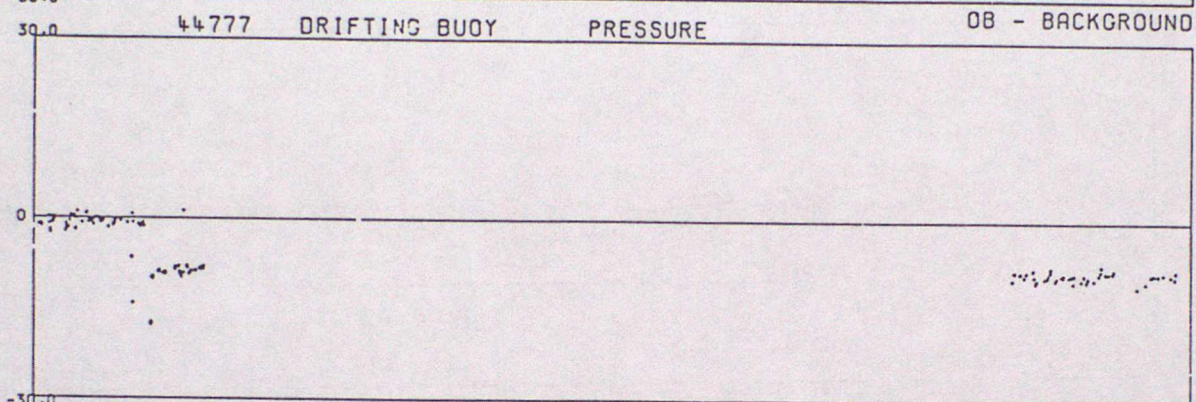
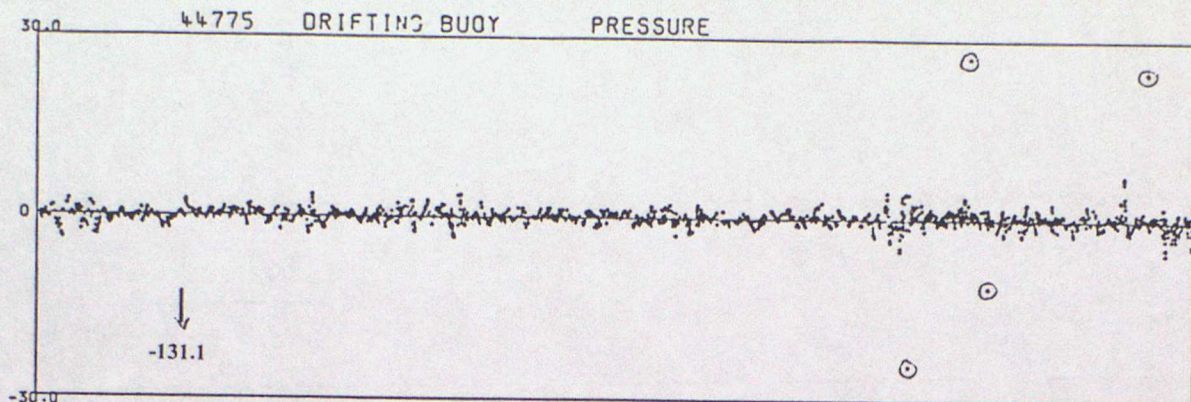


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





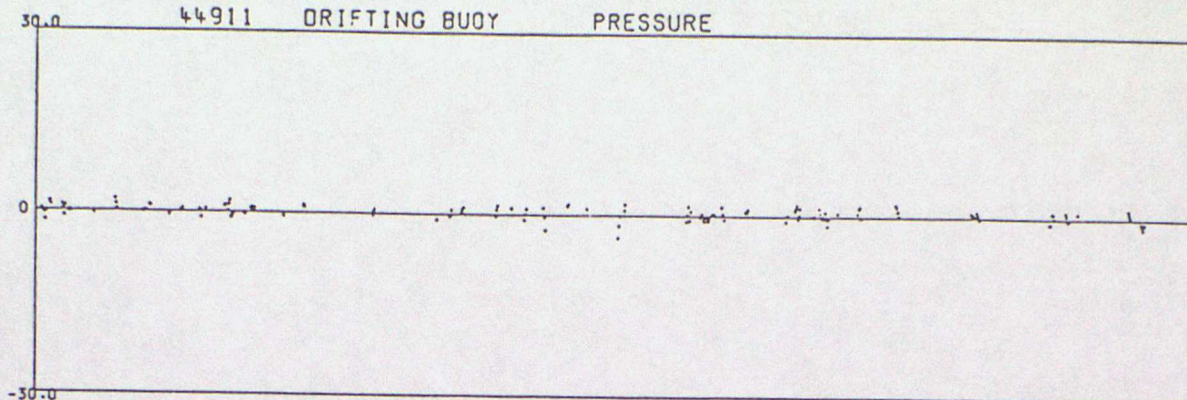
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





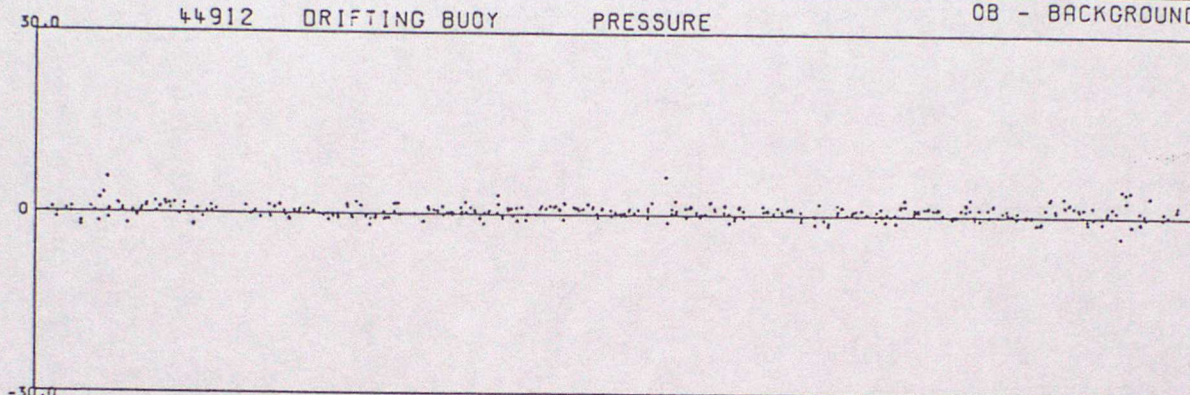
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (CBS - BACKGROUND FIELD)

44911 DRIFTING BUOY PRESSURE



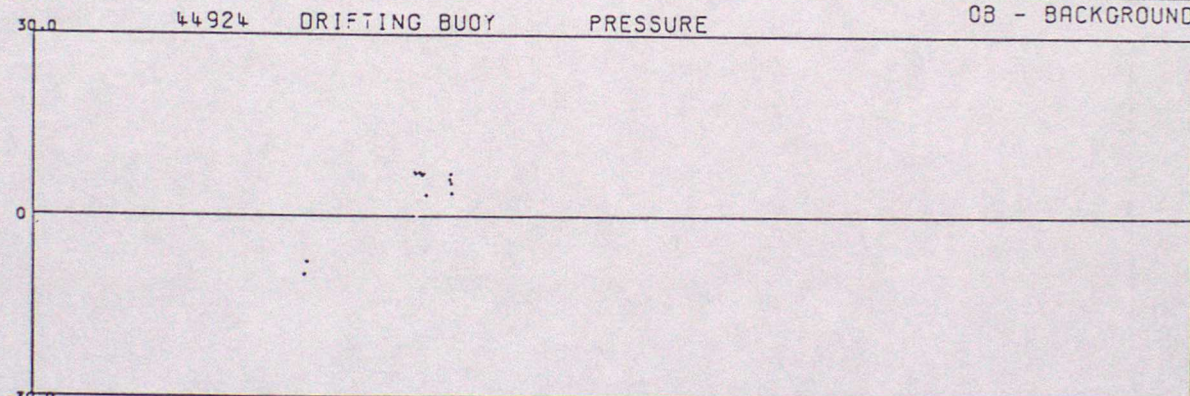
44912 DRIFTING BUOY PRESSURE

OB - BACKGROUND



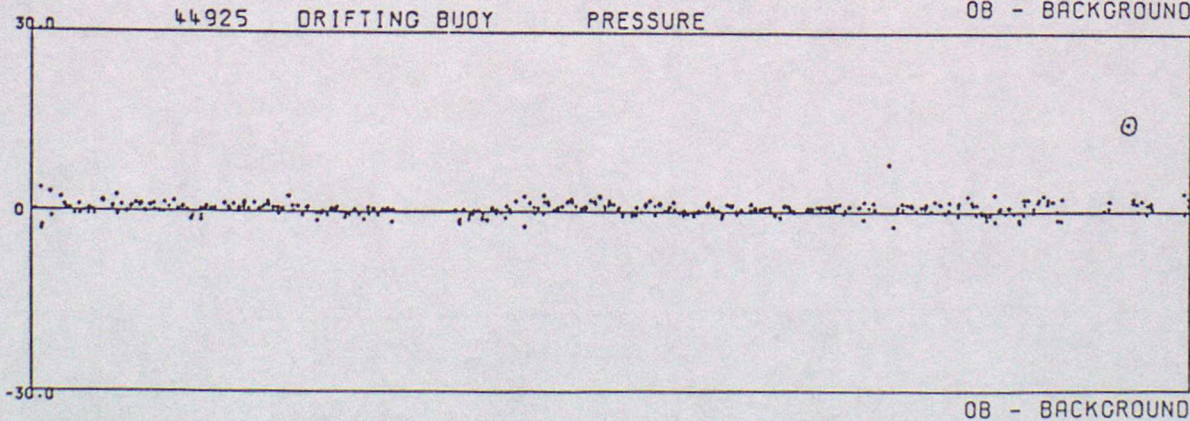
44924 DRIFTING BUOY PRESSURE

OB - BACKGROUND



44925 DRIFTING BUOY PRESSURE

OB - BACKGROUND

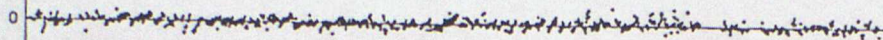


OB - BACKGROUND

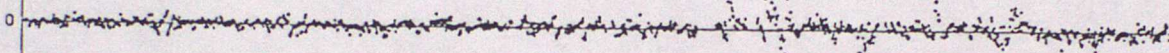


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)

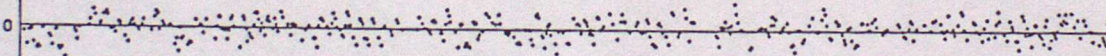
30.0 62503 DRIFTING BUOY PRESSURE



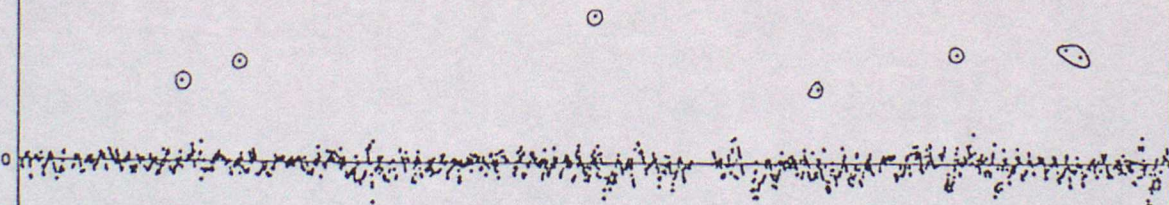
-30.0 30.0 62515 DRIFTING BUOY PRESSURE OB - BACKGROUND



-30.0 30.0 62518 DRIFTING BUOY PRESSURE OB - BACKGROUND



-30.0 30.0 62552 DRIFTING BUOY PRESSURE OB - BACKGROUND

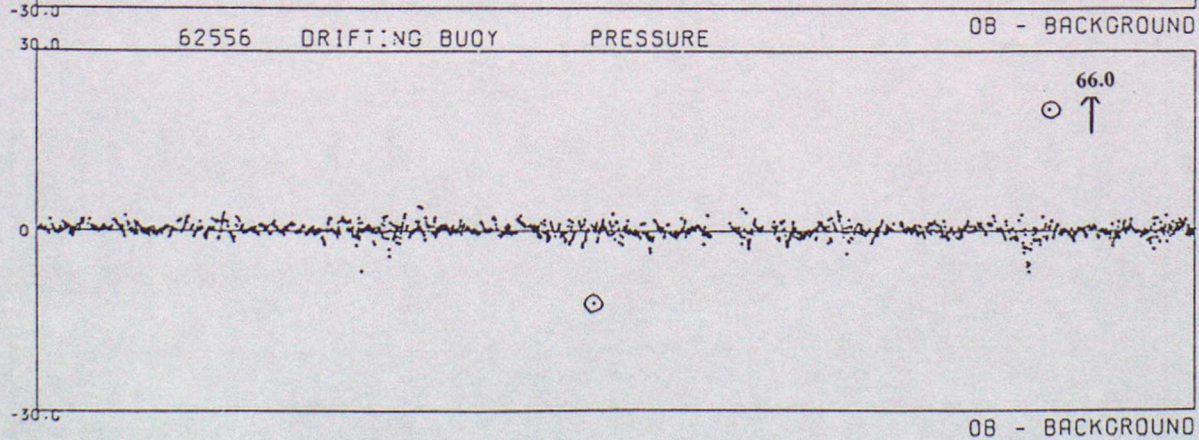
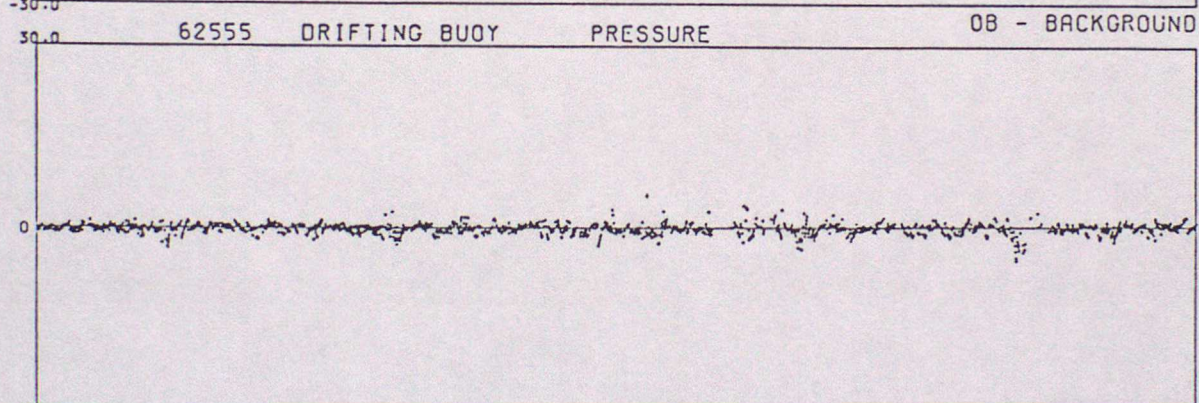
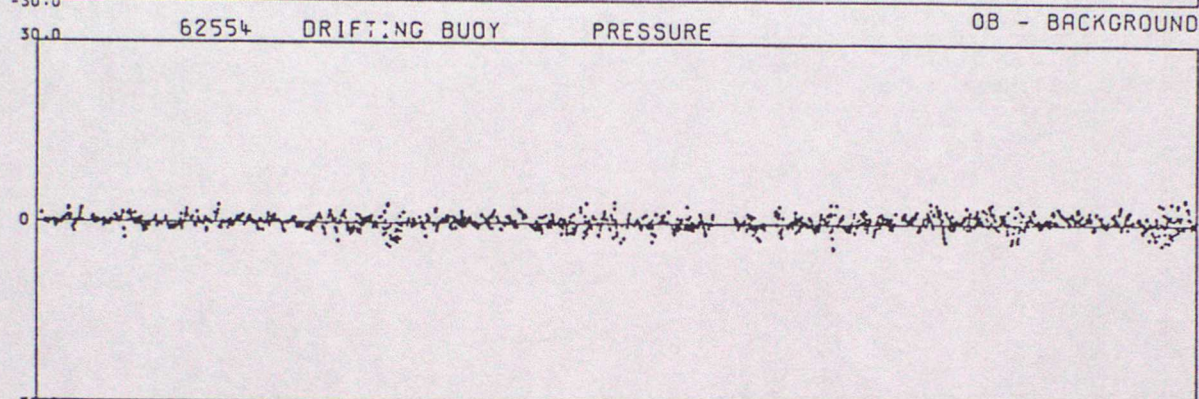
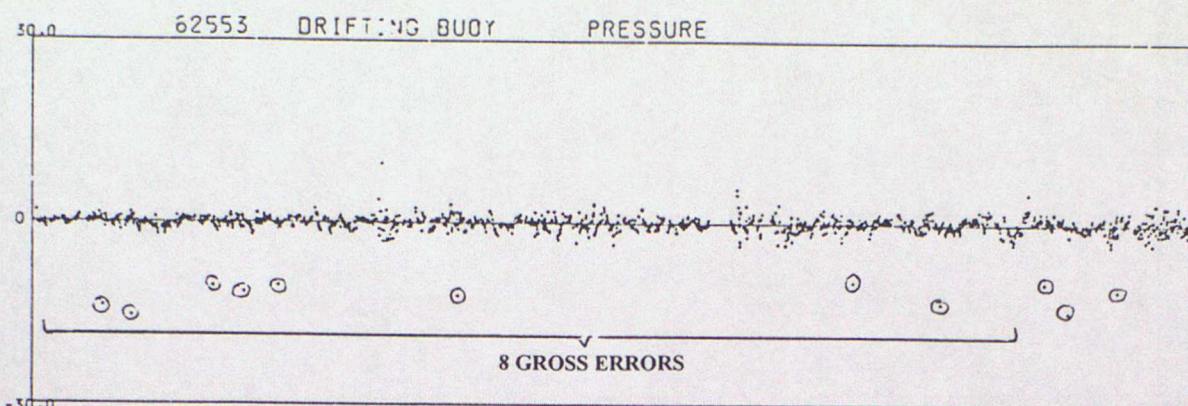


4 GROSS ERRORS

OB - BACKGROUND

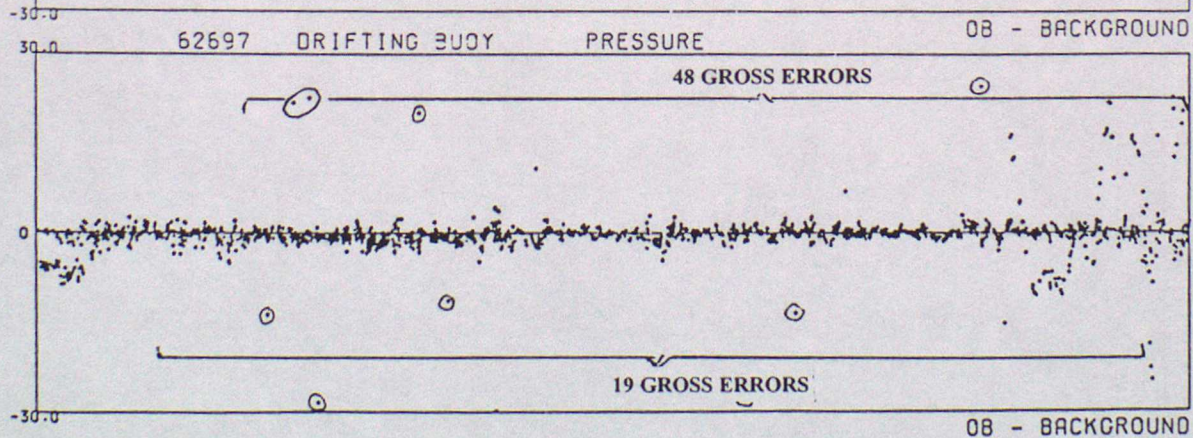
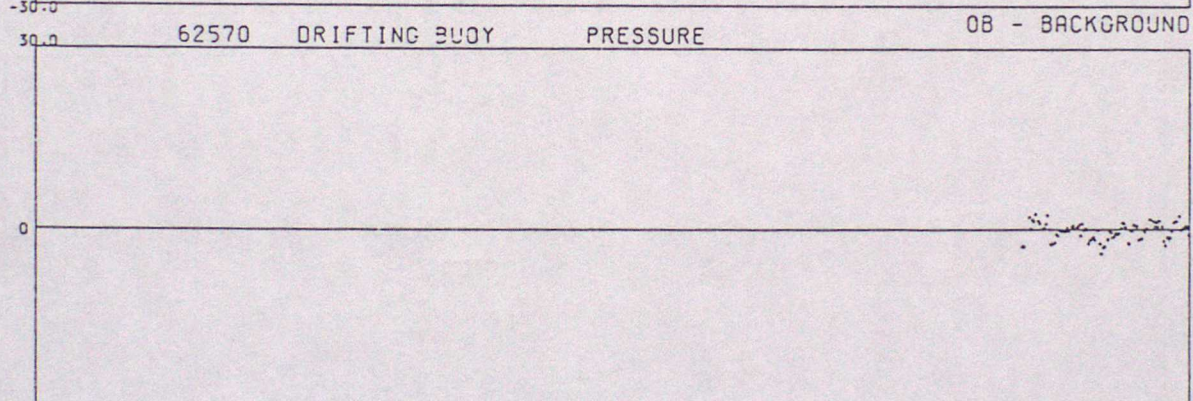
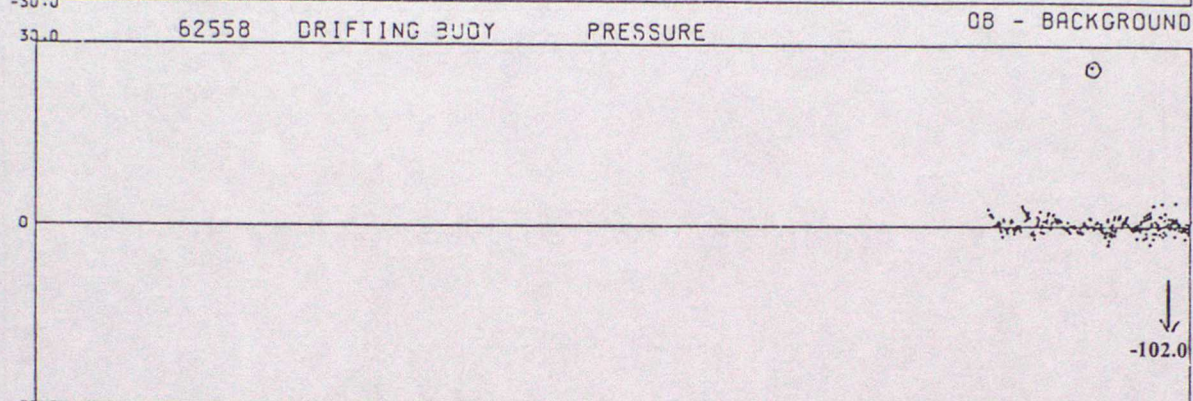
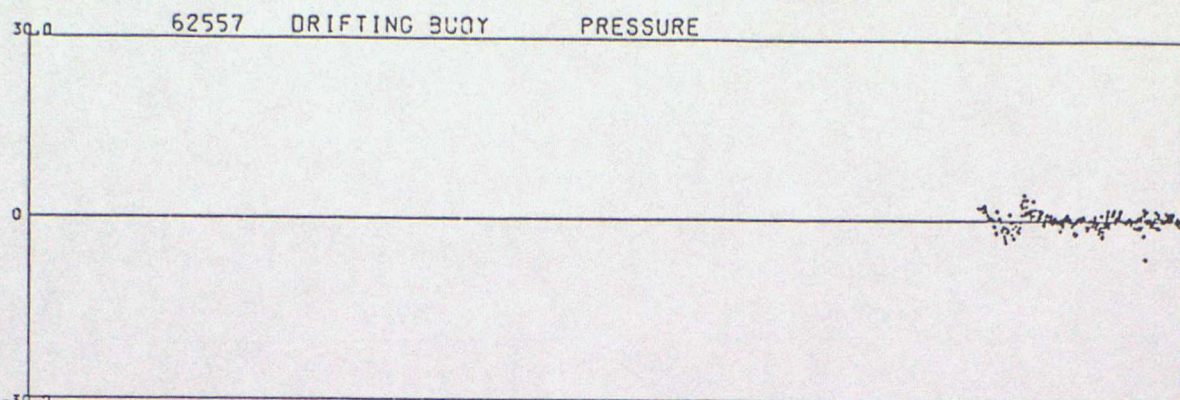


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (033 - BACKGROUND FIELD)



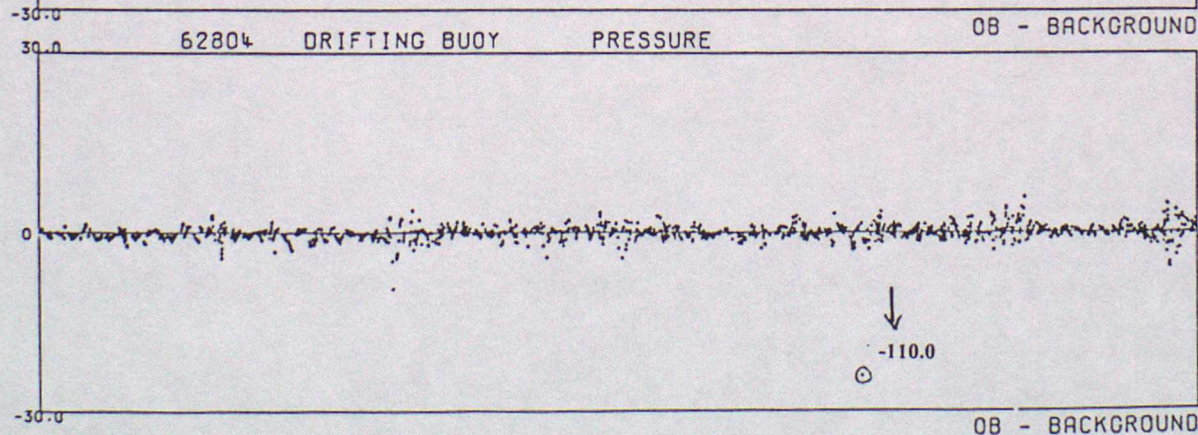
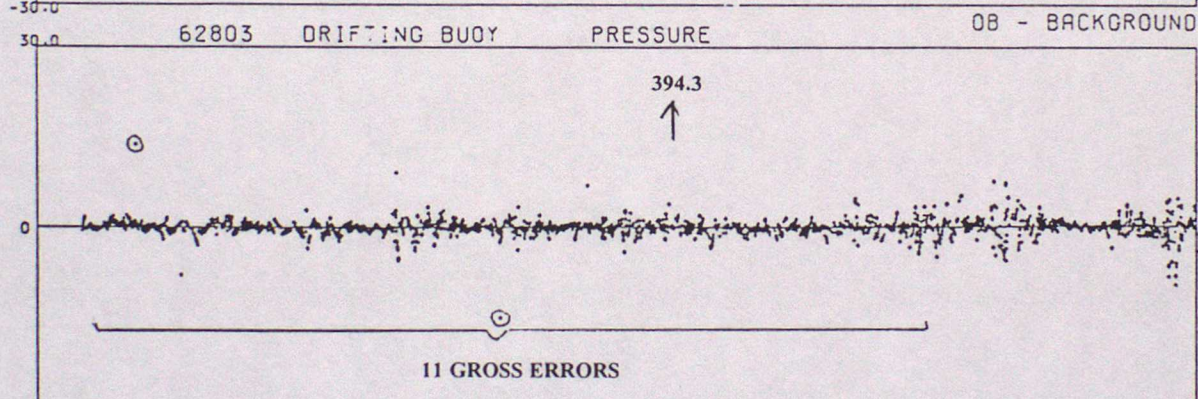
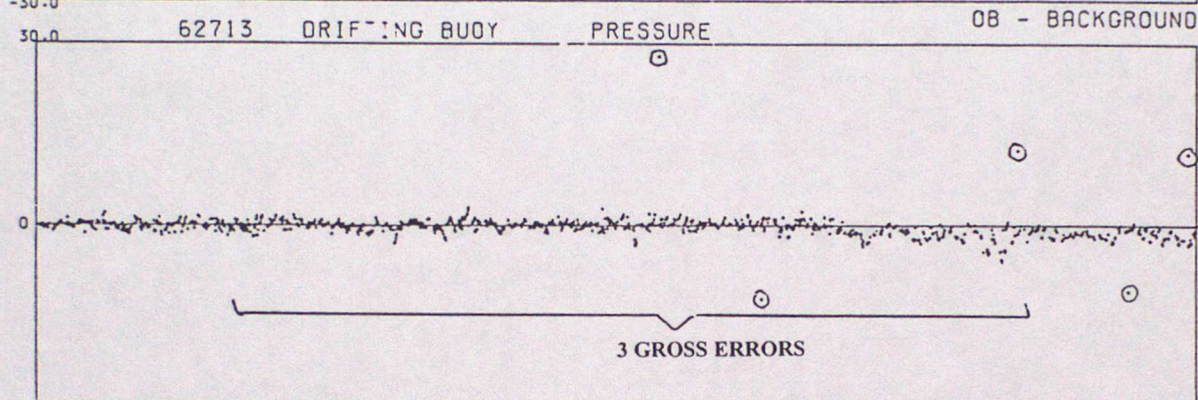
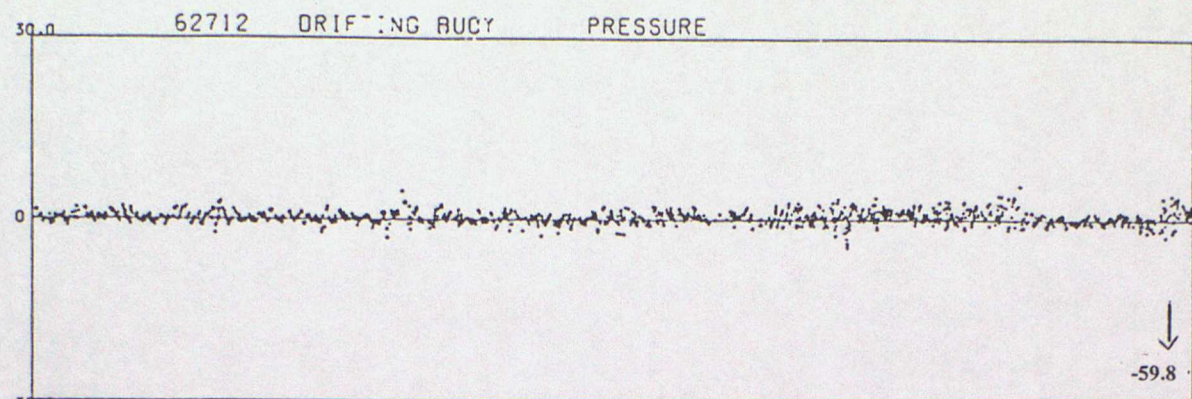


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



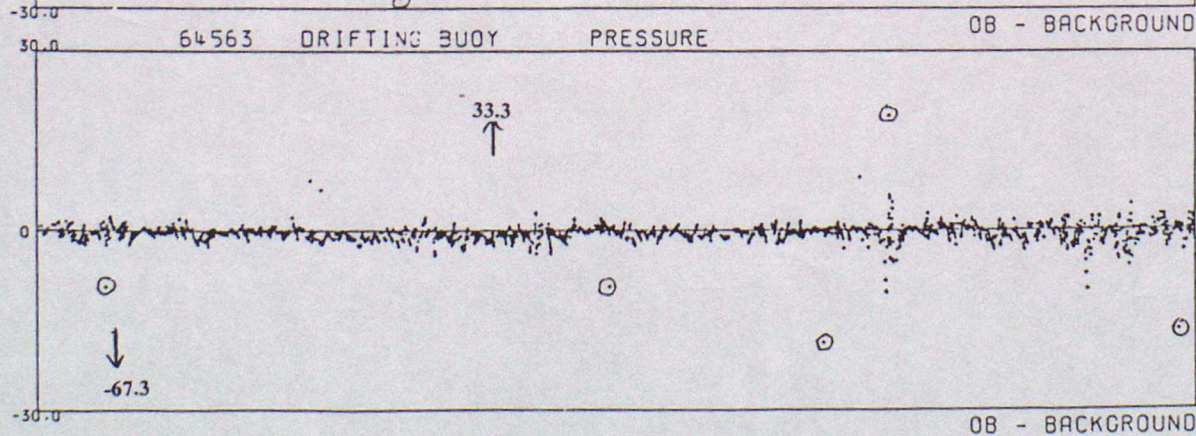
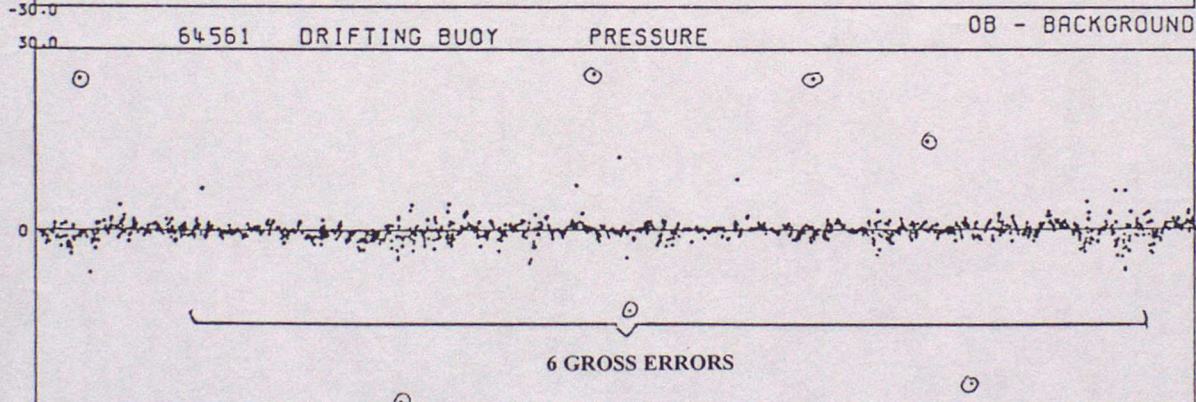
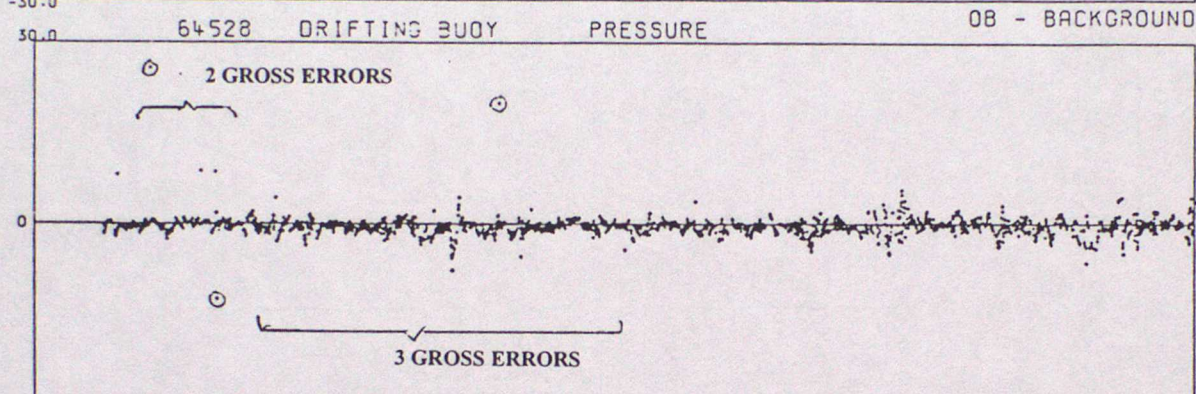
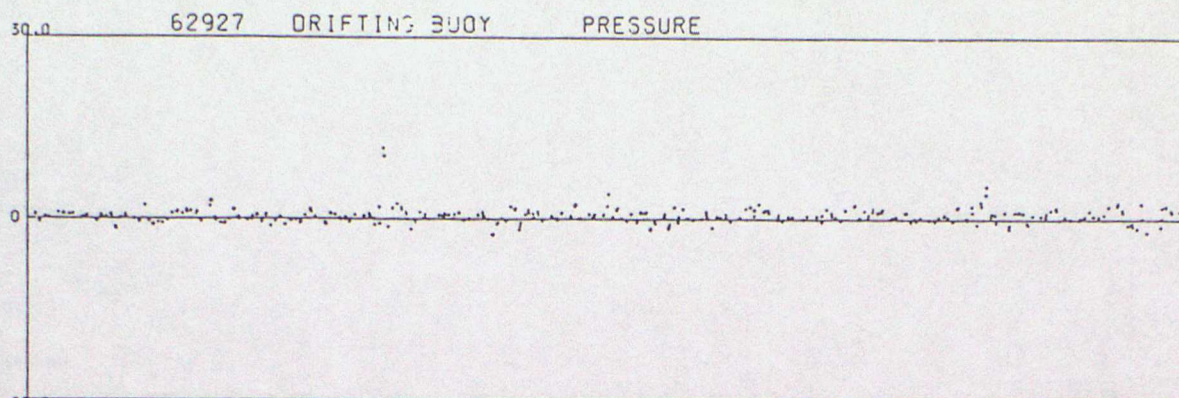


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (CBS - BACKGROUND FIELD)



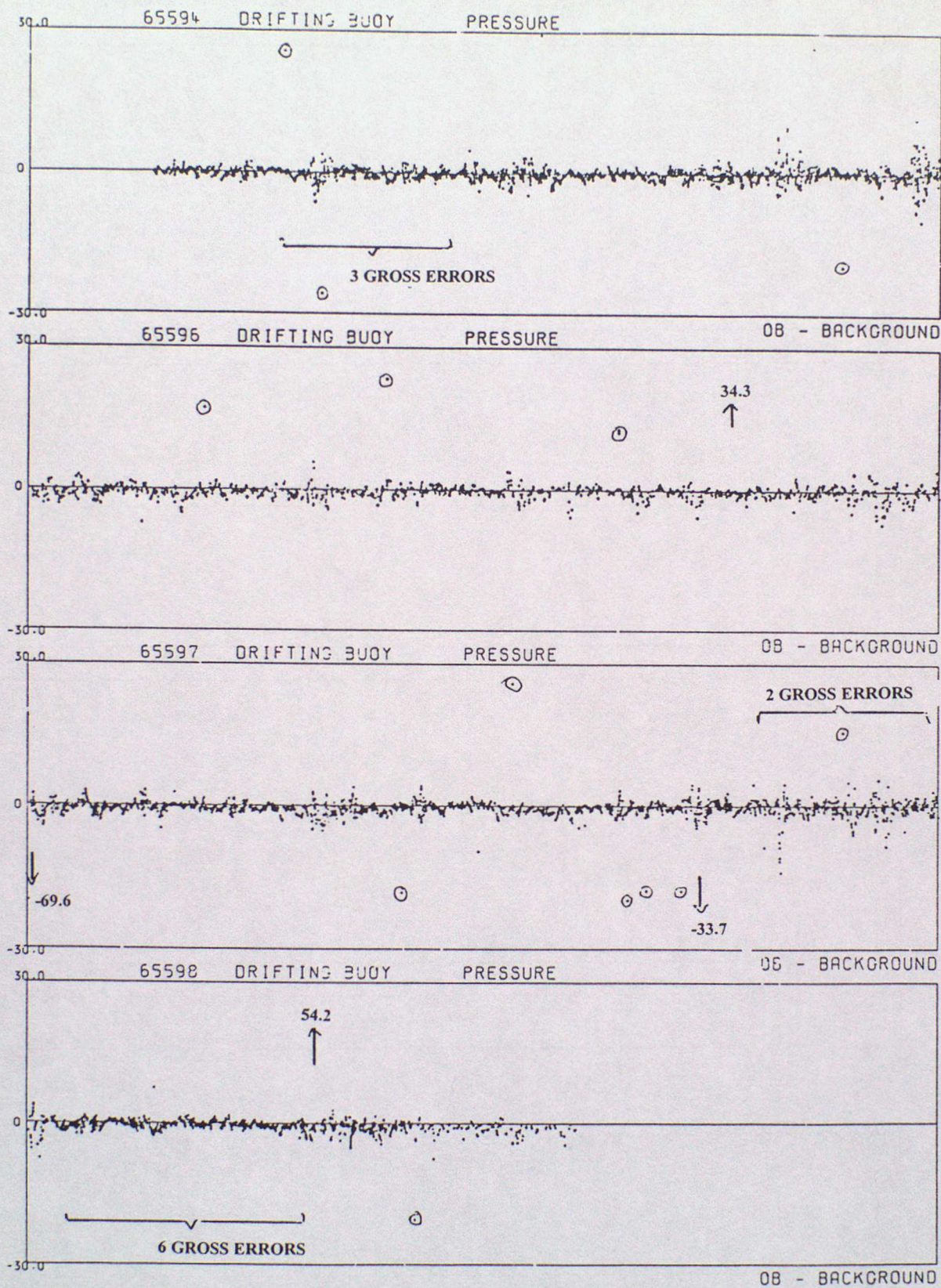


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





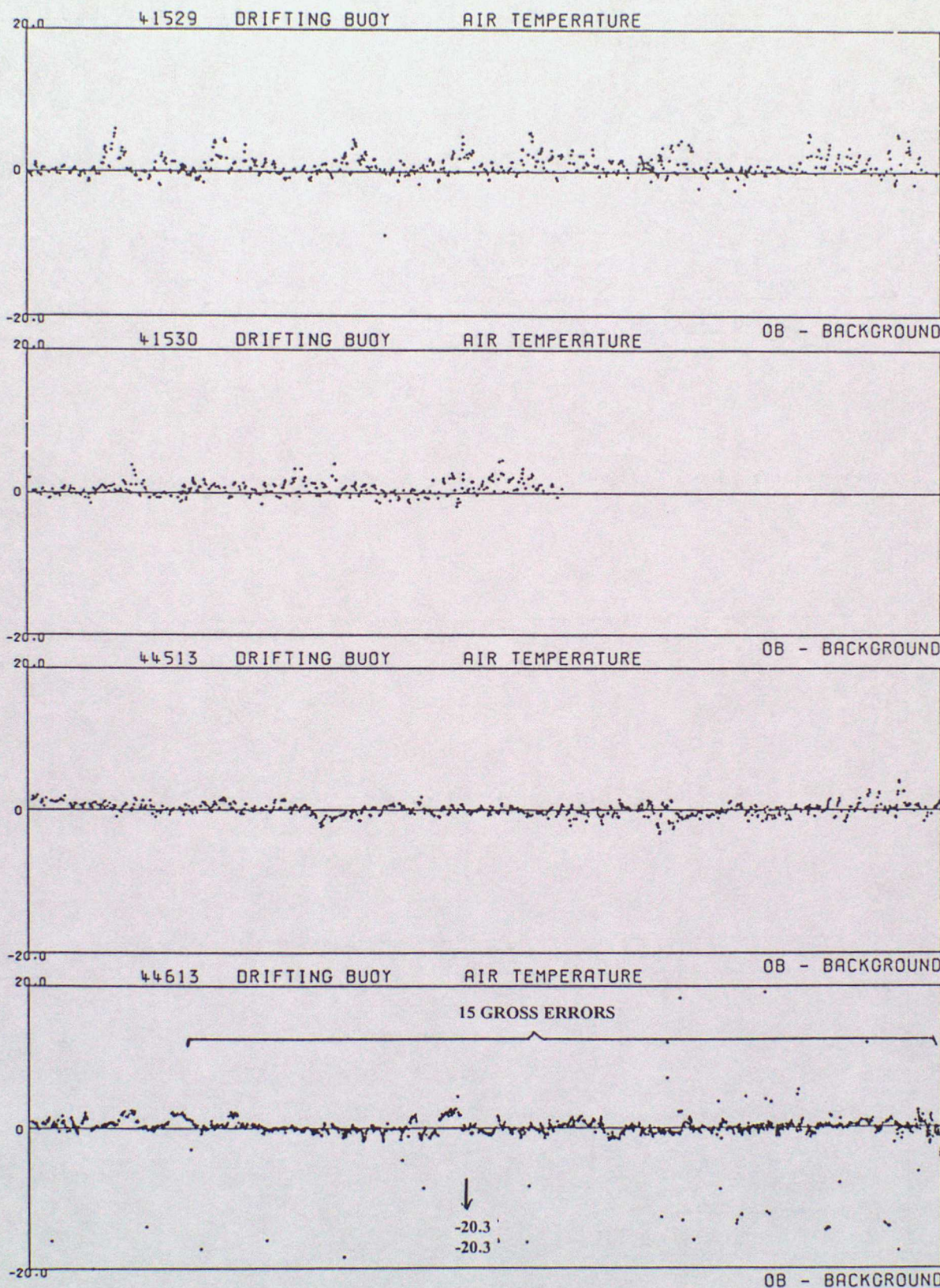
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





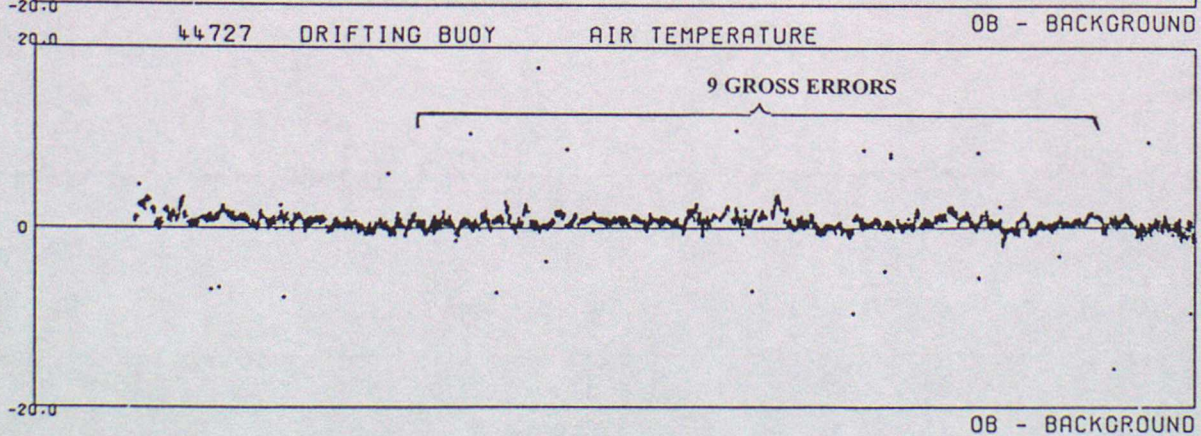
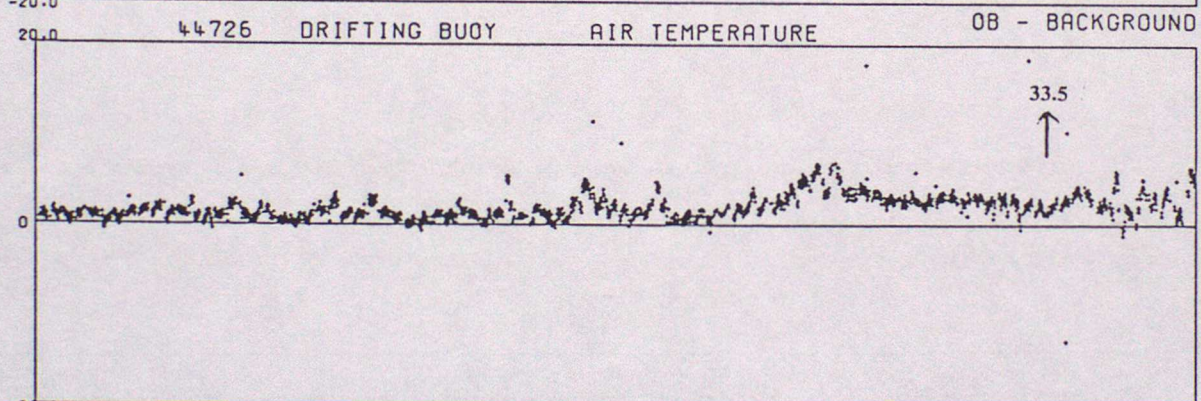
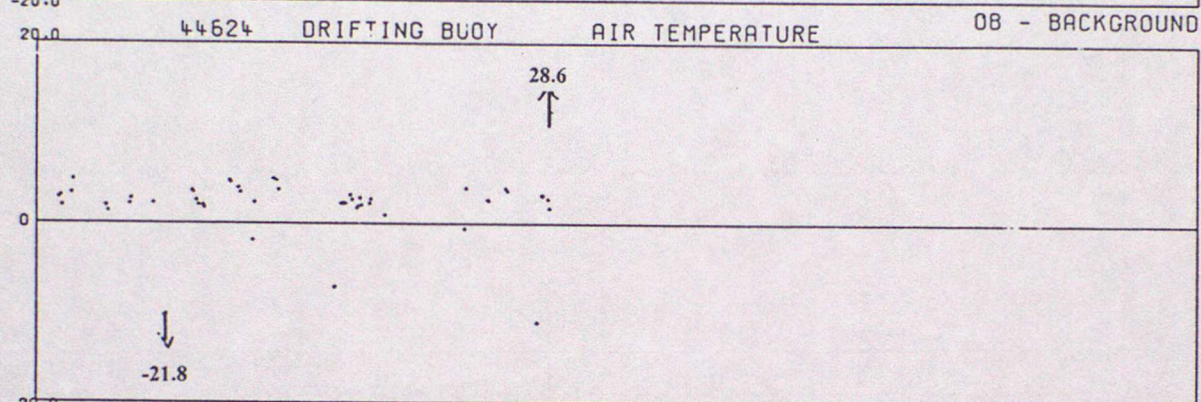
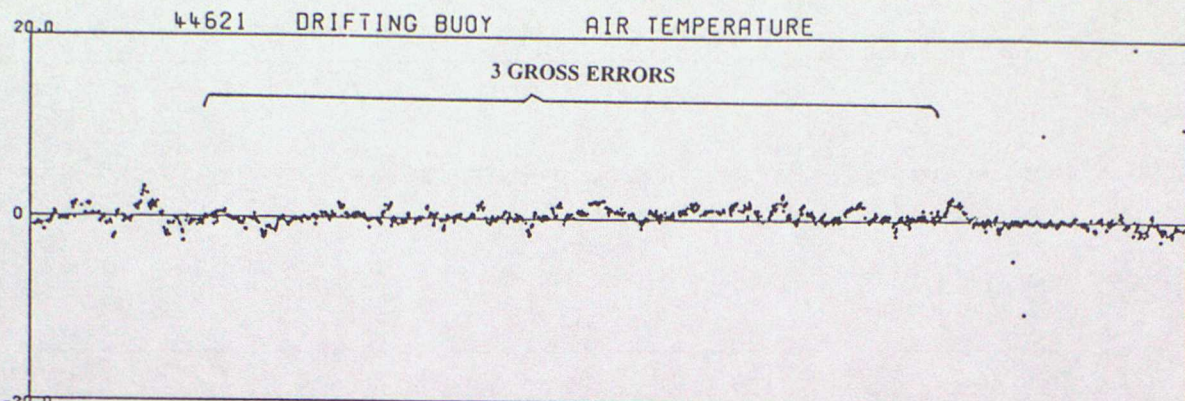
## ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



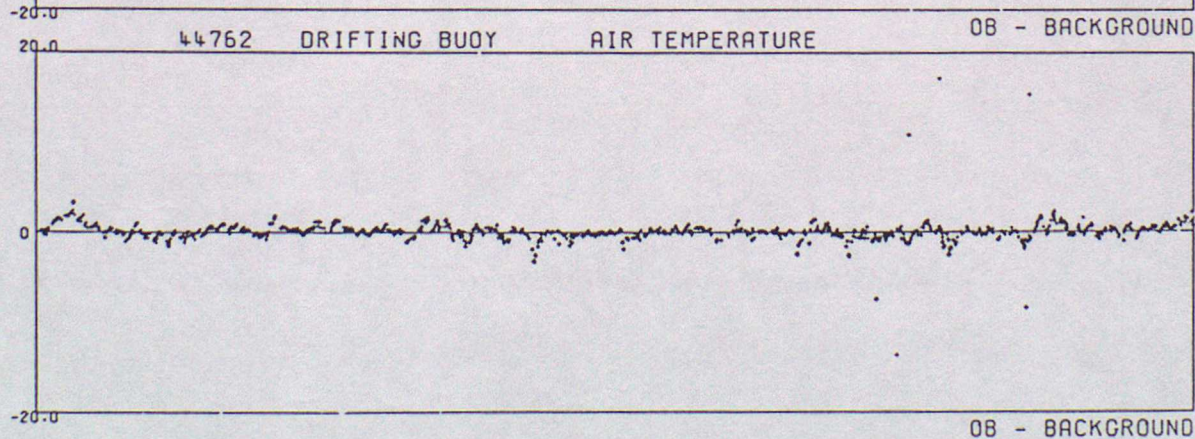
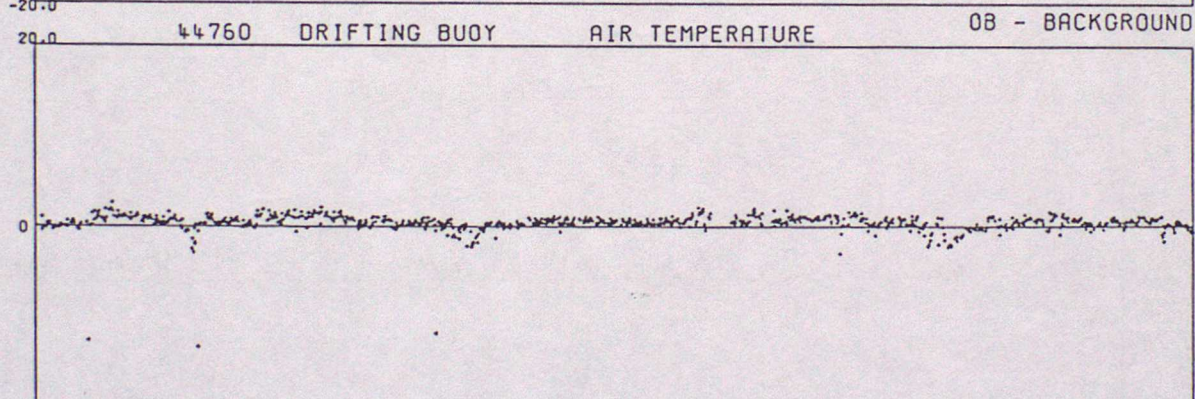
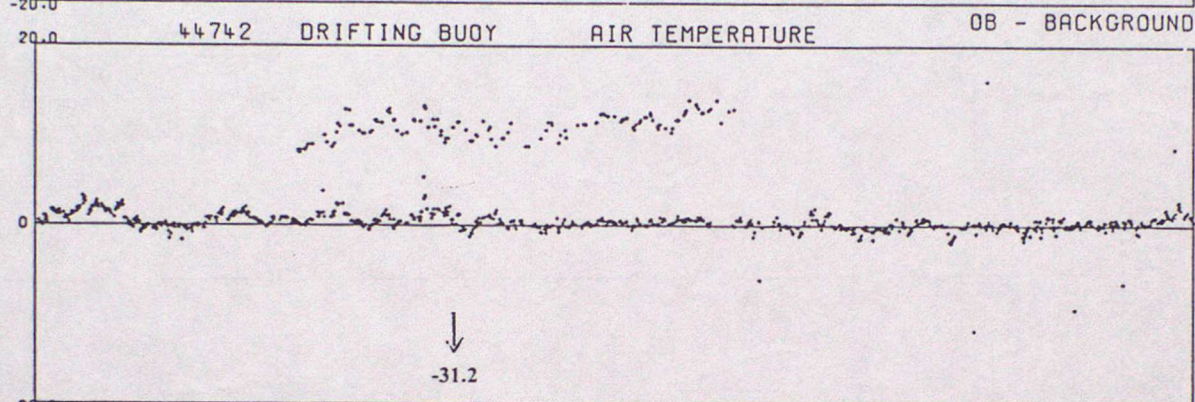
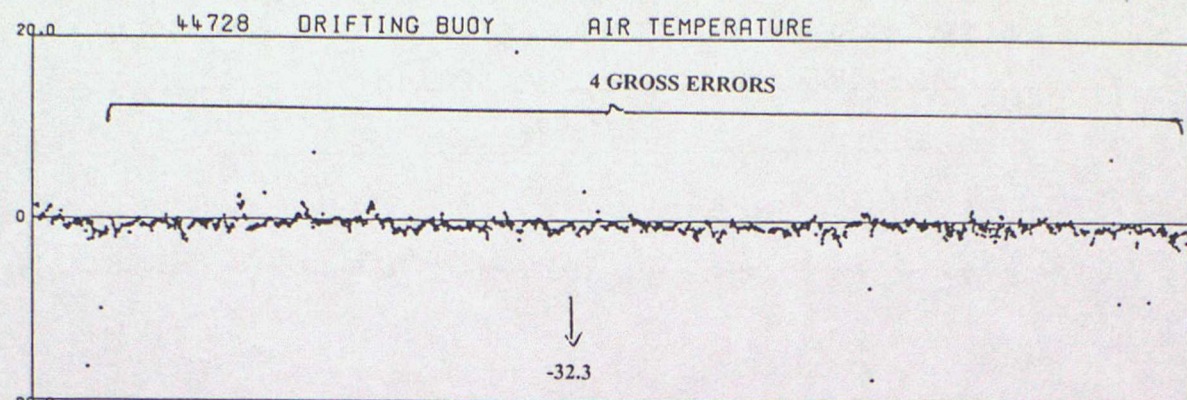


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



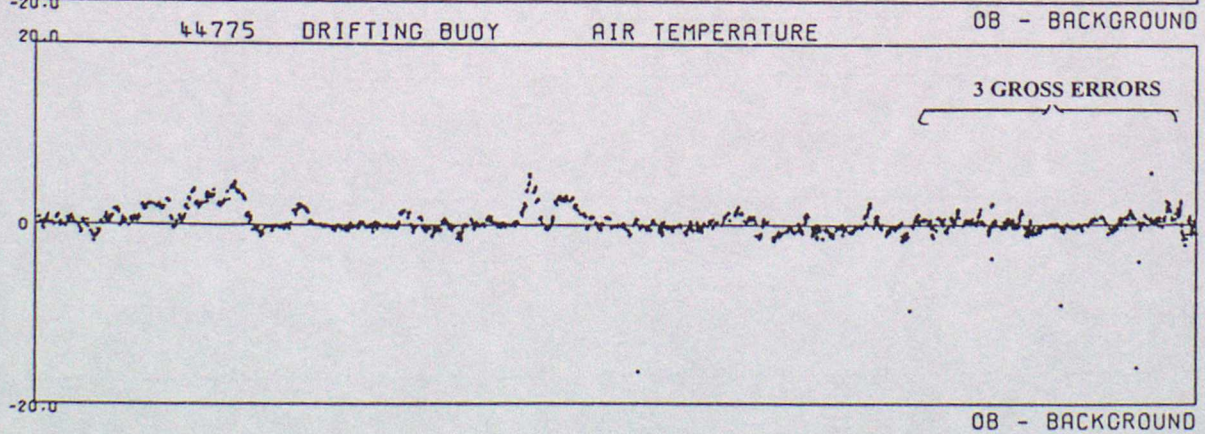
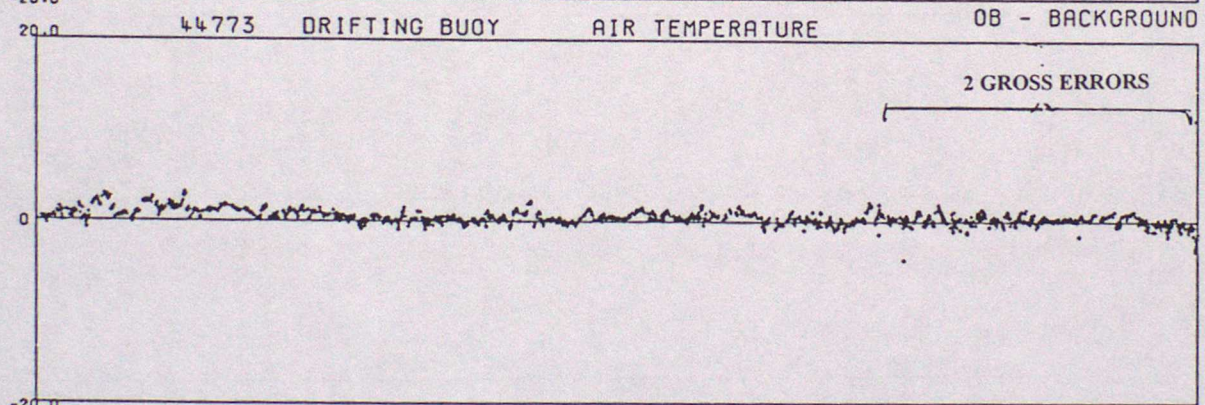
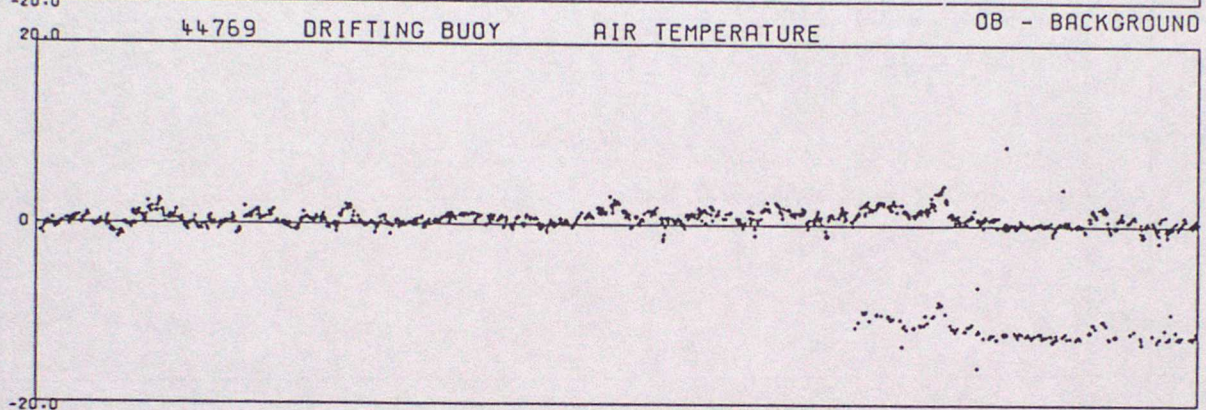
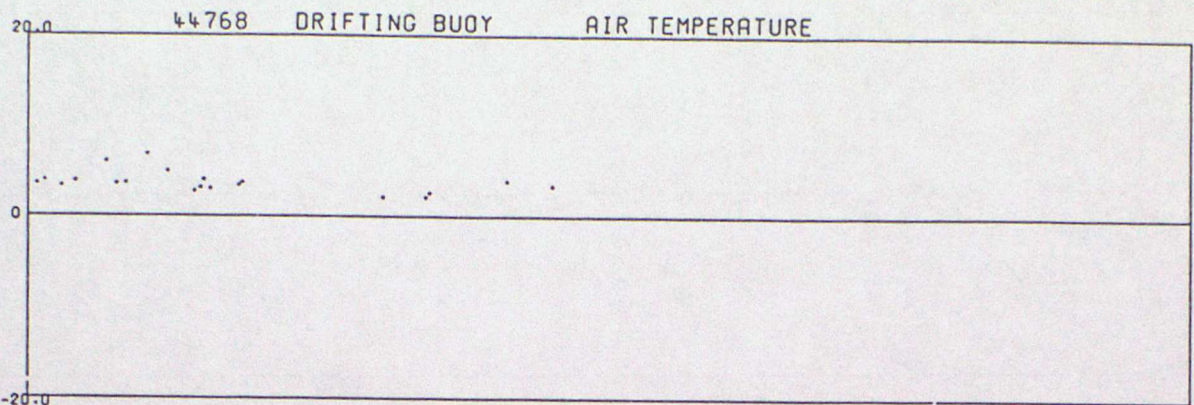


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



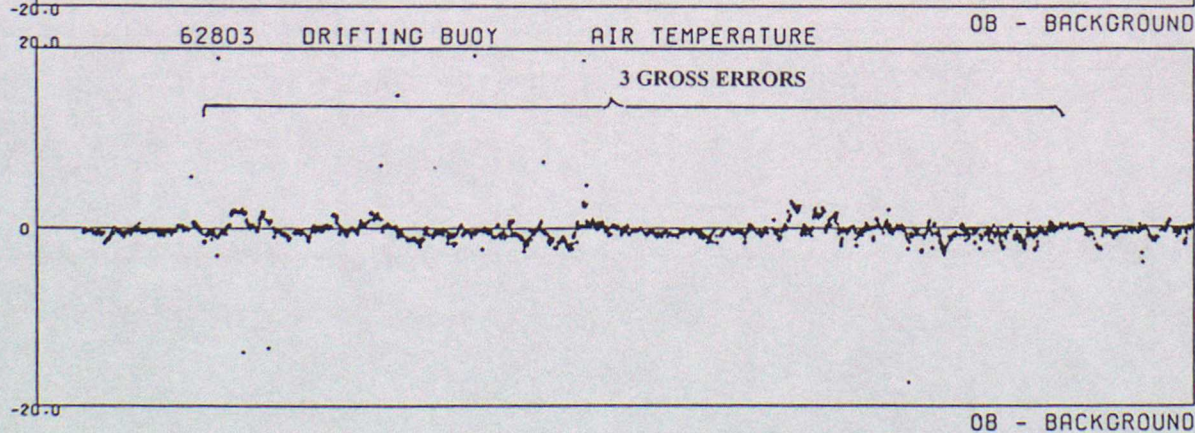
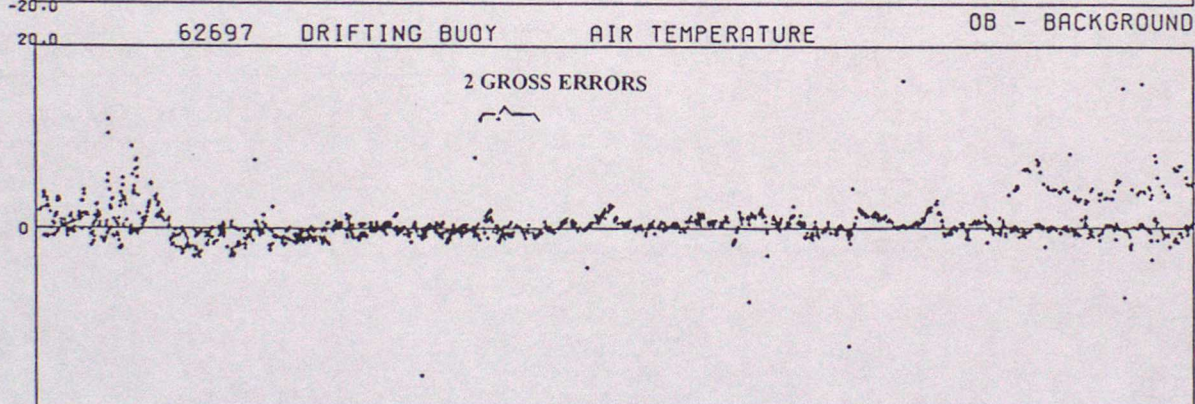
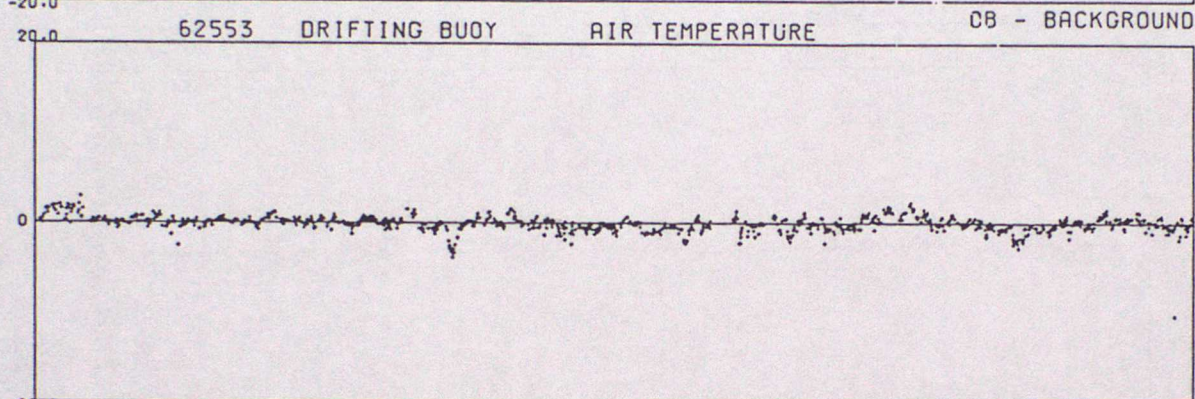
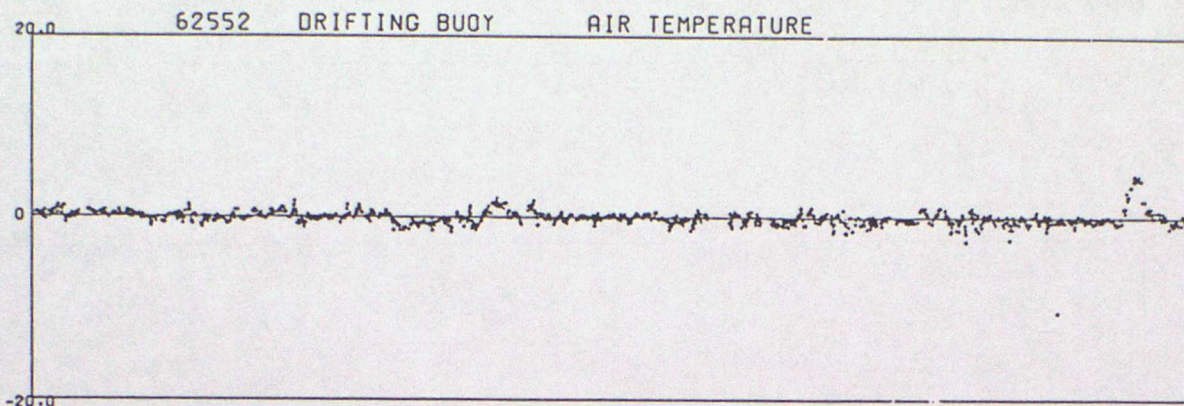


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



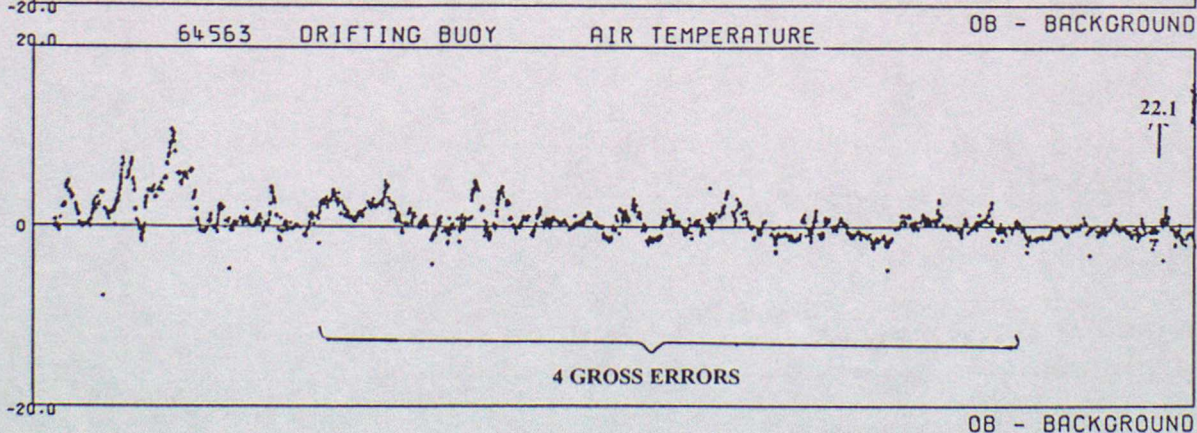
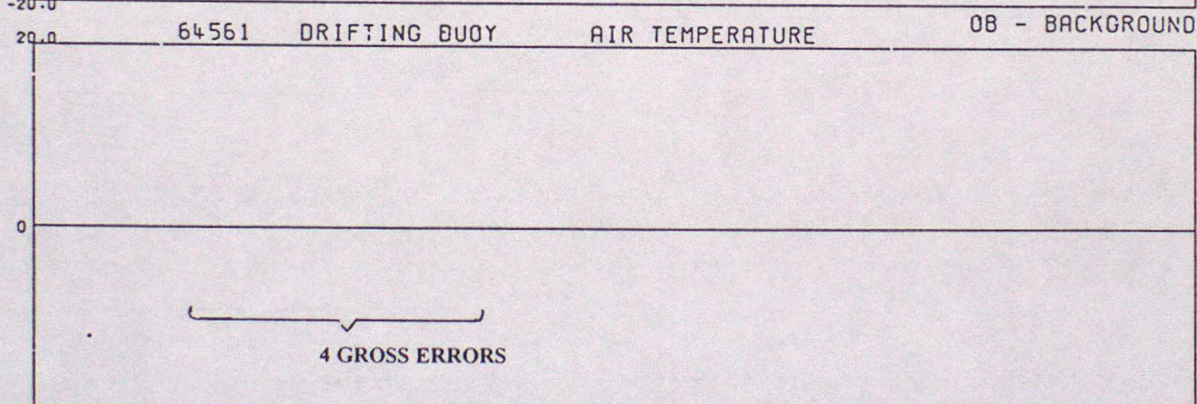
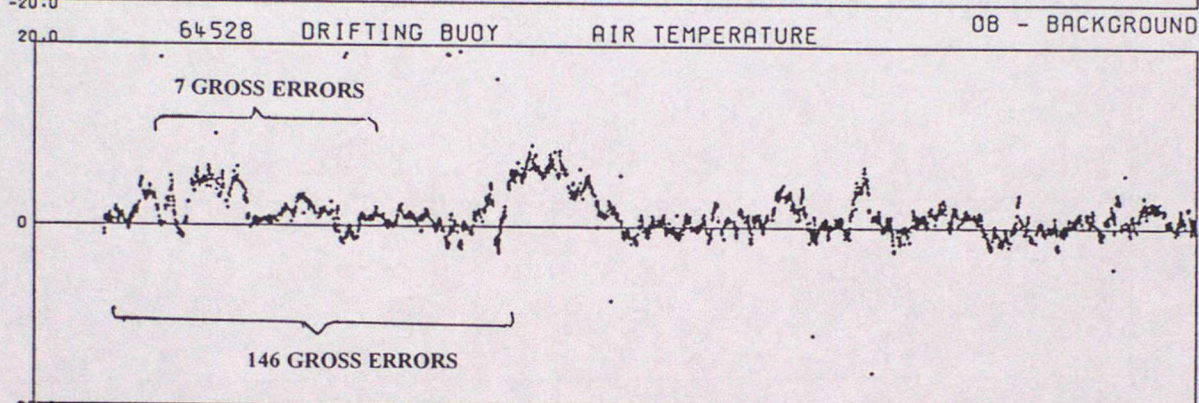
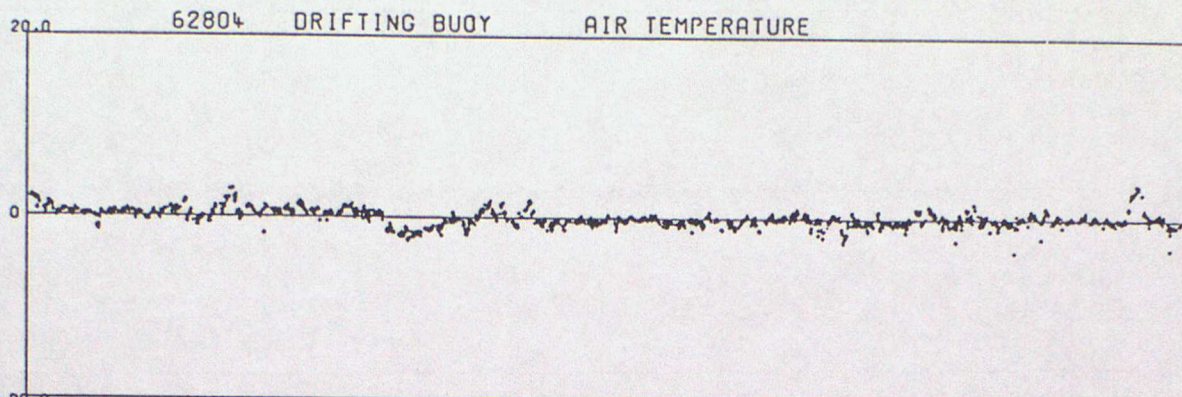


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



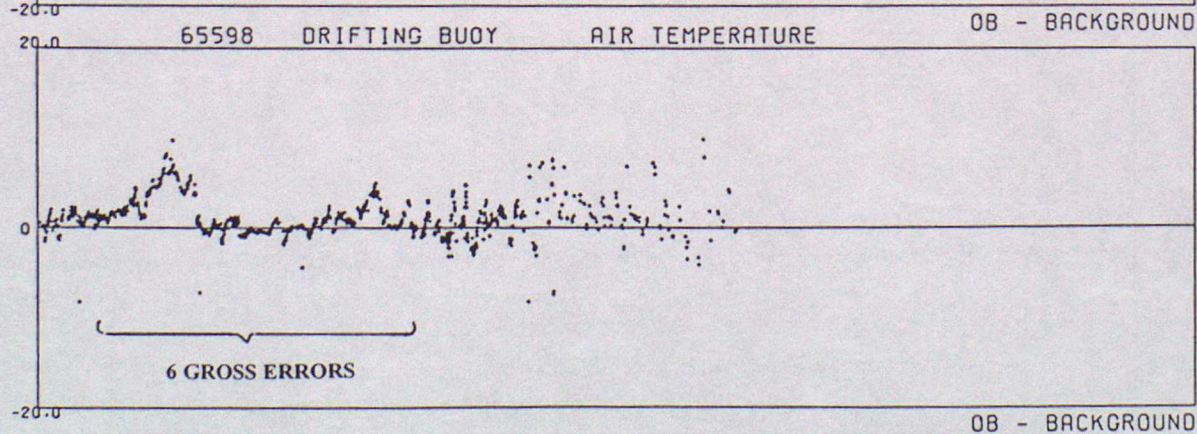
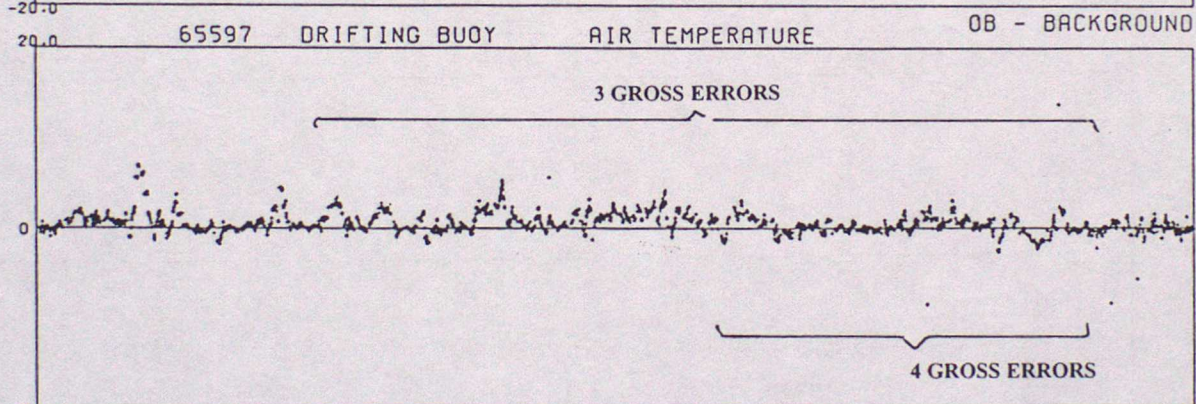
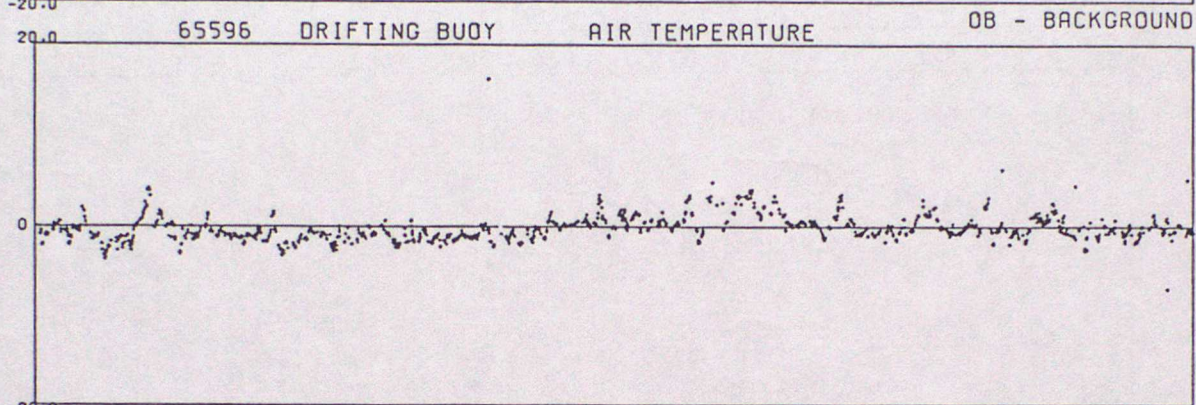
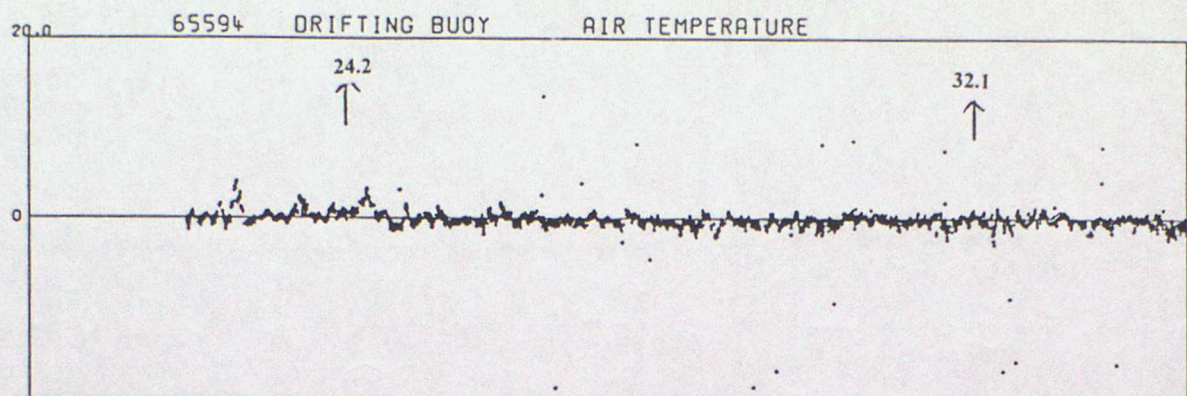


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





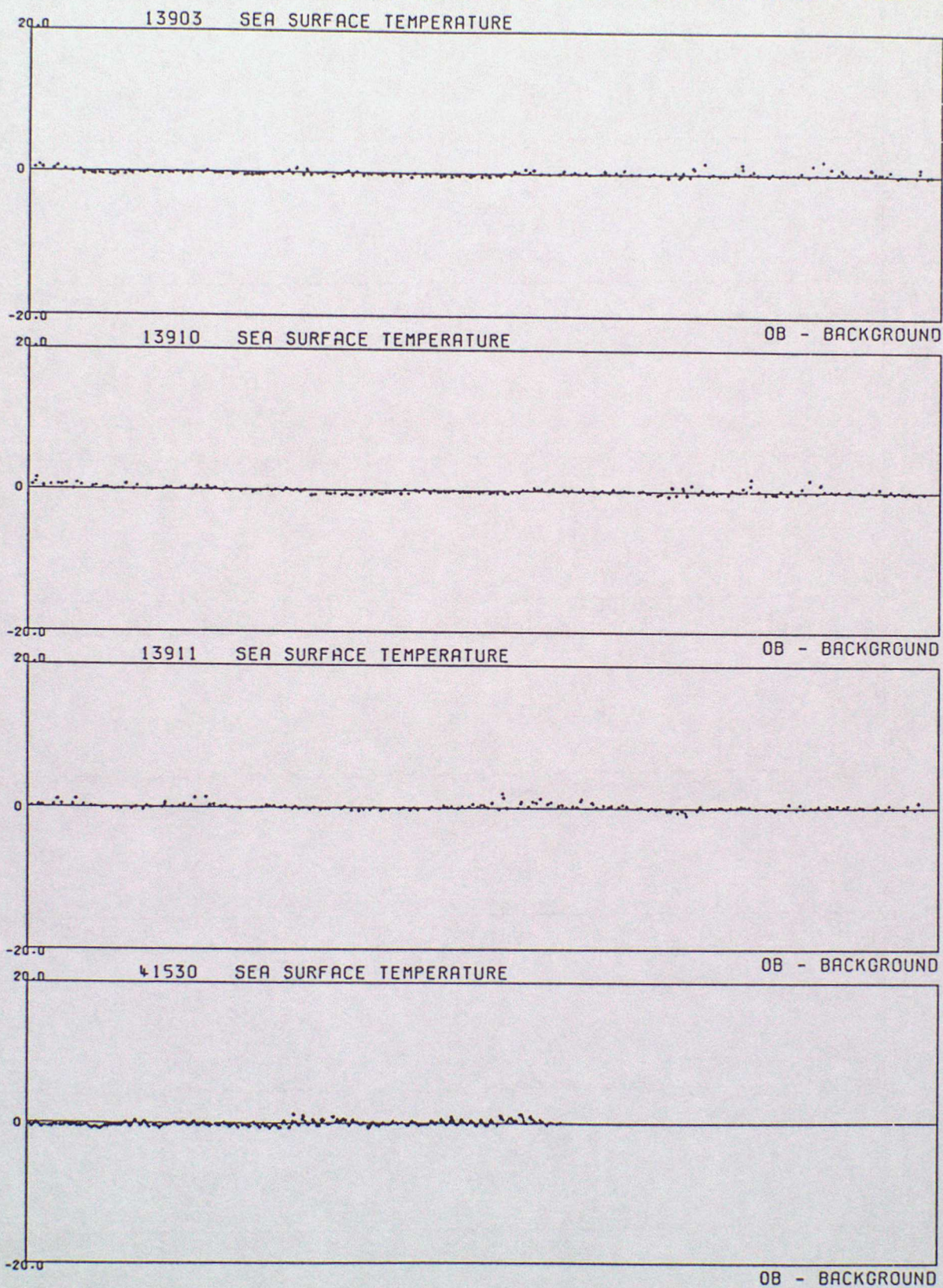
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





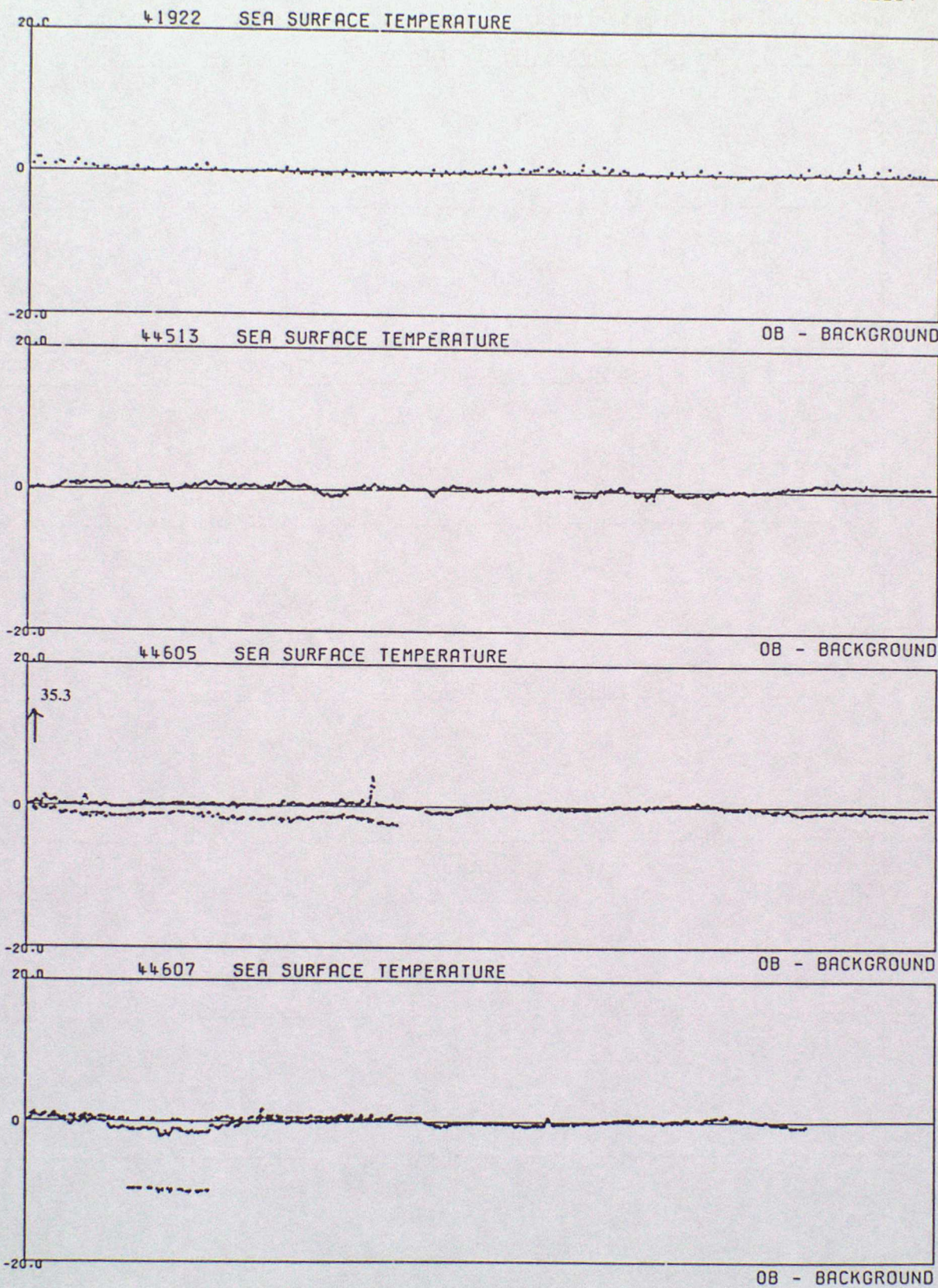
## ANNEX D - TIME SERIES PLOTS OF SEA SURFACE TEMPERATURE

DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



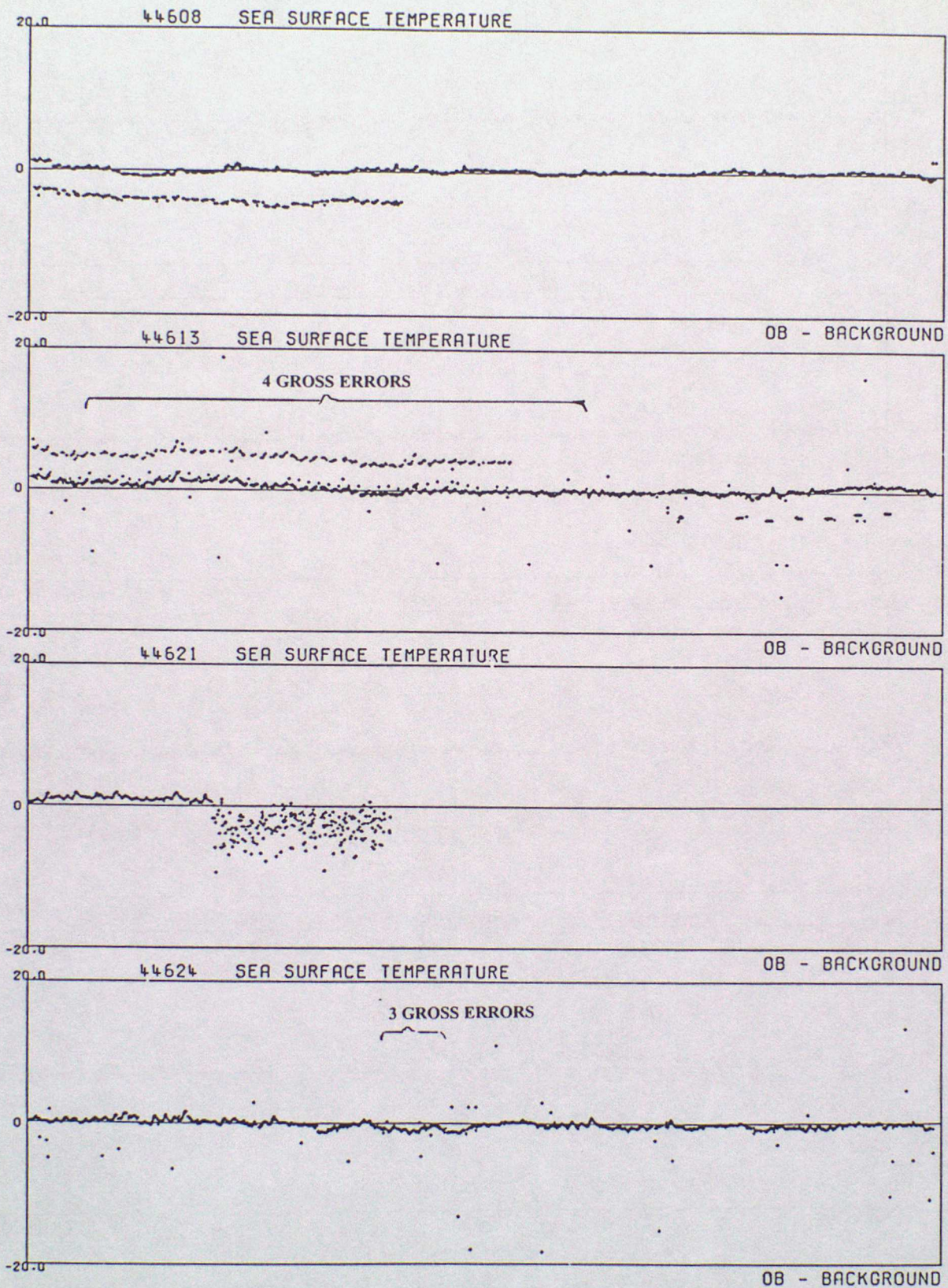


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



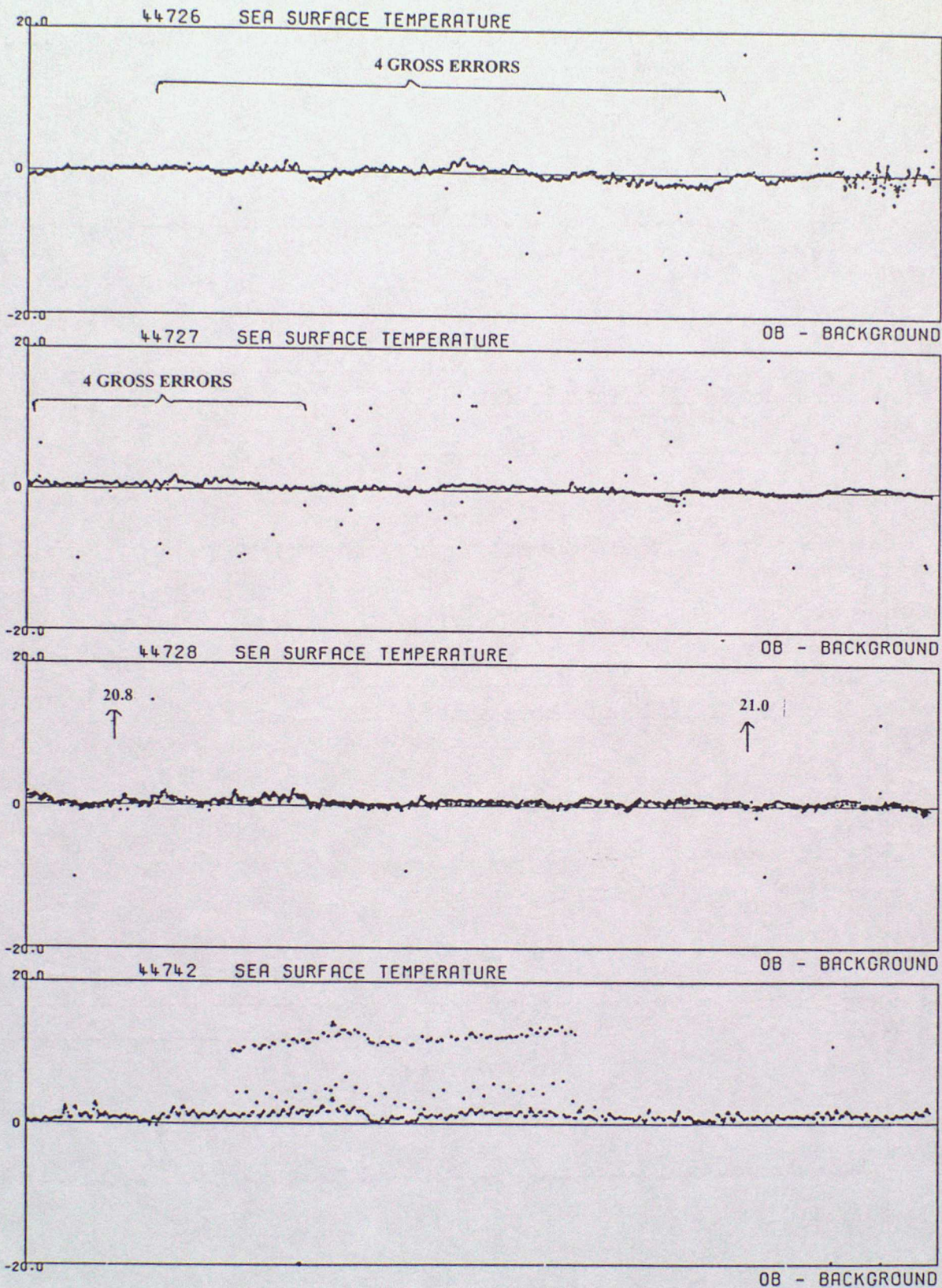


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



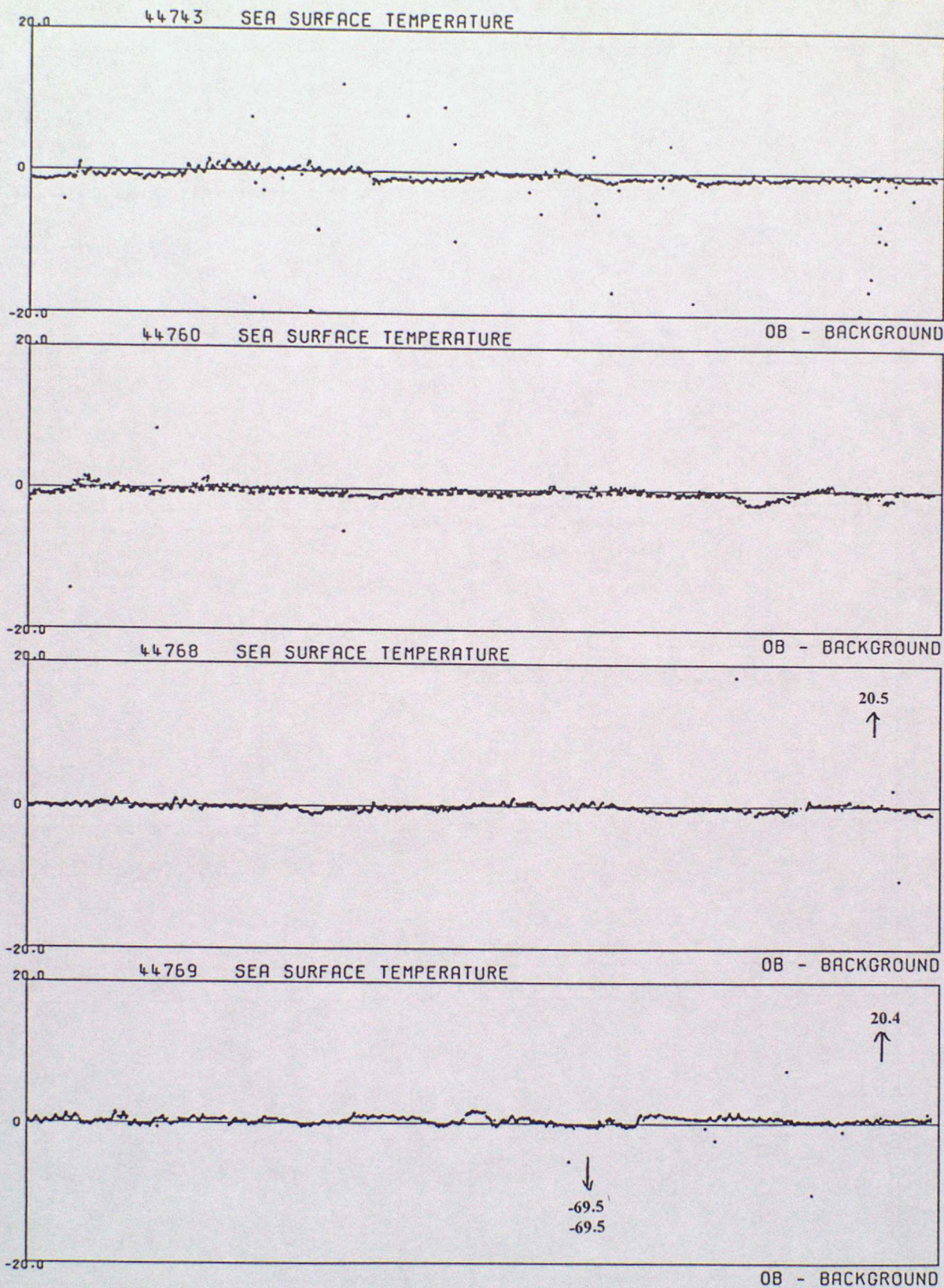


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



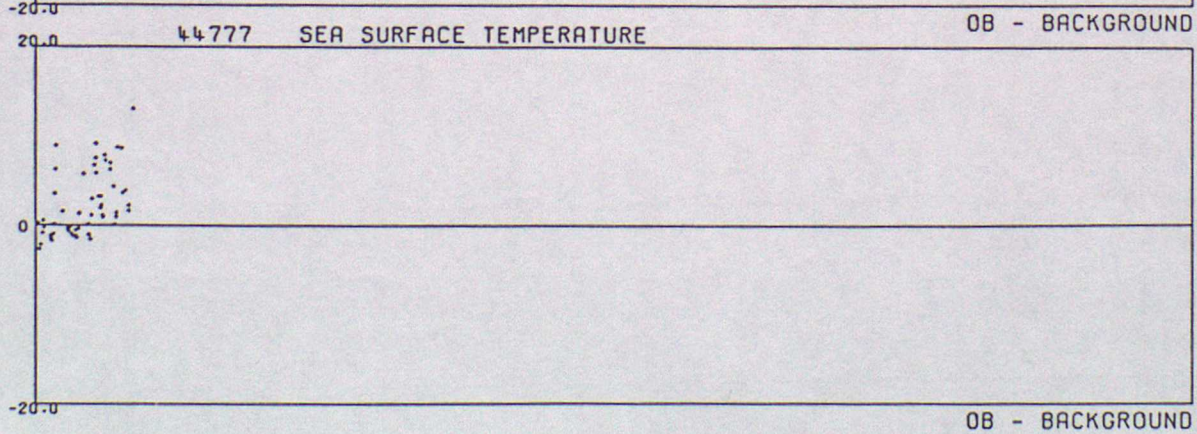
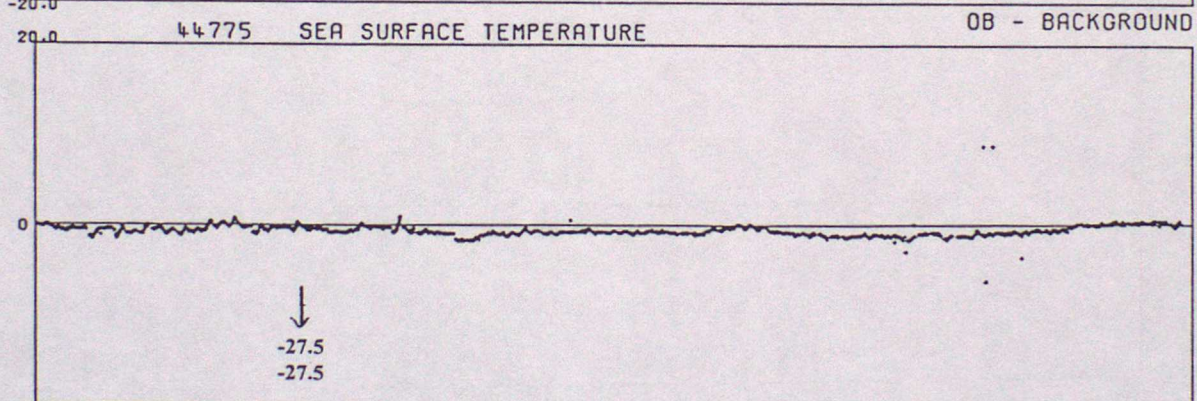
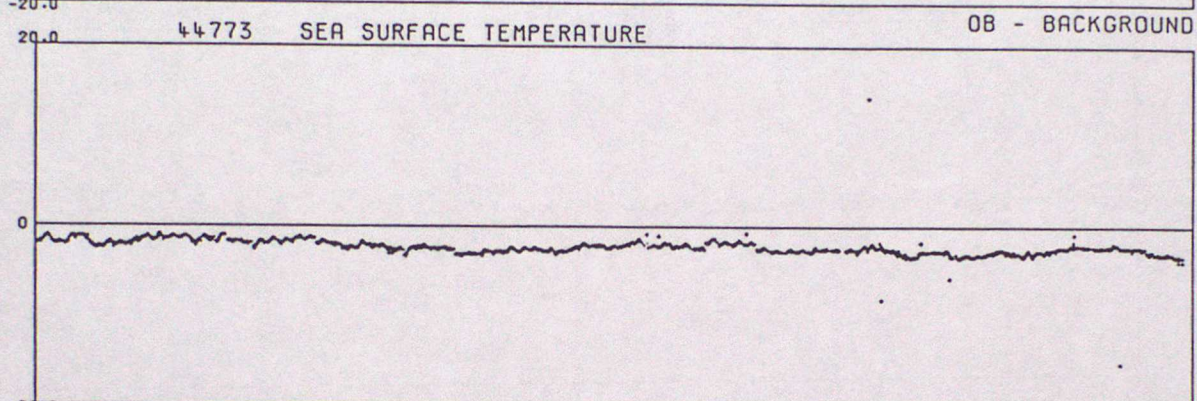
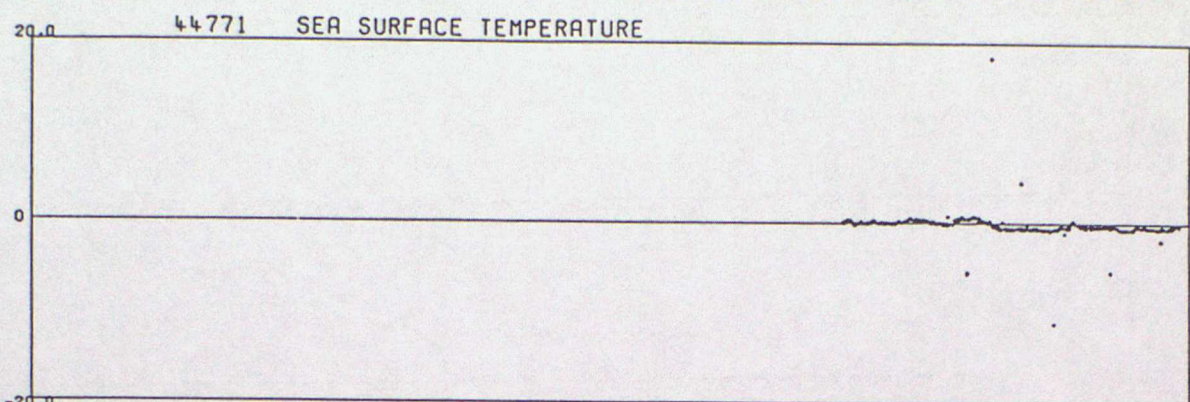


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



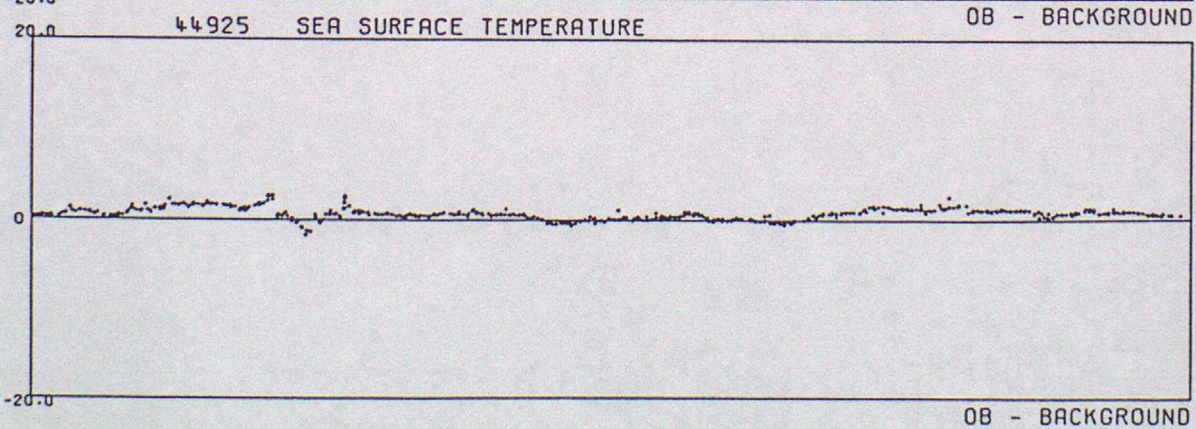
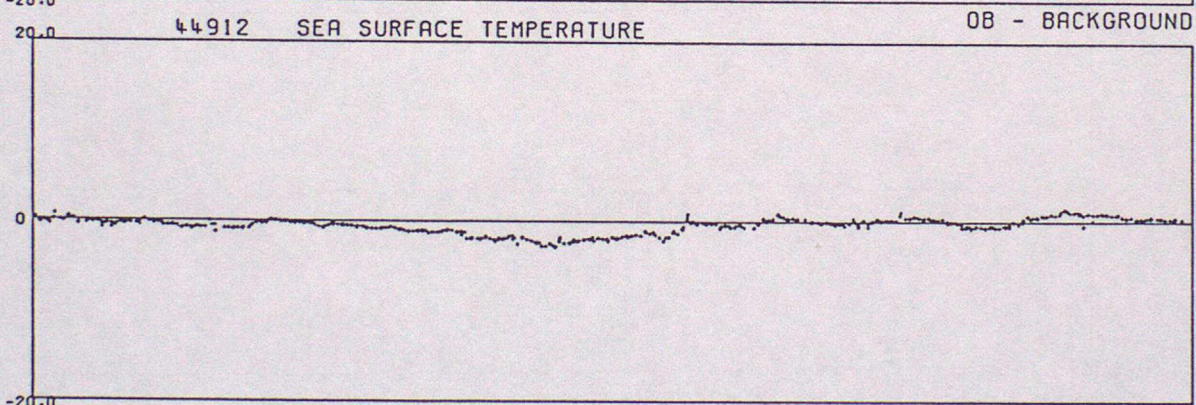
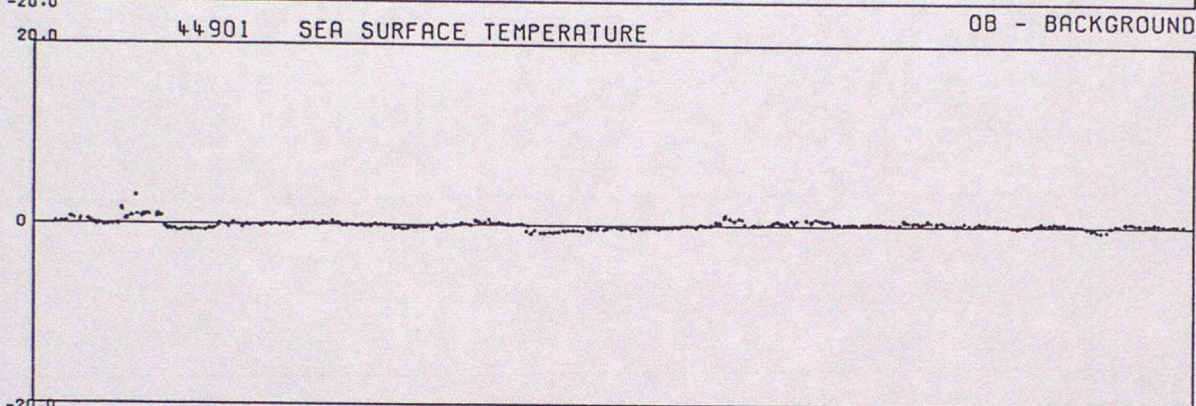
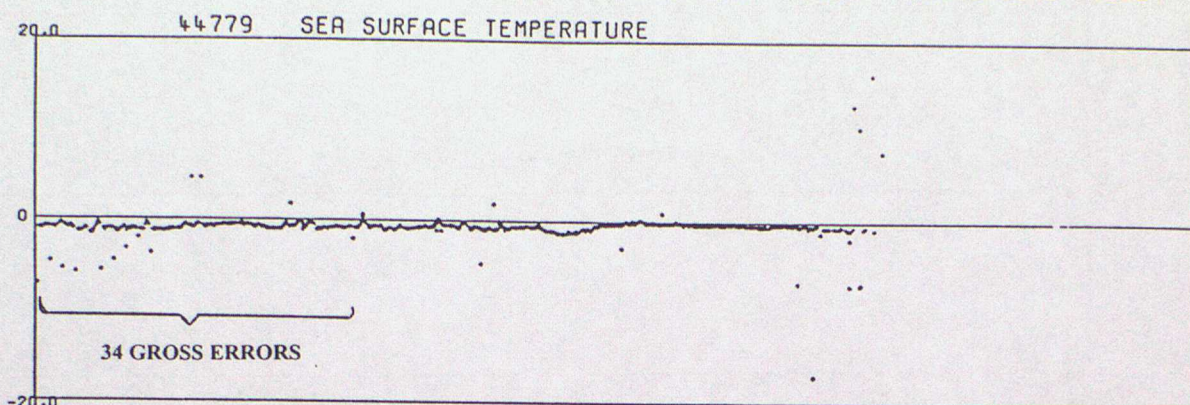


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



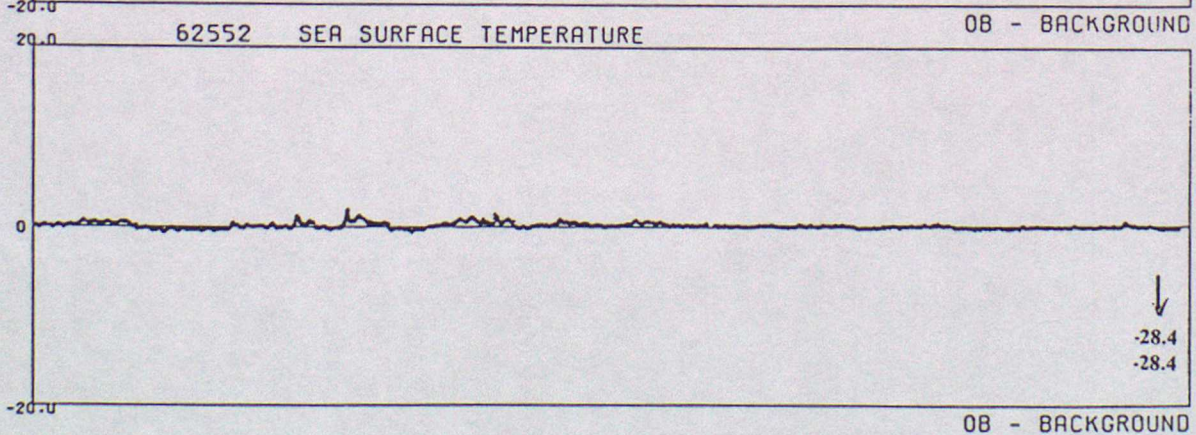
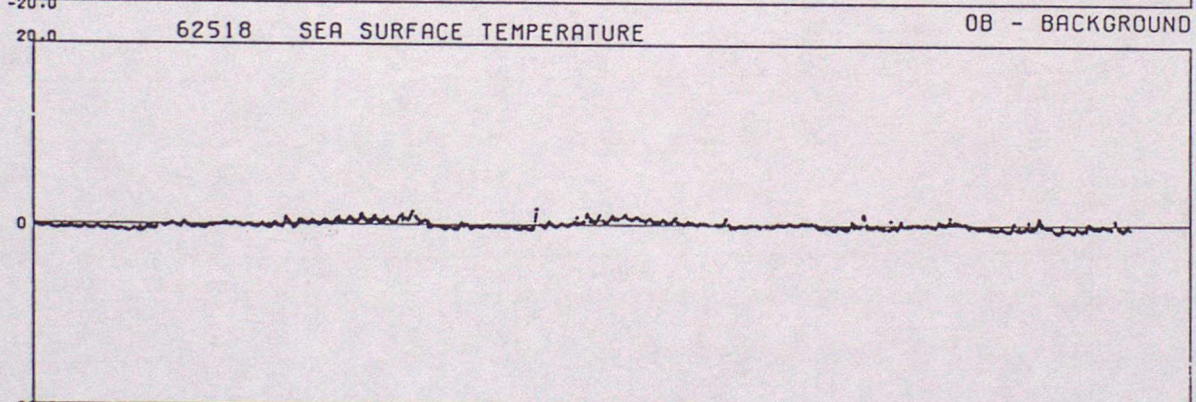
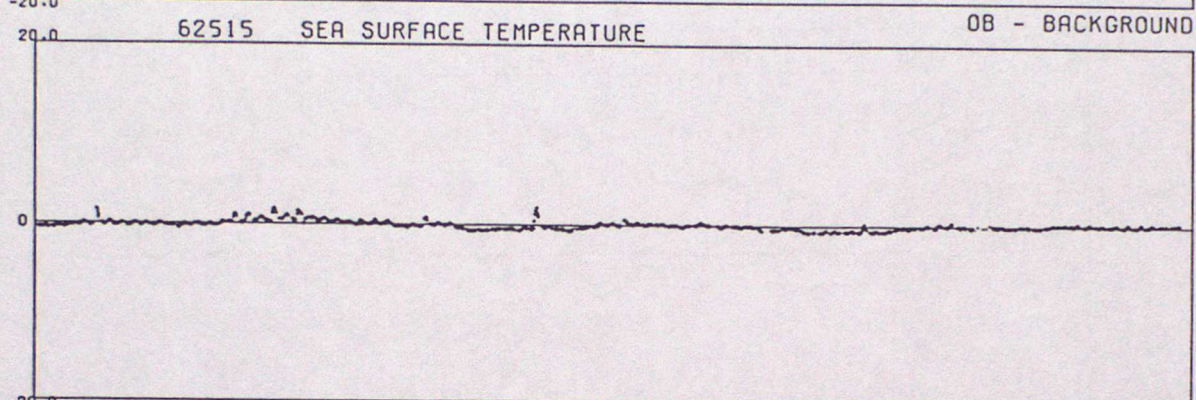
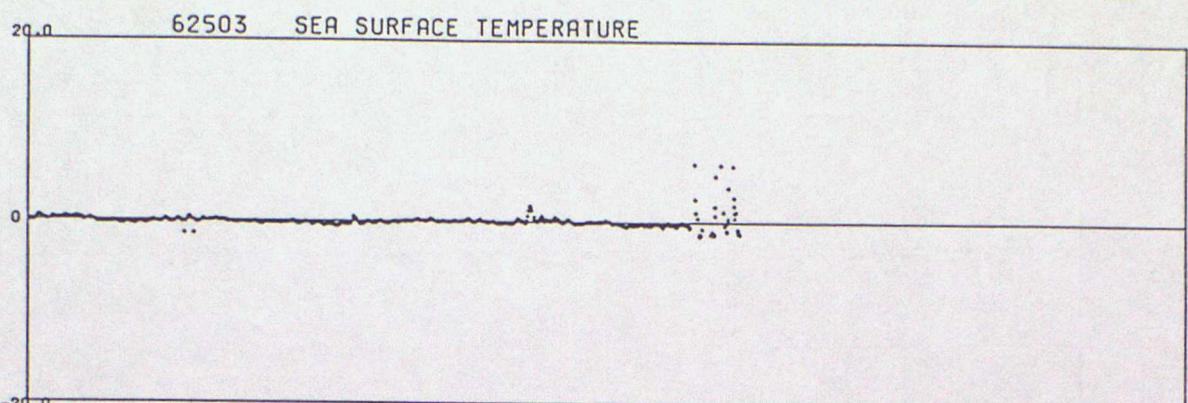


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



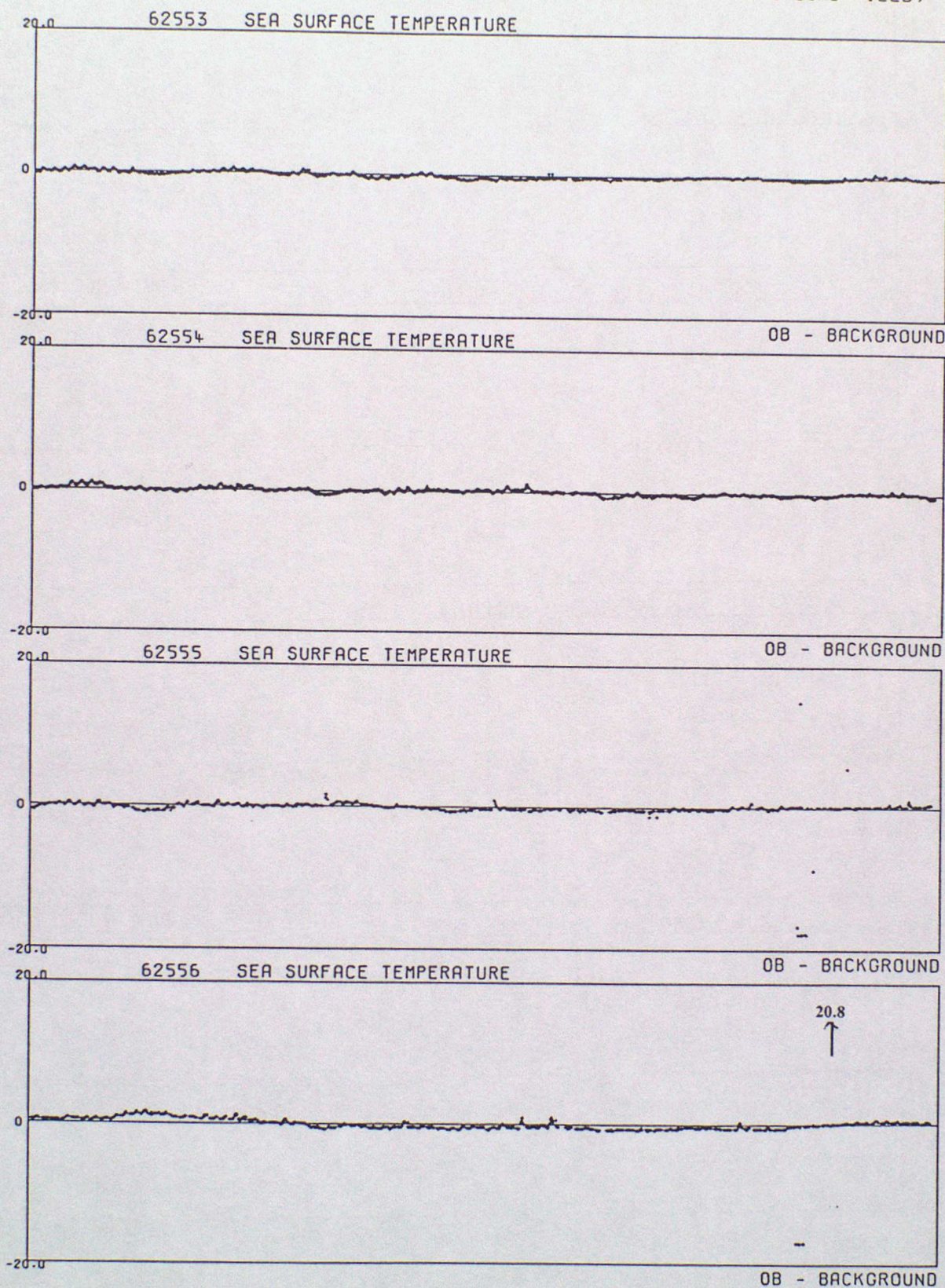


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





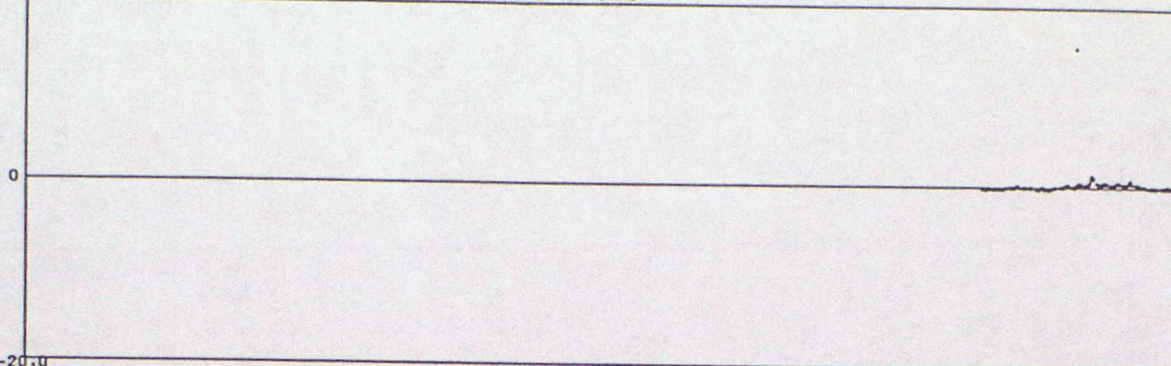
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





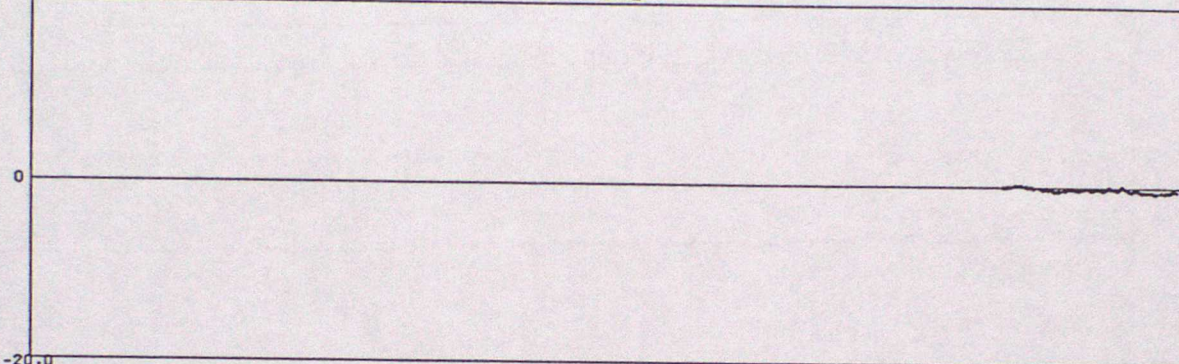
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)

20.0 62557 SEA SURFACE TEMPERATURE



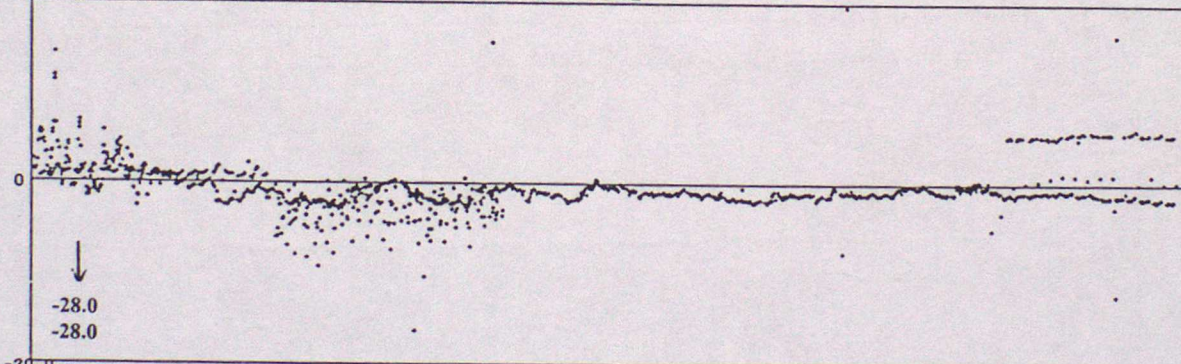
20.0 62570 SEA SURFACE TEMPERATURE

OB - BACKGROUND



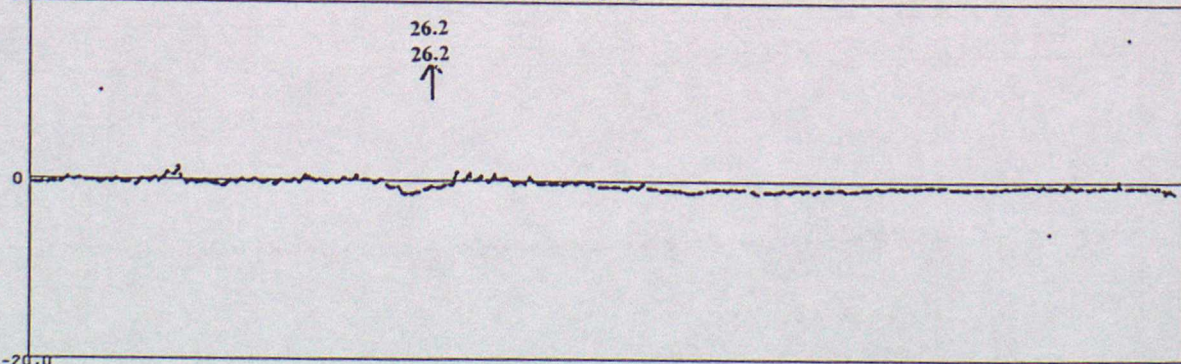
20.0 62697 SEA SURFACE TEMPERATURE

OB - BACKGROUND



20.0 62712 SEA SURFACE TEMPERATURE

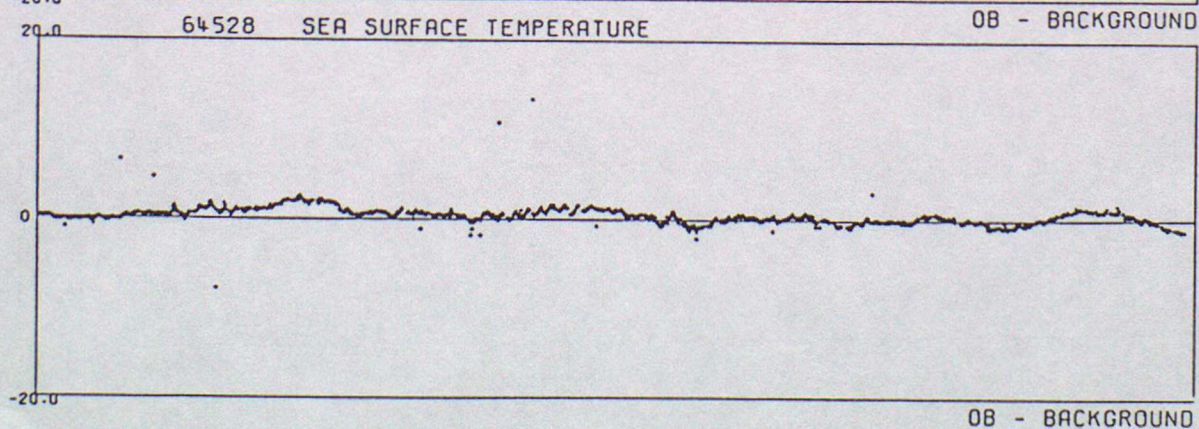
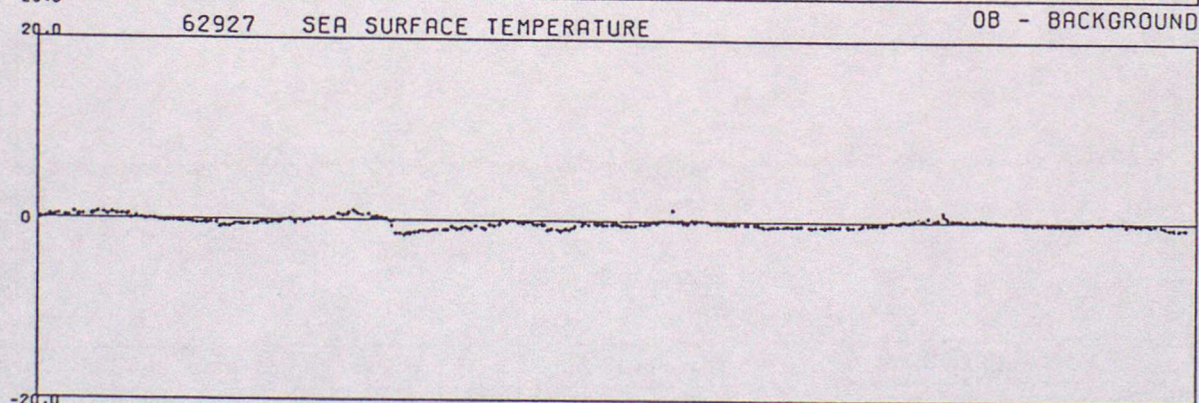
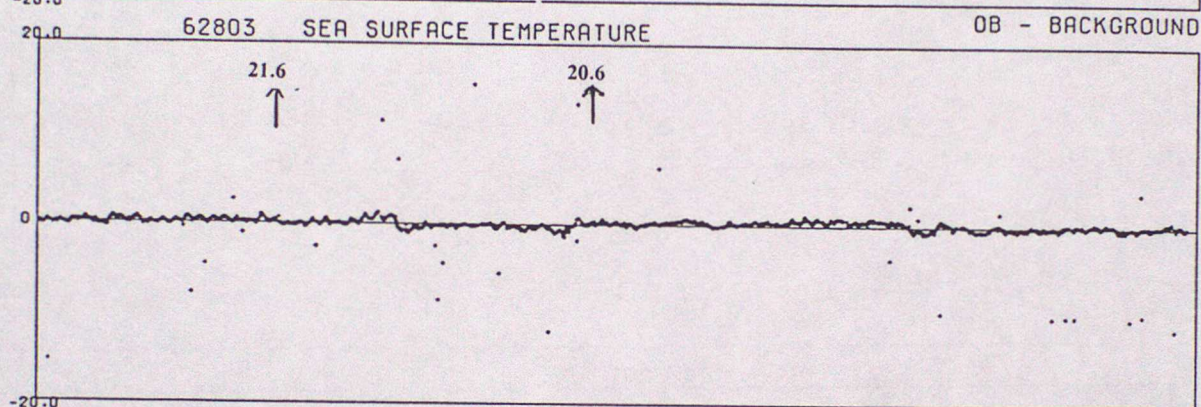
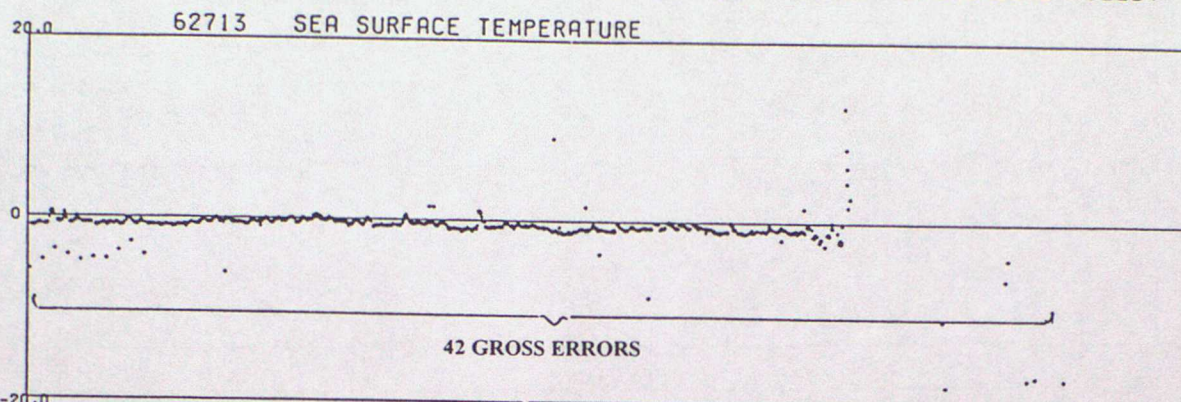
OB - BACKGROUND



OB - BACKGROUND

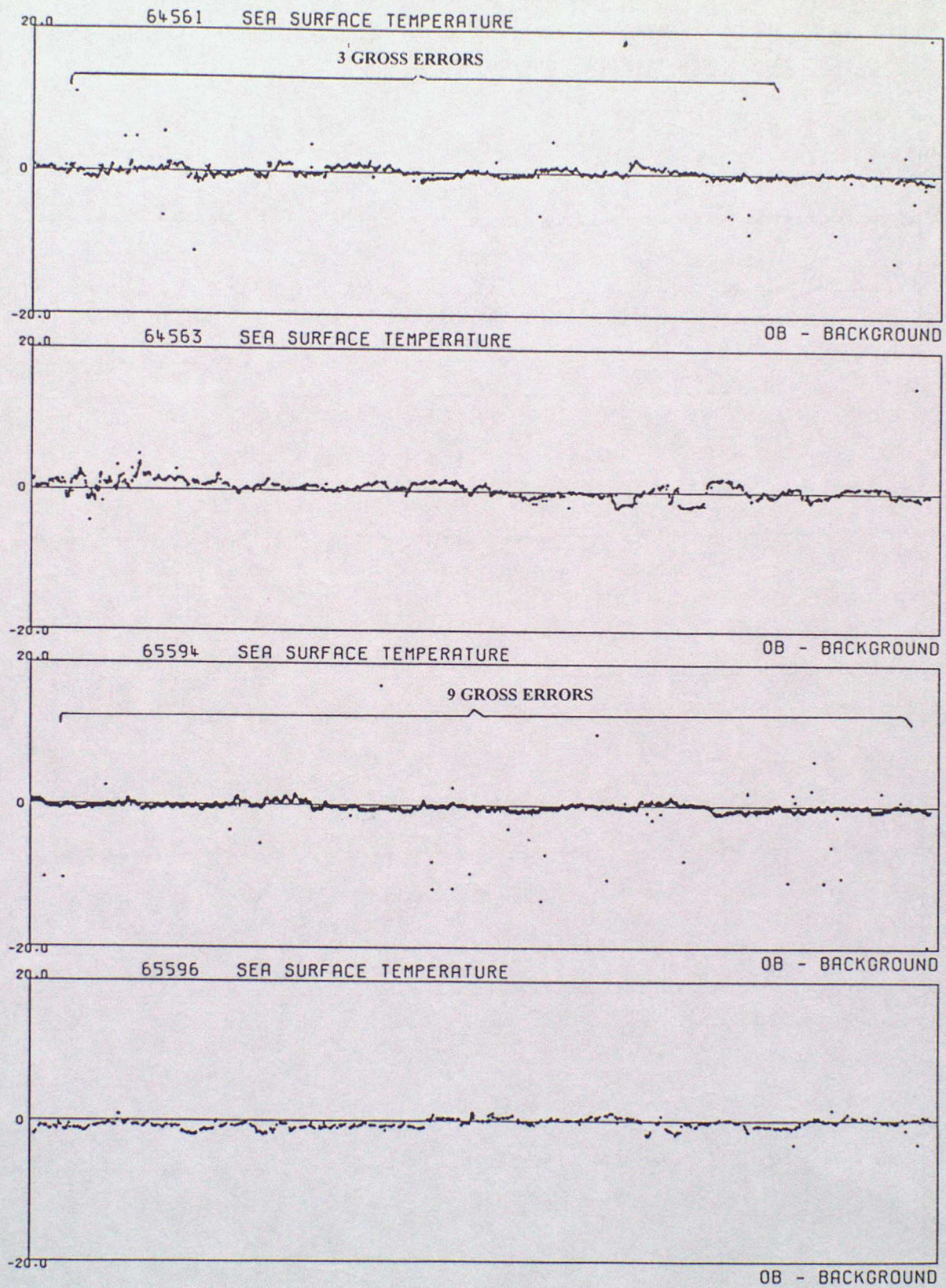


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



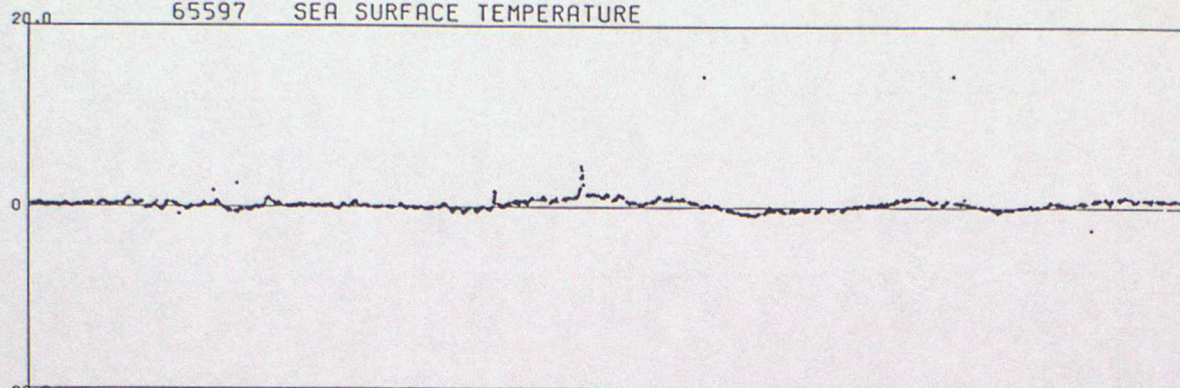


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



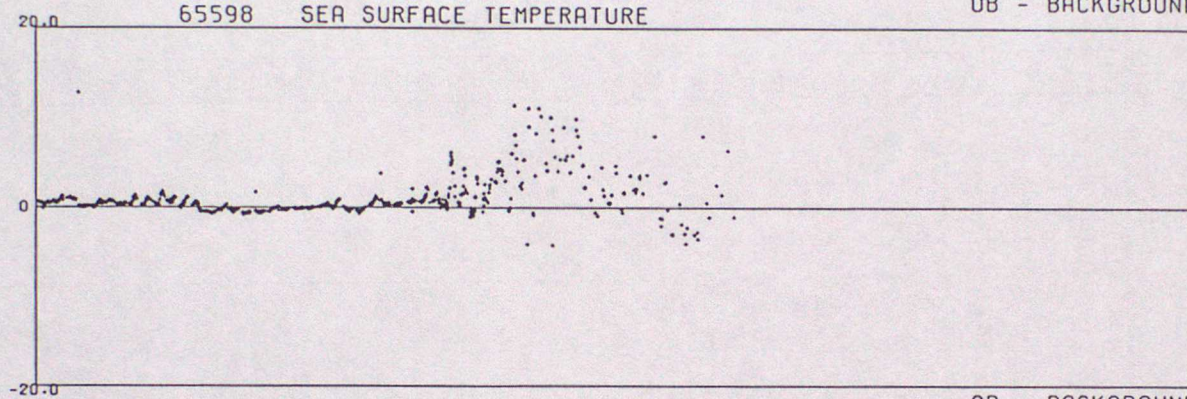


65597 SEA SURFACE TEMPERATURE



65598 SEA SURFACE TEMPERATURE

OB - BACKGROUND

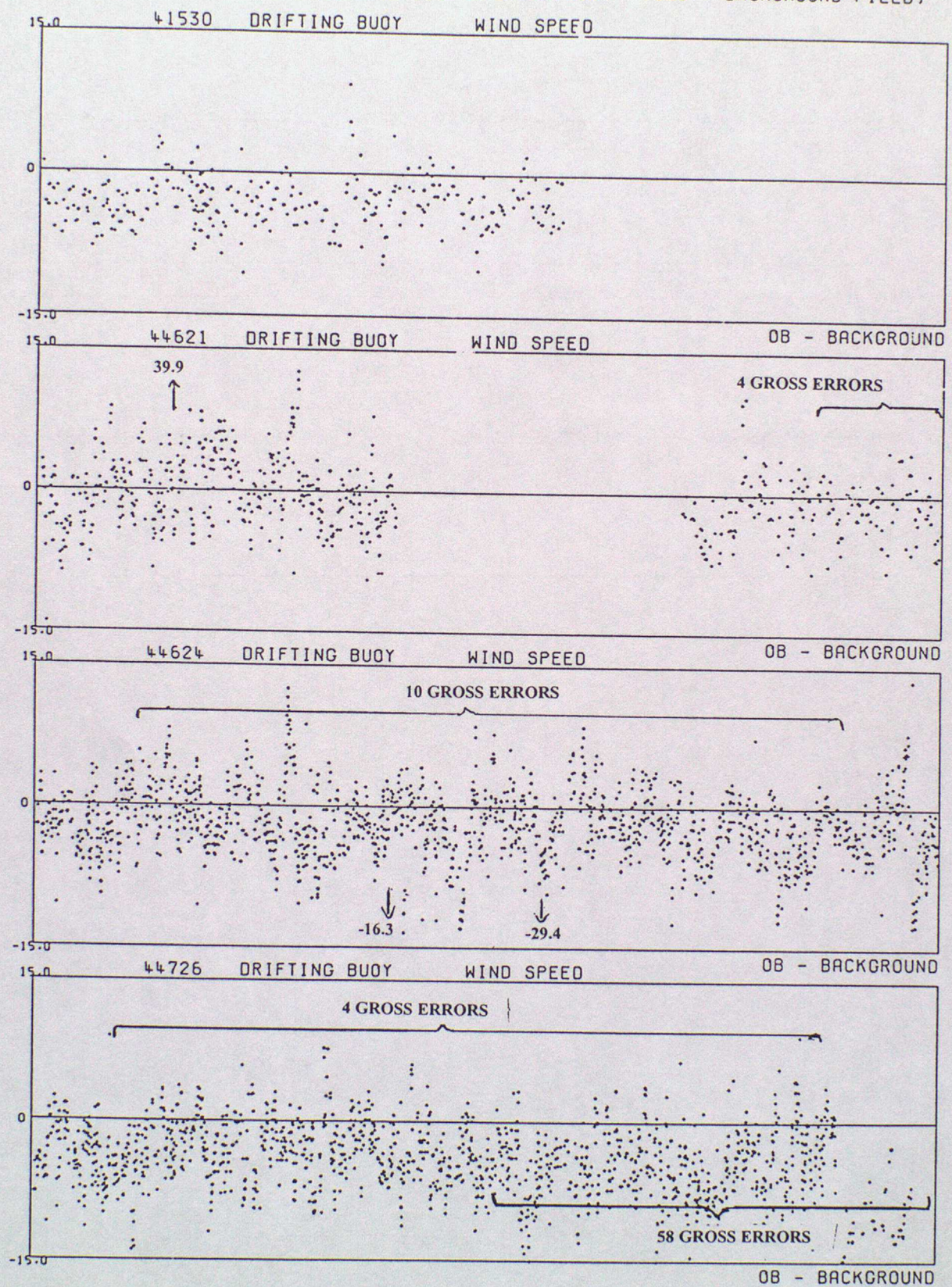


OB - BACKGROUND



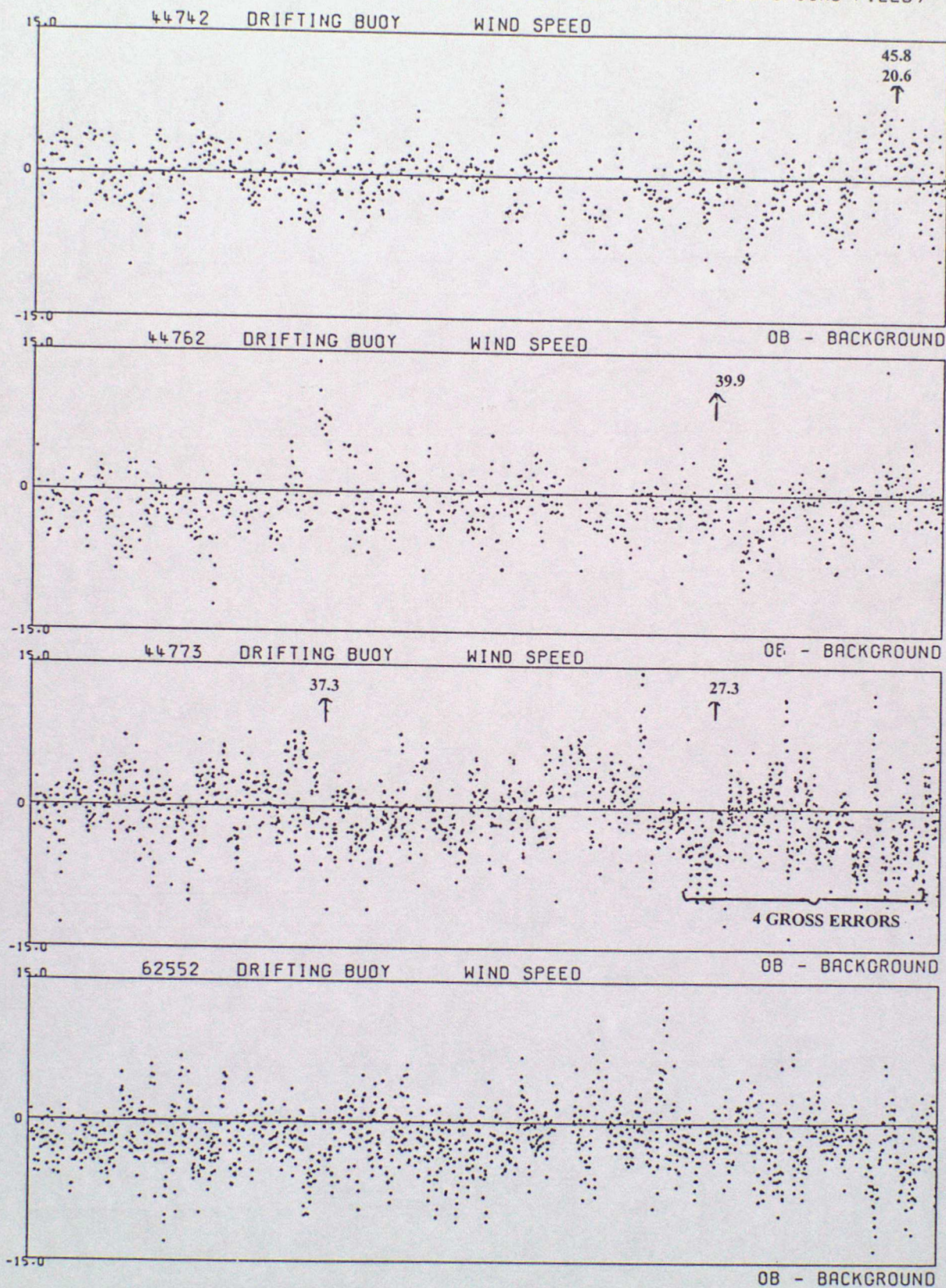
## ANNEX E - TIME SERIES PLOTS OF WIND SPEED

DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



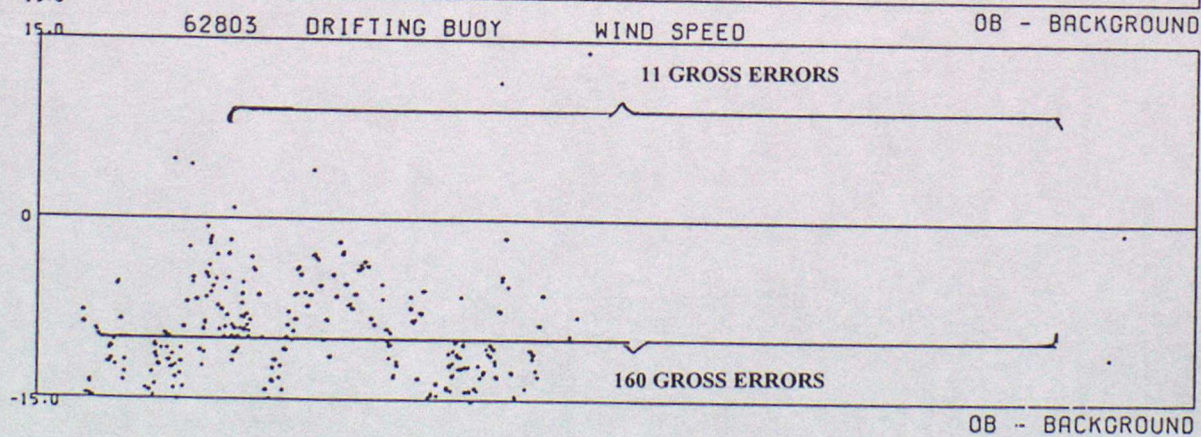
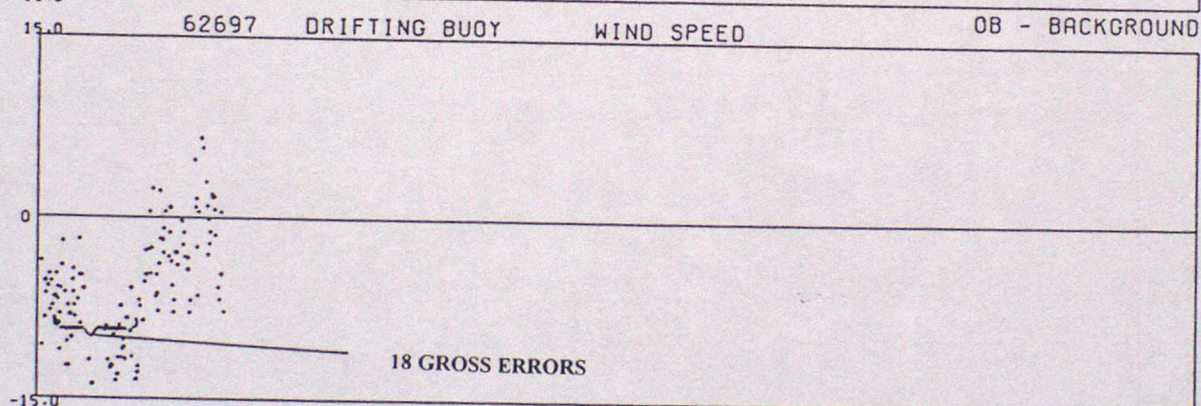
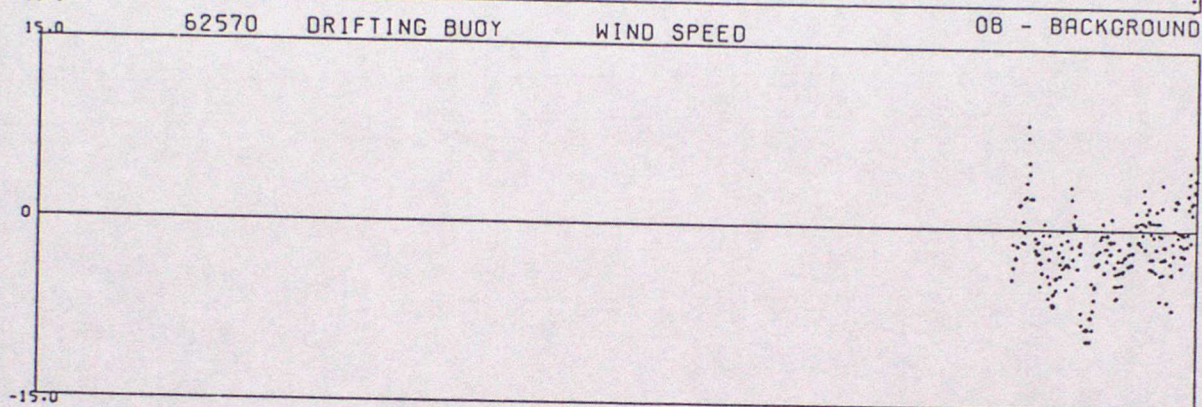
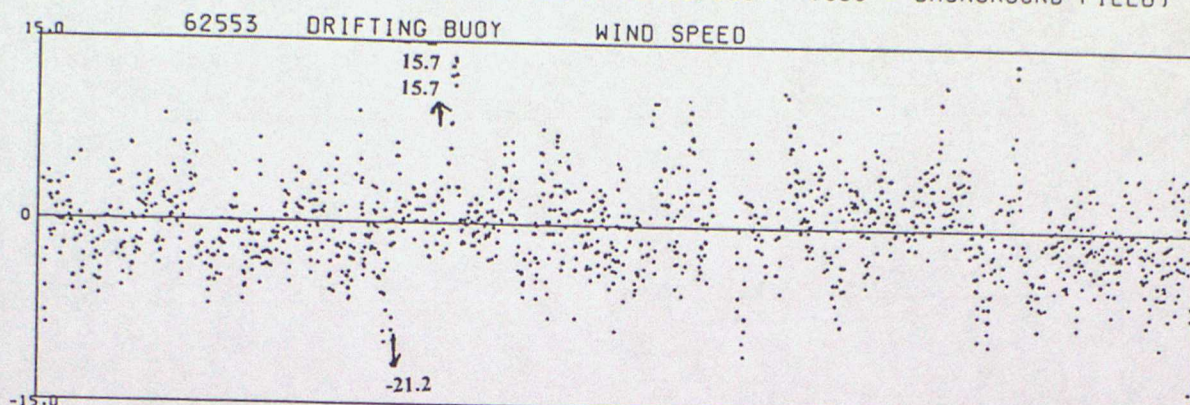


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





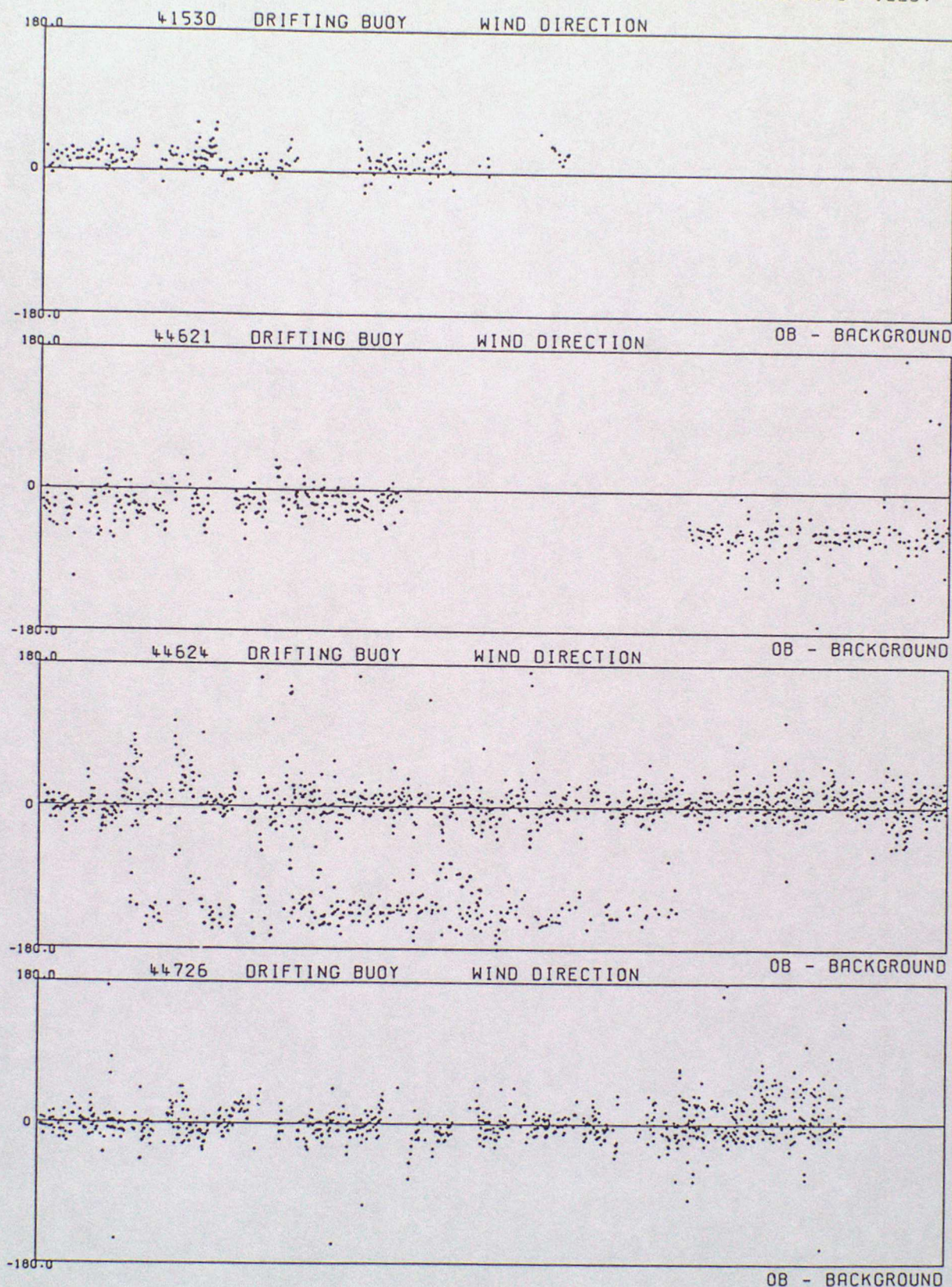
DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





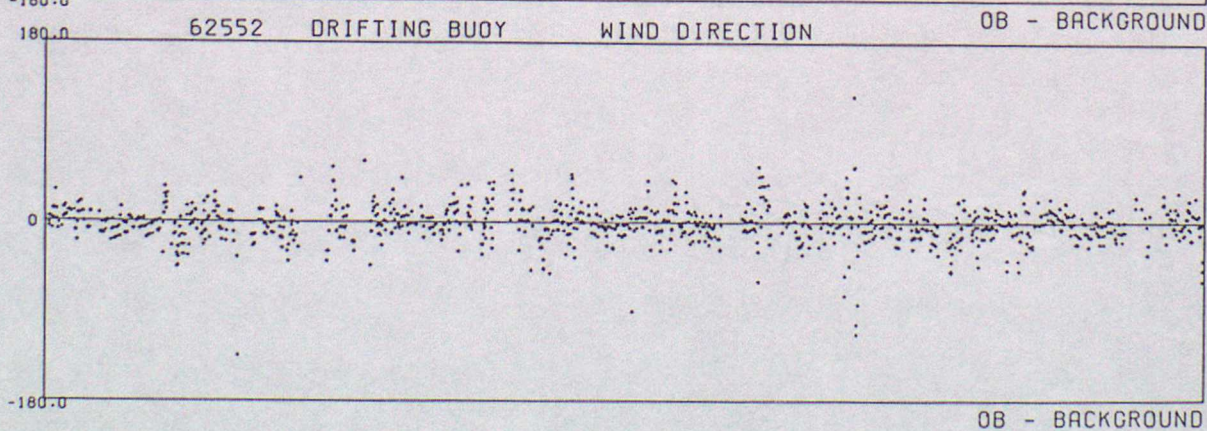
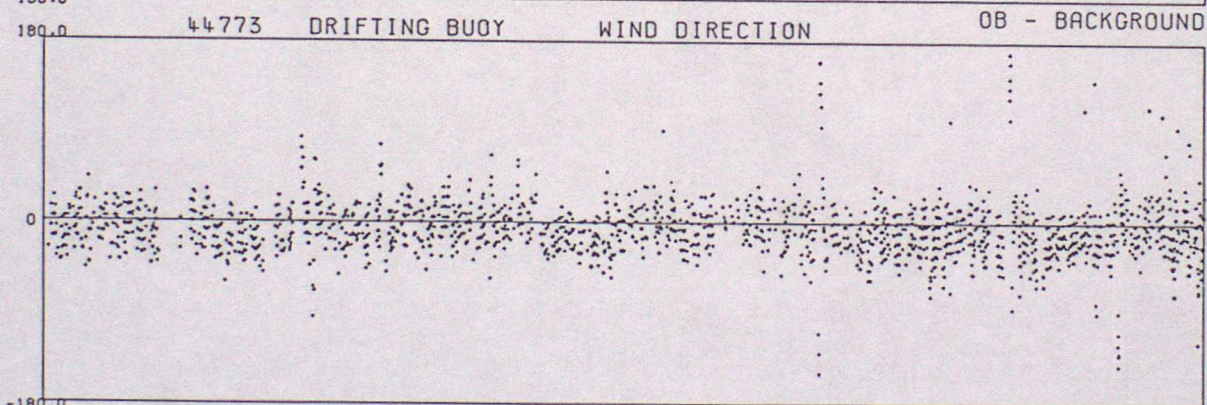
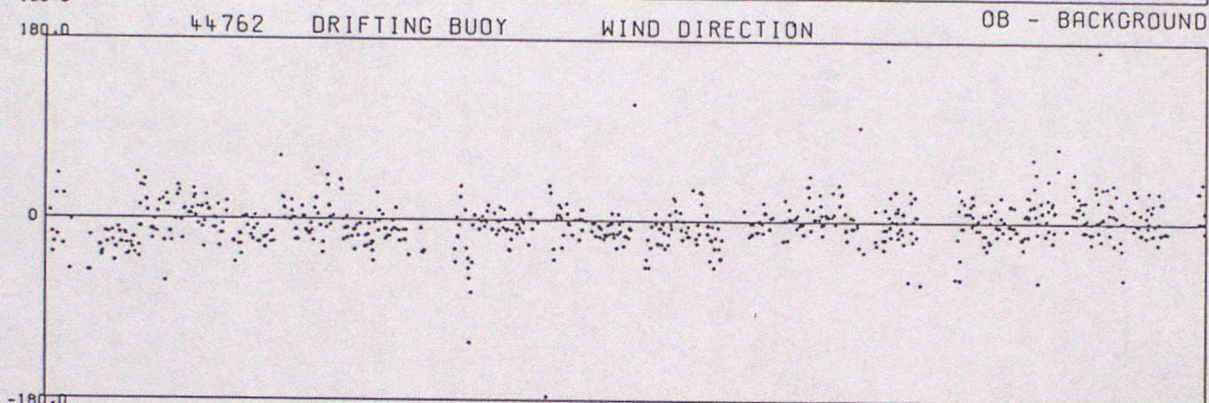
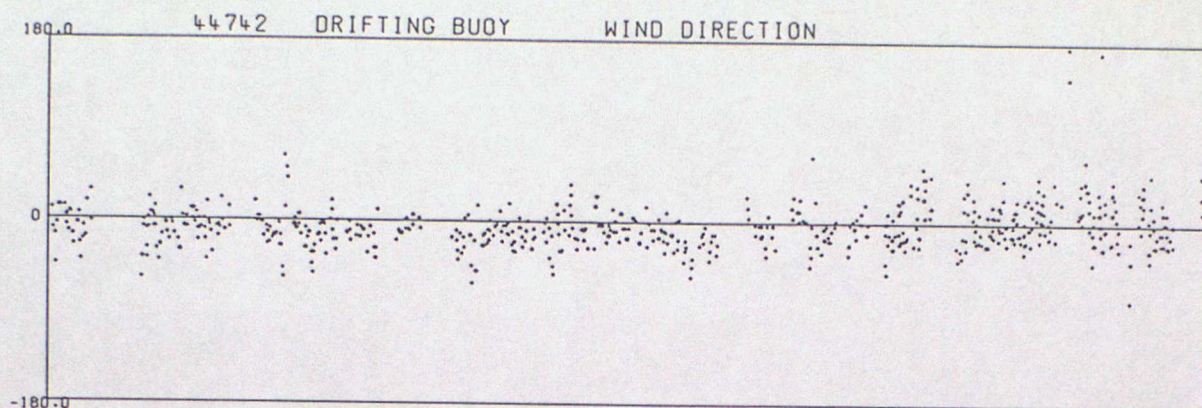
## ANNEX F - TIME SERIES PLOTS OF WIND DIRECTION

DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)



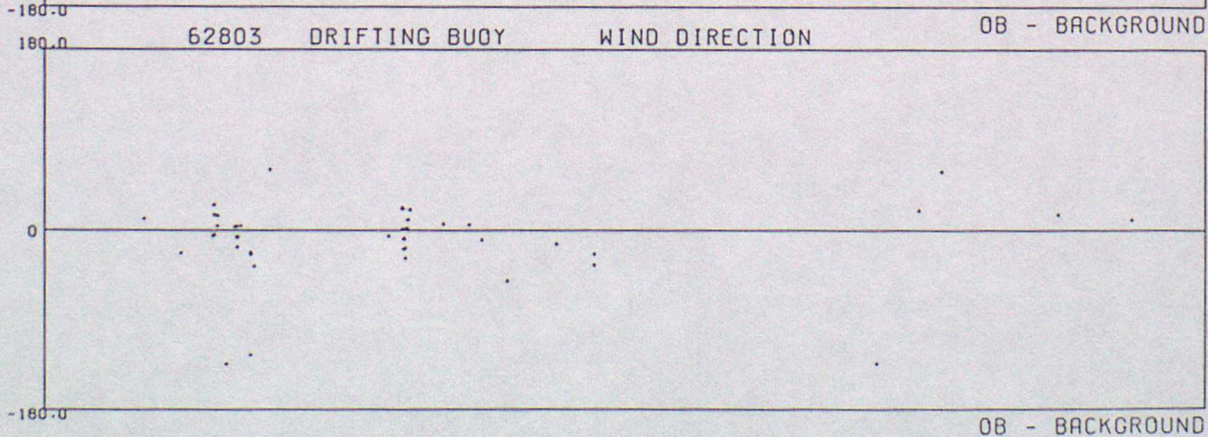
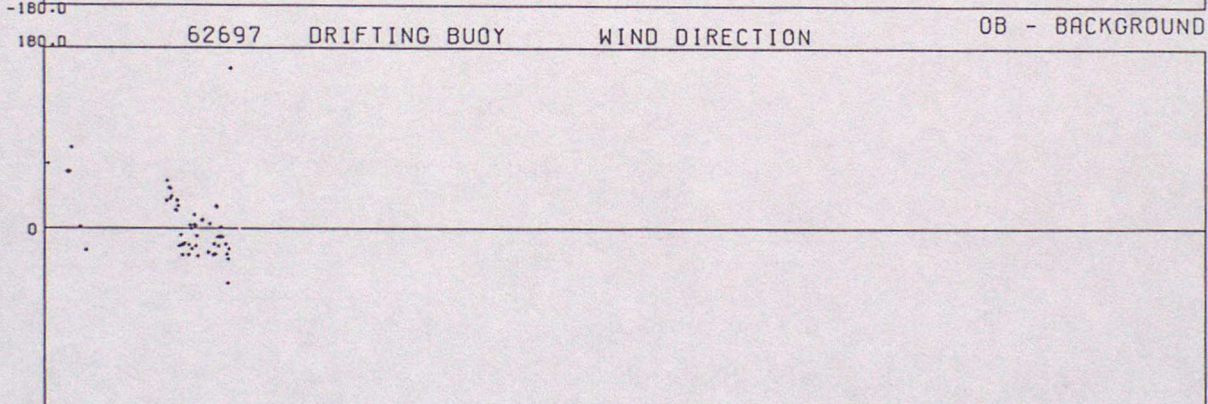
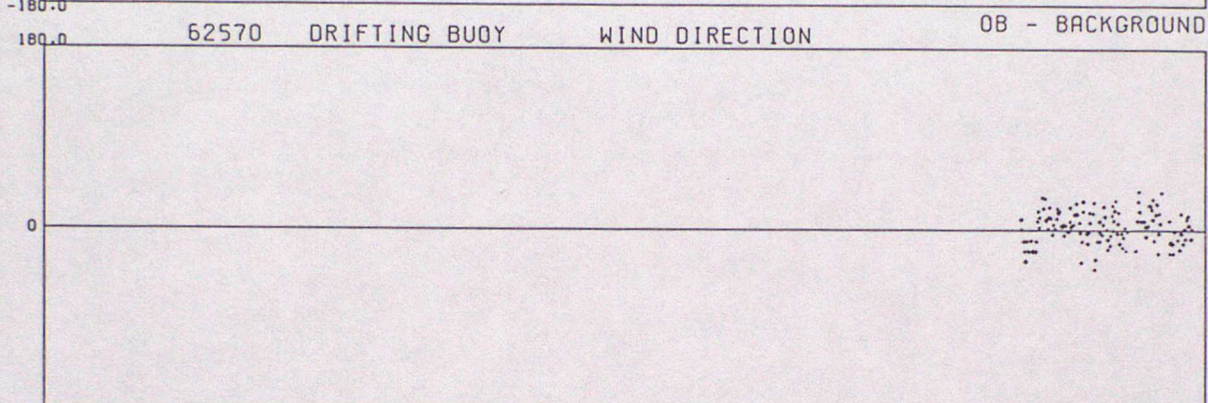
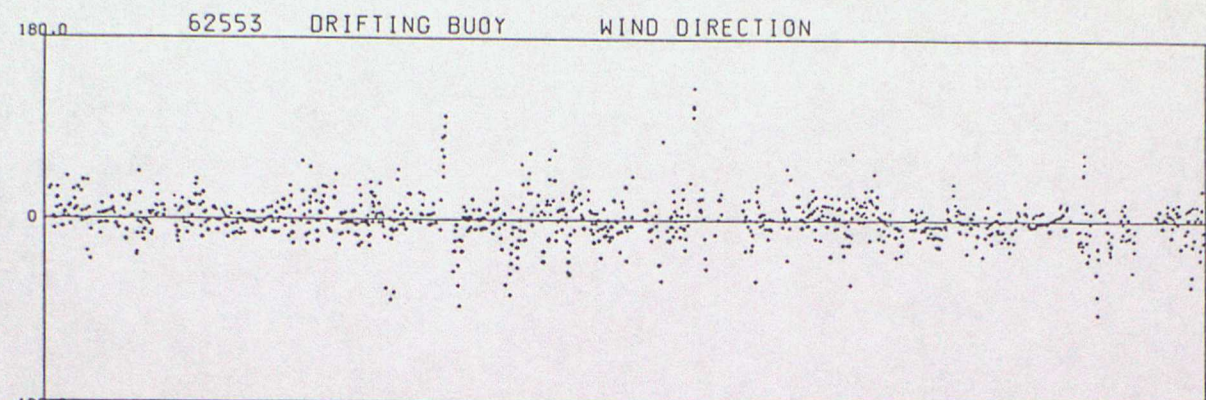


DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





DATA FROM 00Z ON 01/07/1997 TO 23Z ON 30/09/1997 (OBS - BACKGROUND FIELD)





# ANNEX G - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
13903	????	??	*	*				*	01/07 - 30/09
13910	????	??	*	*				*	01/07 - 30/09
13911	????	??	*	*				*	01/07 - 30/09
41529	????	US	*		*		*		01/07 - 30/09
41530	????	US	*		*	*	*	*	01/07 - 24/08
41922	????	??	*	*				*	01/07 - 30/09
44513	????	US	*		*	*		*	01/07 - 30/09
44605	27933	F	*	*				*	01/07 - 30/09
44607	27937	F	*	*				*	01/07 - 17/09
44608	27938	F	*	*				*	01/07 - 30/09
44613	3306	UK	*	*	*		*	*	01/07 - 30/09
44621	26752	UK	*	*	*	*	*	*	01/07 - 30/09
44624	2958	UK	*	*	*	*	*	*	01/07 - 30/09
44726	2955	UK	*	*	*	*	*	*	01/07 - 30/09
44727	3098	UK	*	*	*			*	01/07 - 30/09
44728	1254	UK	*	*	*			*	01/07 - 30/09
44742	26753	UK	*	*	*	*	*	*	01/07 - 30/09
44743	1248	UK	*	*				*	01/07 - 30/09
44760	2947	UK	*	*	*			*	01/07 - 30/09
44762	26754	UK	*	*	*	*	*		01/07 - 30/09
44768	26746	UK	*	*	*			*	01/07 - 30/09
44769	26749	UK	*	*	*			*	01/07 - 30/09
44771	12659	UK	*	*				*	03/09 - 30/09
44773	26751	UK	*	*	*	*	*	*	01/07 - 30/09
44775	26741	UK	*	*	*			*	01/07 - 30/09
44777	1249	UK	*	*				*	01/07 - 29/09
44779	3186	UK	*	*				*	01/07 - 05/09
44901	????	??	*					*	02/07 - 30/09
44911	466	US	*						01/07 - 30/09
44912	????	US	*					*	01/07 - 30/09
44924	????	US	*						06/07 - 02/08
44925	????	US	*					*	01/07 - 30/09
62503	14427	F	*	*				*	01/07 - 06/09
62515	14426	F	*	*				*	01/07 - 30/09

## KEY

PP - Pressure

TT - Air Temperature

DD - Wind Direction

Pt - Pressure tendency

FF - Wind Speed

SST - Sea Surface Temperature



# ANNEX G - Cont.

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
62518	????	F	*			*	*	*	01/07 - 25/09
62552	3008	F	*	*	*	*	*	*	01/07 - 30/09
62553	3009	F	*	*	*	*	*	*	01/07 - 30/09
62554	14430	F	*	*				*	01/07 - 30/09
62555	27932	F	*	*				*	01/07 - 30/09
62556	27935	F	*	*				*	01/07 - 30/09
62557	????	F	*	*				*	14/09 - 30/09
62558	????	F	*	*					14/09 - 30/09
62570	????	F	*			*	*	*	16/09 - 30/09
62697	2959	UK	*	*	*	*	*	*	01/07 - 30/09
62712	3188	UK	*			*		*	01/07 - 30/09
62713	3185	UK	*	*				*	01/07 - 30/09
62803	3209	UK	*	*	*	*	*	*	01/07 - 30/09
62804	26743	UK	*	*	*				01/07 - 30/09
62927	????	??	*					*	01/07 - 30/09
64528	4274	NL	*	*	*			*	01/07 - 30/09
64561	1247	UK	*	*	*			*	01/07 - 30/09
64563	3679	N	*	*	*			*	01/07 - 30/09
65594	1252	UK	*	*	*			*	01/07 - 30/09
65596	3036	NL	*	*	*			*	01/07 - 30/09
65597	4273	NL	*	*	*			*	01/07 - 30/09
65598	9308	D	*	*	*			*	01/07 - 25/08

## KEY

PP - Pressure

TT - Air Temperature

DD - Wind Direction

Pt - Pressure tendency

FF - Wind Speed

SST - Sea Surface Temperature

+ - Pressure ceased reporting before the end of the period  
but other elements continued to report.



