

DUPLICATE ALSO



TWENTY-NINTH QUARTERLY REPORT

ON DRIFTING BUOYS

IN THE NORTH ATLANTIC

25-60 degN, 60 degW to 10 degE

JANUARY TO MARCH 1994

Headquarters, Bracknell

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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 (M.D.B.) and by comparisons of observations with background fields from the Met. Office forecast model. Additional information on buoy operations and data quality is extracted from E.G.O.S. Technical Secretariat reports.

2. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 14 buoys reporting pressure at the beginning of the period (this figure includes buoy 25561 which, although not included in the last report was reporting on the first day of this report period) and 9 at the end. (Buoy 44777 which had a mean position north of 50 degN last quarter has drifted south this quarter and is included in the statistics below.). Buoy 44726 ceased reporting on the last day of last quarter. 6 new buoys were deployed during the period (44761, 44763, 44769, 44771, 62696 and 64528). 11 buoys ceased reporting (44515, 44728, 44763, 44779, 47606, 62712, 64587, 65503, 65506, 65508 and 65581). (N.B. Buoy 65581 ceased reporting pressure on 30/01/94 but continued to report other elements).

South of 50deg N

There were 14 buoys reporting pressure at the beginning of the period and 13 at the end. 7 new buoys were deployed (44743, 44760, 62503, 62504, 62505, 62506 and 62606). 8 buoys ceased reporting (44613, 44765, 44774, 44775, 44777, 62501, 62519 and 62520).

(b) Location Accuracy

The location accuracy was similar to last quarter with 39 out of 41 of the buoys reporting having a '% of observations with acceptable positions' greater than 95% (compared to 49 out of 51 last quarter). There were 4 gross errors in location during the quarter, compared with 11 last quarter (see under Data Quality).

(c) Data timeliness

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

Timeliness	Last quarter.	This quarter.
Very Good	26	13
Good	8	10
Satisfactory	6	10
Poor	1	5
Very Poor	10	3
Total no. of buoys	51	41

(d) Data availability

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

Availability	South of 50 degN		North of 50 degN	
	Previous Quarter	Present Quarter	Previous Quarter	Present Quarter
Very Good	--	--	11	10
Good	4	2	3	1
Satisfactory	2	10	8	5
Poor	12	9	3	3
Very Poor	6	--	2	1

The total number of buoy days in the quarter was 2,080 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 3,106) and the number of 'buoy hours' with at least one observation was 27,105 (compared with 36,480 last quarter). Thus, the mean number of hours per day, for days with at least one observation (averaged over all buoys operating in the area) was 13.03 (last quarter the figure was 11.75).

(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:-

- 25561 - Pressure data showed a larger than normal scatter throughout the period.
- 44613 - Pressure data showed a bias of approximately 15.0 hPa when the buoy drifted ashore on 17/2. The data was subsequently deleted from the GTS from 24/2.
- 44728 - Pressure data were erratic, particularly from 19/1 to 29/1 and again at the end of the buoy's life.
- 44743 - Data were erratic from 9/3 to 11/3 before returning to a more acceptable level.
- 44760 - A number of gross errors were reported by this buoy from the start of its life until 9/3.
- 44775 - Pressure data were erratic from the beginning of the report period until the end of the buoy's life on 20/1.
- 47606 - Pressure data were erratic from the beginning of the report period until the end of the buoy's life on 19/1.
- 62501 - Pressure data showed a bias of +1.3 hPa throughout the period.
- 62503 - Data showed a larger than normal scatter from 10/3 until the end of the quarter.
- 62514 - A pressure bias of +3.0 hPa existed from the start of the report period until 3/2.

- 62519 - A pressure bias of -0.7 hPa existed from the start of the period until the end of the buoy's life on 14/1.
- 62520 - Pressure data became erroneous towards the end of the buoy's life on 27/1.
- 65503 - A pressure bias of 2.3 hPa existed from the start of the period until the end of the buoy's life on 21/1.
- 65508 - A pressure bias of 1.1 hPa existed from the start of the period until the end of the buoy's life on 19/1.
- 65581 - Pressure data showed a larger than normal scatter from the start of the report period, and it became particularly erratic towards the end of the buoy's life on 30/1.
- 65592 - Pressure data showed a larger than normal scatter throughout the report period.

Biases

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

WMO No.	Position	Buoy bias(hPa)	Ship bias(hPa)	Period of reports
44761	SOBA	-1.0	+0.7	23/02 - 31/03
44763	S of SOBA	-0.9	+0.7	23/02 - 30/03
62505	NE of SCOS	-0.6	-0.4	11/03 - 31/03
62606	E of SCOS	+0.8	-0.6	9/02 - 31/03
62712	SOBA	+1.6	+0.7	1/01 - 15/01

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

Gross errors

The observations which appear to lie outside the expected distribution - the 'gross' errors (see Time-series graphs) - have been ringed. (The erroneous observations which occurred at the end of the life of buoys 44777, 47606 and 62520 have not been included in this section.) The observations have been individually examined to see whether the errors lie with the pressure, location or the background field. Out of 117 occasions the results are as follows -

ERROR	NUMBER Last quarter	NUMBER This quarter	COLLECTING CENTRE
bg field	2	0	-
location	0	0	Oslo
location	1	0	Sondre Stromfjord
location	5	2	Paris
location	5	2	US Air Force
location	0	0	Washington
pressure	61	42	Oslo
pressure	2	16	Sondre Stromfjord
pressure	41	55	Paris
pressure	5	0	US Air Force
pressure	7	0	Washington
Total no. of buoy hours	36,480	27,105	

During the quarter 113 gross pressure errors were transmitted as compared to 116 last quarter. The number of gross location errors from the Local User Terminals decreased slightly (4 compared to 11 last quarter).

(3) Air Temperatures and Sea Surface Temperatures

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

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

WMO No.	Air Temperature		No. of	Sea Surface Temperature		No. of
	Mean	St.Dev	Obs	Mean	St.Dev	Obs.
13556	- -	- -	-	0.3(-0.7)	0.8(3.9)	47
13561	- -	- -	-	-0.1(-0.3)	0.8(3.0)	252
25561	1.9(0.9)	2.4(2.1)	1620	- -	- -	-
44515	- -	- -	-	-0.2(0.4)	0.3(5.4)	349
44613	-0.3(0.6)	1.3(3.0)	1530	-0.2(0.2)	0.7(5.1)	640
44728	19.9(-1.3)	9.9(5.1)	2111	-0.1(-0.7)	0.6(3.0)	1805
44743	- -	- -	-	-43.3(-0.8)	10.1(5.1)	39
44760	- -	- -	-	0.4(-0.6)	0.6(4.3)	534
44761	2.2(0.4)	4.1(2.6)	1694	2.2(-0.2)	3.5(2.1)	952
44763	0.4(0.0)	2.3(2.2)	1334	- -	- -	-
44765	-10.8(0.7)	16.2(1.4)	17	-0.4(-0.7)	0.3(4.6)	627
44769	0.7(0.1)	1.2(2.2)	323	-0.1(-0.9)	0.2(2.0)	238
44771	6.5(-0.1)	2.3(2.2)	635	-0.6(-1.0)	0.7(2.2)	522
44774	-0.2(0.5)	1.1(1.2)	249	-0.5(-0.2)	0.5(2.3)	245
44775	4.1(0.9)	2.2(3.4)	385	-1.5(-0.1)	2.2(4.6)	59
44777	-0.5(0.6)	2.1(3.0)	1307	-0.7(0.2)	0.6(5.1)	725
44778	- -	- -	-	-0.1(1.7)	0.5(8.5)	3269
44779	18.6(-0.4)	1.0(4.2)	218	0.1(0.2)	0.8(5.1)	973
47606	-13.2(9.3)	25.5(9.0)	12	- -	- -	-
62501	- -	- -	-	-0.1(0.2)	0.5(5.5)	1051
62502	- -	- -	-	-0.1(0.1)	0.2(5.2)	1615
62503	- -	- -	-	-0.1(0.2)	0.4(5.5)	249
62504	- -	- -	-	-0.1(0.2)	0.2(5.5)	261

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

WMO No.	Air Temperature		No. of	Sea Surface Temperature		No. of
	Mean	St.Dev	Obs	Mean	St.Dev	Obs.
62505	- -	- -	-	-0.7(0.2)	0.2(5.5)	359
62506	- -	- -	-	-0.3(0.1)	0.2(5.4)	369
62514	- -	- -	-	-0.2(0.0)	0.2(2.3)	596
62519	- -	- -	-	- -	- -	-
62520	- -	- -	-	-0.4(0.2)	2.0(5.1)	271
62524	0.6(0.4)	1.6(3.4)	2941	0.1(-0.5)	0.3(3.1)	2177
62606	1.3(0.8)	2.1(4.0)	380	-0.3(-0.4)	0.4(3.6)	398
62695	-0.1(0.6)	1.5(1.2)	1328	-0.5(-0.4)	0.6(3.2)	998
62696	0.4(0.1)	2.0(2.9)	767	-0.5(-0.4)	0.5(2.3)	591
62711	6.7(-0.3)	1.7(4.9)	246	-0.1(1.6)	0.7(8.4)	2589
62712	0.2(0.4)	3.0(2.7)	263	0.1(-0.1)	2.0(2.2)	173
64528	0.3(0.7)	1.4(1.8)	1289	-0.6(0.1)	0.7(2.0)	860
64587	10.7(0.4)	16.4(2.4)	55	-0.4(0.2)	0.1(2.0)	46
65503	-0.4(0.5)	1.6(2.6)	223	0.1(0.1)	0.3(2.0)	217
65506	11.8(0.3)	3.9(2.5)	260	0.0(0.0)	0.1(2.1)	263
65508	-0.6(0.4)	1.7(2.3)	261	-0.2(-0.4)	0.9(2.3)	247
65581	2.7(4.3)	5.7(3.3)	1206	1.3(0.2)	1.4(2.1)	1942
65592	-0.1(0.3)	1.3(2.5)	4015	-0.6(0.2)	0.6(2.0)	2279

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

Buoys 44728 (19.9), 44761 (2.2), 44765 (-10.8), 44771 (6.5), 44775 (4.1), 44779 (18.6), 47606 (-13.2), 62711 (6.7), 64587 (10.7), 65506 (11.8) and 65581 (2.7) all showed significant air temperature biases.

Buoys 44743, 44761, 44775 and 65581 showed significant sea surface temperature biases of -43.3 degC, 2.2 degC, -1.5 degC and 1.3 degC respectively.

(4) Winds

The following table shows the mean and standard deviation of observation minus background differences for wind speed and direction. Figures in brackets are for the observations from voluntary observing ships within a radius of about 500 nautical miles of the mean position of each buoy (Note - it is not known what proportion of the ships' winds were measured rather than estimated visually using the Beaufort Scale). The statistics for this report can be compared with those for ships and the relative quality of the wind data from each buoy can be assessed. (N.B. Buoys 44769, 44771 and 62696 are not fitted with wind sensors. However both wind speed and direction observations have been coded up as 0, hence producing a misleading value for the percentage of wind data present in the Table of Statistics (Annex A)).

WMO No.	Period	Wind speed(kn)		Wind direction(Deg)		Number of Obs.
		Mean	St.Dev	Mean	St.Dev	
13556	01/01-31/03	-3.3(3.8)	2.9(7.3)	4.2(0.6)	17.7(30.1)	1302(68)
13561	01/01-31/03	-2.3(3.5)	3.2(15.2)	-7.5(-2.4)	18.4(29.4)	1309(181)
44728	01/01-30/03	-7.3(3.1)	6.6(8.4)	3.2(8.3)	35.2(28.0)	1595(22)
62502	01/01-31/03	-0.6(3.0)	3.6(9.7)	-13.7(-7.9)	20.9(29.7)	1454(453)
62505	11/03-31/03	-1.2(2.7)	3.5(9.9)	-5.6(-8.3)	16.3(27.2)	239(365)
62506	11/03-31/03	-1.8(2.8)	2.8(11.4)	-3.9(-7.8)	15.2(27.7)	242(367)
62695	01/01-31/03	-6.0(2.0)	4.8(6.5)	-13.4(2.4)	21.7(32.3)	940(82)
62712	01/01-15/01	-6.6(9.3)	9.4(11.0)	15.0(6.3)	24.2(27.5)	114(24)

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

Buoys 44728, 62695 and 62712 showed significant wind speed biases of -7 knots, -6 knots and -7 knots respectively.

5. EXPLANATORY NOTES:

1. Buoy owners are as follows,

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

2. Number of observations received is the number received at Bracknell in the Meteorological Data Bank (MDB). If identical reports are received which have originated at different Collecting Centres, the earliest one received at Bracknell is stored in the MDB.

3. An observation with valid Time and Date is one that contains no coding errors in the Date/Time group.

4. An acceptable position for an observation is within a distance d of the last acceptable position where $d=vt$ and,

v = maximum drift speed = 1/4 knot
 t = time between observations.

5. The percentage of elements present is calculated from the total number of observations received.

6. The delay is (Time of Receipt at Bracknell) - (Time of Observation).

7. The mean number of observations per day is calculated from the total number of observations received divided by the number of days in the period. It therefore includes 'quasi-identical' observations, ie those made within a few minutes of one another. For this reason the mean number of hours per day with at least one observation and the % of hour periods without an observation has been included, where an 'hour period' is defined as the period from HH-30 to HH+29 minutes.

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

Unflagged data are those data used in model analyses.

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

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

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

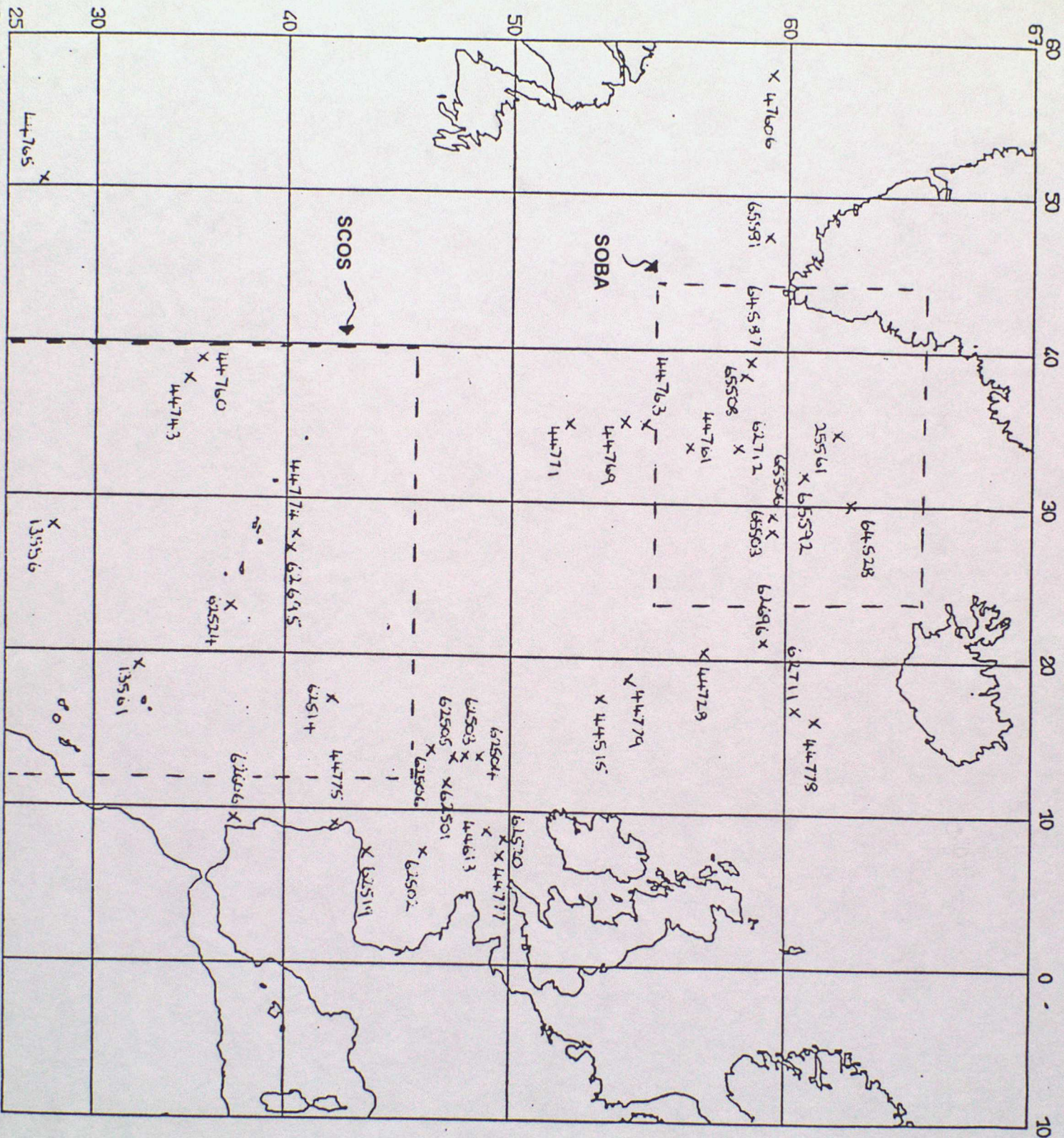
9. The performance categories are defined in the table below.

Performance	Availability (mean no. 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			
	North of 50 degN		South of 50 degN	
	RMS	MEAN	RMS	MEAN
	(hPa)		(hPa)	
Acceptable	< 3.0	< 0.5	< 2.0	< 0.5
Suspect	> 3.0	> 0.5	> 2.0	> 0.5



ANNEX A - TABLE OF STATISTICS

WMO NUMBER/COUNTRY ¹	13556/F	13561/F	25561/N
ARGOS Id No.	15526	15531	1556
PERIOD WITHIN AREA	01/01-31/03	01/01-31/03	01/01-31/03
AREA	SCOS	SCOS	SOBA
MEAN LATITUDE	27.8	32.7	61.4
MEAN LONGITUDE	-28.2	-19.3	-34.8
NO. OF OBS RECEIVED ²	1658	1598	1777
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	100.0	100.0
% OF PRESENT ⁵			
PRESSURE	30.5	30.5	94.8
P. TENDENCY	0.0	0.0	92.2
AIR TEMPERATURE	0.0	0.0	94.8
WIND SPEED/DIRECTION	97.9/98.5	96.1/96.6	0.0/0.0
SEA SURFACE TEMP.	3.2	16.7	0.0
MEDIAN DELAY (MIN) ⁶	108.0	523.0	10.0
NUMBER OF DAYS	90.0	90.0	90.0
MEAN NO. OF OBS/DAY	18.4	17.8	19.7
NO. OF HOURS WITH OBS	1630.0	1550.0	1352.0
MEAN NO. OF HOURS/DAY WITH OBS	18.1	17.2	15.0
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	24.6	28.3	37.5
MEAN (OB-BG) unflagged	0.0	0.5	2.0
RMS (OB-BG) data ⁸	1.0	1.2	3.4
MEAN (OB-BG) all	0.0	0.5	2.5
RMS (OB-BG) data ⁸	1.0	1.2	5.2
REVISED RMS (OB-BG) ⁸	1.0	1.2	5.2
% OF DATA FLAGGED ⁸	3.0	4.0	46.0
OPERATING AT END OF PERIOD	YES	YES	YES
PERFORMANCE ⁹			
AVAILABILITY	SATISFACTORY	SATISFACTORY	SATISFACTORY
PRESSURE QUALITY	ACCEPTABLE	ACCEPTABLE	SUSPECT
TIMELINESS	GOOD	VERY POOR	VERY GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	44515/US	44613/N	44728/UK
ARGOS Id No.	5524	3676	2952
PERIOD WITHIN AREA	01/01-31/01	01/01-24/02	01/01-30/03
AREA	SE of SOBA	NE of SCOS	E of SOBA
MEAN LATITUDE	53.3	49.3	57.0
MEAN LONGITUDE	-17.5	-8.7	-20.5
NO. OF OBS RECEIVED ²	370	1598	2542
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	92.0	100.0
% OF PRESENT ⁵			
PRESSURE	93.8	97.1	99.7
P. TENDENCY	0.0	93.8	98.1
AIR TEMPERATURE	0.0	96.5	84.5
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	68.5/68.6
SEA SURFACE TEMP.	96.5	40.2	72.5
MEDIAN DELAY (MIN) ⁶	104.0	31.0	157.0
NUMBER OF DAYS	31.0	55.0	89.0
MEAN NO. OF OBS/DAY	11.9	29.1	28.6
NO. OF HOURS WITH OBS	320.0	723.0	1032.0
MEAN NO. OF HOURS/DAY WITH OBS	10.3	13.1	11.6
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	57.1	45.4	51.7
MEAN (OB-BG) unflagged	-0.4	0.0	0.0
RMS (OB-BG) data ⁸	1.9	1.9	2.9
MEAN (OB-BG) all	-0.4	-1.3	0.0
RMS (OB-BG) data ⁸	1.9	5.0	5.4
REVISED RMS (OB-BG) ⁸	1.9	5.0	5.3
% OF DATA FLAGGED ⁸	21.0	65.0	74.0
OPERATING AT END OF PERIOD	NO	NO	NO
PERFORMANCE ⁹			
AVAILABILITY	POOR	GOOD	GOOD
PRESSURE QUALITY	ACCEPTABLE	SUSPECT	SUSPECT
TIMELINESS	GOOD	VERY GOOD	SATISFACTORY
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	44743/UK	44760/UK	44761/N
ARGOS Id No.	1370	1374	9308
PERIOD WITHIN AREA	11/02-31/03	11/02-31/03	23/02-31/03
AREA	SCOS	SCOS	SOBA
MEAN LATITUDE	35.1	35.7	56.5
MEAN LONGITUDE	-38.0	-39.0	-33.9
NO. OF OBS RECEIVED ²	822	706	1830
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	97.8	99.9	99.7
% OF PRESENT ⁵			
PRESSURE	99.9	98.0	97.9
P. TENDENCY	0.0	0.0	96.0
AIR TEMPERATURE	0.0	0.0	97.6
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	4.9	77.8	54.4
MEDIAN DELAY (MIN) ⁶	18.0	87.0	19.0
NUMBER OF DAYS	49.0	49.0	37.0
MEAN NO. OF OBS/DAY	16.8	14.4	49.5
NO. OF HOURS WITH OBS	479.0	452.0	678.0
MEAN NO. OF HOURS/DAY WITH OBS	9.8	9.2	18.3
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	59.2	61.7	23.8
MEAN (OB-BG) unflagged	0.1	-0.3	-1.0
RMS (OB-BG) data ⁸	1.0	1.2	2.6
MEAN (OB-BG) all	-0.9	0.6	-1.2
RMS (OB-BG) data ⁸	4.0	4.4	3.3
REVISED RMS (OB-BG) ⁸	4.0	3.0	2.8
% OF DATA FLAGGED ⁸	50.0	43.0	69.0
OPERATING AT END OF PERIOD	YES	YES	YES
PERFORMANCE ⁹			
AVAILABILITY	SATISFACTORY	POOR	VERY GOOD
PRESSURE QUALITY	SUSPECT	SUSPECT	SUSPECT
TIMELINESS	VERY GOOD	GOOD	VERY GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	44763/N	44765/UK	44769/UK
ARGOS Id No.	9307	1255	6291
PERIOD WITHIN AREA	23/02-30/03	01/01-20/03	23/03-31/03
AREA	S of SOBA	W of SCOS	S of SOBA
MEAN LATITUDE	54.9	27.0	54.2
MEAN LONGITUDE	-35.2	-50.9	-35.6
NO. OF OBS RECEIVED ²	1439	672	335
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	99.8	100.0	100.0
% OF PRESENT ⁵			
PRESSURE	97.6	98.4	99.1
P. TENDENCY	94.2	0.0	98.5
AIR TEMPERATURE	97.7	2.4	99.1
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	41.8/45.4
SEA SURFACE TEMP.	0.0	97.5	73.1
MEDIAN DELAY (MIN) ⁶	71.0	76.0	380.0
NUMBER OF DAYS	36.0	79.0	9.0
MEAN NO. OF OBS/DAY	40.0	8.5	37.2
NO. OF HOURS WITH OBS	562.0	604.0	155.0
MEAN NO. OF HOURS/DAY WITH OBS	15.6	7.6	17.2
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	35.0	68.3	28.3
MEAN (OB-BG) unflagged	-0.9	-0.2	-0.4
RMS (OB-BG) data ⁸	2.6	0.9	2.0
MEAN (OB-BG) all	-0.9	-0.4	-0.4
RMS (OB-BG) data ⁸	3.8	2.7	2.0
REVISED RMS (OB-BG) ⁸	2.6	0.9	2.0
% OF DATA FLAGGED ⁸	66.0	10.0	61.0
OPERATING AT END OF PERIOD	NO	NO	YES
PERFORMANCE ⁹			
AVAILABILITY	VERY GOOD	POOR	VERY GOOD
PRESSURE QUALITY	SUSPECT	ACCEPTABLE	ACCEPTABLE
TIMELINESS	GOOD	GOOD	VERY POOR
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	44771/UK	44774/UK	44775/UK
ARGOS Id No.	6290	2961	2962
PERIOD WITHIN AREA	14/03-31/03	01/01-16/02	01/01-20/01
AREA	S of SOBA	SCOS	E of SCOS
MEAN LATITUDE	52.1	40.4	42.5
MEAN LONGITUDE	-35.2	-27.8	-8.7
NO. OF OBS RECEIVED ²	664	248	387
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	98.4	100.0
% OF PRESENT ⁵			
PRESSURE	98.8	100.0	99.2
P. TENDENCY	97.9	92.7	98.4
AIR TEMPERATURE	99.5	100.0	99.7
WIND SPEED/DIRECTION	39.3/39.0	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	80.3	100.0	53.7
MEDIAN DELAY (MIN) ⁶	43.0	21.0	20.0
NUMBER OF DAYS	18.0	47.0	20.0
MEAN NO. OF OBS/DAY	36.9	5.3	19.4
NO. OF HOURS WITH OBS	319.0	241.0	199.0
MEAN NO. OF HOURS/DAY WITH OBS	17.7	5.1	10.0
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	26.3	78.8	58.3
MEAN (OB-BG) unflagged	-0.1	-0.2	0.2
RMS (OB-BG) data ⁸	2.4	1.3	2.1
MEAN (OB-BG) all	-0.6	-0.2	-4.3
RMS (OB-BG) data ⁸	8.0	1.3	8.5
REVISED RMS (OB-BG) ⁸	2.3	1.3	8.1
% OF DATA FLAGGED ⁸	62.0	6.0	83.0
OPERATING AT END OF PERIOD	YES	NO	NO
PERFORMANCE ⁹			
AVAILABILITY	VERY GOOD	POOR	SATISFACTORY
PRESSURE QUALITY	ACCEPTABLE	ACCEPTABLE	SUSPECT
TIMELINESS	VERY GOOD	VERY GOOD	VERY GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	44777/UK	44778/UK	44779/UK
ARGOS Id No.	1257	1259	1260
PERIOD WITHIN AREA	01/01-27/03	01/01-31/03	01/01-26/03
AREA	NE of SCOS	E of SOBA	SE of SOBA
MEAN LATITUDE	49.7	60.9	54.2
MEAN LONGITUDE	-7.3	-16.2	-18.7
NO. OF OBS RECEIVED ²	1342	4812	1347
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	99.9	100.0	98.0
% OF PRESENT ⁵			
PRESSURE	89.0	99.1	91.5
P. TENDENCY	57.7	48.5	66.0
AIR TEMPERATURE	99.3	0.0	16.2
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	54.2	69.4	73.5
MEDIAN DELAY (MIN) ⁶	102.0	187.0	135.0
NUMBER OF DAYS	86.0	90.0	85.0
MEAN NO. OF OBS/DAY	15.6	53.5	15.8
NO. OF HOURS WITH OBS	585.0	1763.0	600.0
MEAN NO. OF HOURS/DAY WITH OBS	6.8	19.6	7.1
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	71.7	18.3	70.4
MEAN (OB-BG) unflagged	0.0	0.3	0.2
RMS (OB-BG) data ⁸	1.7	2.1	2.2
MEAN (OB-BG) all	-0.6	0.3	0.0
RMS (OB-BG) data ⁸	5.0	2.8	2.7
REVISED RMS (OB-BG) ⁸	1.8	2.2	2.5
% OF DATA FLAGGED ⁸	67.0	69.0	65.0
OPERATING AT END OF PERIOD	NO	YES	NO
PERFORMANCE ⁹			
AVAILABILITY	SATISFACTORY	VERY GOOD	SATISFACTORY
PRESSURE QUALITY	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
TIMELINESS	GOOD	POOR	SATISFACTORY
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	47606/??	62501/F	62502/F
ARGOS Id No.	????	10116	15503
PERIOD WITHIN AREA	01/01-19/01	01/01-16/03	01/01-31/03
AREA	W of SOBA	NE of SCOS	NE of SCOS
MEAN LATITUDE	59.5	47.3	46.3
MEAN LONGITUDE	-58.1	-11.9	-7.5
NO. OF OBS RECEIVED ²	22	1099	1761
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	100.0	100.0
% OF PRESENT ⁵			
PRESSURE	100.0	98.3	31.7
P. TENDENCY	0.0	92.4	0.0
AIR TEMPERATURE	100.0	0.0	0.0
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	95.7/96.5
SEA SURFACE TEMP.	0.0	97.8	94.8
MEDIAN DELAY (MIN) ⁶	212.0	19.0	72.0
NUMBER OF DAYS	19.0	75.0	90.0
MEAN NO. OF OBS/DAY	1.2	14.7	19.6
NO. OF HOURS WITH OBS	22.0	831.0	1702.0
MEAN NO. OF HOURS/DAY WITH OBS	1.2	11.1	18.9
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	95.0	53.8	21.3
MEAN (OB-BG) unflagged	- -	1.3	0.0
RMS (OB-BG) data ⁸	- -	2.3	1.6
MEAN (OB-BG) all	54.4	1.4	0.0
RMS (OB-BG) data ⁸	55.0	2.4	1.6
REVISED RMS (OB-BG) ⁸	55.0	2.4	1.6
% OF DATA FLAGGED ⁸	100.0	36.0	3.0
OPERATING AT END OF PERIOD	NO	NO	YES
PERFORMANCE ⁹			
AVAILABILITY	VERY POOR	SATISFACTORY	SATISFACTORY
PRESSURE QUALITY	SUSPECT	SUSPECT	ACCEPTABLE
TIMELINESS	POOR	VERY GOOD	GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	62503/F	62504/F	62505/F
ARGOS Id No.	10110	10111	10117
PERIOD WITHIN AREA	10/03-31/03	10/03-31/03	11/03-31/03
AREA	NE of SCOS	NE of SCOS	NE of SCOS
MEAN LATITUDE	48.3	48.9	48.0
MEAN LONGITUDE	-13.6	-13.6	-13.6
NO. OF OBS RECEIVED ²	259	270	365
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	100.0	100.0
% OF PRESENT ⁵			
PRESSURE	91.1	97.4	98.1
P. TENDENCY	91.9	93.0	92.3
AIR TEMPERATURE	0.0	0.0	0.0
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	68.2/72.6
SEA SURFACE TEMP.	96.9	97.8	98.6
MEDIAN DELAY (MIN) ⁶	151.0	21.0	65.0
NUMBER OF DAYS	22.0	22.0	21.0
MEAN NO. OF OBS/DAY	11.8	12.3	17.4
NO. OF HOURS WITH OBS	227.0	240.0	280.0
MEAN NO. OF HOURS/DAY WITH OBS	10.3	10.9	13.3
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	57.1	54.6	44.6
MEAN (OB-BG) unflagged	-0.1	-0.2	-0.6
RMS (OB-BG) data ⁸	2.0	1.5	1.8
MEAN (OB-BG) all	0.8	-0.3	-0.7
RMS (OB-BG) data ⁸	3.3	1.8	1.9
REVISED RMS (OB-BG) ⁸	3.3	1.5	1.9
% OF DATA FLAGGED ⁸	37.0	19.0	34.0
OPERATING AT END OF PERIOD	YES	YES	YES
PERFORMANCE ⁹			
AVAILABILITY	POOR	POOR	SATISFACTORY
PRESSURE QUALITY	SUSPECT	ACCEPTABLE	SUSPECT
TIMELINESS	SATISFACTORY	VERY GOOD	GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	62506/F	62514/F	62519/F
ARGOS Id No.	10118	1356	10112
PERIOD WITHIN AREA	11/03-31/03	01/01-31/03	01/01-14/01
AREA	NE of SCOS	SCOS	E of SCOS
MEAN LATITUDE	46.9	42.3	43.6
MEAN LONGITUDE	-13.8	-17.1	-7.2
NO. OF OBS RECEIVED ²	373	758	148
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	98.9	100.0
% OF PRESENT ⁵			
PRESSURE	97.3	98.0	98.6
P. TENDENCY	93.8	0.0	99.3
AIR TEMPERATURE	0.0	0.0	0.0
WIND SPEED/DIRECTION	69.2/72.9	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	99.5	0.0	0.0
MEDIAN DELAY (MIN) ⁶	153.0	271.0	20.0
NUMBER OF DAYS	21.0	90.0	14.0
MEAN NO. OF OBS/DAY	17.8	8.4	10.6
NO. OF HOURS WITH OBS	280.0	695.0	131.0
MEAN NO. OF HOURS/DAY WITH OBS	13.3	7.7	9.4
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	44.6	67.9	60.8
MEAN (OB-BG) unflagged	-0.1	3.2	-0.7
RMS (OB-BG) data ⁸	1.6	3.9	2.0
MEAN (OB-BG) all	-0.2	0.8	-0.9
RMS (OB-BG) data ⁸	1.8	2.5	2.1
REVISED RMS (OB-BG) ⁸	1.8	2.4	2.1
% OF DATA FLAGGED ⁸	37.0	95.0	21.0
OPERATING AT END OF PERIOD	YES	YES	NO
PERFORMANCE ⁹			
AVAILABILITY	SATISFACTORY	POOR	POOR
PRESSURE QUALITY	ACCEPTABLE	SUSPECT	SUSPECT
TIMELINESS	SATISFACTORY	VERY POOR	VERY GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	62520/F	62524/UK	62606/UK
ARGOS Id No.	10114	4625	3916
PERIOD WITHIN AREA	01/01-27/01	01/01-31/03	09/02-31/03
AREA	NE of SCOS	SCOS	E of SCOS
MEAN LATITUDE	49.7	37.6	37.2
MEAN LONGITUDE	-7.7	-22.9	-9.2
NO. OF OBS RECEIVED ²	326	3058	424
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	99.4	100.0
% OF PRESENT ⁵			
PRESSURE	97.9	99.4	94.6
P. TENDENCY	91.1	97.5	0.0
AIR TEMPERATURE	0.0	99.5	94.8
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	84.0	72.4	96.2
MEDIAN DELAY (MIN) ⁶	21.0	121.0	163.0
NUMBER OF DAYS	27.0	90.0	51.0
MEAN NO. OF OBS/DAY	12.1	34.0	8.3
NO. OF HOURS WITH OBS	285.0	1416.0	390.0
MEAN NO. OF HOURS/DAY WITH OBS	10.6	15.7	7.6
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	55.8	34.6	68.3
MEAN (OB-BG) unflagged	0.6	0.3	0.8
RMS (OB-BG) data ⁸	1.7	1.1	1.3
MEAN (OB-BG) all	1.3	0.1	0.8
RMS (OB-BG) data ⁸	5.3	2.0	1.3
REVISED RMS (OB-BG) ⁸	4.1	1.1	1.3
% OF DATA FLAGGED ⁸	25.0	60.0	10.0
OPERATING AT END OF PERIOD	NO	YES	YES
PERFORMANCE ⁹			
AVAILABILITY	POOR	GOOD	POOR
PRESSURE QUALITY	SUSPECT	ACCEPTABLE	SUSPECT
TIMELINESS	VERY GOOD	SATISFACTORY	SATISFACTORY
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	62695/UK	62696/UK	62711/UK
ARGOS Id No.	2956	6288	1258
PERIOD WITHIN AREA	01/01-31/03	14/03-31/03	01/01-31/03
AREA	SCOS	E of SOBA	E of SOBA
MEAN LATITUDE	40.1	59.3	60.3
MEAN LONGITUDE	-27.1	-21.3	-16.8
NO. OF OBS RECEIVED ²	1370	816	4211
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	98.3	99.9	99.9
% OF PRESENT ⁵			
PRESSURE	99.5	98.9	99.7
P. TENDENCY	98.5	96.8	98.6
AIR TEMPERATURE	99.6	98.0	5.8
WIND SPEED/DIRECTION	78.4/88.5	32.1/39.0	0.0/0.0
SEA SURFACE TEMP.	73.9	73.8	62.9
MEDIAN DELAY (MIN) ⁶	150.0	218.0	20.0
NUMBER OF DAYS	90.0	18.0	90.0
MEAN NO. OF OBS/DAY	15.2	45.3	46.8
NO. OF HOURS WITH OBS	770.0	346.0	1682.0
MEAN NO. OF HOURS/DAY WITH OBS	8.6	19.2	18.7
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	64.2	20.0	22.1
MEAN (OB-BG) unflagged	-0.2	0.5	0.3
RMS (OB-BG) data ⁸	1.3	2.0	2.2
MEAN (OB-BG) all	-0.4	0.5	0.2
RMS (OB-BG) data ⁸	3.4	2.7	3.4
REVISED RMS (OB-BG) ⁸	1.3	2.2	2.3
% OF DATA FLAGGED ⁸	53.0	66.0	68.0
OPERATING AT END OF PERIOD	YES	YES	YES
PERFORMANCE ⁹			
AVAILABILITY	SATISFACTORY	VERY GOOD	VERY GOOD
PRESSURE QUALITY	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
TIMELINESS	SATISFACTORY	POOR	VERY GOOD
COMMENTS	-	-	-

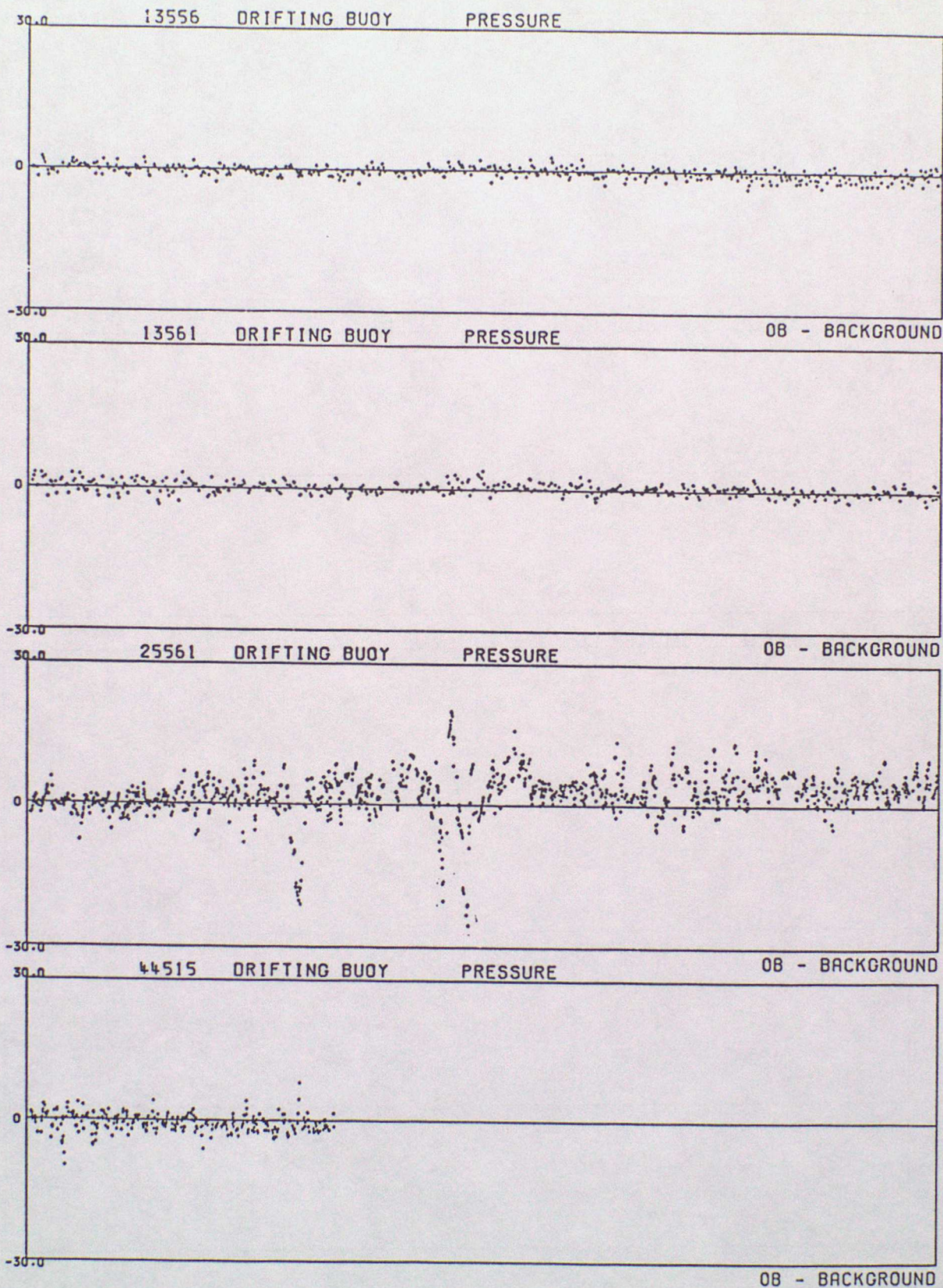
WMO NUMBER/COUNTRY ¹	62712/UK	64528/NL	64587/US
ARGOS Id No.	1247	9306	6819
PERIOD WITHIN AREA	01/01-15/01	28/02-31/03	01/01-05/01
AREA	SOBA	SOBA	SOBA
MEAN LATITUDE	58.6	61.9	58.8
MEAN LONGITUDE	-33.9	-30.0	-39.5
NO. OF OBS RECEIVED ²	276	1415	62
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	100.0	99.9	100.0
% OF PRESENT ⁵			
PRESSURE	88.8	97.5	91.9
P. TENDENCY	88.0	95.2	0.0
AIR TEMPERATURE	95.7	97.5	88.7
WIND SPEED/DIRECTION	48.6/48.6	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	68.5	64.0	93.5
MEDIAN DELAY (MIN) ⁶	134.0	29.0	90.0
NUMBER OF DAYS	15.0	32.0	5.0
MEAN NO. OF OBS/DAY	18.4	44.2	12.4
NO. OF HOURS WITH OBS	103.0	594.0	52.0
MEAN NO. OF HOURS/DAY WITH OBS	6.9	18.6	10.4
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	71.3	22.5	56.7
MEAN (OB-BG) unflagged	1.6	0.0	0.0
RMS (OB-BG) data ⁸	2.6	2.6	2.5
MEAN (OB-BG) all	1.0	-0.2	-0.3
RMS (OB-BG) data ⁸	7.0	3.2	2.8
REVISED RMS (OB-BG) ⁸	2.4	2.6	2.8
% OF DATA FLAGGED ⁸	70.0	69.0	36.0
OPERATING AT END OF PERIOD	NO	YES	NO
PERFORMANCE ⁹			
AVAILABILITY	SATISFACTORY	VERY GOOD	POOR
PRESSURE QUALITY	SUSPECT	ACCEPTABLE	ACCEPTABLE
TIMELINESS	SATISFACTORY	VERY GOOD	GOOD
COMMENTS	-	-	-

WMO NUMBER/COUNTRY ¹	65503/US	65506/US	65508/US
ARGOS Id No.	6280	6818	14289
PERIOD WITHIN AREA	01/01-21/01	01/01-18/01	01/01-19/01
AREA	SOBA	SOBA	SOBA
MEAN LATITUDE	59.6	59.0	58.4
MEAN LONGITUDE	-28.2	-29.5	-38.5
NO. OF OBS RECEIVED ²	250	310	277
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	98.0	100.0	100.0
% OF PRESENT ⁵			
PRESSURE	94.0	90.0	93.5
P. TENDENCY	0.0	0.0	0.0
AIR TEMPERATURE	92.0	86.5	94.9
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	94.0	91.0	94.9
MEDIAN DELAY (MIN) ⁶	236.0	102.0	201.0
NUMBER OF DAYS	21.0	18.0	19.0
MEAN NO. OF OBS/DAY	11.9	17.2	14.6
NO. OF HOURS WITH OBS	206.0	242.0	222.0
MEAN NO. OF HOURS/DAY WITH OBS	9.8	13.4	11.7
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	59.2	44.2	51.3
MEAN (OB-BG) unflagged	2.3	-0.1	1.1
RMS (OB-BG) data ⁸	3.4	1.9	2.9
MEAN (OB-BG) all	2.5	-0.4	0.9
RMS (OB-BG) data ⁸	3.7	2.2	3.9
REVISED RMS (OB-BG) ⁸	3.4	2.2	3.1
% OF DATA FLAGGED ⁸	32.0	36.0	36.0
OPERATING AT END OF PERIOD	NO	NO	NO
PERFORMANCE ⁹			
AVAILABILITY	POOR	SATISFACTORY	SATISFACTORY
PRESSURE QUALITY	SUSPECT	ACCEPTABLE	SUSPECT
TIMELINESS	POOR	GOOD	POOR
COMMENTS	-	-	-

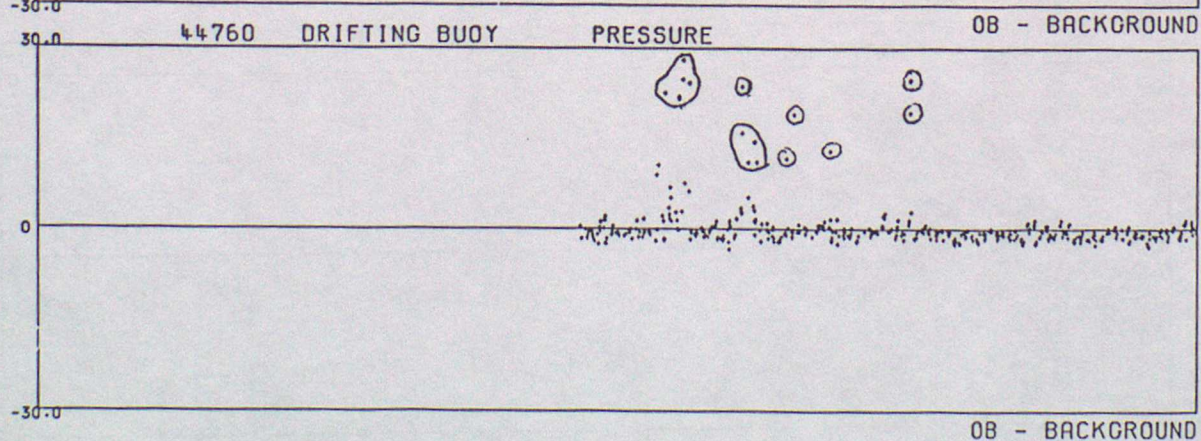
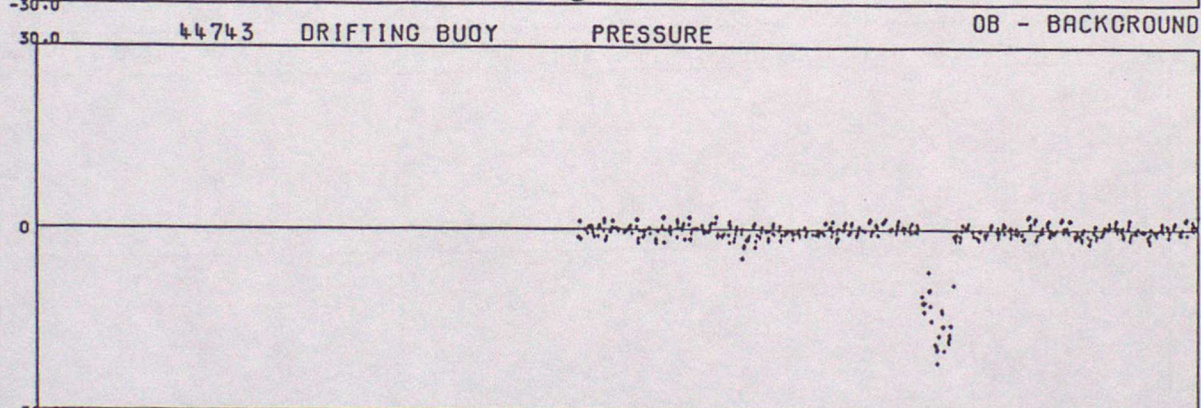
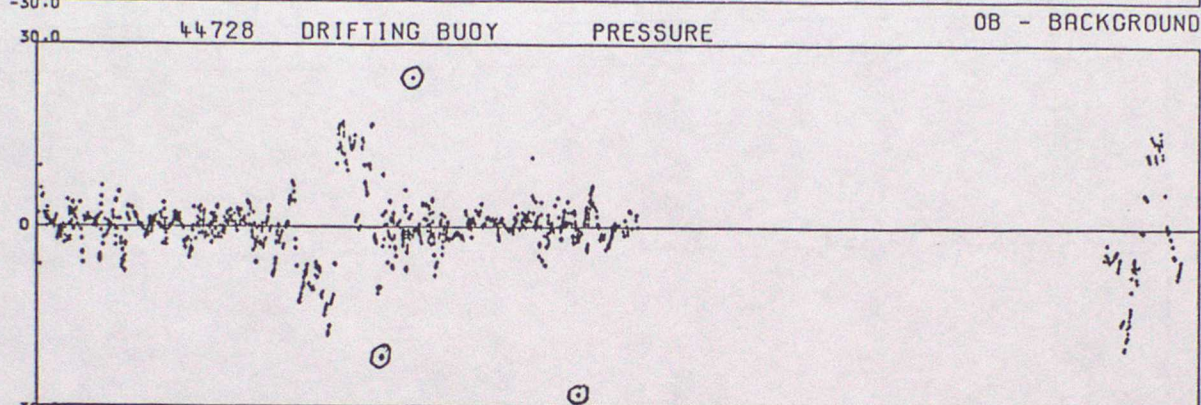
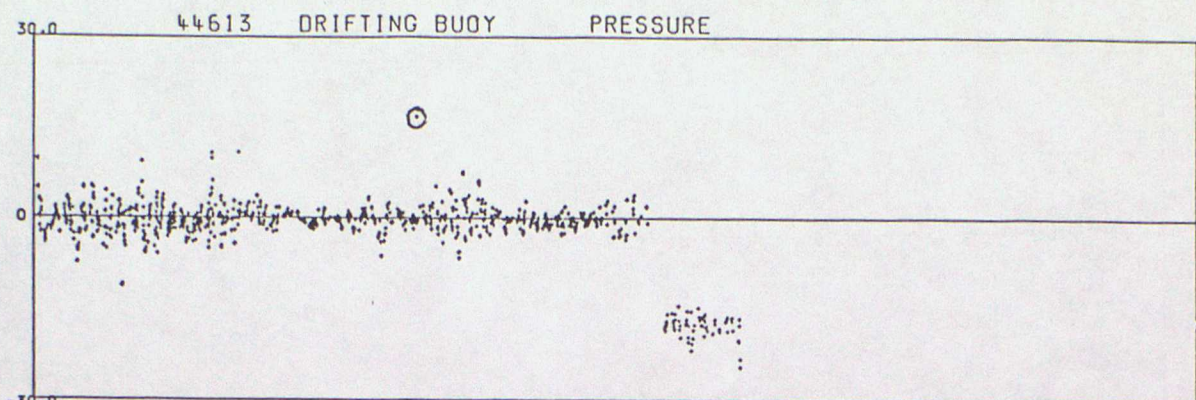
WMO NUMBER/COUNTRY ¹	65581/IC	65592/NL
ARGOS Id No.	3038	9309
PERIOD WITHIN AREA	01/01-31/03	01/01-31/03
AREA	W of SOBA	SOBA
MEAN LATITUDE	59.4	60.6
MEAN LONGITUDE	-47.6	-31.8
NO. OF OBS RECEIVED ²	3240	4305
% OF OBS WITH VALID TIME AND DATE ³	100.0	100.0
% OF OBS WITH ACCEPTABLE POSITION ⁴	93.6	100.0
% OF PRESENT ⁵		
PRESSURE	38.1	95.8
P. TENDENCY	92.6	92.5
AIR TEMPERATURE	37.5	96.0
WIND SPEED/DIRECTION	0.0/0.0	0.0/0.0
SEA SURFACE TEMP.	62.3	54.5
MEDIAN DELAY (MIN) ⁶	159.0	136.0
NUMBER OF DAYS	90.0	90.0
MEAN NO. OF OBS/DAY	36.0	47.8
NO. OF HOURS WITH OBS	1463.0	1682.0
MEAN NO. OF HOURS/DAY WITH OBS	16.3	18.7
% OF HOUR-PERIODS WITHOUT AN OB. ⁷	32.1	22.1
MEAN (OB-BG) unflagged	0.6	-0.3
RMS (OB-BG) data ⁸	3.0	2.9
MEAN (OB-BG) all	-2.6	0.1
RMS (OB-BG) data ⁸	9.2	6.1
REVISED RMS (OB-BG) ⁸	9.1	3.4
% OF DATA FLAGGED ⁸	79.0	70.0
OPERATING AT END OF PERIOD	YES	YES
PERFORMANCE ⁹		
AVAILABILITY	VERY GOOD	VERY GOOD
PRESSURE QUALITY	SUSPECT	SUSPECT
TIMELINESS	SATISFACTORY	SATISFACTORY
COMMENTS	-	-

ANNEX B - TIME SERIES PLOTS OF PRESSURE

DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

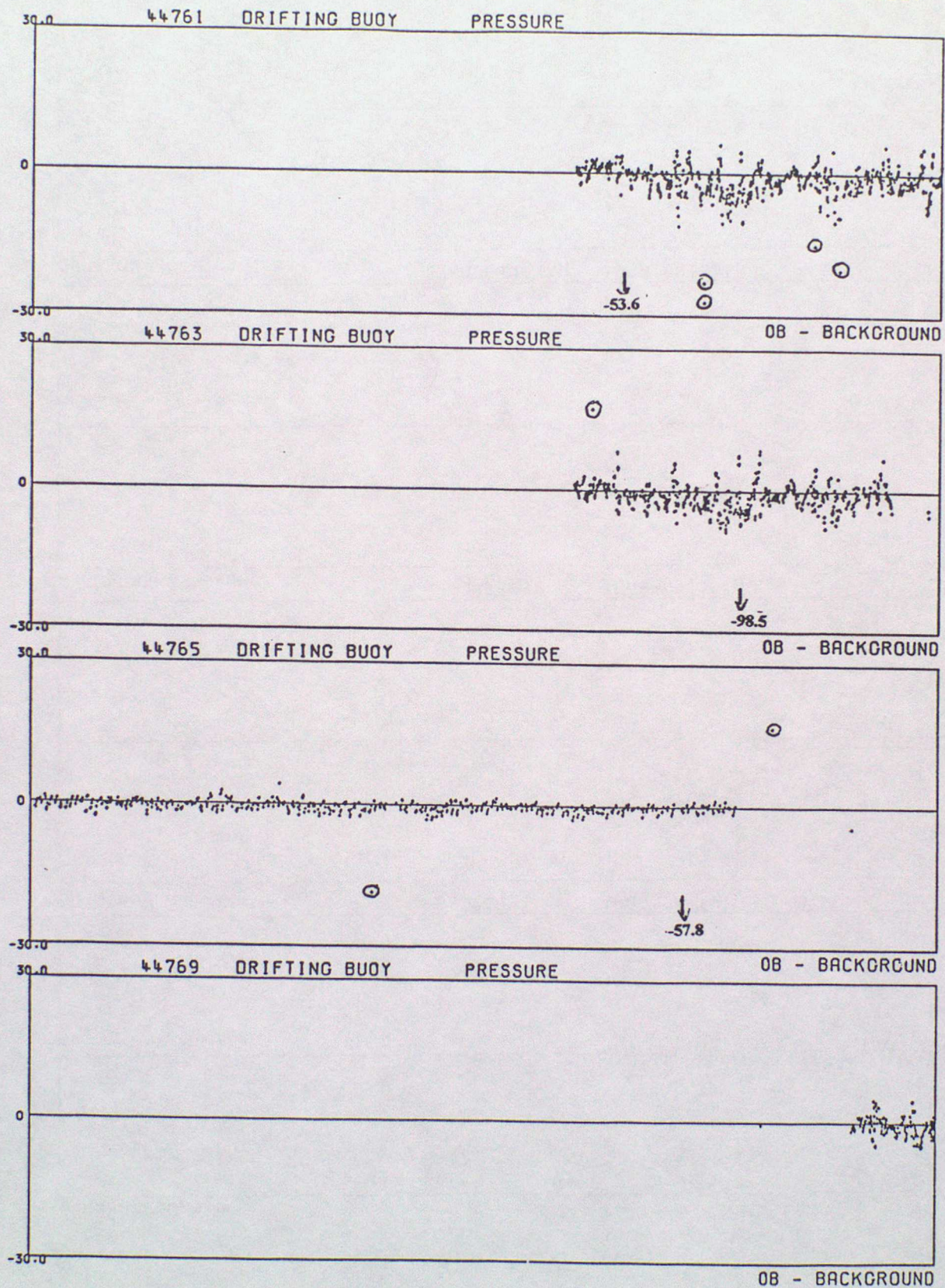


DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

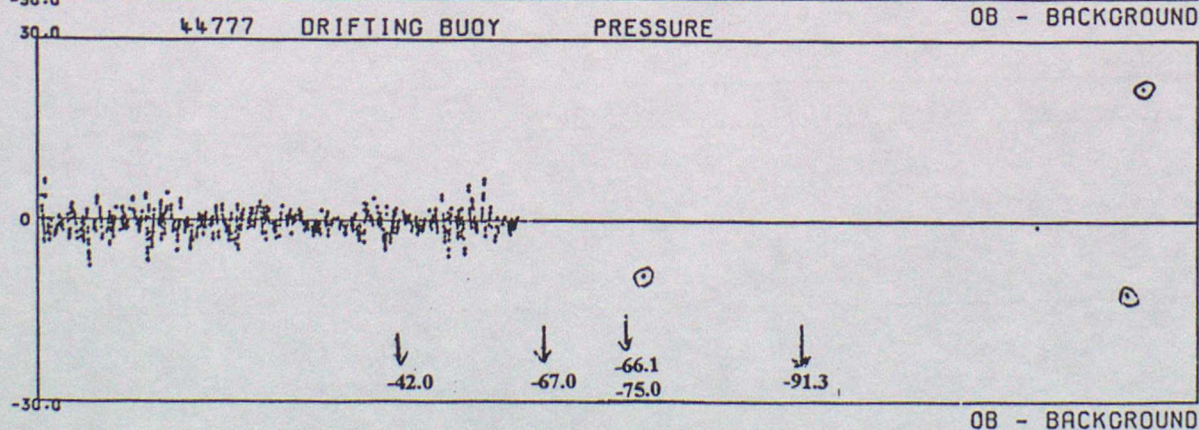
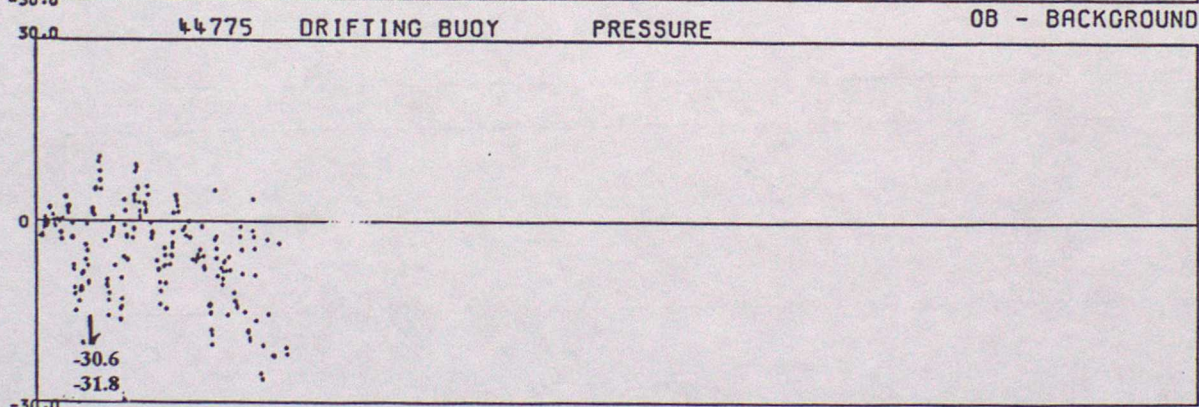
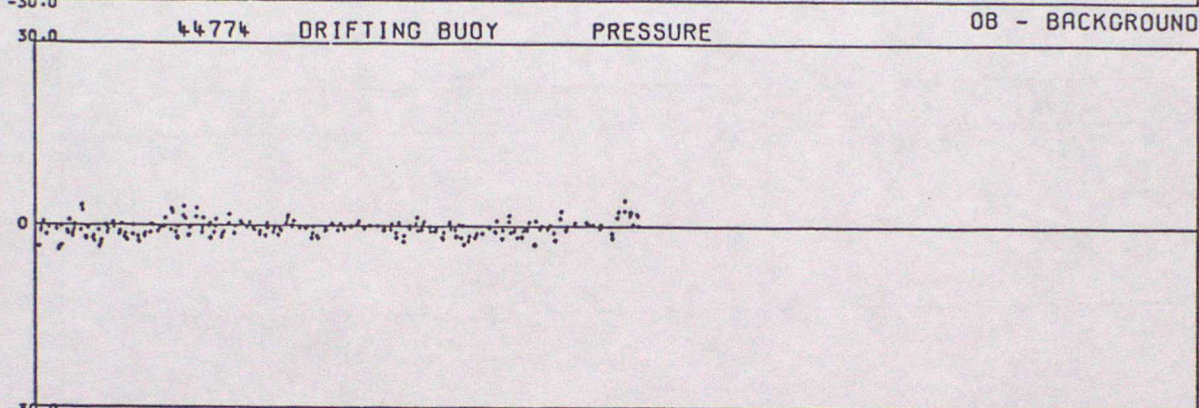
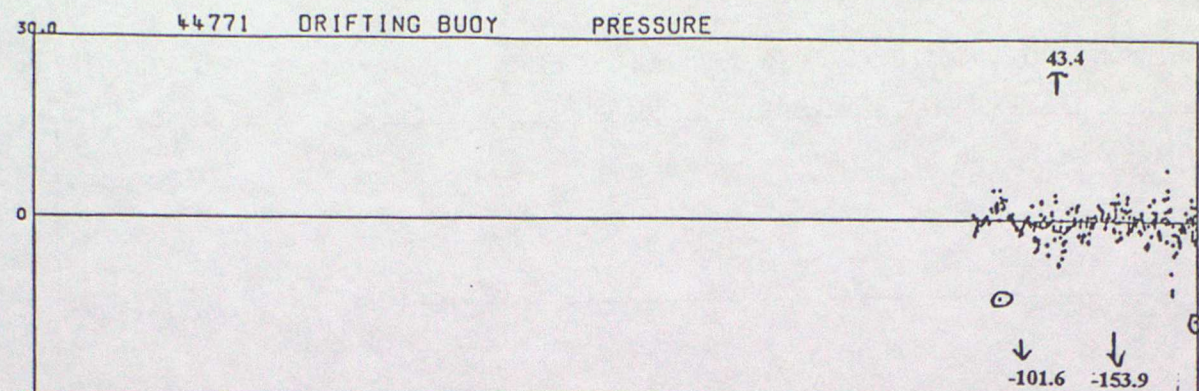


OB - BACKGROUND

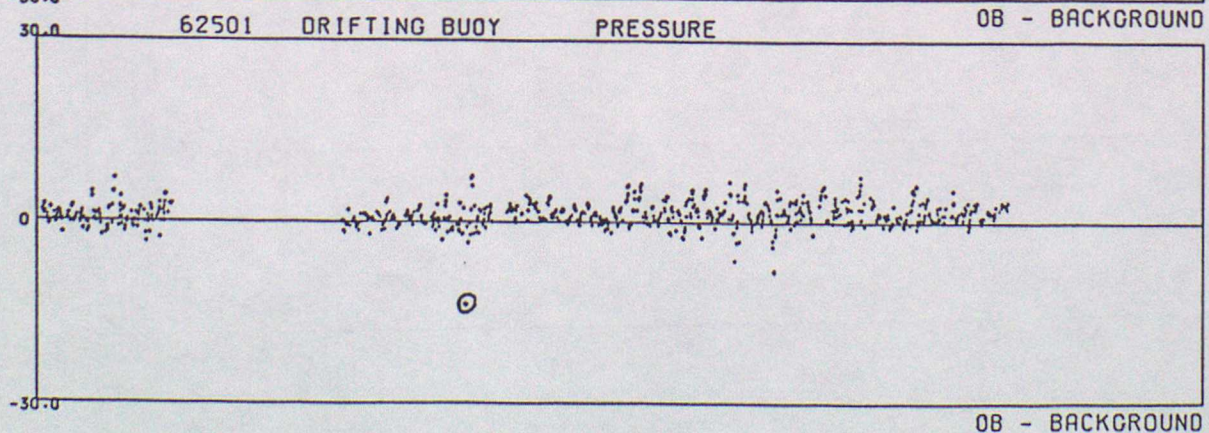
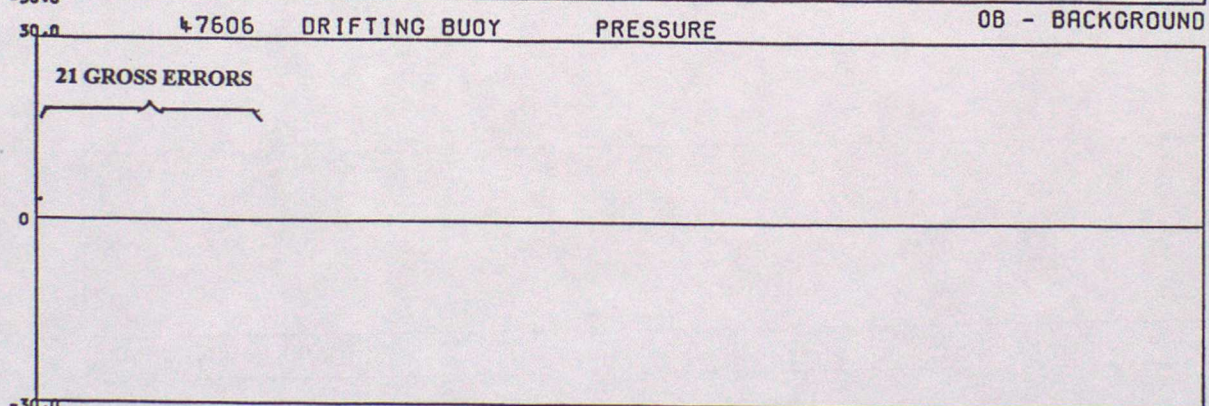
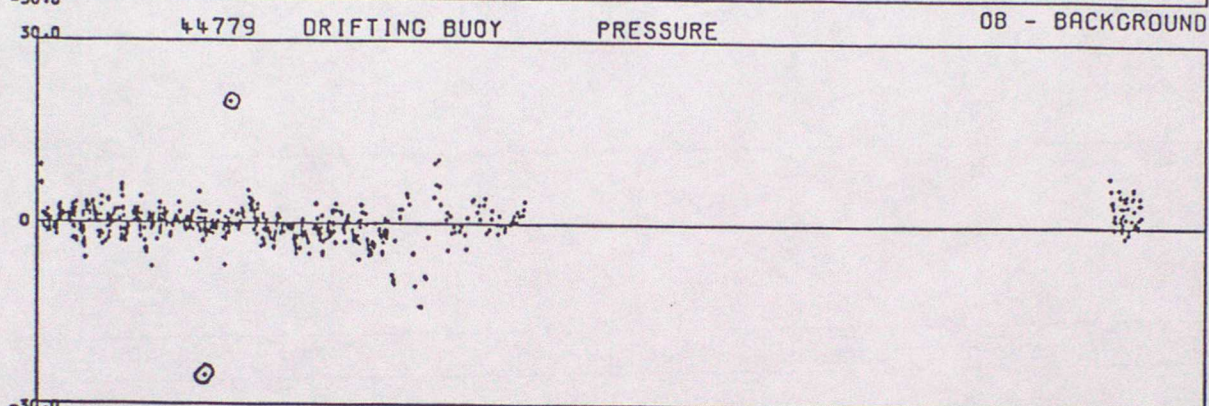
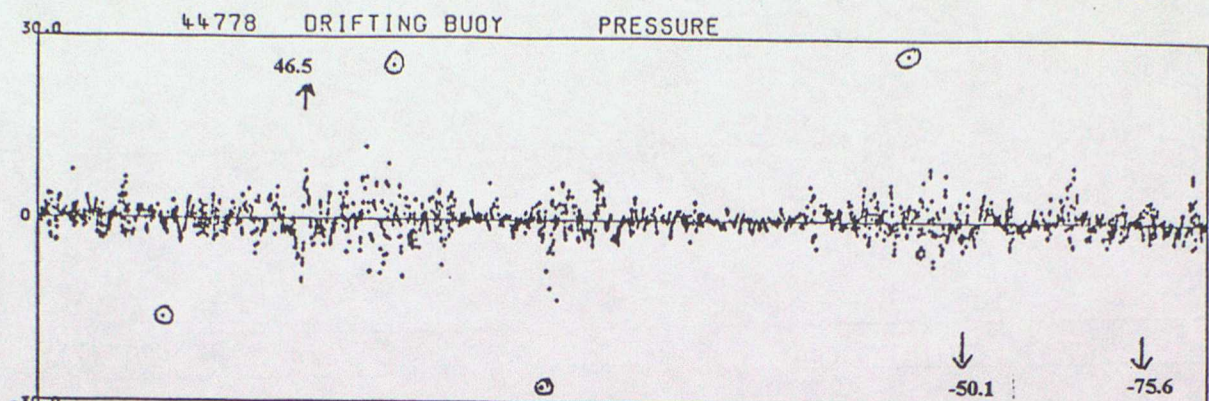
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



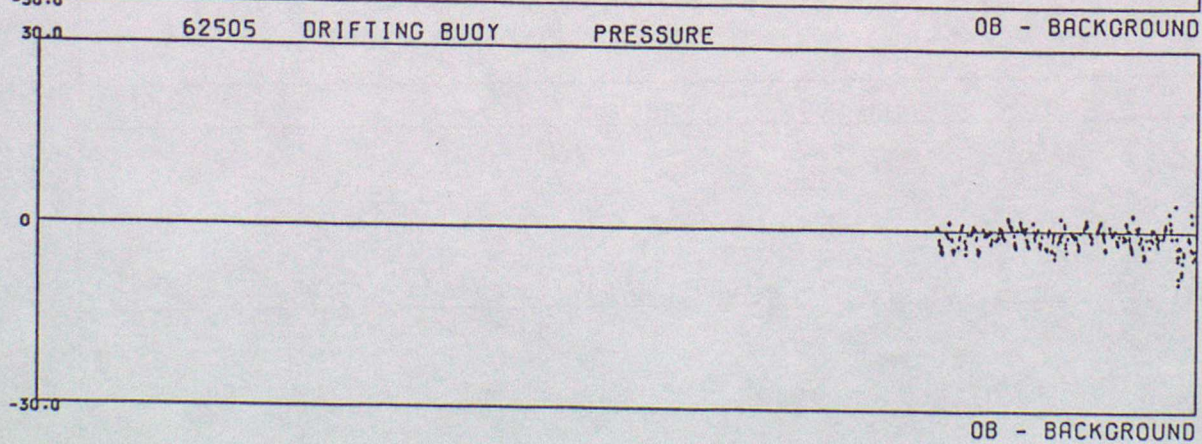
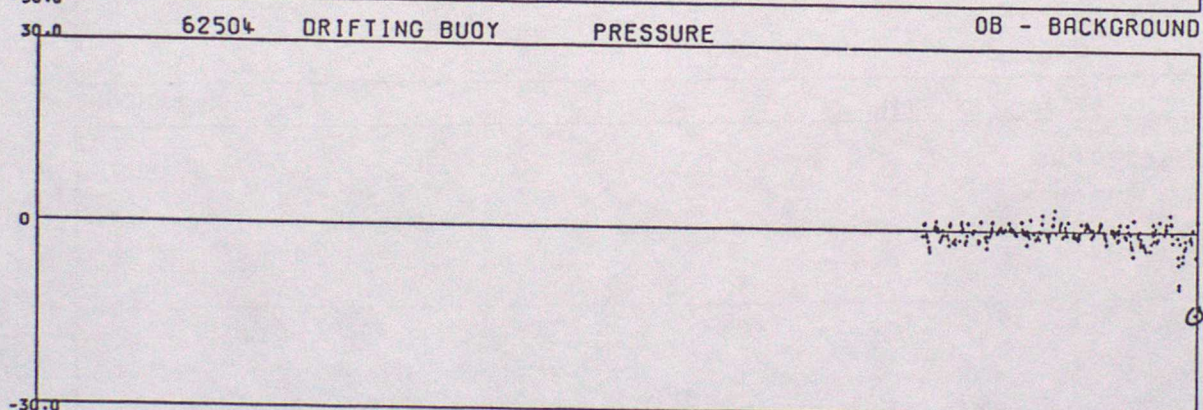
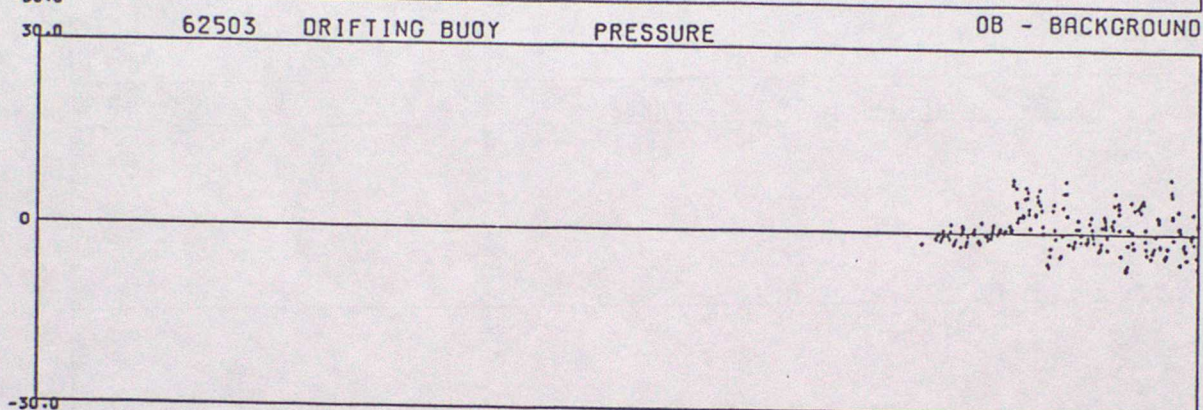
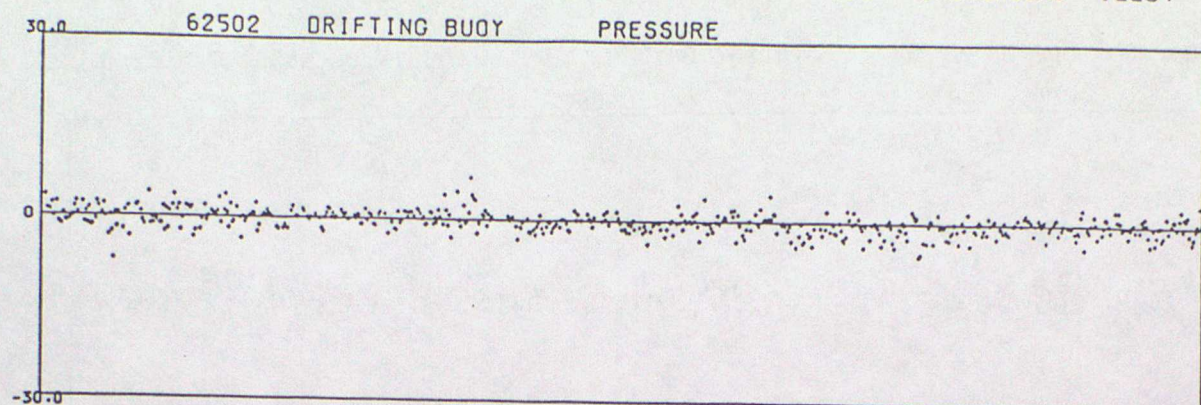
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



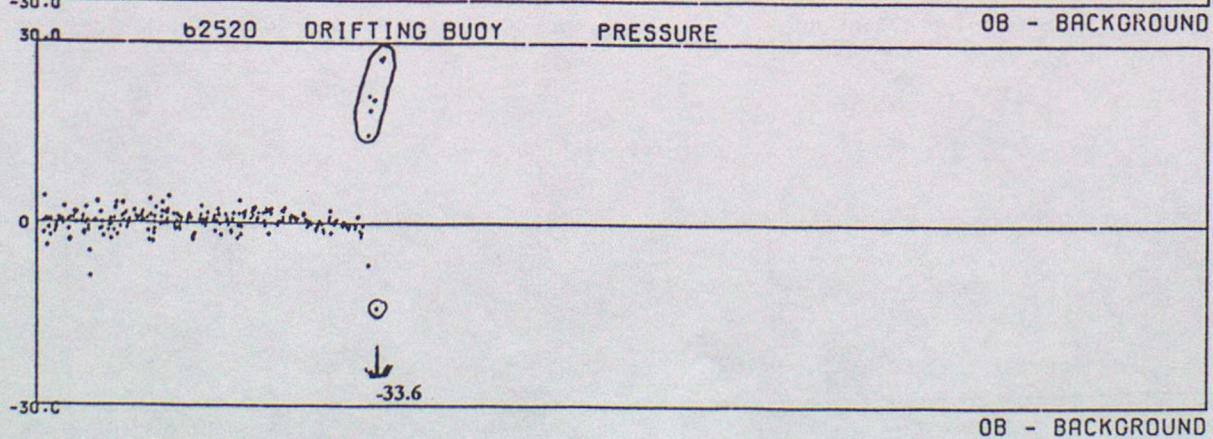
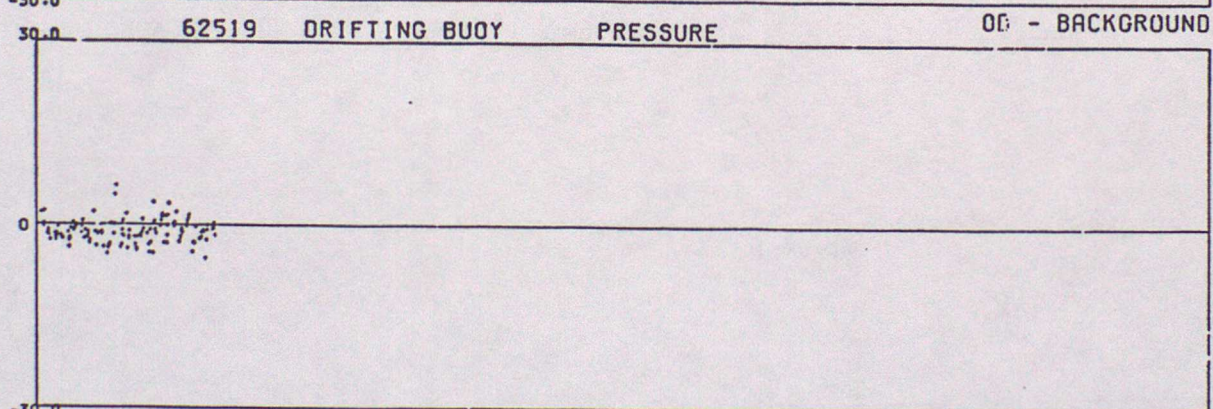
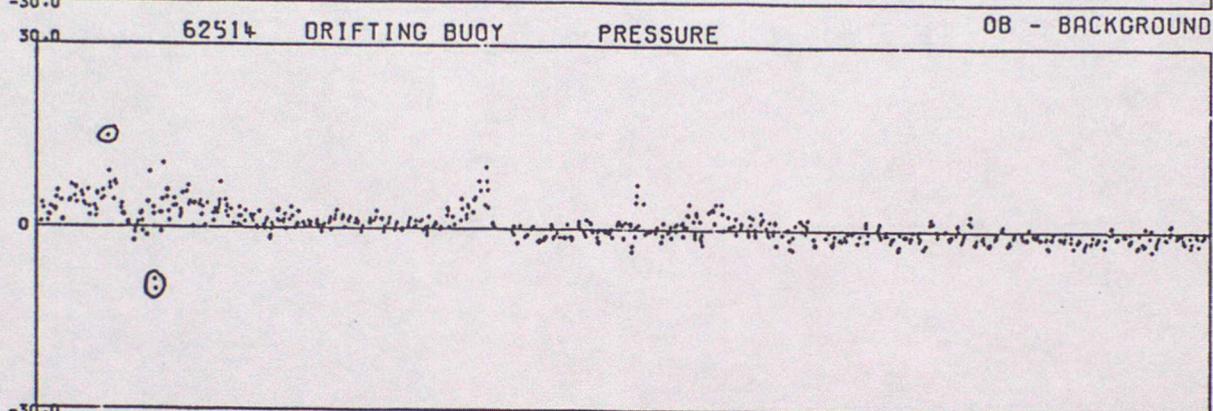
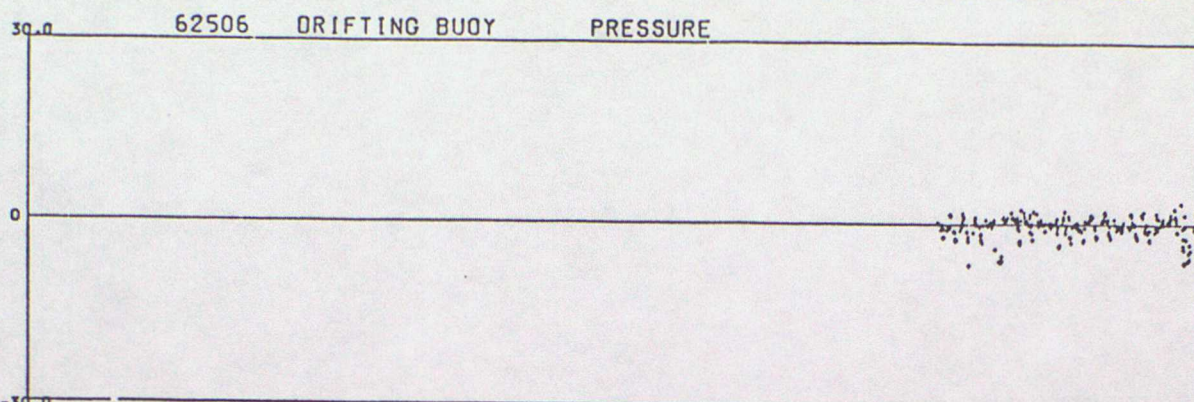
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



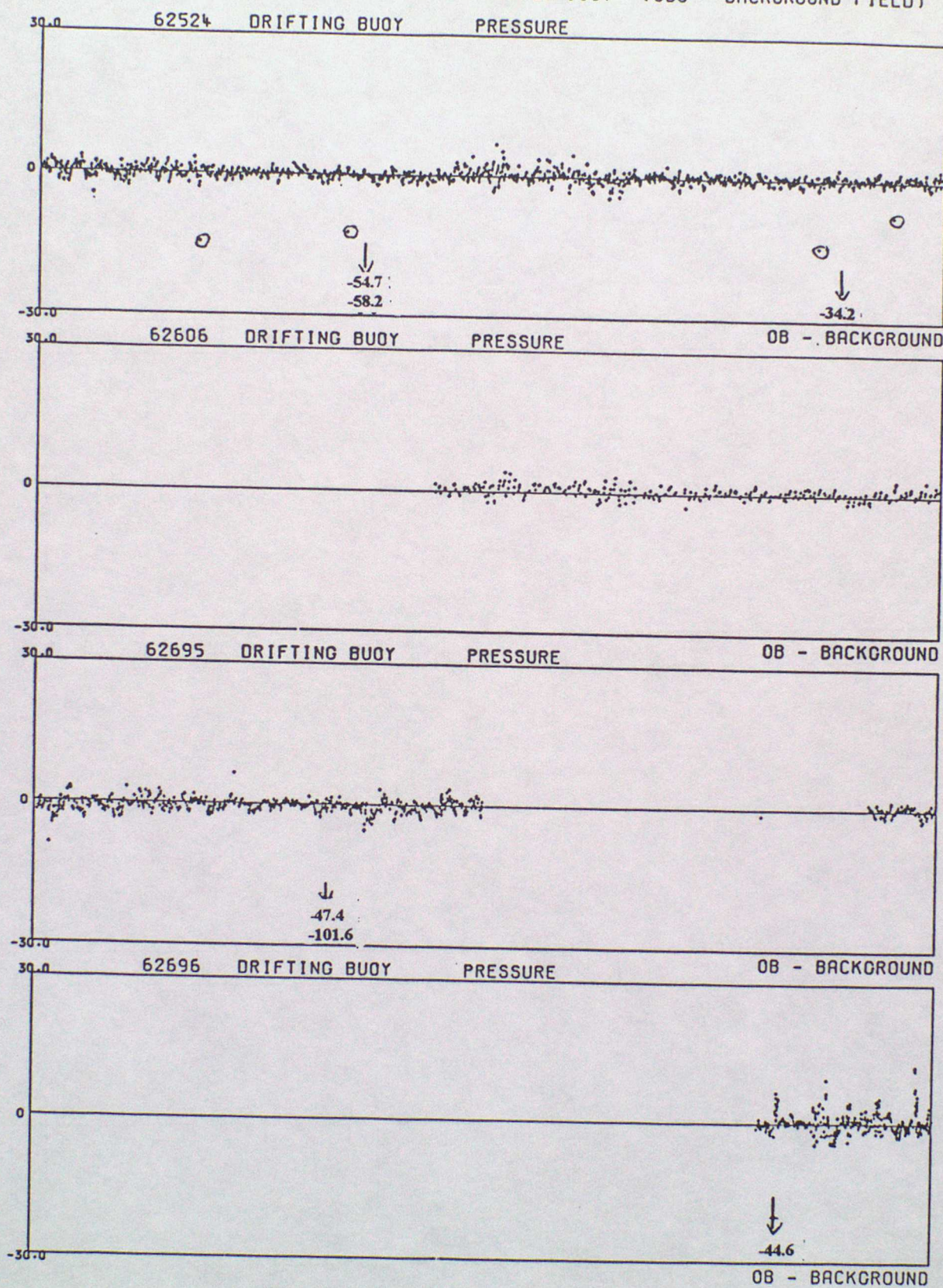
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



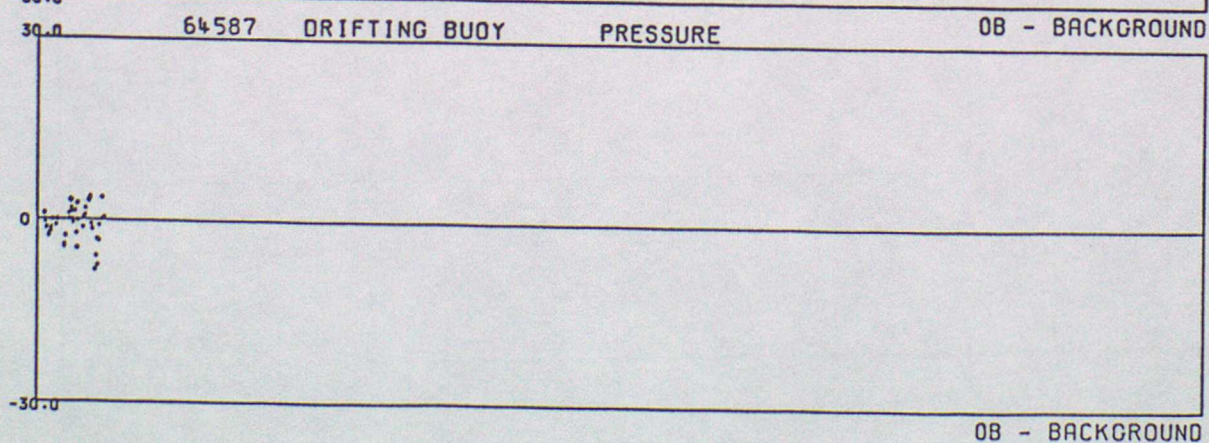
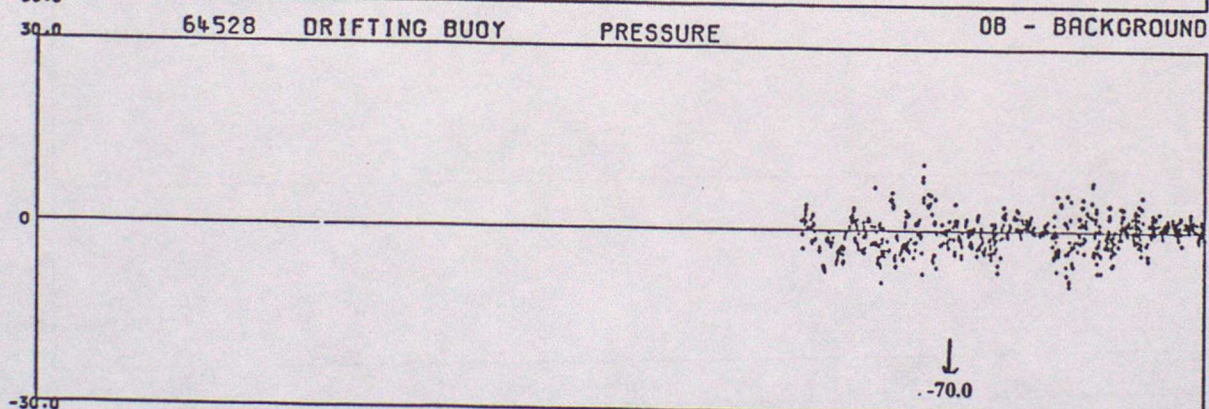
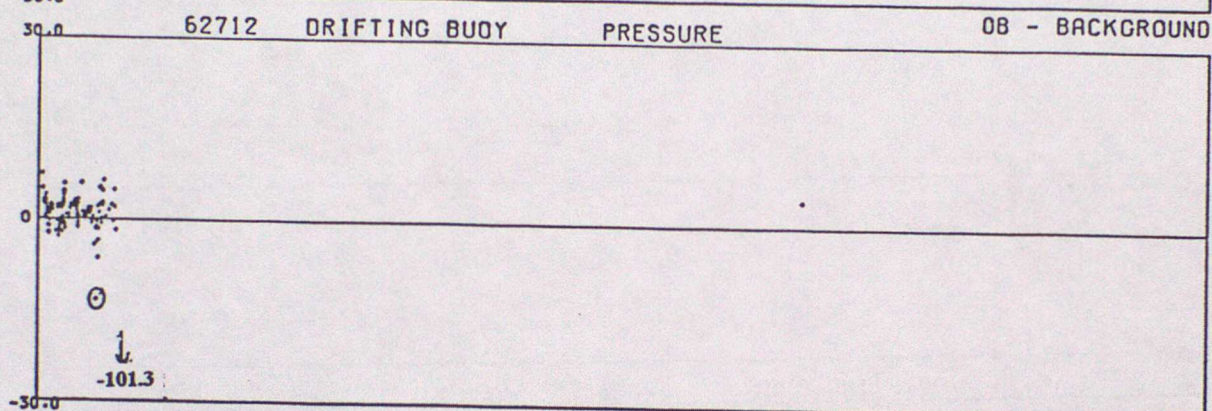
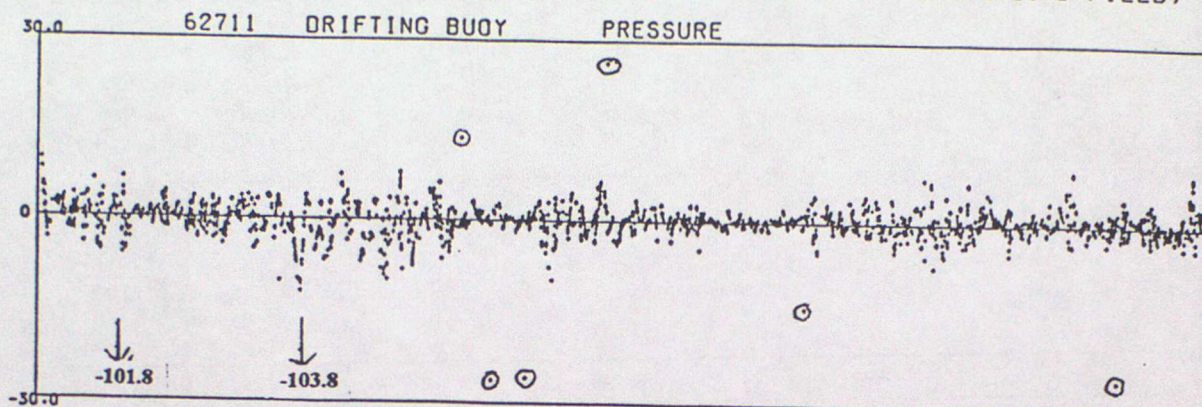
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

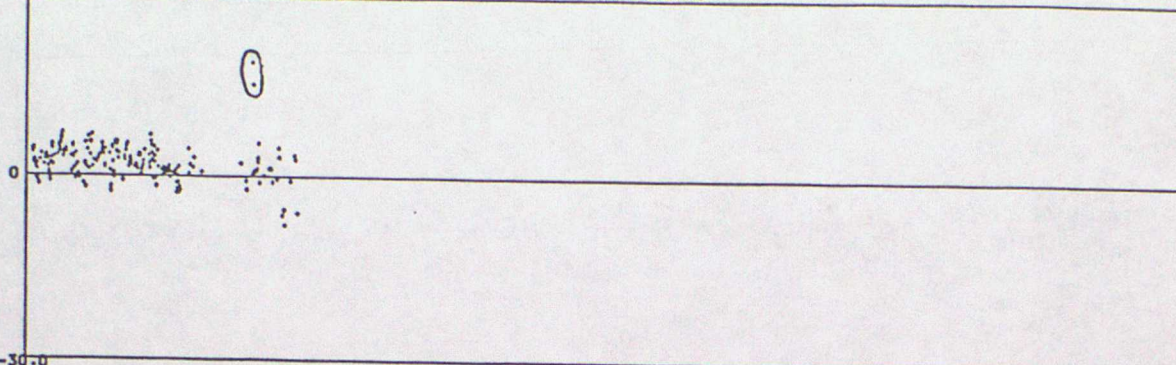


DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

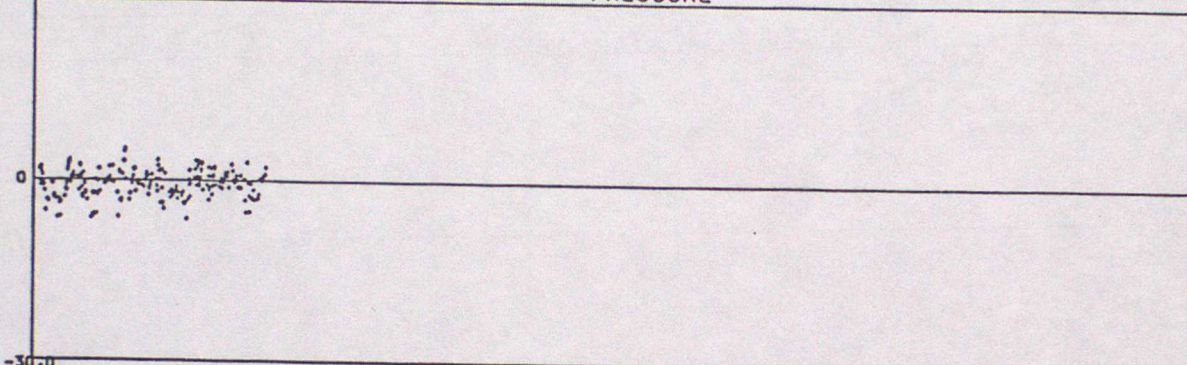


DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (095 - BACKGROUND FIELD)

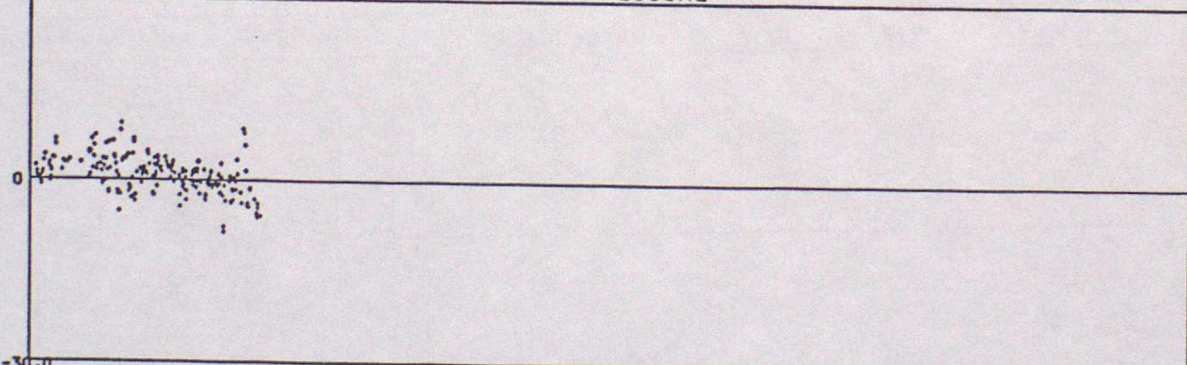
30.0 65503 DRIFTING BUOY PRESSURE



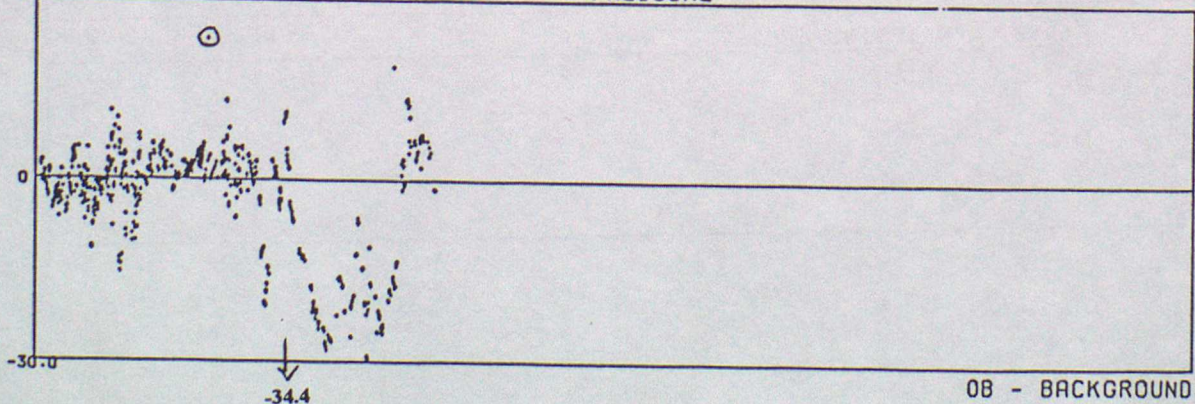
30.0 65506 DRIFTING BUOY PRESSURE OB - BACKGROUND



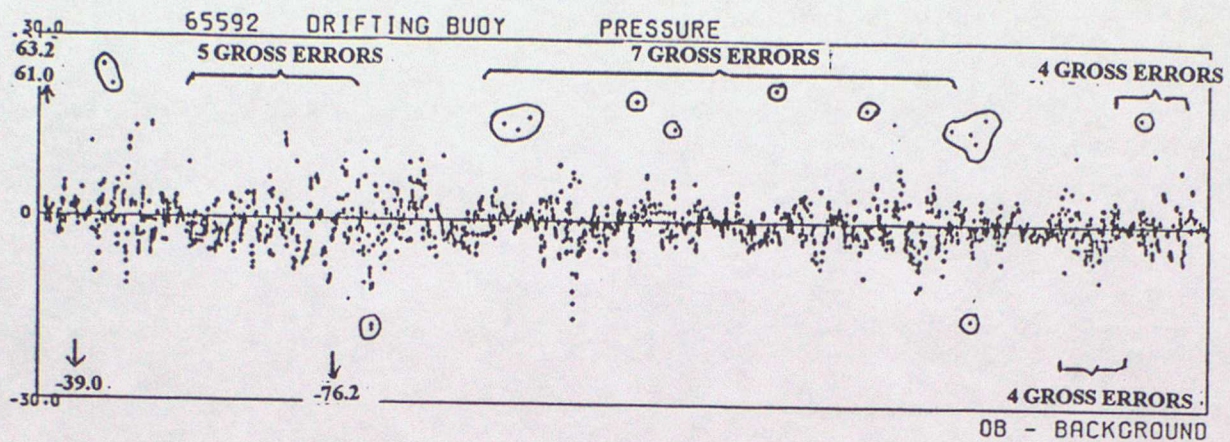
30.0 65508 DRIFTING BUOY PRESSURE OB - BACKGROUND



30.0 65581 DRIFTING BUOY PRESSURE OB - BACKGROUND

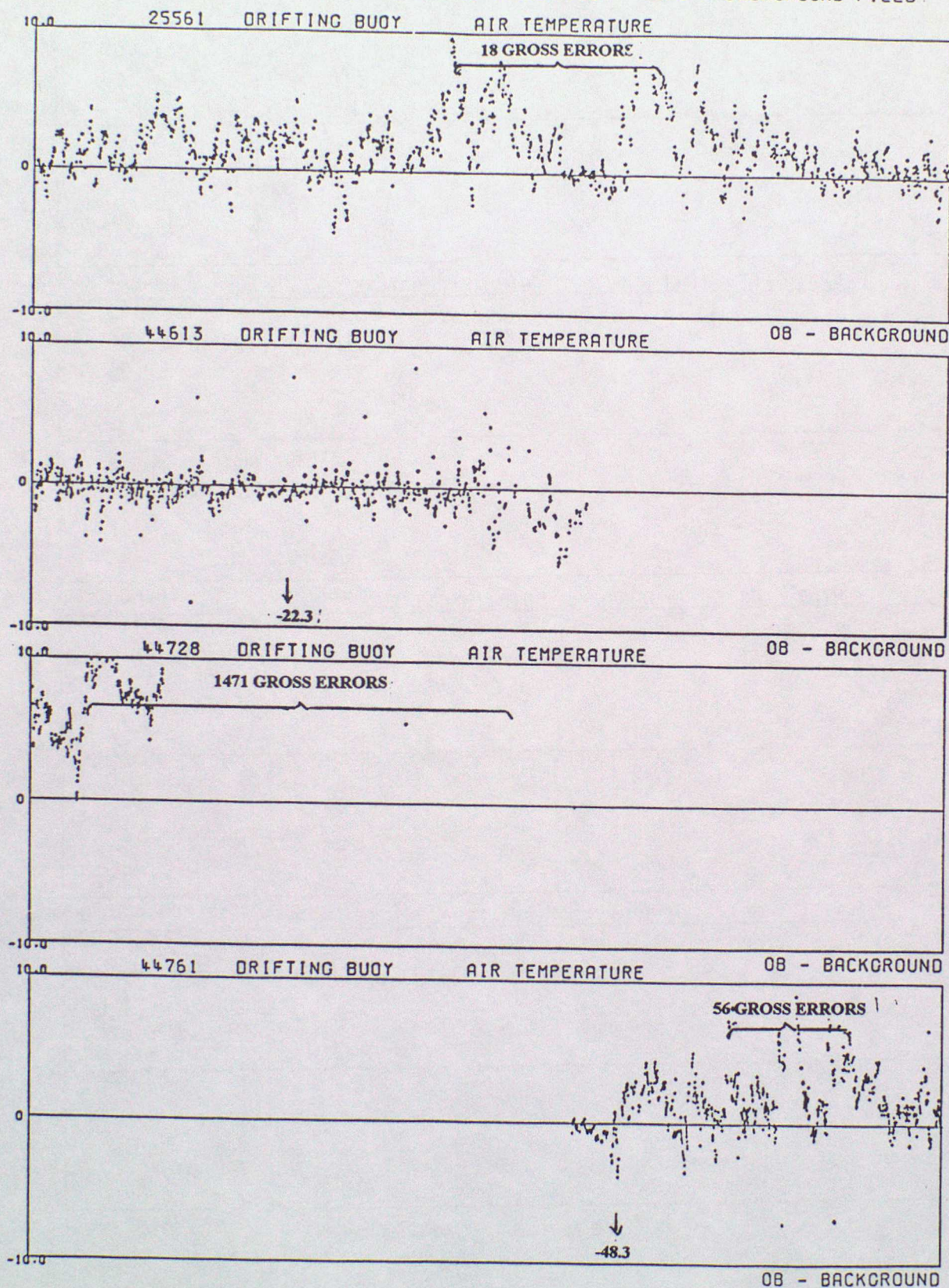


OB - BACKGROUND

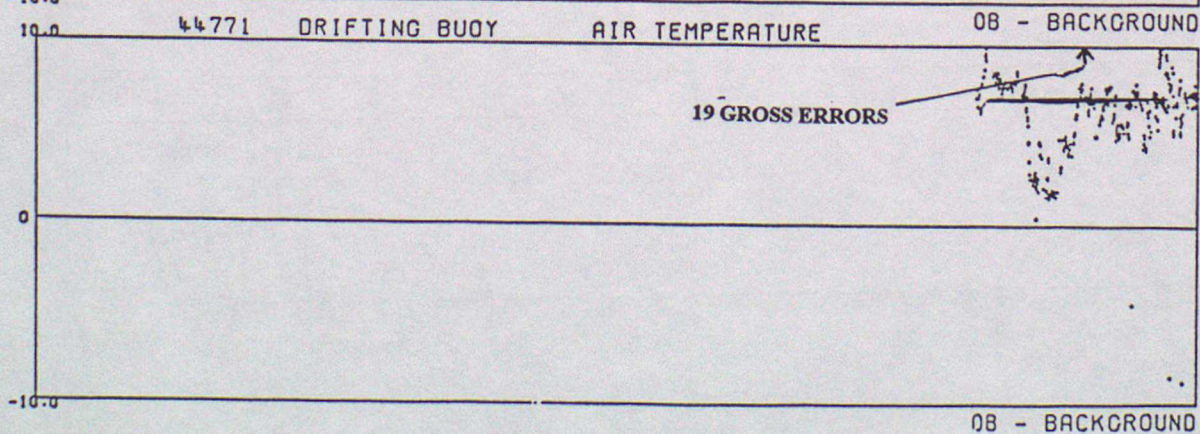
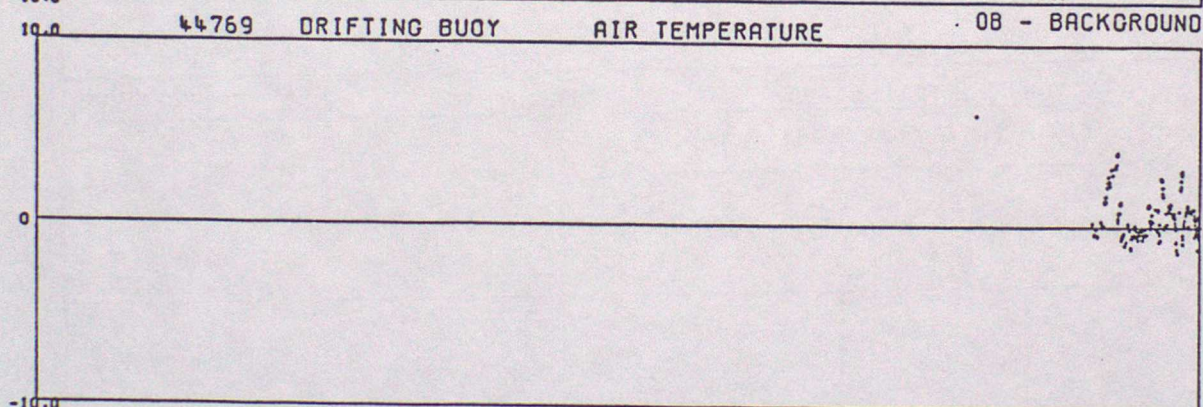
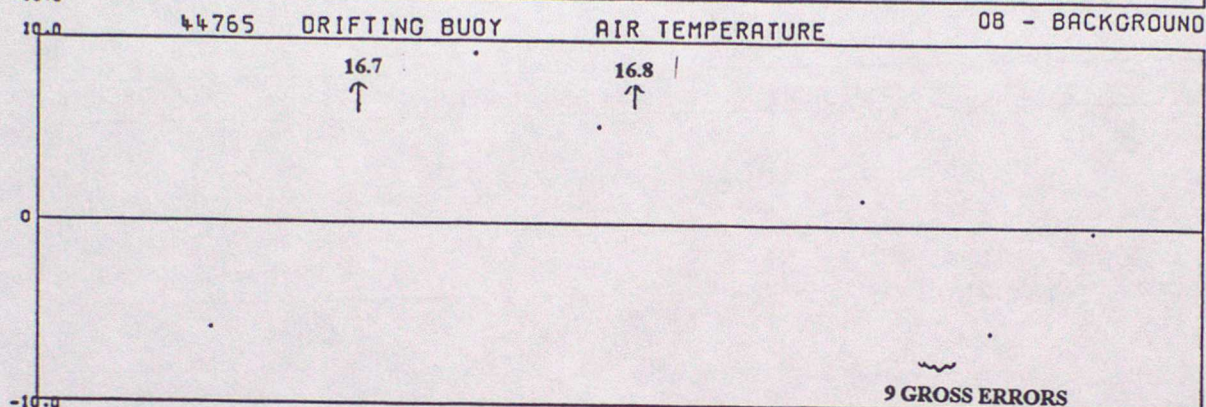
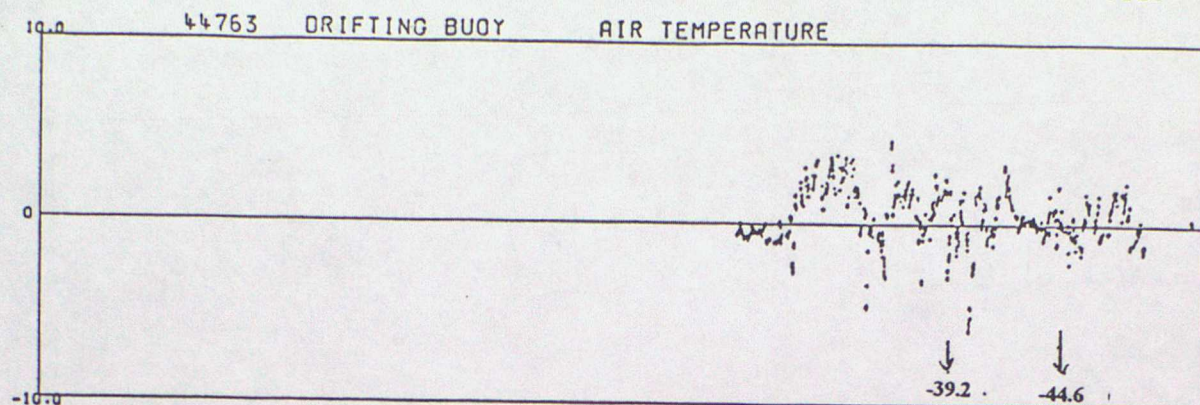


ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

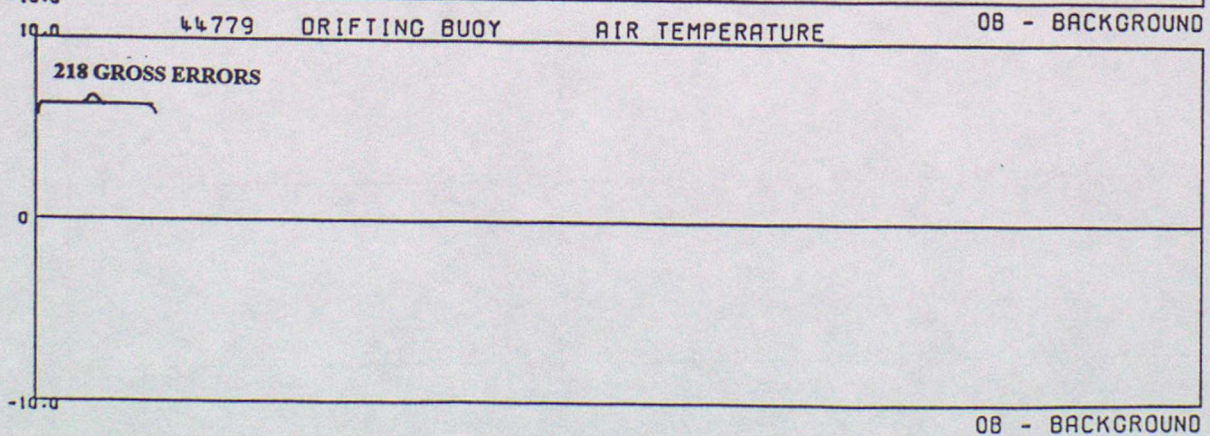
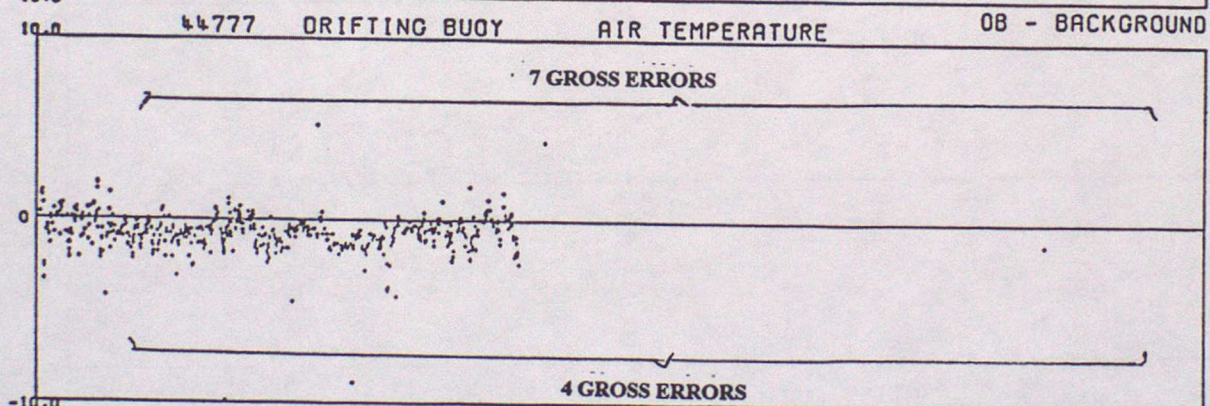
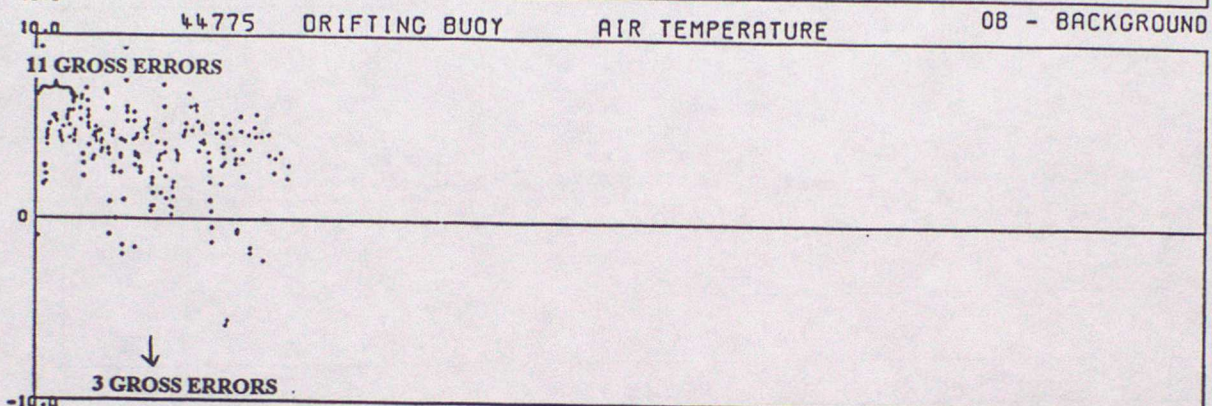
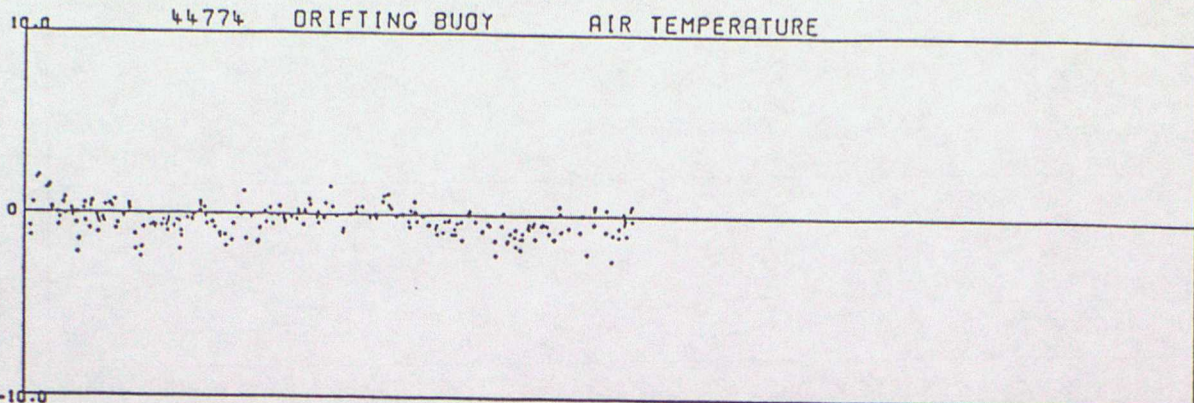
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



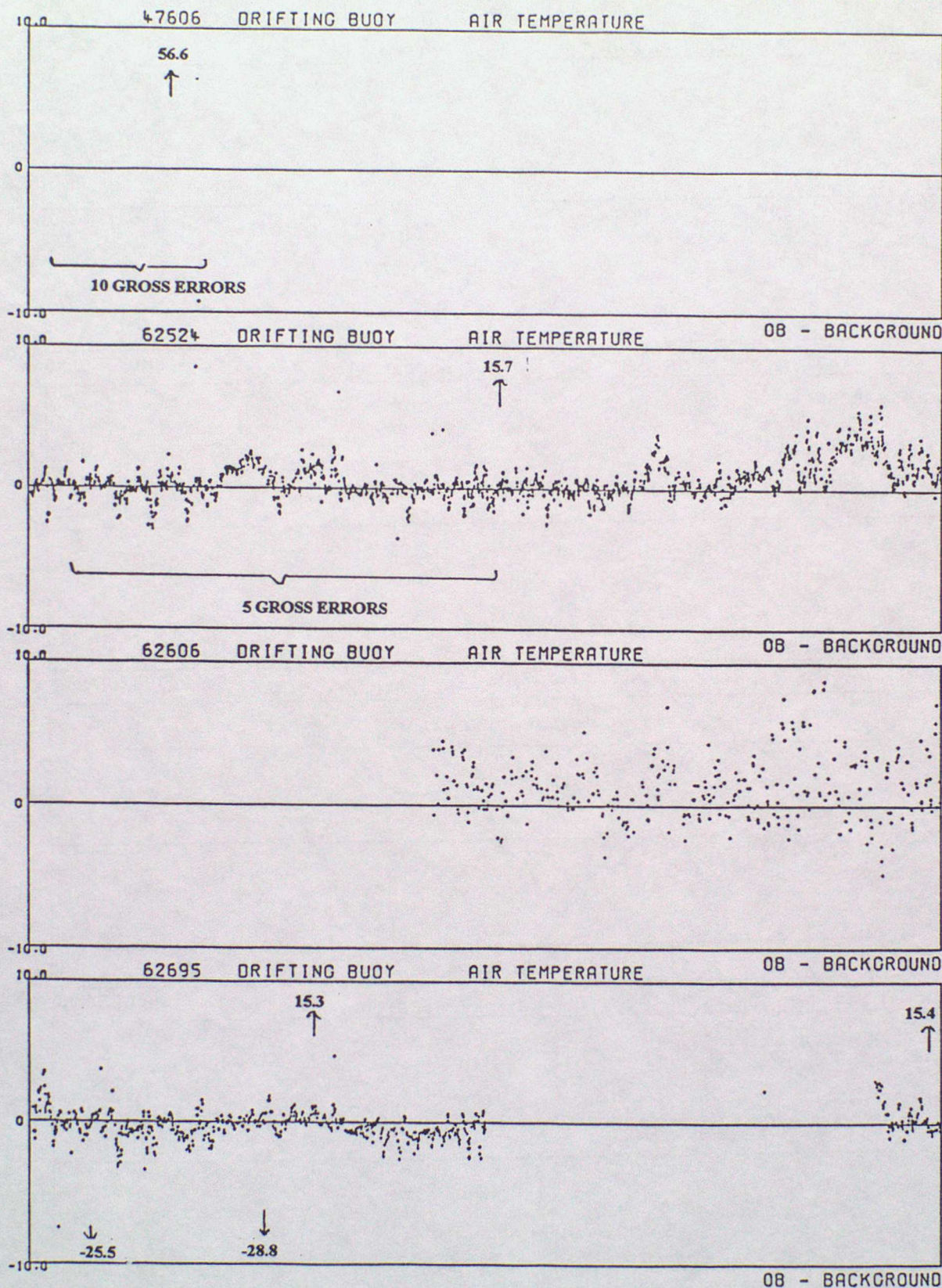
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



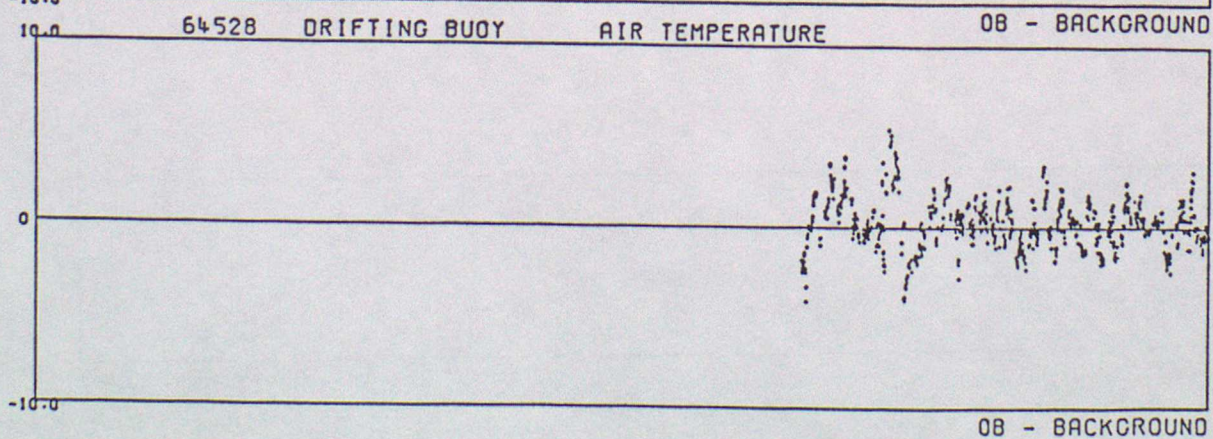
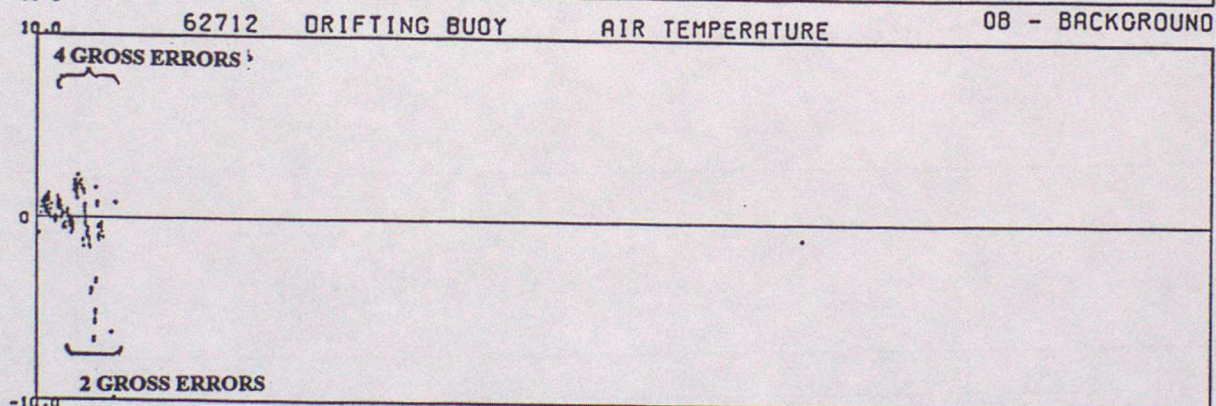
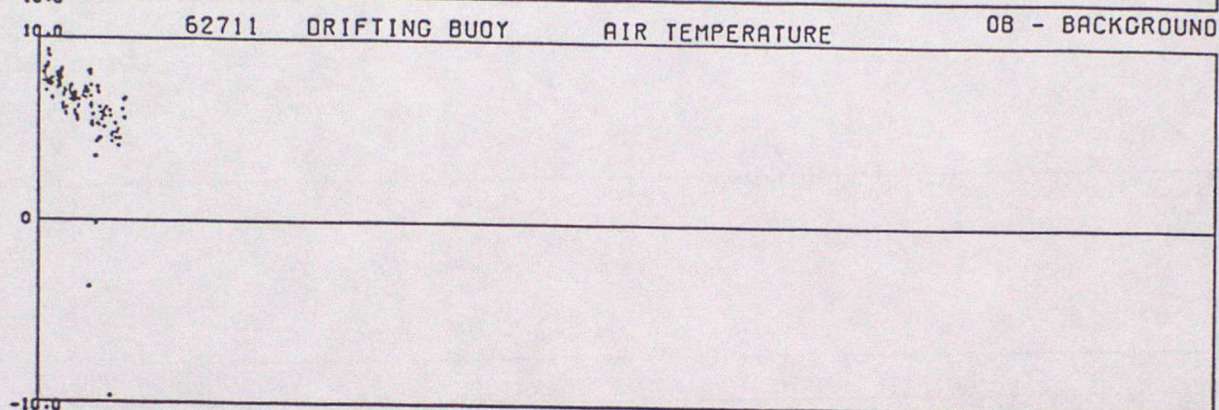
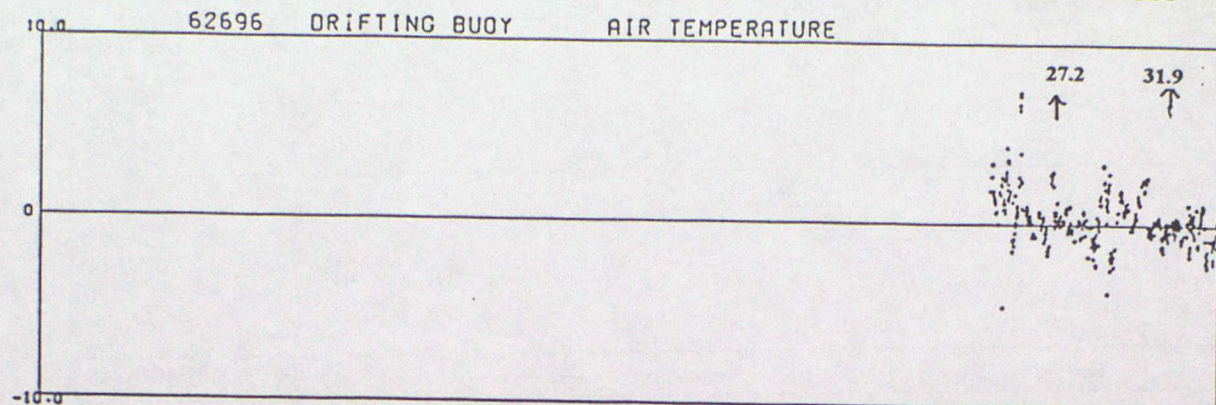
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



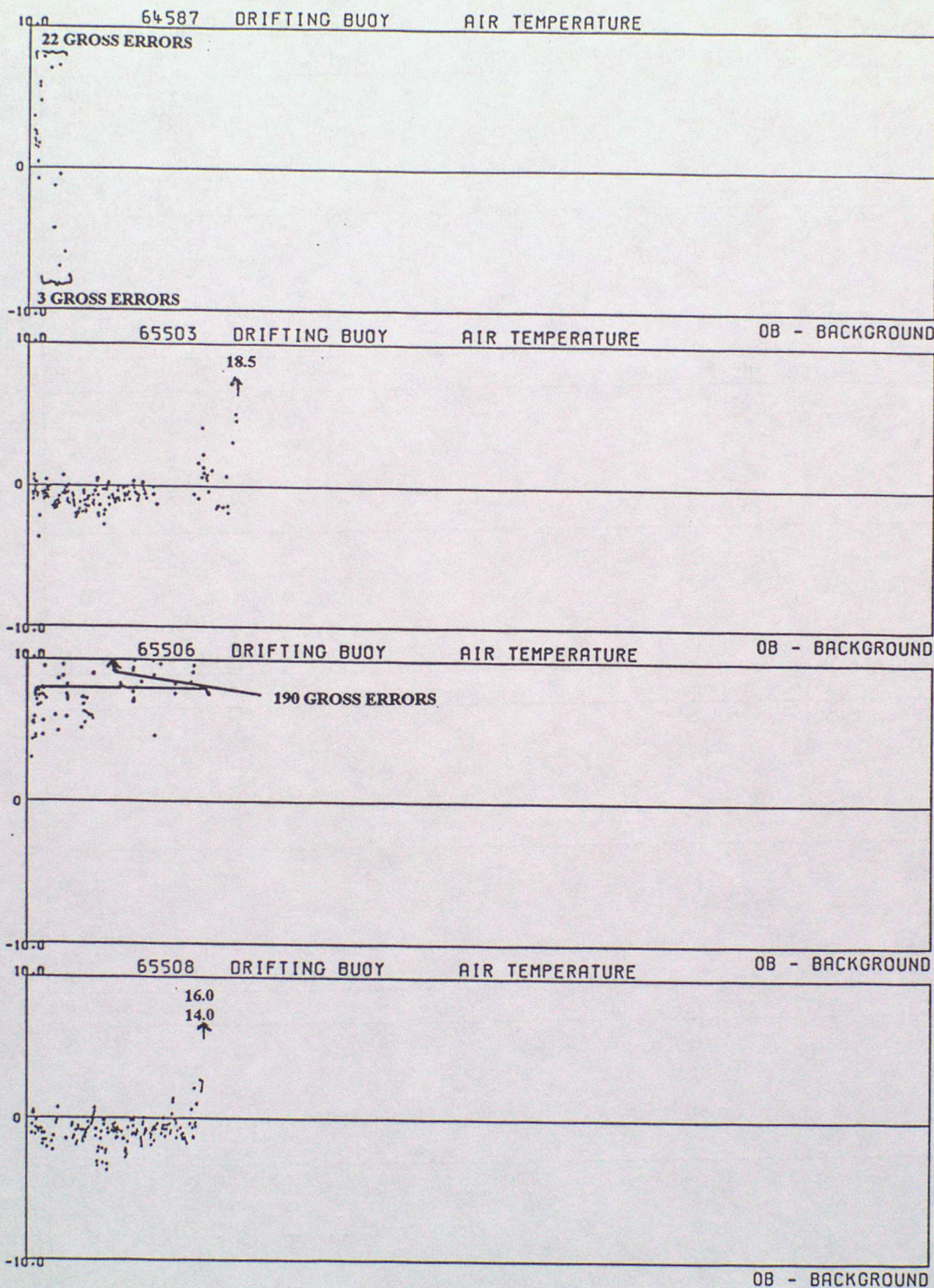
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

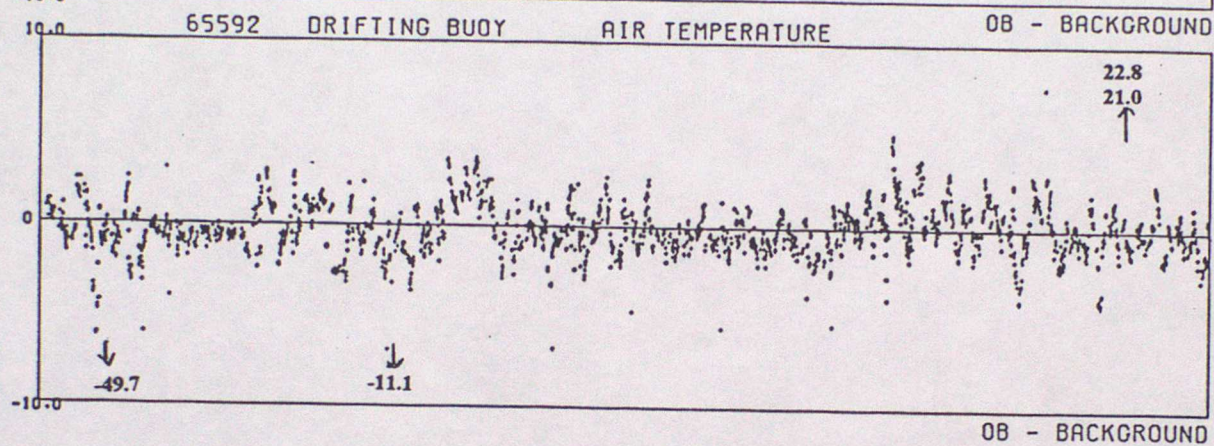
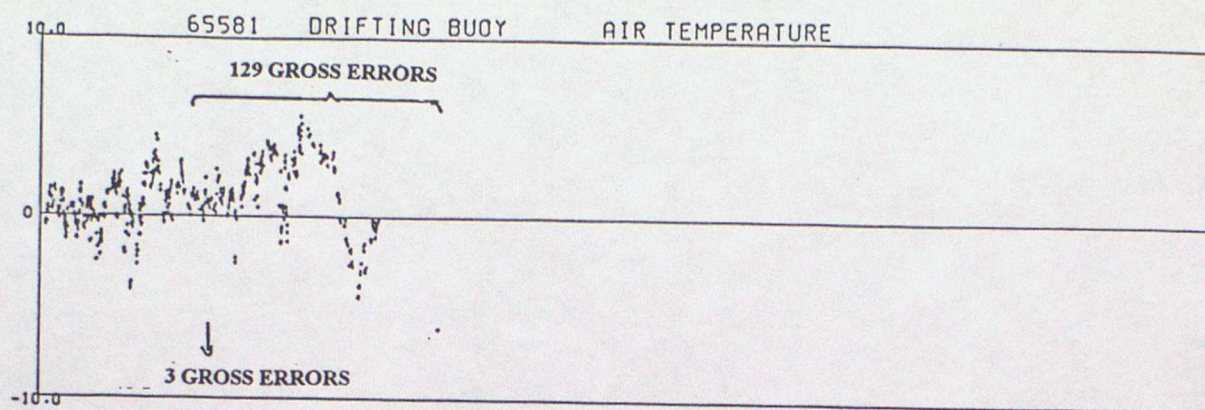


DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

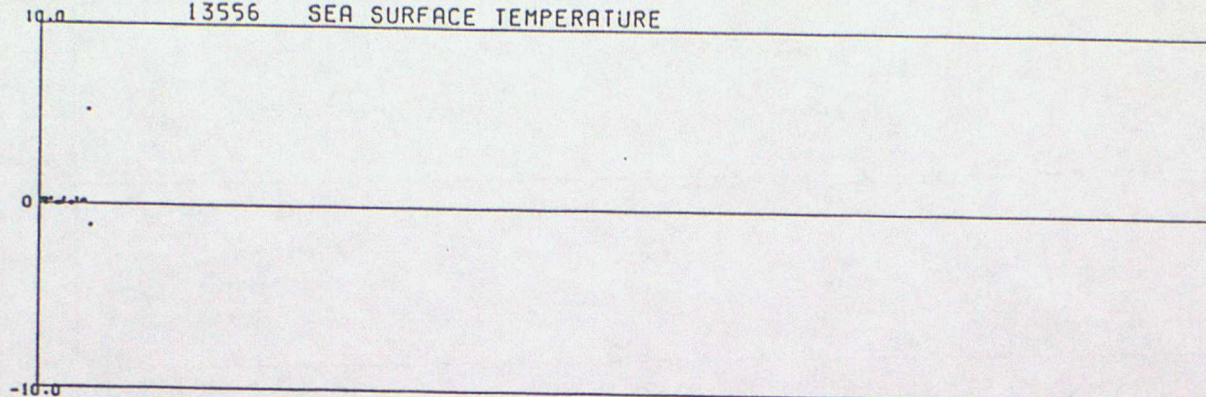




ANNEX D - TIME SERIES PLOTS OF SEA SURFACE TEMPERATURE

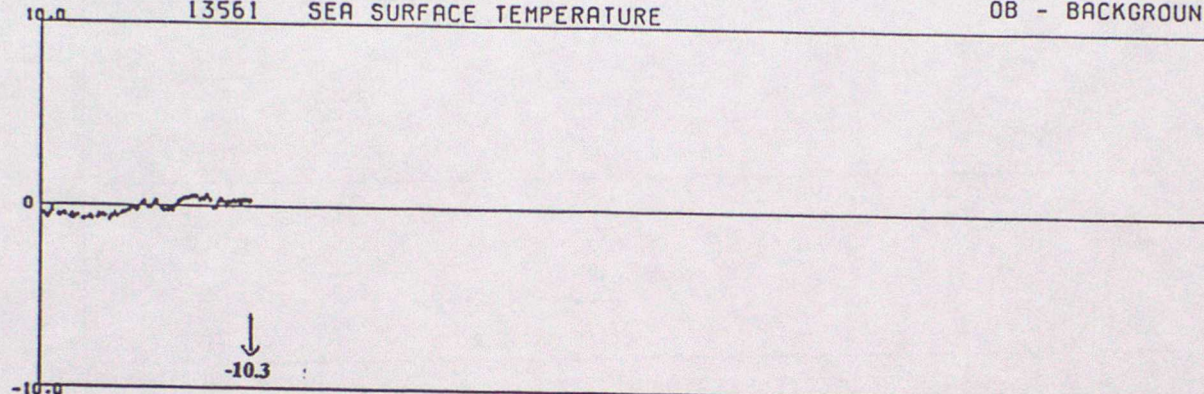
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

13556 SEA SURFACE TEMPERATURE



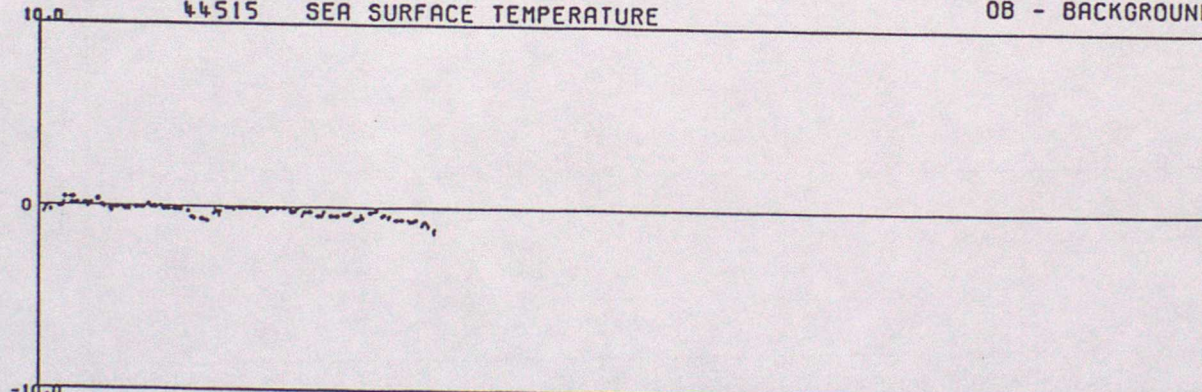
13561 SEA SURFACE TEMPERATURE

OB - BACKGROUND



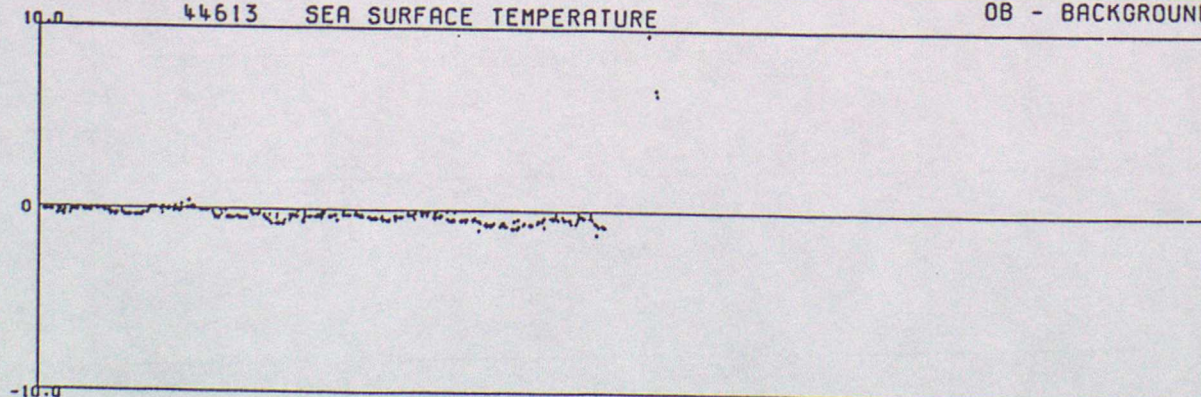
44515 SEA SURFACE TEMPERATURE

OB - BACKGROUND



44613 SEA SURFACE TEMPERATURE

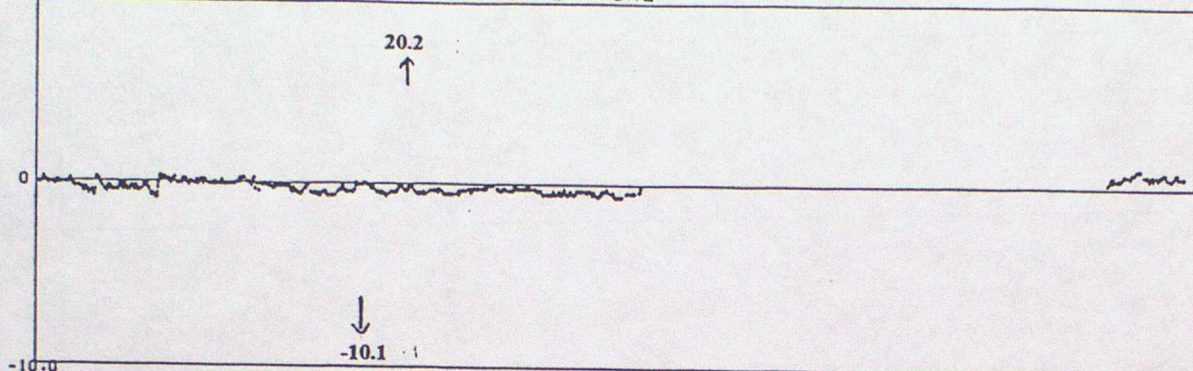
OB - BACKGROUND



OB - BACKGROUND

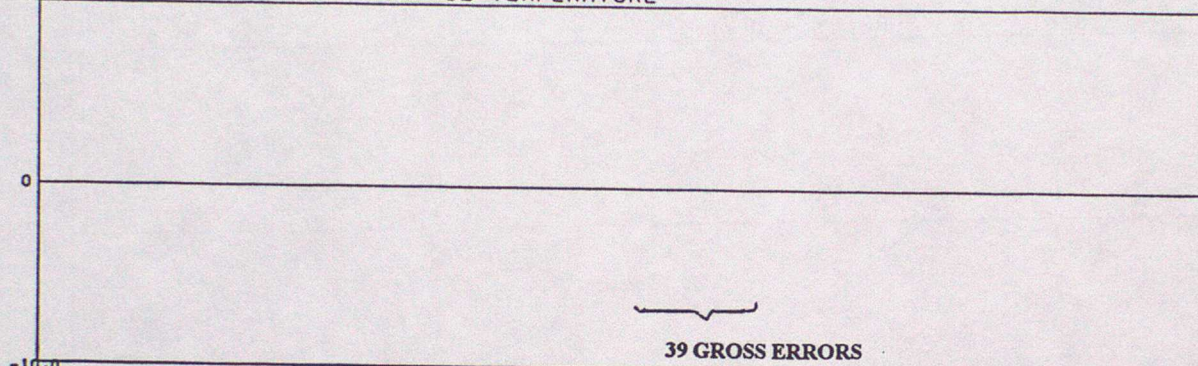
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

44728 SEA SURFACE TEMPERATURE



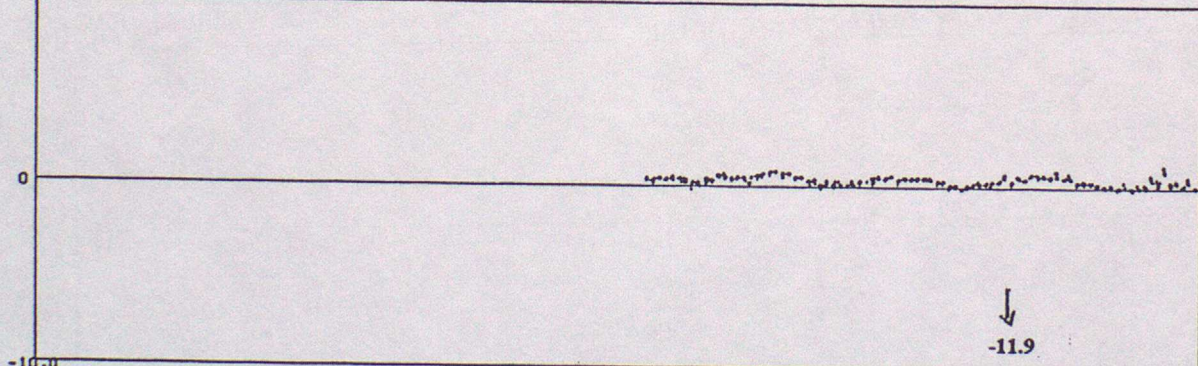
44743 SEA SURFACE TEMPERATURE

OB - BACKGROUND



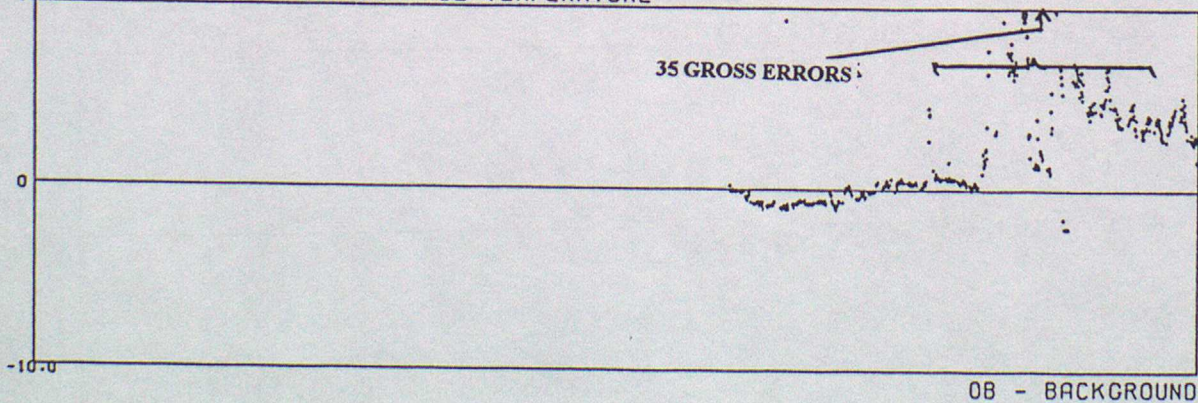
44760 SEA SURFACE TEMPERATURE

OB - BACKGROUND



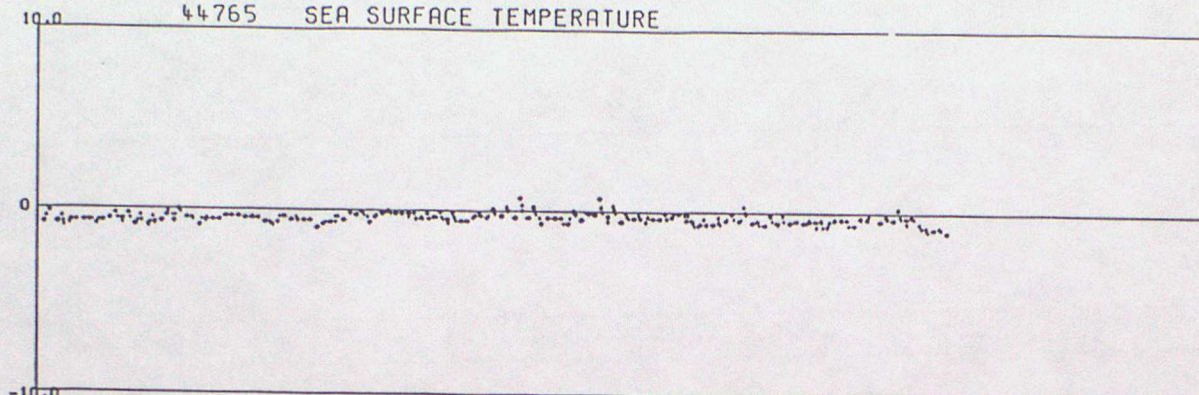
44761 SEA SURFACE TEMPERATURE

OB - BACKGROUND



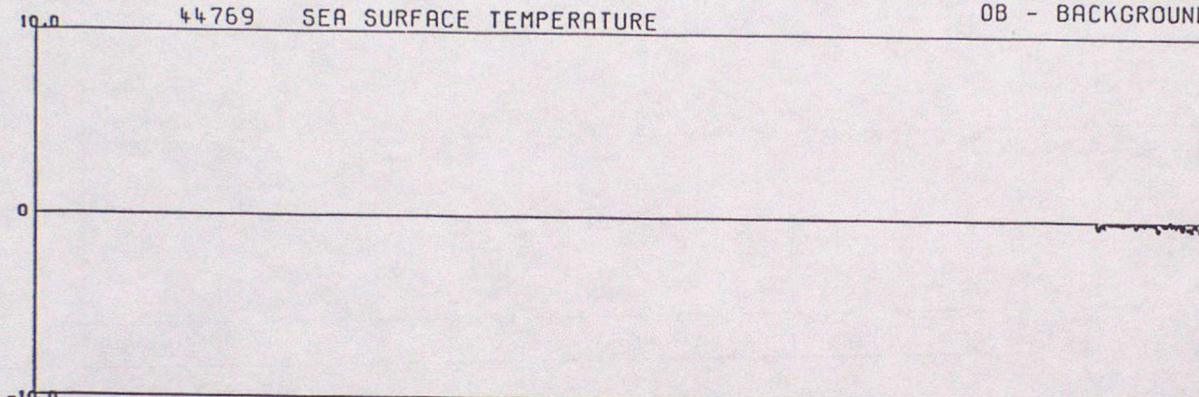
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

44765 SEA SURFACE TEMPERATURE



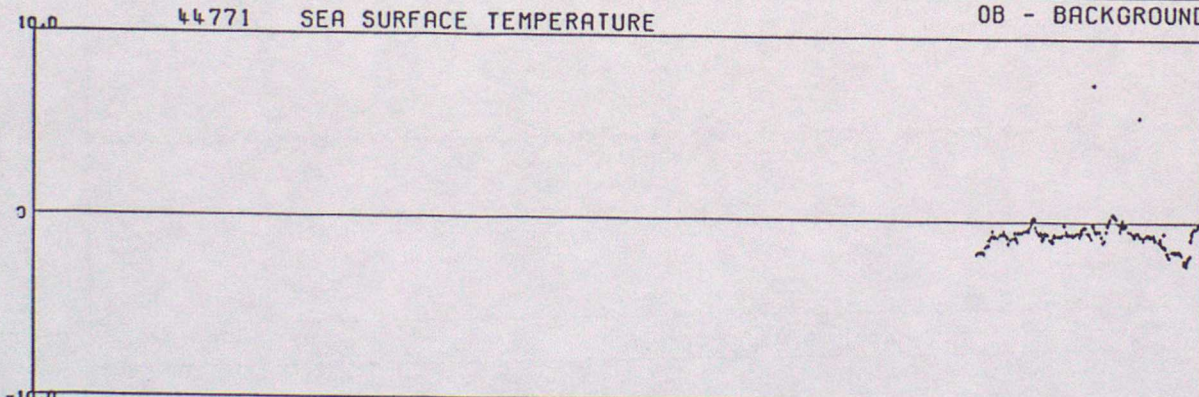
44769 SEA SURFACE TEMPERATURE

OB - BACKGROUND



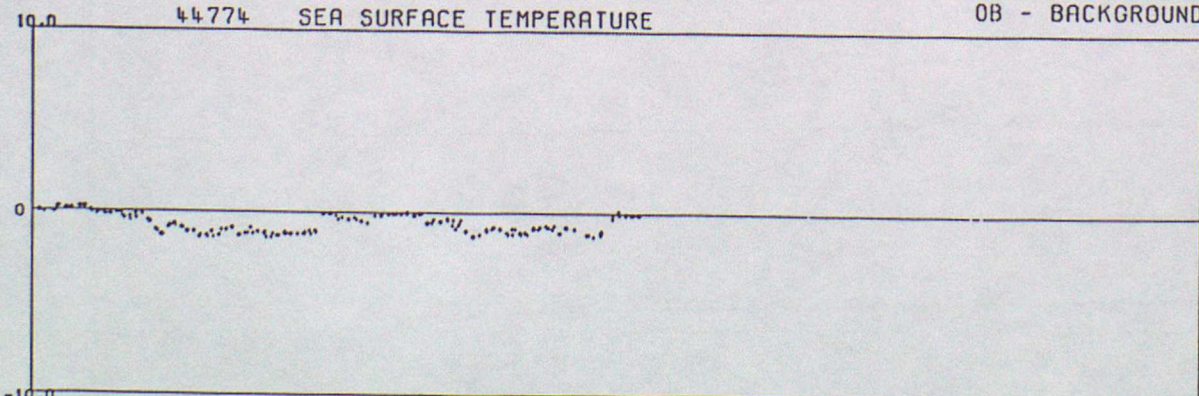
44771 SEA SURFACE TEMPERATURE

OB - BACKGROUND



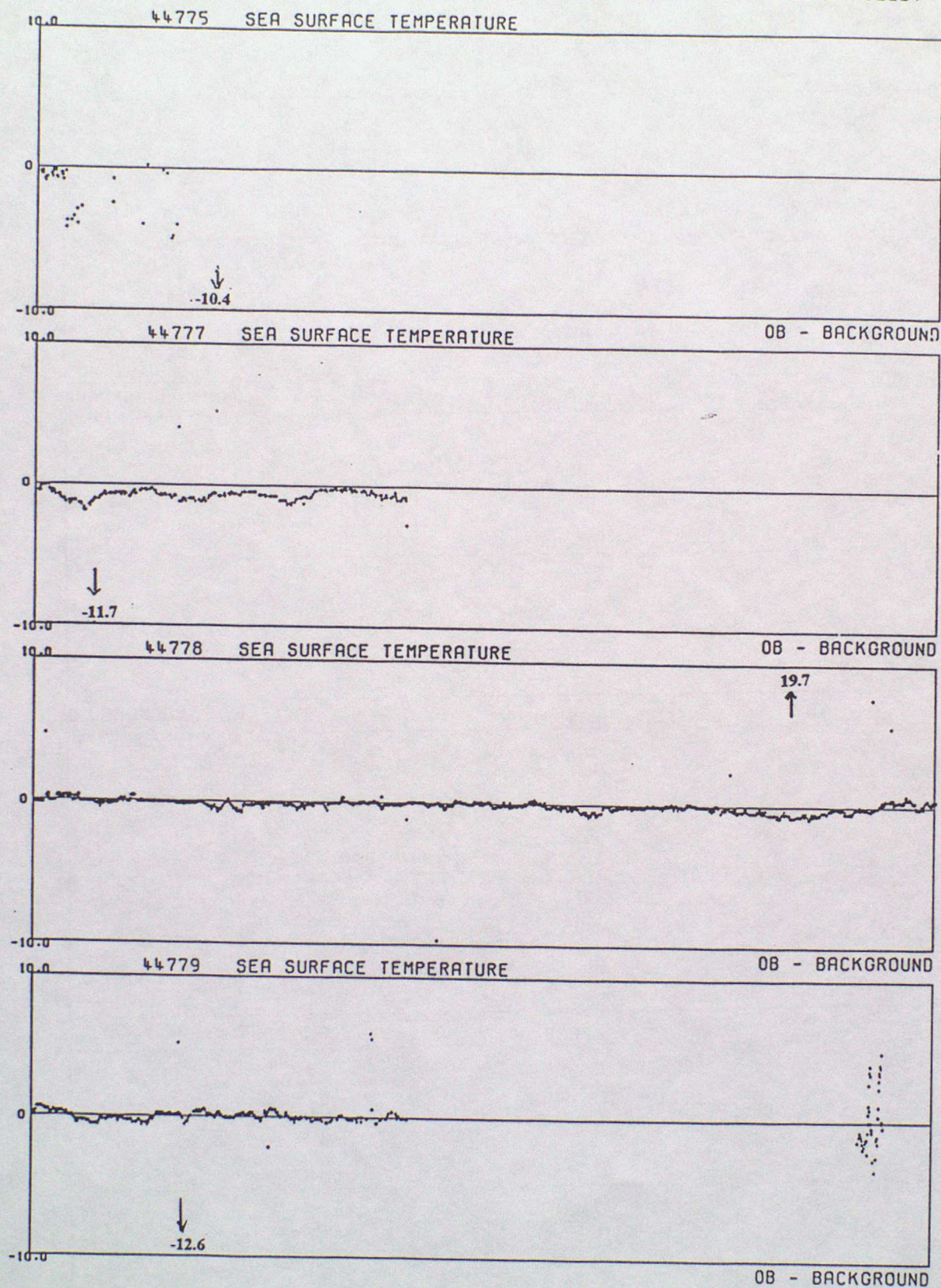
44774 SEA SURFACE TEMPERATURE

OB - BACKGROUND



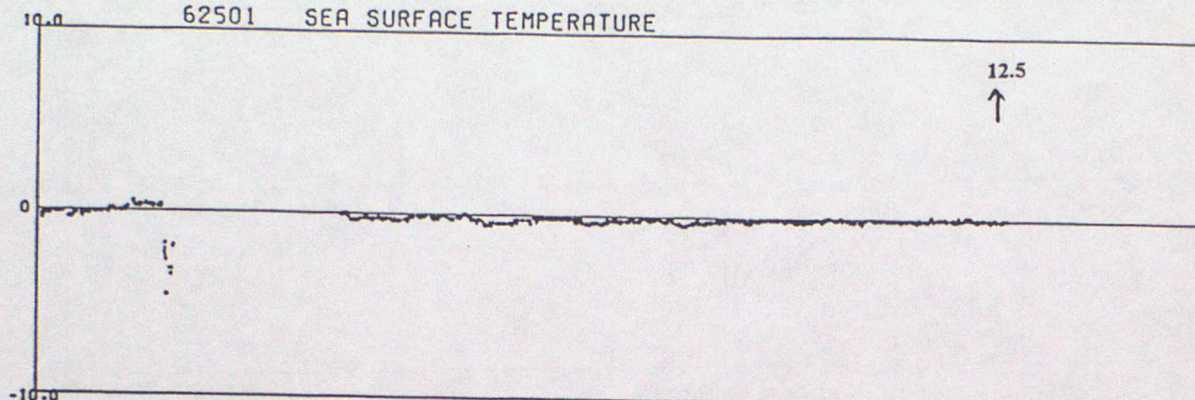
OB - BACKGROUND

DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



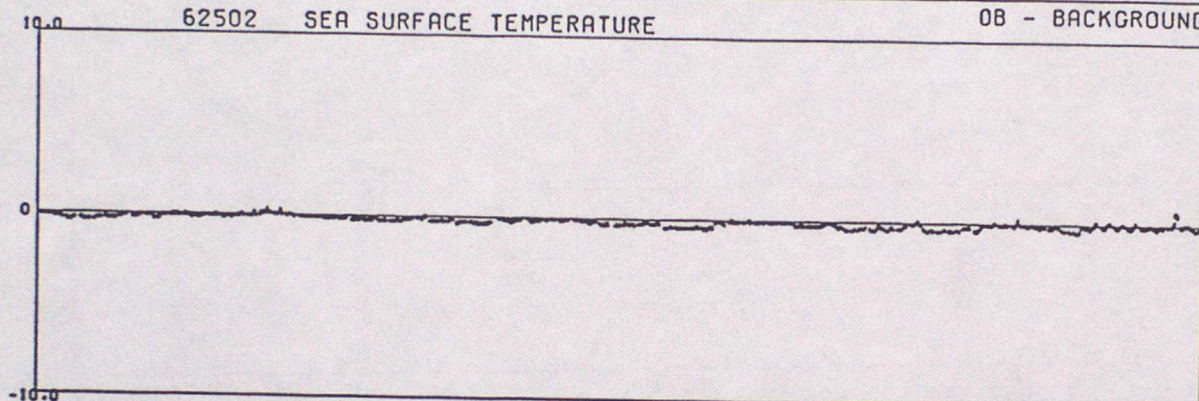
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

62501 SEA SURFACE TEMPERATURE



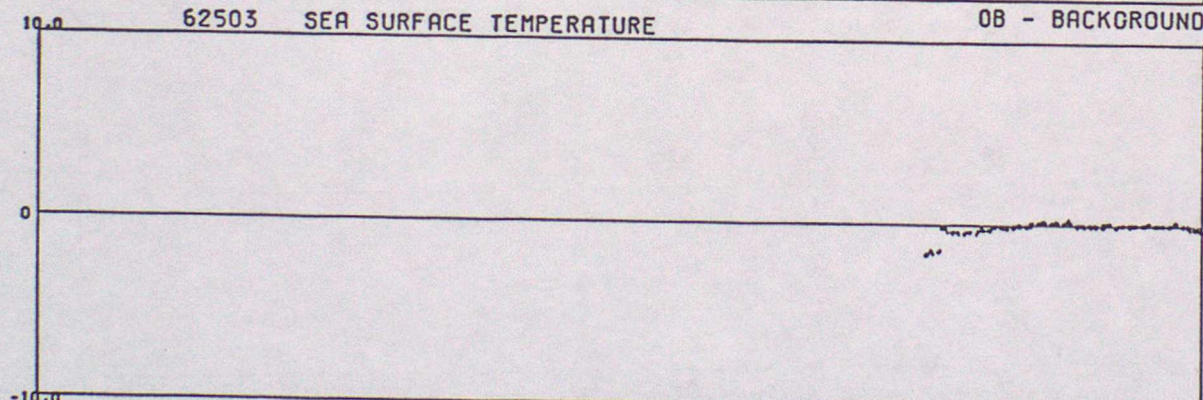
62502 SEA SURFACE TEMPERATURE

OB - BACKGROUND



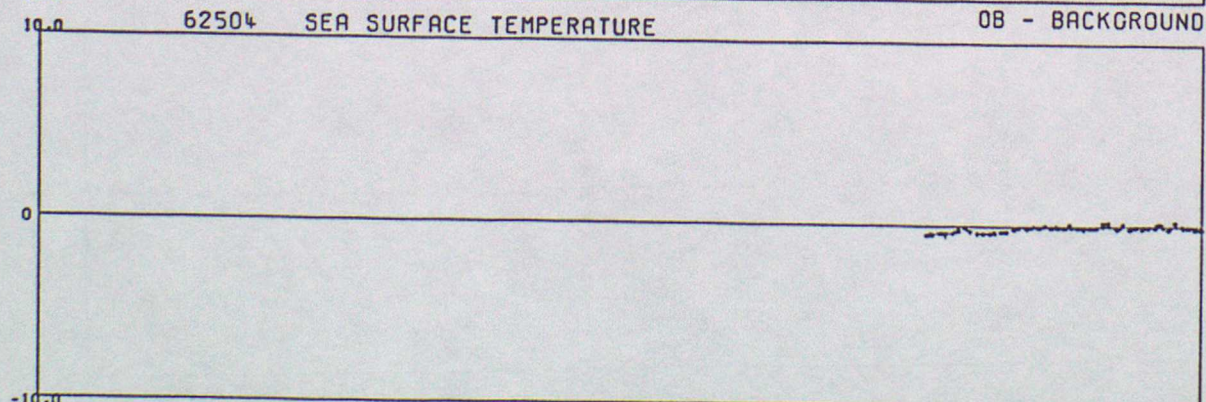
62503 SEA SURFACE TEMPERATURE

OB - BACKGROUND



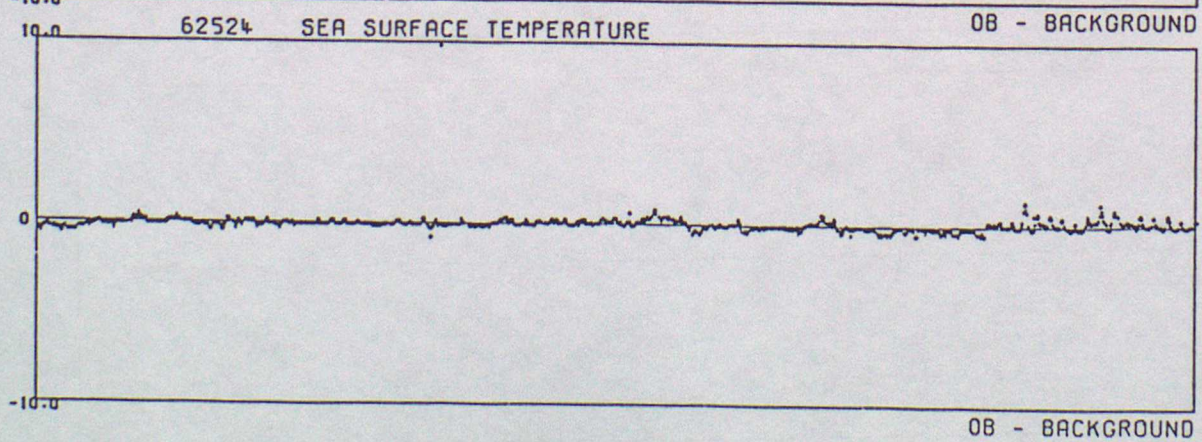
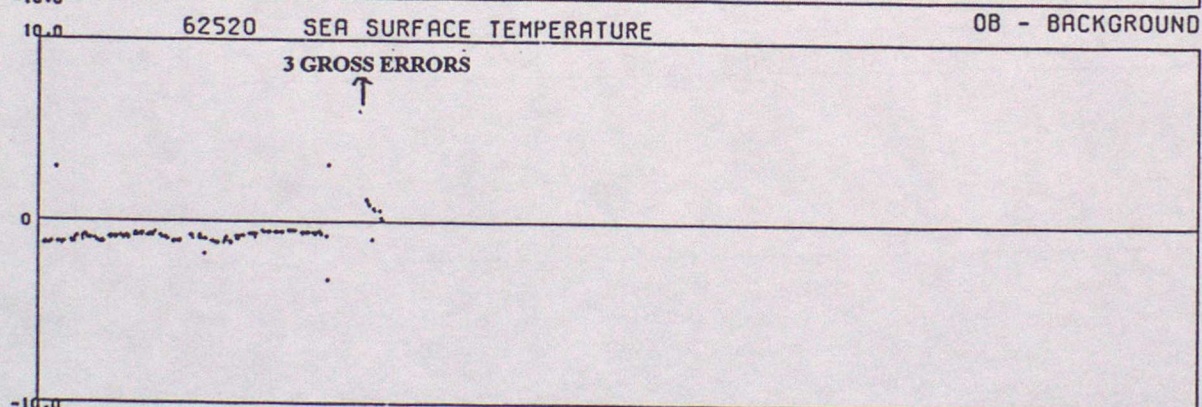
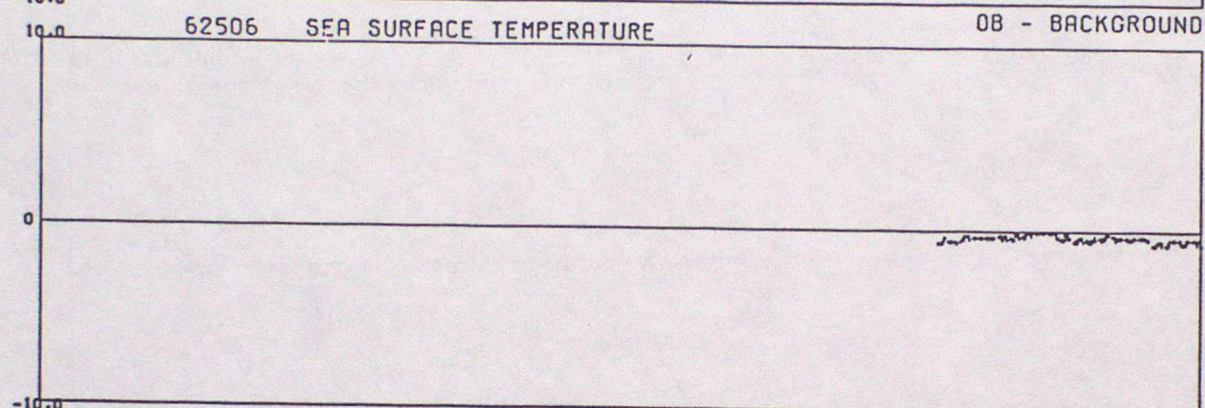
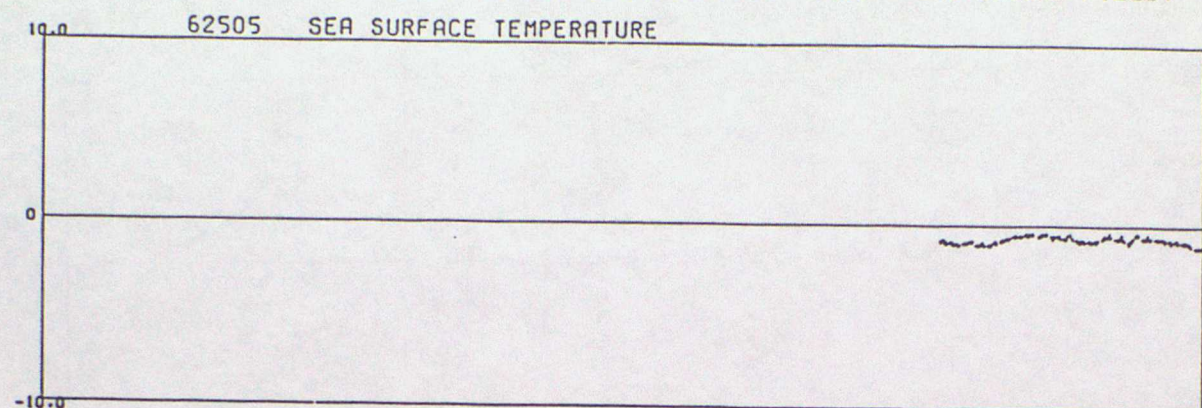
62504 SEA SURFACE TEMPERATURE

OB - BACKGROUND

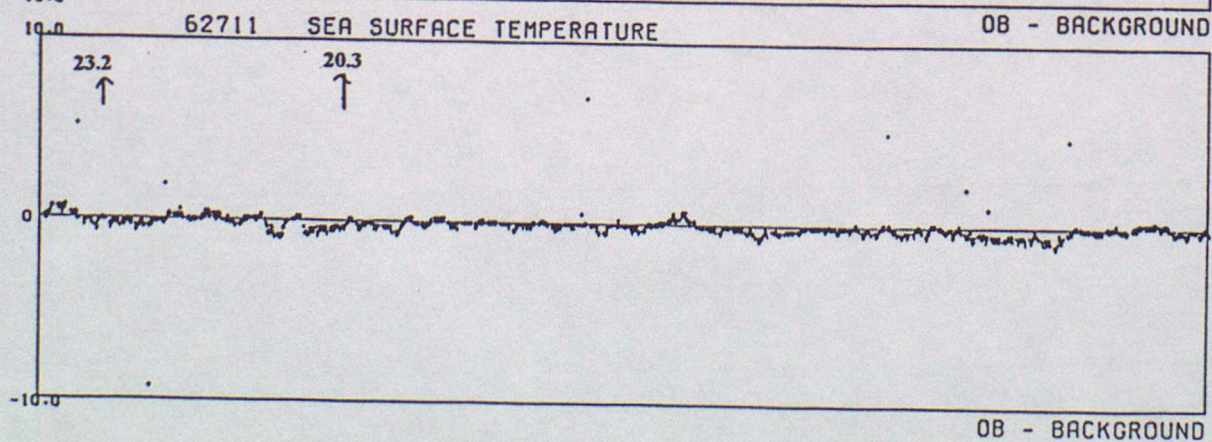
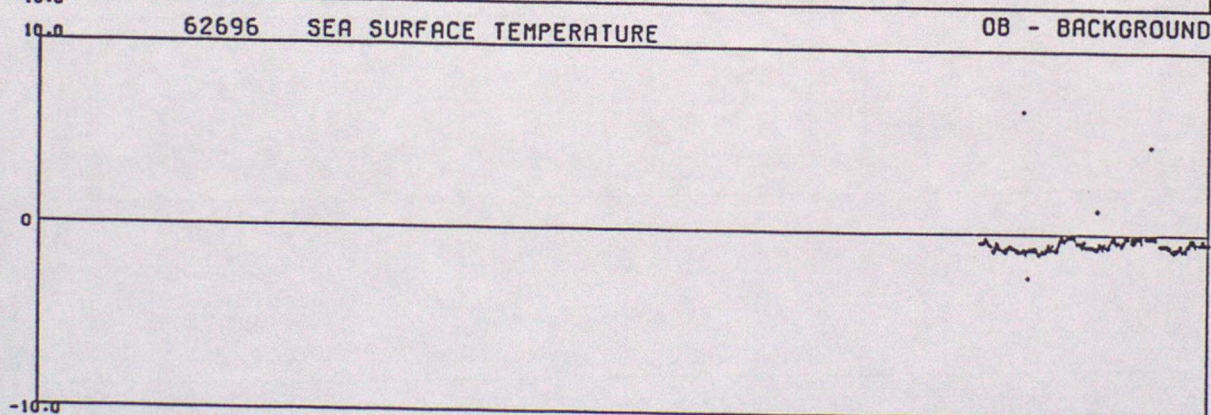
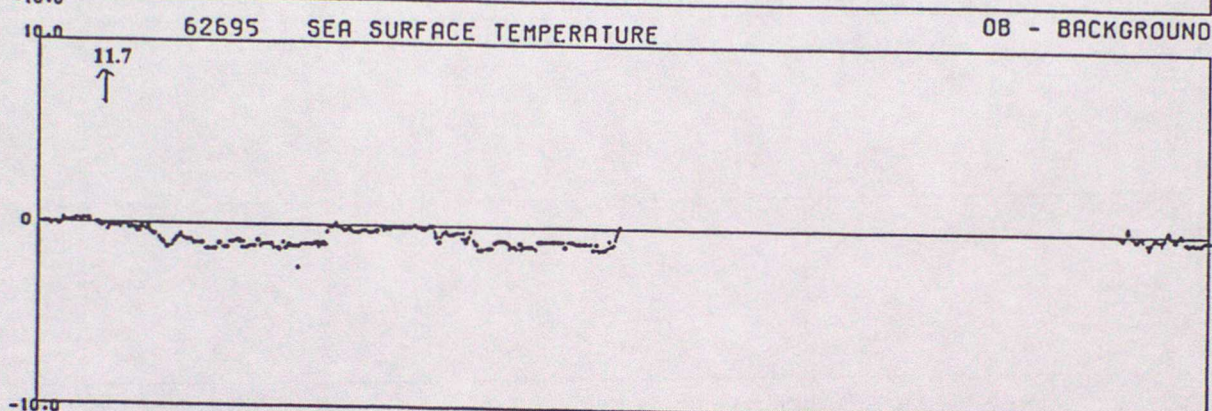
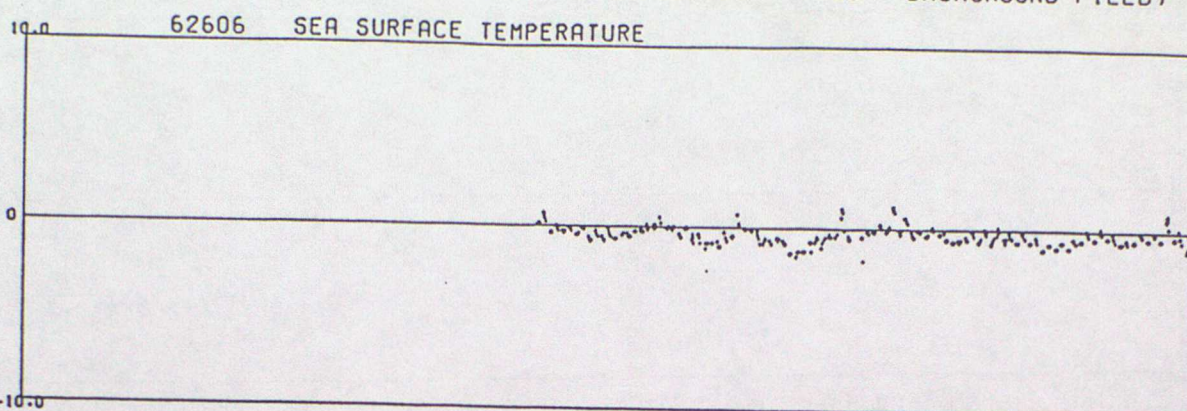


OB - BACKGROUND

DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



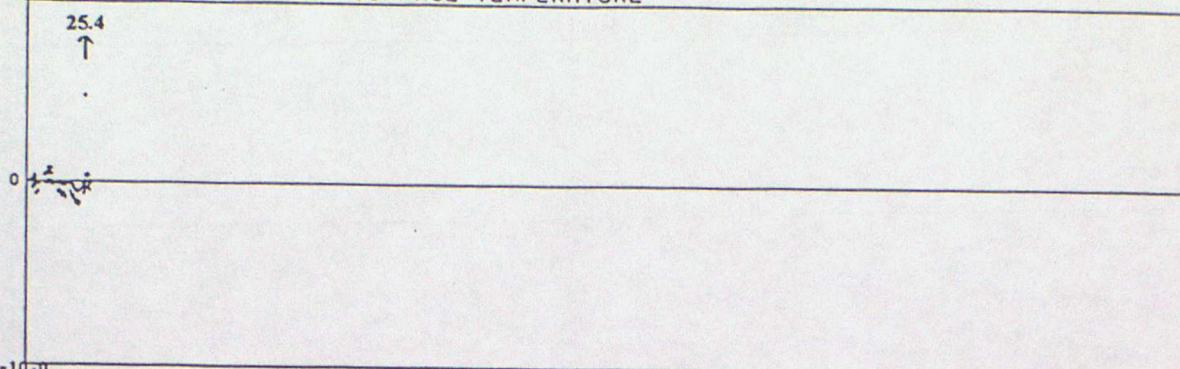
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



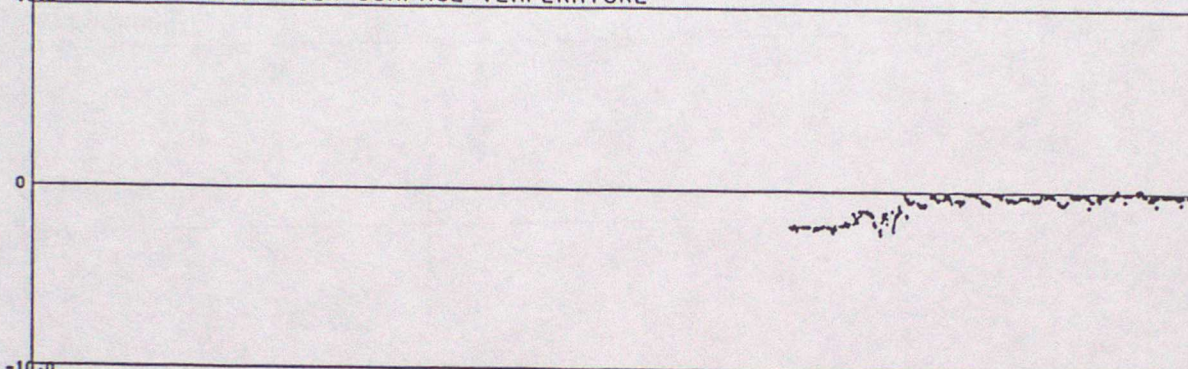
OB - BACKGROUND

DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

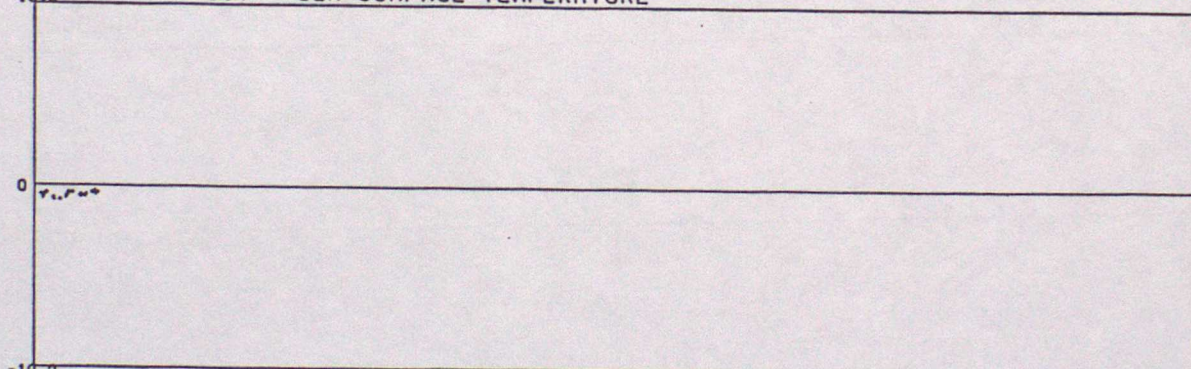
62712 SEA SURFACE TEMPERATURE



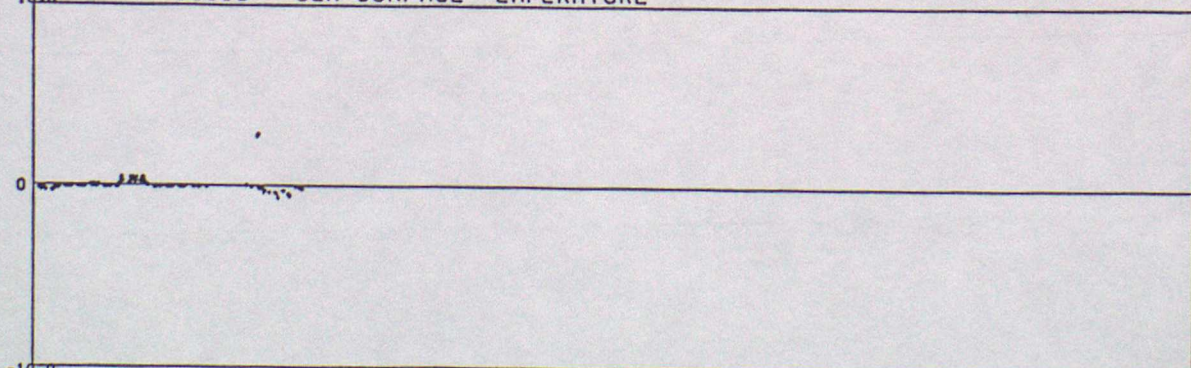
64528 SEA SURFACE TEMPERATURE OB - BACKGROUND



64587 SEA SURFACE TEMPERATURE OB - BACKGROUND



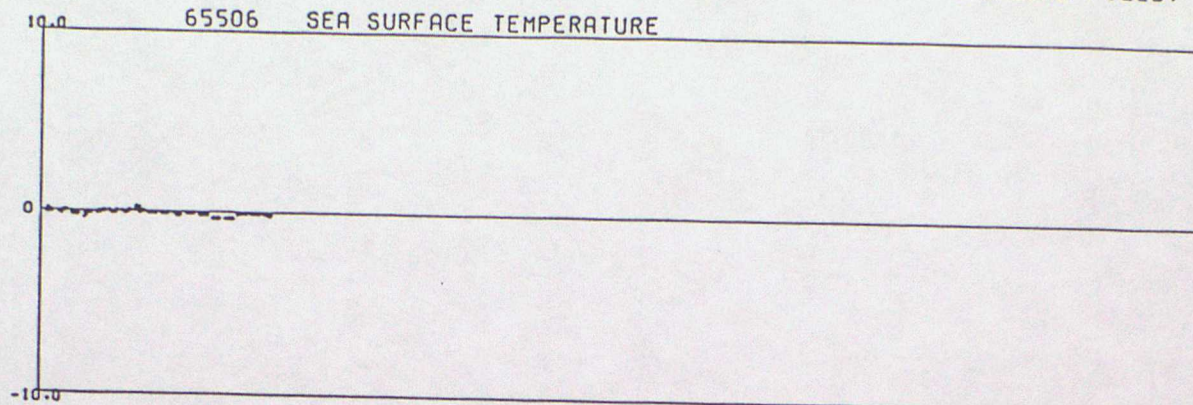
65503 SEA SURFACE TEMPERATURE OB - BACKGROUND



OB - BACKGROUND

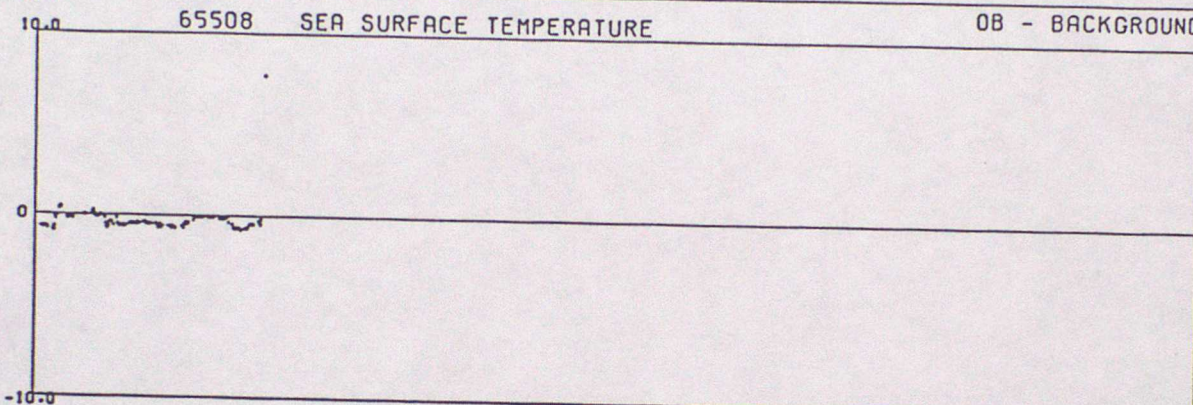
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

65506 SEA SURFACE TEMPERATURE



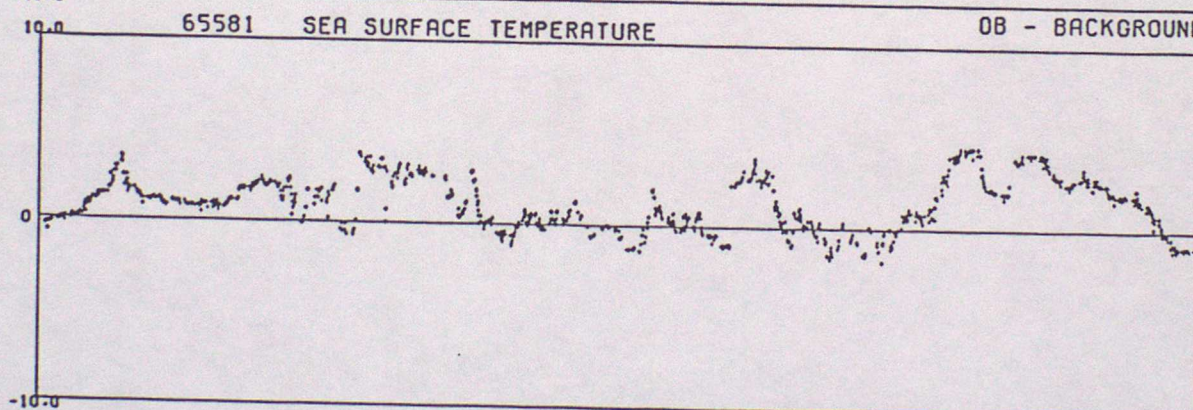
65508 SEA SURFACE TEMPERATURE

OB - BACKGROUND



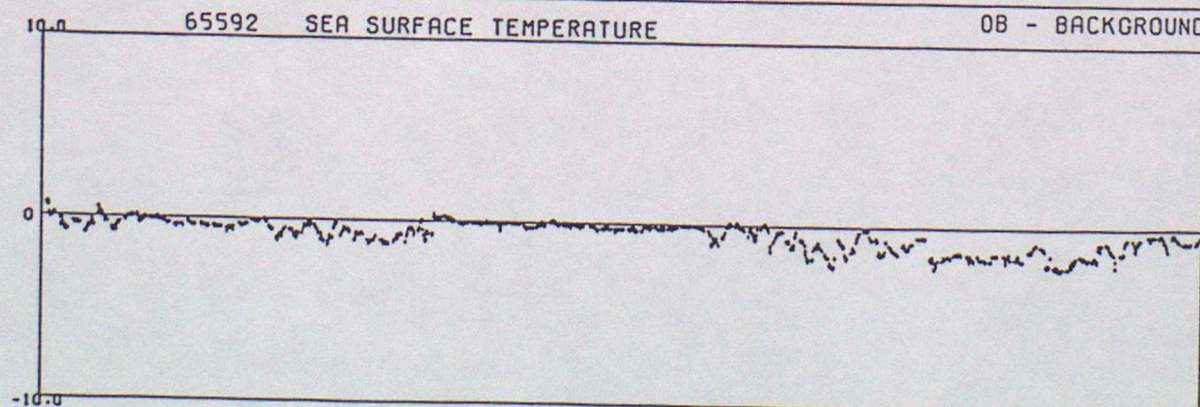
65581 SEA SURFACE TEMPERATURE

OB - BACKGROUND



65592 SEA SURFACE TEMPERATURE

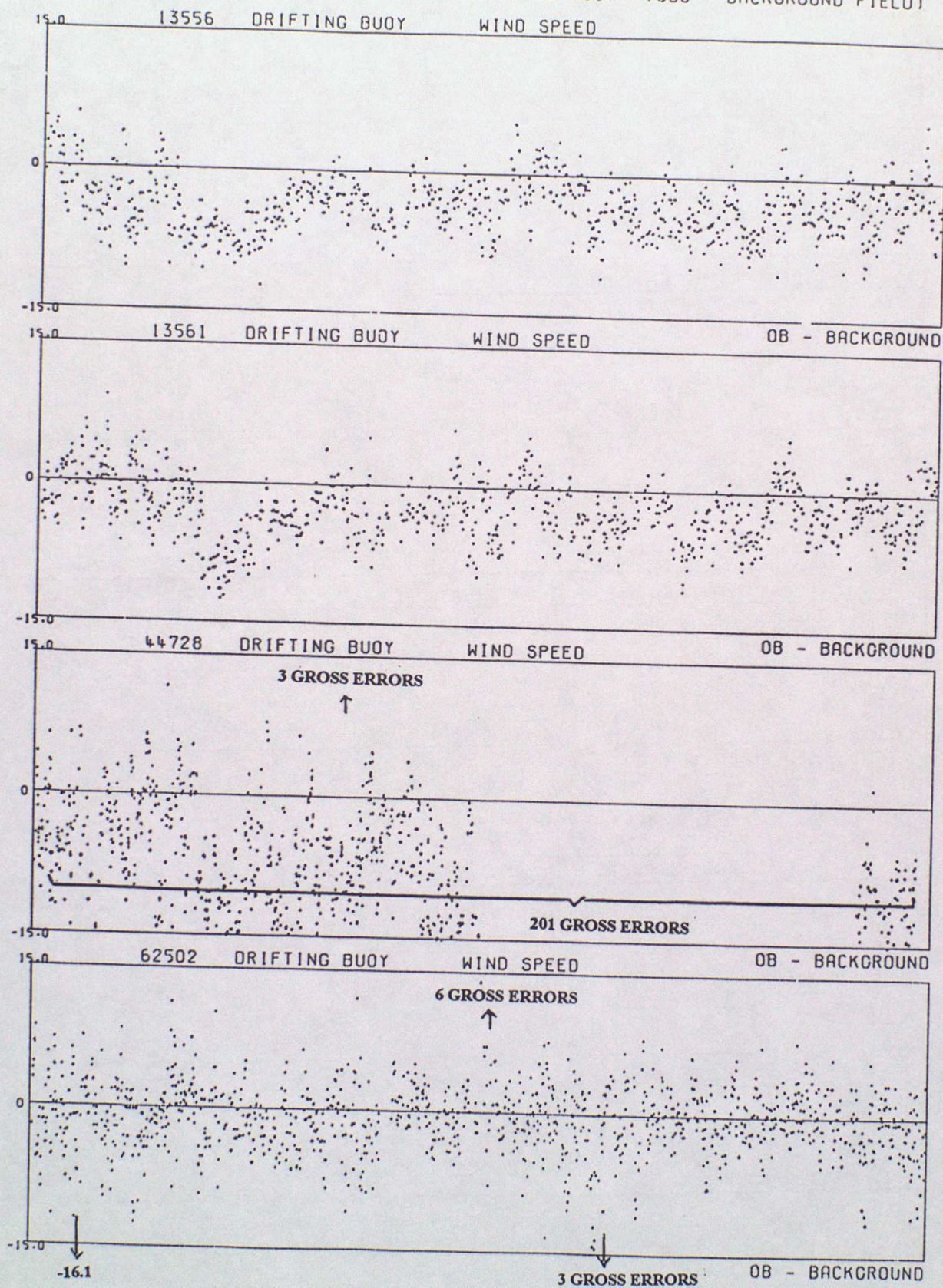
OB - BACKGROUND



OB - BACKGROUND

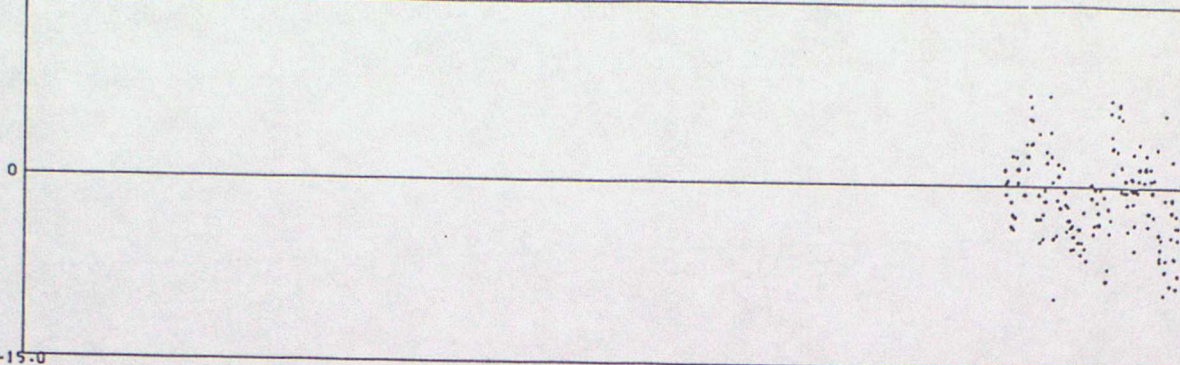
ANNEX E - TIME SERIES PLOTS OF WIND SPEED

DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



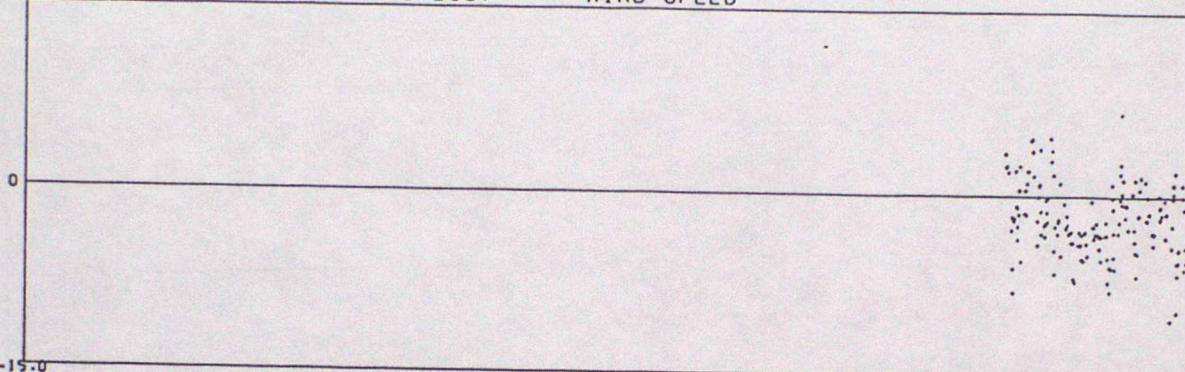
DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)

62505 DRIFTING BUOY WIND SPEED



62506 DRIFTING BUOY WIND SPEED

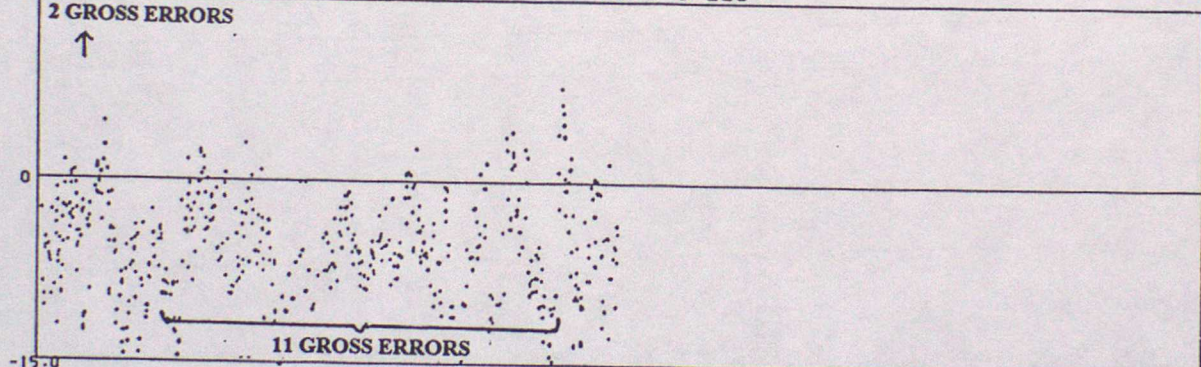
OB - BACKGROUND



62695 DRIFTING BUOY WIND SPEED

OB - BACKGROUND

2 GROSS ERRORS

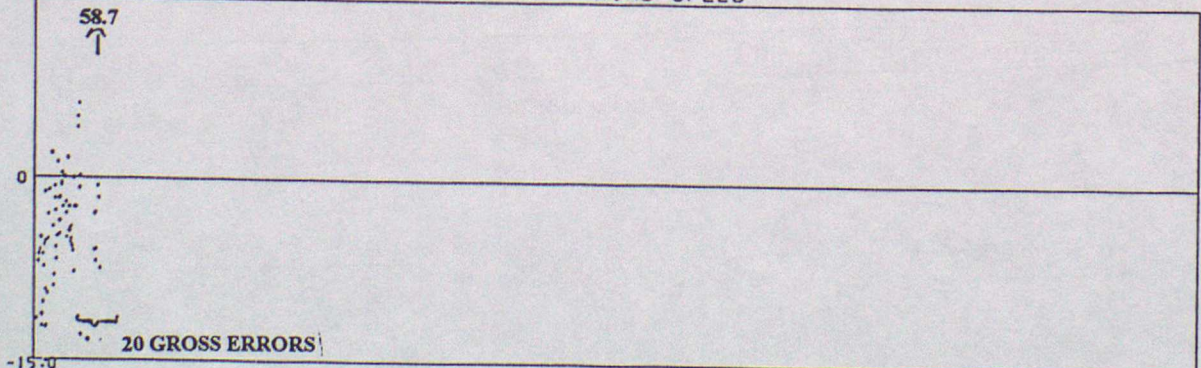


11 GROSS ERRORS

62712 DRIFTING BUOY WIND SPEED

OB - BACKGROUND

58.7

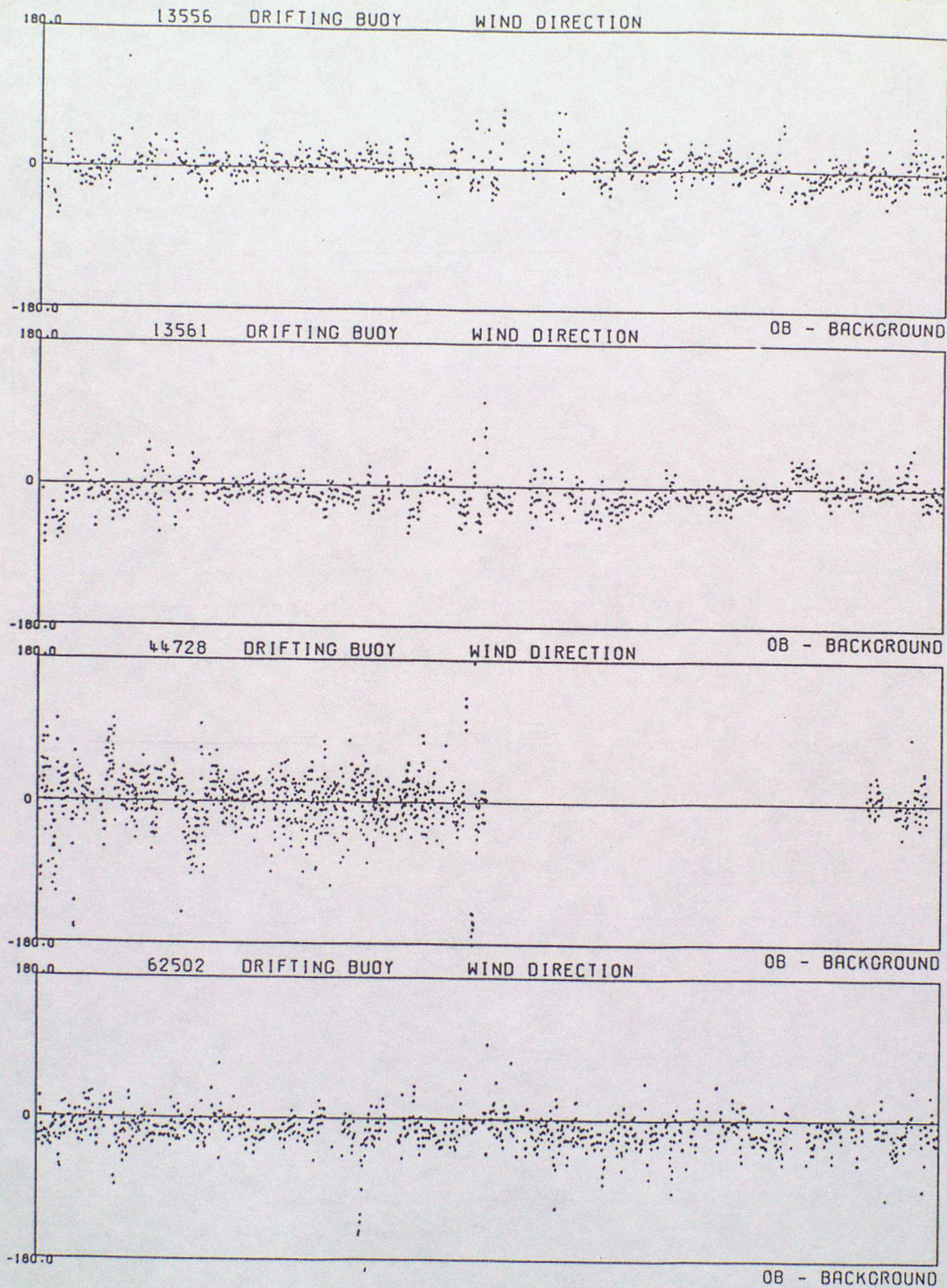


20 GROSS ERRORS

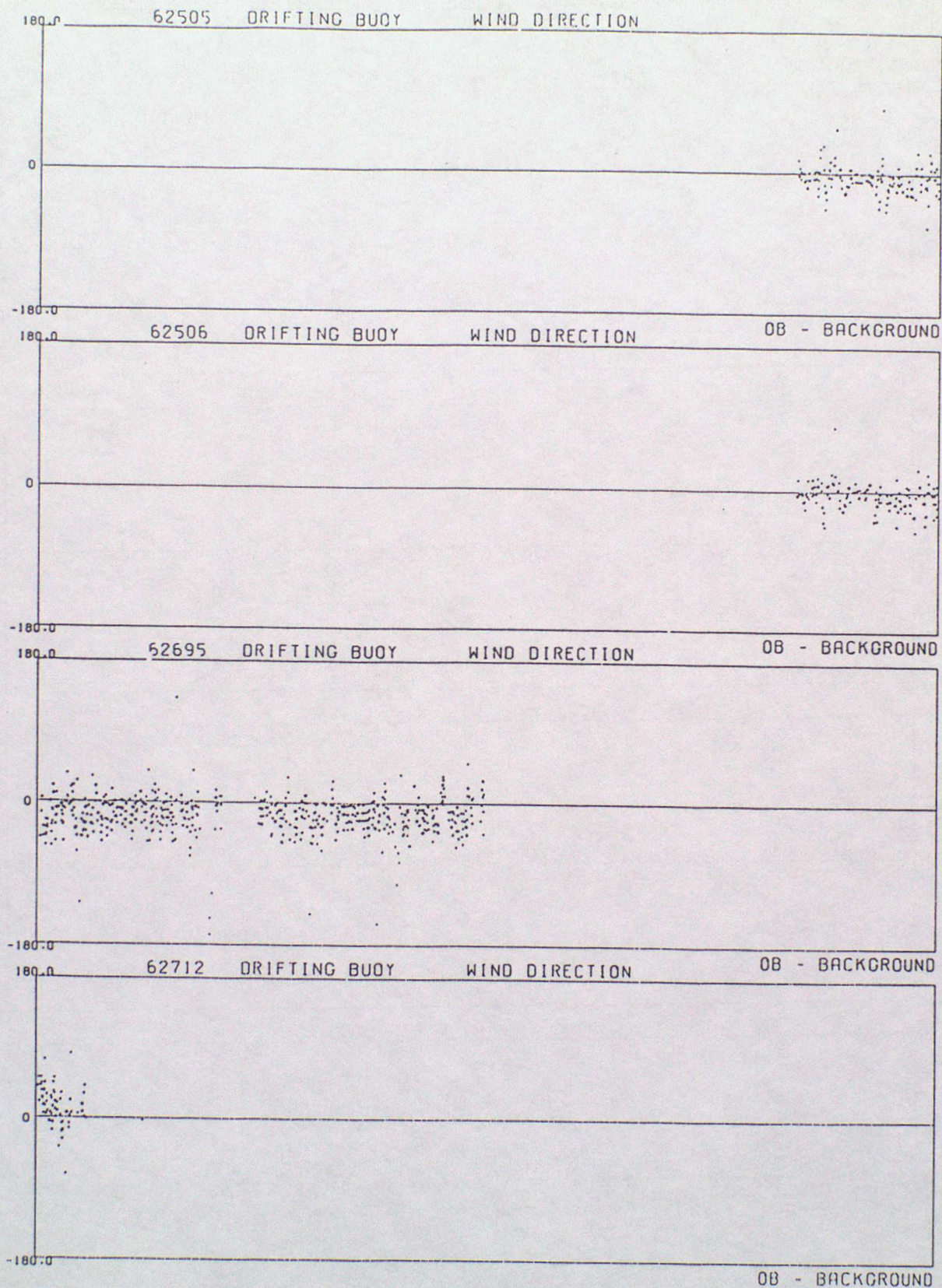
OB - BACKGROUND

ANNEX F - TIME SERIES PLOTS OF WIND DIRECTION

DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



DATA FROM 00Z ON 01/01/1994 TO 23Z ON 31/03/1994 (OBS - BACKGROUND FIELD)



ANNEX G - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

W.M.O No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
13556	15526	F.	*			*	*	*	01/01 - 31/03
13561	15531	F.	*			*	*	*	01/01 - 31/03
25561	1556	N.	*	*	*				01/01 - 31/03
44515	5524	U.S.	*					*	01/01 - 31/01
44613	3676	N.	*	*	*			*	01/01 - 24/02
44728	2952	U.K.	*	*	*	*	*	*	01/01 - 30/03
44743	1370	U.K.	*					*	11/02 - 31/03
44760	1374	U.K.	*					*	11/02 - 31/03
44761	9308	N.	*	*	*			*	23/02 - 31/03
44763	9307	N.	*	*	*				23/02 - 30/03
44765	1255	U.K.	*		*			*	01/01 - 20/03
44769	6291	U.K.	*	*	*	*	*	*	23/03 - 31/03
44771	6290	U.K.	*	*	*	*	*	*	14/03 - 31/03
44774	2961	U.K.	*	*	*			*	01/01 - 16/02
44775	2962	U.K.	*	*	*			*	01/01 - 20/01
44777	1257	U.K.	*	*	*			*	01/01 - 27/03
44778	1259	U.K.	*	*				*	01/01 - 31/03
44779	1260	U.K.	*	*	*			*	01/01 - 26/03
47606	????	?.?.	*		*				01/01 - 19/01
62501	10116	F.	*	*				*	01/01 - 16/03

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

W.M.O No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
62502	15503	F.	*			*	*	*	01/01 - 31/03
62503	10110	F.	*	*				*	10/03 - 31/03
62504	10111	F.	*	*				*	10/03 - 31/03
62505	10117	F.	*	*		*	*	*	11/03 - 31/03
62506	10118	F.	*	*		*	*	*	11/03 - 31/03
62514	1356	F.	*						01/01 - 31/03
62519	10112	F.	*	*					01/01 - 14/01
62520	10114	F.	*	*				*	01/01 - 27/01
62524	4625	U.K.	*	*	*			*	01/01 - 31/03
62606	3916	U.K.	*		*			*	09/02 - 31/03
62695	2956	U.K.	*	*	*	*	*	*	01/01 - 31/03
62696	6288	U.K.	*	*	*	*	*	*	14/03 - 31/03
62711	6817	U.S.	*	*	*			*	01/01 - 31/03
62712	2958	U.K.	*	*	*	*	*	*	01/01 - 15/01
64528	9306	NL.	*	*	*			*	28/02 - 31/03
64587	6819	U.S.	*		*			*	01/01 - 05/01
65503	6280	U.S.	*		*			*	01/01 - 21/01
65506	6818	U.S.	*		*			*	01/01 - 18/01
65508	14289	U.S.	*		*			*	01/01 - 19/01
65581	3038	IC.	*	*	*			*	01/01 - 31/03 +
65592	9309	NL.	*	*	*			*	01/01 - 31/03

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

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

