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Quality Evaluation Section

FIFTY-FORTH QUARTERLY REPORT

ON DRIFTING BUOYS

IN THE NORTH ATLANTIC

1st APRIL 2000 – 30th JUNE 2000

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29th September 2000

This report has not been published.

Permission to quote from it should be obtained from the
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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 Base (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

64 out of 68 of the buoys reporting, gave a '% of observations with acceptable positions' greater than 95% (61 out of 68 last quarter).

(b) Data timeliness

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

Timeliness	Last quarter.	This quarter
Very Good	38	37
Good	21	23
Satisfactory	6	4
Poor	2	0
Very poor	1	4
Total no. of buoys	68	68

(c) Data availability

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

Availability	South of 50 deg N		North of 50 deg N	
	Previous Quarter	Present Quarter	Previous Quarter	Present Quarter
Very Good	12	7	16	18
Good	5	4	7	2
Satisfactory	14	18	5	7
Poor	7	12	1	0
Very Poor	1	0	0	0

The total number of buoy days in the quarter was 5352 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 4421) and the number of 'buoy hours' with at least one observation was 94727 (compared with 74607 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 17.70 (last quarter the figure was 16.88).

3. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 18 buoys reporting pressure at the beginning of the period. 25 buoys were operating at the end of the period. 8 buoys were deployed during the period (44730, 44741, 44743, 44760, 64519, 64520, 64548 and 65593). 2 buoys ceased reporting pressure (44777 and 64530).

South of 50deg N

There were 25 buoys reporting pressure at the beginning of the period. 39 buoys were reporting at the end of the period. 16 buoys were deployed during the period (41571, 44761, 62512, 62513, 62514, 62515, 62516, 62673, 62675, 62722, 62723, 62724, 62725, 62761, 62762, and 62763). 2 buoys ceased reporting pressure (62722 and 62724).

(e) Data Quality - Pressure

Revised RMS Differences

The technique used to assess the quality of pressure data in this report is based on the Revised RMS differences between the observations and the background field from the Global Forecast Model (see note 8 in Explanatory Notes). For buoys south of 50°N the Revised RMS differences should be less than (or equal to) 2.0 hPa and for buoys north of 50°N they should be below (or equal to) 3.0 hPa. No buoys with revised RMS difference were found to lie outside these limits for this quarter.

Biases

10 buoys 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 had their performance described as 'suspect'.

WMO No.	Buoy bias (hPa)	Period of reports
62508	-0.7	01/04 - 30/06
62513	-0.9	01/04 - 30/06
62723	-0.6	04/05 - 30/06
62724	-0.6	04/05 - 21/06
64517	-0.6	01/04 - 30/06
64519	-0.8	02/06 - 30/06
64520	-0.6	02/06 - 30/06
64548	-0.6	03/05 - 30/06
64698	-0.7	01/04 - 30/06
65600	-0.7	01/04 - 30/06

Summary of Pressure Performance

Pressure Summary	Last Quarter	This Quarter
Acceptable	36	58
Suspect – RMS	18	Nil
Suspect – Bias	14	10
Total no. of buoys	68	68

(4) Air Temperatures

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

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

WMO No.	Air Temperature			WMO No.	Air Temperature		
	Mean	St. Dev	No. of Obs		Mean	St. Dev	No. of Obs
41521	0.97	1.26	897	44613	0.56	0.50	2120
44626	0.09	1.12	4155	44628	-0.07	1.30	3296
44630	0.07	1.23	4491	44721	0.92	3.02	3795
44743	0.68	0.99	1671	44760	-16.10	0.14	2
44765	0.48	1.18	1520	44773	0.05	1.44	3708
44777	0.50	1.30	3953	62508	-0.02	2.07	1815
62673	0.80	1.39	453	62675	0.48	1.32	489
62722	0.87	1.75	266	62723	0.95	1.67	496
62724	2.10	1.89	403	62725	1.32	1.73	454
62761	1.04	1.64	524	62762	0.97	1.60	464
62763	0.87	1.56	477	64530	0.47	1.33	4104
64546	-0.08	1.18	3675	64547	0.48	1.13	3999
64548	0.52	0.99	1068	65593	0.31	1.27	1421
65598	0.55	1.99	4375	65600	0.29	1.16	1919
65601	0.51	1.47	4028	65602	0.45	1.63	4275

Summary

Buoys 44760 (-16.10), 62724 (2.10), 62725 (1.32) and 62761 (1.04) all showed significant air temperature bias.

Note, only 2 observations were received from buoy 44760.

Air temperature date from buoy 44721 became erratic at the beginning of June and ceased reporting on 15/06/00.

(5) Winds

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

Note: Although buoys 44723 and 62724 both reported wind direction during the period, no wind speed were received. Similarly, buoy 41644 reported a wind speed and no wind direction. Subsequently no analysis was done on these buoys.

WMO No.	Wind Speed (kt)			Wind Direction (deg)		
	Mean	St. Dev.	No. of Obs	Mean	St. Dev.	No. of Obs
41521	-1.64	2.47	762	-12.87	18.72	663
41571	-0.97	2.56	811	10.38	13.79	727
44607	2.55	4.23	1824	4.16	25.07	1734
44721	-2.87	5.02	2915	4.53	19.91	2139
44724	0.88	4.51	1609	6.56	30.54	1521
44726	-0.73	2.86	1698	6.99	31.07	1353
44727	-0.50	4.88	686	6.85	33.46	503
44777	-6.53	4.36	3004	8.35	21.99	2489
62508	0.14	3.18	2206	-1.57	24.69	2021
62597	-2.91	4.32	4205	0.45	44.36	3241
62675	10.64	4.34	62	37.97	95.48	34
62722	10.47	3.92	89	-25.42	103.65	34
62723	11.36	3.35	75	-18.41	108.46	31
62725	11.35	3.02	54	48.29	70.06	29
62761	11.82	3.02	70	38.90	73.89	32
62762	11.19	3.52	64	47.98	70.05	35
62763	9.57	3.53	56	57.65	51.96	39

Summary

Buoys 44607 (2.55), 44721 (-2.87), 44777 (-6.53), 62597 (-2.91), 62675 (10.64), 62722 (10.47), 62723 (11.36), 62725 (11.35), 62761 (11.82), 62762 (11.19), and 62763 (9.57) all showed a significant **wind speed** bias throughout their reporting lives.

Buoys 62597 (44.56), 62675 (95.48), 62722 (103.65), 62723 (108.46), 62725 (70.06), 62761 (73.89), 62762 (70.05) and 62763 (51.96) showed significant standard deviations for **wind direction**.

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		

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

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

Unflagged data are those data used in model analyses.

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

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

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

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

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

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

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

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



Annex A - TABLE OF STATISTICS

WMO No./Country	41521	41571	41644
Argos Id No.			
Period Within Area	01/04 - 30/06	08/05 - 30/06	01/04 - 30/06
Mean Latitude	29.5	23.0	27.3
Mean Longitude	-70.0	-47.7	-51.0
No. of Obs Received	924	924	1012
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	98.1	98.9	94.8
P. Tendency	0.0	97.2	0.0
Air Temperature	98.1	0.0	0.0
Wind Speed/Dir	83.4/ 98.1	93.0/ 97.1	94.3/ 0.0
Sea-Surface Temp.	98.2	97.5	95.4
Median delay (min)	23	152	49
Number of days	91	54	91
Mean No. of obs/day	10.2	17.1	11.1
No. of Hours with obs	773	901	810
Mean no. of hours/day with obs	8.5	16.7	8.9
% of hour periods without an ob	64.6	29.7	62.8
Mean (Ob-Bg)	0.2	0.5	-0.1
RMS (Ob-Bg) unflagged data	0.7	0.8	0.7
Mean (Ob-Bg)	0.2	0.5	-0.1
RMS (Ob-Bg) all data	0.7	0.8	0.7
Revised RMS (Ob-Bg)	0.7	0.8	0.7
% of data flagged	12	2	21
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Acceptable	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Acceptable	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44607/F	44608/F	44610/F
Argos Id No.	6216	14540	12734
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	54.3	34.0	53.8
Mean Longitude	-28.3	-14.1	-34.1
No. of Obs Received	1991	5267	6075
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	95.3	91.9	84.7
P. Tendency	95.1	91.6	84.4
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	94.4/ 94.4	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	95.1	91.8	84.6
Median delay (min)	88	160	115
Number of days	91	91	91
Mean No. of obs/day	21.9	57.9	66.8
No. of Hours with obs	1969	2045	2014
Mean no. of hours/day with obs	21.6	22.5	22.1
% of hour periods without an ob	9.8	6.4	7.8
Mean (Ob-Bg)	0.1	0.0	-0.2
RMS (Ob-Bg) unflagged data	1.4	0.9	1.3
Mean (Ob-Bg)	0.1	0.0	-0.1
RMS (Ob-Bg) all data	1.5	1.7	1.5
Revised RMS (Ob-Bg)	1.5	0.8	1.4
% of data flagged	0	63	72
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Acceptable	Good
Comments			

Annex A - cont'd

WMO No./Country	44611/UK	44612/UK	44613/UK
Argos Id No.	27616	27619	28467
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	45.7	37.2	24.8
Mean Longitude	-41.6	-32.7	-41.0
No. of Obs Received	1883	1769	2240
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	98.4	99.1	97.2
P. Tendency	98.0	98.9	94.7
Air Temperature	0.0	0.0	96.8
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.3	98.9	0.0
Median delay (min)	92	98	63
Number of days	91	91	91
Mean No. of obs/day	20.7	19.4	24.6
No. of Hours with obs	1875	1764	1396
Mean no. of hours/day with obs	20.6	19.4	15.3
% of hour periods without an ob	14.0	19.1	36.0
Mean (Ob-Bg)	0.3	0.3	0.2
RMS (Ob-Bg) unflagged data	1.2	0.8	0.7
Mean (Ob-Bg)	0.3	0.3	0.0
RMS (Ob-Bg) all data	1.5	0.9	4.6
Revised RMS (Ob-Bg)	1.2	0.8	1.1
% of data flagged	0	0	47
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44615/UK	44617/UK	44620/UK
Argos Id No.	27620	27621	27622
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	34.0	46.7	33.3
Mean Longitude	-44.1	-40.4	-44.6
No. of Obs Received	1784	1820	1778
% of obs with Acceptable Position	100.0	99.3	100.0
% of Present Pressure	98.8	97.6	98.9
P. Tendency	98.6	97.7	98.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.8	97.7	99.1
Median delay (min)	99	94	105
Number of days	91	91	91
Mean No. of obs/day	19.6	20.0	19.5
No. of Hours with obs	1776	1812	1771
Mean no. of hours/day with obs	19.5	19.9	19.5
% of hour periods without an ob	18.6	16.9	18.8
Mean (Ob-Bg)	0.2	0.2	0.2
RMS (Ob-Bg) unflagged data	0.8	1.1	0.8
Mean (Ob-Bg)	0.3	0.1	0.3
RMS (Ob-Bg) all data	0.8	1.7	0.8
Revised RMS (Ob-Bg)	0.8	1.1	0.8
% of data flagged	0	0	0
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44622/UK	44623/UK	44626/UK
Argos Id No.	27623	27624	12884
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	50.7	46.4	48.3
Mean Longitude	-43.5	-38.3	-17.0
No. of Obs Received	1904	1803	4328
% of obs with Acceptable Position	99.9	100.0	98.9
% of Present Pressure	98.4	98.2	97.5
P. Tendency	98.1	97.8	94.0
Air Temperature	0.0	0.0	97.2
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.1	98.1	97.8
Median delay (min)	85	95	22
Number of days	91	91	91
Mean No. of obs/day	20.9	19.8	47.6
No. of Hours with obs	1899	1793	1575
Mean no. of hours/day with obs	20.9	19.7	17.3
% of hour periods without an ob	12.9	17.8	27.8
Mean (Ob-Bg)	0.0	0.0	0.1
RMS (Ob-Bg) unflagged data	1.2	1.2	1.1
Mean (Ob-Bg)	0.1	0.1	0.0
RMS (Ob-Bg) all data	1.4	1.4	3.0
Revised RMS (Ob-Bg)	1.3	1.3	1.0
% of data flagged	0	1	70
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44627/UK	44628/UK	44630/UK
Argos Id No.	12285	12287	12376
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	44.1	39.4	51.3
Mean Longitude	-28.8	-41.4	-21.8
No. of Obs Received	3998	3428	4709
% of obs with Acceptable Position	98.7	98.8	99.4
% of Present Pressure	98.1	98.2	97.1
P. Tendency	95.0	95.0	93.1
Air Temperature	0.0	97.5	96.7
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	94.4	98.0	0.2
Median delay (min)	21	20	21
Number of days	91	91	91
Mean No. of obs/day	43.9	37.7	51.7
No. of Hours with obs	1570	1527	1655
Mean no. of hours/day with obs	17.3	16.8	18.2
% of hour periods without an ob	27.9	30.0	24.0
Mean (Ob-Bg)	-0.1	0.2	-0.1
RMS (Ob-Bg) unflagged data	1.0	0.9	1.1
Mean (Ob-Bg)	-0.4	-0.1	-0.3
RMS (Ob-Bg) all data	4.9	7.0	5.4
Revised RMS (Ob-Bg)	1.0	1.0	1.2
% of data flagged	67	62	71
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'd

WMO No./Country	44721/UK	44723/NL	44724/UK
Argos Id No.	28475	16392	27922
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	60.1	46.4	42.0
Mean Longitude	-4.4	-33.1	-34.1
No. of Obs Received	6573	1836	1754
% of obs with Acceptable Position	99.7	99.1	100.0
% of Present Pressure	95.1	98.1	98.0
P. Tendency	92.7	97.9	97.4
Air Temperature	61.7	0.0	0.0
Wind Speed/Dir	46.5/ 55.4	0.0/ 0.0	97.0/ 97.1
Sea-Surface Temp.	95.4	98.0	97.8
Median delay (min)	21	96	101
Number of days	91	91	91
Mean No. of obs/day	72.2	20.2	19.3
No. of Hours with obs	1846	1827	1751
Mean no. of hours/day with obs	20.3	20.1	19.2
% of hour periods without an ob	15.4	16.3	19.7
Mean (Ob-Bg)	-0.2	-0.3	0.2
RMS (Ob-Bg) unflagged data	0.8	1.0	1.0
Mean (Ob-Bg)	-0.4	-0.3	0.2
RMS (Ob-Bg) all data	5.1	1.0	1.0
Revised RMS (Ob-Bg)	0.8	1.0	1.0
% of data flagged	77	0	0
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44725/UK	44726/UK	44727/UK
Argos Id No.	27923	27924	27925
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	42.4	31.2	33.2
Mean Longitude	-53.6	-56.0	-38.2
No. of Obs Received	1147	1764	1659
% of obs with Acceptable Position	97.8	100.0	100.0
% of Present Pressure	88.8	99.1	94.7
P. Tendency	87.7	99.0	93.9
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	98.3/ 98.3	44.8/ 57.2
Sea-Surface Temp.	88.0	99.1	94.0
Median delay (min)	133.5	108	124
Number of days	91	91	91
Mean No. of obs/day	12.6	19.4	18.2
No. of Hours with obs	1132	1759	1644
Mean no. of hours/day with obs	12.4	19.3	18.1
% of hour periods without an ob	48.1	19.3	24.6
Mean (Ob-Bg)	-0.2	0.2	0.3
RMS (Ob-Bg) unflagged data	1.1	0.7	0.8
Mean (Ob-Bg)	-0.3	0.2	0.2
RMS (Ob-Bg) all data	2.1	0.7	1.0
Revised RMS (Ob-Bg)	1.3	0.8	0.8
% of data flagged	0	0	0
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Acceptable	Good	Acceptable
Comments			

Annex A - cont'd

WMO No./Country	44729/UK	44730/UK	44741/UK
Argos Id No.	25375	25378	25373
Period Within Area	01/04 - 30/06	03/04 - 30/06	11/04 - 30/06
Mean Latitude	48.3	52.3	57.4
Mean Longitude	-42.2	-40.1	-34.5
No. of Obs Received	1860	1902	1703
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	98.0	98.1	95.9
P. Tendency	97.7	97.3	95.4
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.	98.4	97.7	95.9
Median delay (min)	91	83	79.5
Number of days	91	89	81
Mean No. of obs/day	20.4	21.4	21.0
No. of Hours with obs	1848	1886	1685
Mean no. of hours/day with obs	20.3	21.2	20.8
% of hour periods without an ob	15.3	11.6	13.2
Mean (Ob-Bg)	0.1	0.1	0.1
RMS (Ob-Bg) unflagged data	1.2	1.2	1.1
Mean (Ob-Bg)	0.1	0.2	0.1
RMS (Ob-Bg) all data	1.3	1.3	1.3
Revised RMS (Ob-Bg)	1.3	1.3	1.2
% of data flagged	1	1	0
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44743/UK	44760/UK	44761/UK
Argos Id No.	12414	12373	27615
Period Within Area	14/04 - 30/06	08/06 - 30/06	09/06 - 30/06
Mean Latitude	50.1	54.7	49.4
Mean Longitude	-40.5	-34.5	-46.5
No. of Obs Received	2325	1037	460
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	96.3	71.6	97.2
P. Tendency	92.7	65.7	96.1
Air Temperature	73.4	0.2	0.0
Wind Speed/Dir	0.0/ 80.1	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	96.6	93.6	96.5
Median delay (min)	34	32	86
Number of days	78	23	22
Mean No. of obs/day	29.8	45.1	20.9
No. of Hours with obs	1373	473	458
Mean no. of hours/day with obs	17.6	20.6	20.8
% of hour periods without an ob	26.5	12.9	12.8
Mean (Ob-Bg)	-0.3	-0.3	0.0
RMS (Ob-Bg) unflagged data	1.2	0.8	0.8
Mean (Ob-Bg)	-0.3	-0.3	0.0
RMS (Ob-Bg) all data	1.3	0.8	0.8
Revised RMS (Ob-Bg)	1.3	0.8	0.8
% of data flagged	50	62	0
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Very Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44765/UK	44773/UK	44777/UK
Argos Id No.	28466	12415	12377
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 01/06
Mean Latitude	31.6	47.9	57.3
Mean Longitude	-56.9	-31.3	-17.8
No. of Obs Received	1587	3932	4199
% of obs with Acceptable Position	83.6	99.5	99.8
% of Present Pressure	97.4	97.0	96.9
P. Tendency	95.5	92.4	92.4
Air Temperature	97.4	95.9	96.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	75.5/ 75.1
Sea-Surface Temp.	0.0	97.4	97.0
Median delay (min)	18	21	21
Number of days	91	91	62
Mean No. of obs/day	17.4	43.2	67.7
No. of Hours with obs	1061	1550	1208
Mean no. of hours/day with obs	11.7	17.0	19.5
% of hour periods without an ob	51.3	28.8	18.6
Mean (Ob-Bg)	0.0	-0.4	-0.2
RMS (Ob-Bg)	0.7	1.3	1.1
unflagged data			
Mean (Ob-Bg)	-0.3	-1.2	-0.5
RMS (Ob-Bg)	3.6	7.8	6.9
all data			
Revised RMS (Ob-Bg)	1.0	1.4	1.0
% of data flagged	43	73	77
Operating at end of period	YES	YES	NO
Performance			
Availability	Acceptable	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62507/F	62508/F	62509/F
Argos Id No.	10111	5822	14537
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	36.4	40.1	45.8
Mean Longitude	-28.9	-19.8	-6.3
No. of Obs Received	3559	2707	3482
% of obs with Acceptable Position	94.0	98.2	100.0
% of Present Pressure	97.9	94.4	97.4
P. Tendency	90.4	85.0	96.9
Air Temperature	0.0	68.9	0.0
Wind Speed/Dir	0.0/ 0.0	85.5/ 86.2	0.0/ 0.0
Sea-Surface Temp.	98.1	96.2	97.0
Median delay (min)	19	21	102
Number of days	91	91	91
Mean No. of obs/day	39.1	29.7	38.3
No. of Hours with obs	1634	1517	2015
Mean no. of hours/day with obs	18.0	16.7	22.1
% of hour periods without an ob	25.2	30.5	7.7
Mean (Ob-Bg)	-0.4	-0.7	-0.2
RMS (Ob-Bg) unflagged data	0.9	1.7	1.0
Mean (Ob-Bg)	-0.8	-2.3	-0.2
RMS (Ob-Bg) all data	5.8	11.3	1.1
Revised RMS (Ob-Bg)	0.6	1.6	1.0
% of data flagged	64	56	43
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Good	Very Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	62512/F	62513/F	62514/F
Argos Id No.	12730	12731	7119
Period Within Area	10/04 - 30/06	16/04 - 30/06	14/04 - 30/06
Mean Latitude	44.5	45.1	48.9
Mean Longitude	-21.1	-22.6	-19.5
No. of Obs Received	1893	2235	1973
% of obs with Acceptable Position	88.6	100.0	100.0
% of Present Pressure	83.3	83.0	95.5
P. Tendency	0.0	0.0	94.5
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	48.6	50.2	95.2
Median delay (min)	409	401	109
Number of days	82	76	78
Mean No. of obs/day	23.1	29.4	25.3
No. of Hours with obs	1101	1185	1709
Mean no. of hours/day with obs	13.4	15.6	21.9
% of hour periods without an ob	43.7	34.3	8.6
Mean (Ob-Bg)	0.1	-0.9	0.1
RMS (Ob-Bg) unflagged data	1.1	1.4	1.2
Mean (Ob-Bg)	-0.4	-0.8	0.1
RMS (Ob-Bg) all data	3.2	1.3	2.0
Revised RMS (Ob-Bg)	1.3	1.3	1.4
% of data flagged	40	46	14
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Good	Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Poor	Very Poor	Good
Comments			

Annex A - cont'd

WMO No./Country	62515/F	62516/F	62520/F
Argos Id No.	7242	7445	14431
Period Within Area	14/04 - 30/06	14/04 - 30/06	01/04 - 30/06
Mean Latitude	49.0	46.2	32.2
Mean Longitude	-16.3	-21.8	-36.7
No. of Obs Received	1750	1837	3107
% of obs with Acceptable Position	99.8	99.9	95.1
% of Present Pressure	93.9	91.6	97.3
P. Tendency	93.7	90.6	90.2
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.	93.4	91.2	97.0
Median delay (min)	99	100	20
Number of days	78	78	91
Mean No. of obs/day	22.4	23.6	34.1
No. of Hours with obs	1680	1711	1557
Mean no. of hours/day with obs	21.5	21.9	17.1
% of hour periods without an ob	9.8	8.3	28.7
Mean (Ob-Bg)	0.2	0.0	-0.5
RMS (Ob-Bg) unflagged data	1.1	1.0	0.9
Mean (Ob-Bg)	0.3	0.0	-0.6
RMS (Ob-Bg) all data	1.3	1.6	3.7
Revised RMS (Ob-Bg)	1.3	1.0	1.0
% of data flagged	3	5	60
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62596/NL	62597/UK	62673
Argos Id No.	16391	28478	
Period Within Area	01/04 - 30/06	01/04 - 30/06	15/05 - 30/06
Mean Latitude	60.4	53.3	37.6
Mean Longitude	-24.6	-16.1	-10.3
No. of Obs Received	1945	5163	483
% of obs with Acceptable Position	100.0	99.6	100.0
% of Present Pressure	97.9	96.5	94.6
P. Tendency	97.5	93.8	0.0
Air Temperature	0.0	0.0	94.6
Wind Speed/Dir	0.0/ 0.0	85.5/ 84.9	0.0/ 0.0
Sea-Surface Temp.	97.7	97.4	95.0
Median delay (min)	79	24	31
Number of days	91	91	47
Mean No. of obs/day	21.4	56.7	10.3
No. of Hours with obs	1930	1797	419
Mean no. of hours/day with obs	21.2	19.7	8.9
% of hour periods without an ob	11.5	17.6	62.2
Mean (Ob-Bg)	0.0	-0.2	-0.4
RMS (Ob-Bg) unflagged data	1.1	1.1	0.7
Mean (Ob-Bg)	0.0	-0.3	-0.4
RMS (Ob-Bg) all data	1.2	5.3	0.7
Revised RMS (Ob-Bg)	1.2	1.2	0.7
% of data flagged	1	74	20
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Very Good	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62675	62722	62723
Argos Id No.			
Period Within Area	06/05 - 30/06	04/05 - 03/06	04/05 - 30/06
Mean Latitude	36.7	37.9	37.1
Mean Longitude	-11.7	-10.5	-10.5
No. of Obs Received	532	304	556
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	95.5	93.8	92.6
P. Tendency	0.0	0.0	0.0
Air Temperature	94.0	91.8	92.3
Wind Speed/Dir	13.0/ 12.4	33.2/ 33.2	15.8/ 15.6
Sea-Surface Temp.	95.9	95.1	94.2
Median delay (min)	34	36.5	36
Number of days	56	31	58
Mean No. of obs/day	9.5	9.8	9.6
No. of Hours with obs	464	266	488
Mean no. of hours/day with obs	8.3	8.6	8.4
% of hour periods without an ob	64.9	62.6	64.4
Mean (Ob-Bg)	-0.3	0.3	-0.6
RMS (Ob-Bg) unflagged data	0.7	0.8	0.9
Mean (Ob-Bg)	-0.3	0.3	-0.6
RMS (Ob-Bg) all data	0.7	0.8	0.9
Revised RMS (Ob-Bg)	0.7	0.8	0.9
% of data flagged	16	13	13
Operating at end of period	YES	NO	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62724	62725	62761
Argos Id No.			
Period Within Area	04/05 - 21/06	07/05 - 30/06	06/05 - 30/06
Mean Latitude	41.3	34.7	36.9
Mean Longitude	-9.1	-10.5	-10.6
No. of Obs Received	439	491	574
% of obs with Acceptable Position	93.4	100.0	100.0
% of Present Pressure	94.8	96.5	93.2
P. Tendency	0.0	0.0	0.0
Air Temperature	94.1	95.3	93.7
Wind Speed/Dir	0.0/ 20.0	12.6/ 12.6	13.6/ 14.1
Sea-Surface Temp.	96.1	97.1	94.4
Median delay (min)	29	38	35
Number of days	49	55	56
Mean No. of obs/day	9.0	8.9	10.3
No. of Hours with obs	376	440	498
Mean no. of hours/day with obs	7.7	8.0	8.9
% of hour periods without an ob	67.2	66.5	62.4
Mean (Ob-Bg)	-0.6	-0.3	-0.3
RMS (Ob-Bg) unflagged data	1.2	0.7	0.7
Mean (Ob-Bg)	-0.5	-0.3	-0.3
RMS (Ob-Bg) all data	1.1	0.7	0.7
Revised RMS (Ob-Bg)	1.2	0.7	0.7
% of data flagged	19	12	17
Operating at end of period	NO	YES	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62762	62763	64517/F
Argos Id No.			14178
Period Within Area	07/05 - 30/06	07/05 - 30/06	01/04 - 30/06
Mean Latitude	36.8	37.5	57.6
Mean Longitude	-10.7	-10.0	-21.9
No. of Obs Received	515	535	3825
% of obs with Acceptable Position	100.0	100.0	98.1
% of Present Pressure	92.6	93.1	97.0
P. Tendency	0.0	0.0	95.1
Air Temperature	91.7	92.0	0.0
Wind Speed/Dir	13.8/ 13.6	12.0/ 12.0	0.0/ 0.0
Sea-Surface Temp.	94.0	94.6	96.0
Median delay (min)	37	32.5	84
Number of days	55	55	91
Mean No. of obs/day	9.4	9.7	42.0
No. of Hours with obs	443	464	2090
Mean no. of hours/day with obs	8.1	8.4	23.0
% of hour periods without an ob	66.3	64.7	4.3
Mean (Ob-Bg)	0.4	-0.5	-0.6
RMS (Ob-Bg) unflagged data	0.7	0.8	1.1
Mean (Ob-Bg)	0.4	-0.5	-0.5
RMS (Ob-Bg) all data	0.7	0.8	2.0
Revised RMS (Ob-Bg)	0.7	0.8	1.5
% of data flagged	14	14	47
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Very Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64519/F	64520/F	64530
Argos Id No.	23618	23619	
Period Within Area	02/06 - 30/06	02/06 - 30/06	01/04 - 29/06
Mean Latitude	63.9	63.7	63.5
Mean Longitude	-22.5	-23.1	3.1
No. of Obs Received	1340	1472	4575
% of obs with Acceptable Position	100.0	100.0	99.0
% of Present Pressure	80.7	81.0	92.4
P. Tendency	0.0	0.0	73.4
Air Temperature	0.0	0.0	91.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	55.8	54.8	74.3
Median delay (min)	324.5	378	20
Number of days	29	29	90
Mean No. of obs/day	46.2	50.8	50.8
No. of Hours with obs	608	605	1638
Mean no. of hours/day with obs	21.0	20.9	18.2
% of hour periods without an ob	12.6	12.9	23.7
Mean (Ob-Bg)	-0.8	-0.6	-0.4
RMS (Ob-Bg) unflagged data	1.1	0.9	1.0
Mean (Ob-Bg) all data	-0.9	-0.7	-0.4
RMS (Ob-Bg) all data	1.1	1.0	3.8
Revised RMS (Ob-Bg)	1.1	1.0	1.3
% of data flagged	54	57	71
Operating at end of period	YES	YES	NO
Performance Availability	Very Good	Very Good	Very Good
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Very Poor	Very Poor	Very Good
Comments			

Annex A - cont'd

WMO No./Country	64546/N	64547	64548/IR
Argos Id No.	3675		1153
Period Within Area	01/04 - 30/06	01/04 - 30/06	03/05 - 30/06
Mean Latitude	50.4	63.6	60.0
Mean Longitude	-31.5	4.4	-22.7
No. of Obs Received	3900	4489	1372
% of obs with Acceptable Position	99.7	98.7	100.0
% of Present Pressure	95.7	92.5	80.1
P. Tendency	93.3	69.5	75.1
Air Temperature	95.9	91.0	80.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	73.3	74.4	62.8
Median delay (min)	18	19	25
Number of days	91	91	59
Mean No. of obs/day	42.9	49.3	23.3
No. of Hours with obs	1531	1596	906
Mean no. of hours/day with obs	16.8	17.5	15.4
% of hour periods without an ob	29.6	26.8	35.6
Mean (Ob-Bg)	-0.5	-0.5	-0.6
RMS (Ob-Bg) unflagged data	1.4	1.1	1.1
Mean (Ob-Bg)	-0.8	-0.5	-0.6
RMS (Ob-Bg) all data	5.6	2.4	1.1
Revised RMS (Ob-Bg)	1.5	1.1	1.1
% of data flagged	74	72	43
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	64698/F	64699/F	65593/NL
Argos Id No.	29867	29868	4228
Period Within Area	01/04 - 30/06	01/04 - 30/06	02/05 - 30/06
Mean Latitude	58.0	59.8	59.8
Mean Longitude	-38.1	-55.5	-33.1
No. of Obs Received	3360	3467	1584
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	97.6	98.9	92.4
P. Tendency	97.3	98.6	88.1
Air Temperature	0.0	0.0	91.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	97.7	98.8	68.2
Median delay (min)	42	43	20
Number of days	91	91	60
Mean No. of obs/day	36.9	38.1	26.4
No. of Hours with obs	2125	2144	1018
Mean no. of hours/day with obs	23.4	23.6	17.0
% of hour periods without an ob	2.7	1.8	29.2
Mean (Ob-Bg)	-0.7	-0.4	-0.5
RMS (Ob-Bg) unflagged data	1.3	1.1	1.2
Mean (Ob-Bg)	-0.7	-0.4	-0.5
RMS (Ob-Bg) all data	1.3	1.1	1.3
Revised RMS (Ob-Bg)	1.3	1.1	1.3
% of data flagged	36	38	45
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	65598/D	65599/UK	65600/N
Argos Id No.	1298	28477	3676
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	63.1	61.3	55.1
Mean Longitude	-39.7	-37.8	-35.7
No. of Obs Received	4858	6680	2064
% of obs with Acceptable Position	98.4	99.8	99.8
% of Present Pressure	92.2	97.6	95.1
P. Tendency	62.7	94.5	92.0
Air Temperature	91.8	0.0	94.6
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	75.5	97.8	69.1
Median delay (min)	18	20	19
Number of days	91	91	91
Mean No. of obs/day	53.4	73.4	22.7
No. of Hours with obs	1730	1919	1362
Mean no. of hours/day with obs	19.0	21.1	15.0
% of hour periods without an ob	20.7	12.1	37.3
Mean (Ob-Bg)	-0.4	0.2	-0.7
RMS (Ob-Bg) unflagged data	1.3	1.1	1.2
Mean (Ob-Bg)	-0.4	-0.1	-1.1
RMS (Ob-Bg) all data	3.5	5.8	4.2
Revised RMS (Ob-Bg)	1.3	1.2	1.5
% of data flagged	71	76	63
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

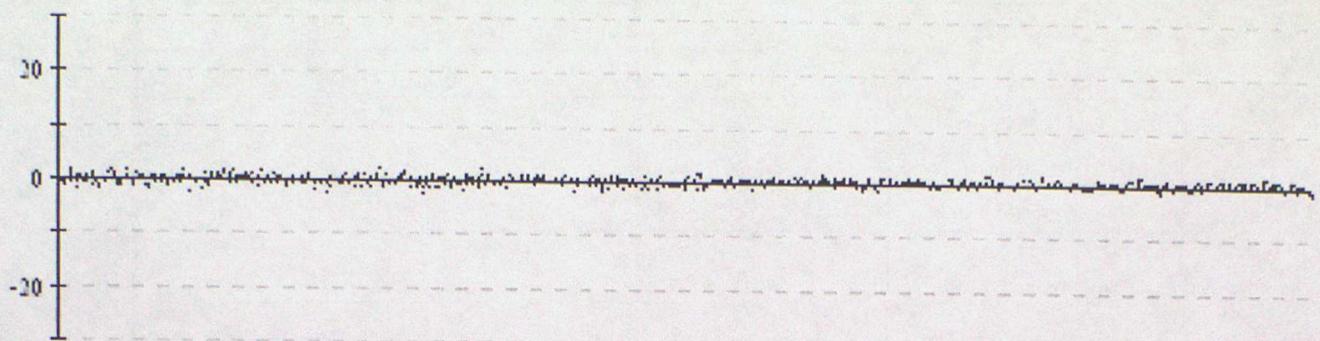
Annex A - cont'd

WMO No./Country	65601/D	65602/IR	
Argos Id No.	3039	6667	
Period Within Area	01/04 - 30/06	01/04 - 30/06	
Mean Latitude	61.0	60.8	
Mean Longitude	-33.1	-36.7	
No. of Obs Received	4314	4588	
% of obs with Acceptable Position	98.0	98.4	
% of Present Pressure	94.5	94.6	
P. Tendency	91.9	91.7	
Air Temperature	94.7	94.7	
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	
Sea-Surface Temp.	82.4	82.8	
Median delay (min)	18	18	
Number of days	91	91	
Mean No. of obs/day	47.4	50.4	
No. of Hours with obs	1659	1676	
Mean no. of hours/day with obs	18.2	18.4	
% of hour periods without an ob	23.9	23.1	
Mean (Ob-Bg)	-0.4	-0.4	
RMS (Ob-Bg) unflagged data	1.2	1.2	
Mean (Ob-Bg)	-0.5	-0.6	
RMS (Ob-Bg) all data	2.8	3.5	
Revised RMS (Ob-Bg)	1.3	1.4	
% of data flagged	69	70	
Operating at end of period	YES	YES	
Performance			
Availability	Very Good	Very Good	
Pressure Quality	Acceptable	Acceptable	
Timeliness	Very Good	Very Good	
Comments			

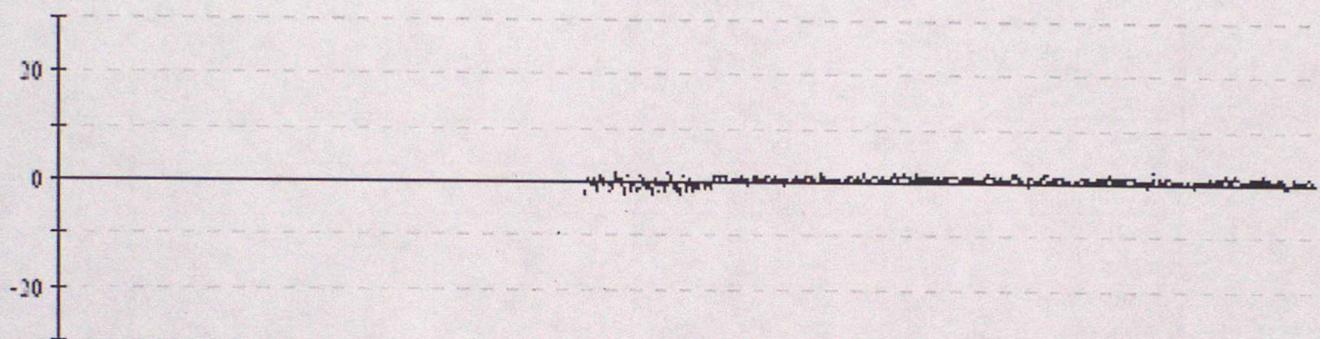
ANNEX B - TIME SERIES PLOTS OF PRESSURE

Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

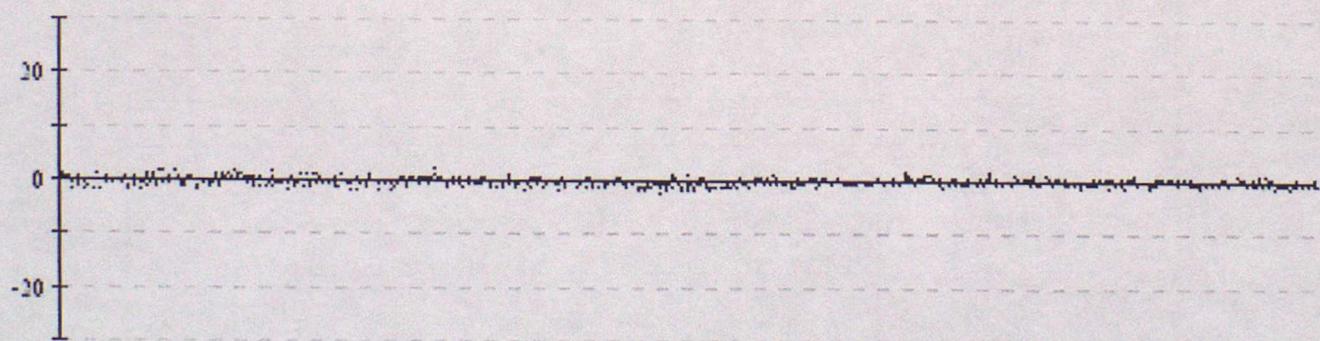
41521 Pressure



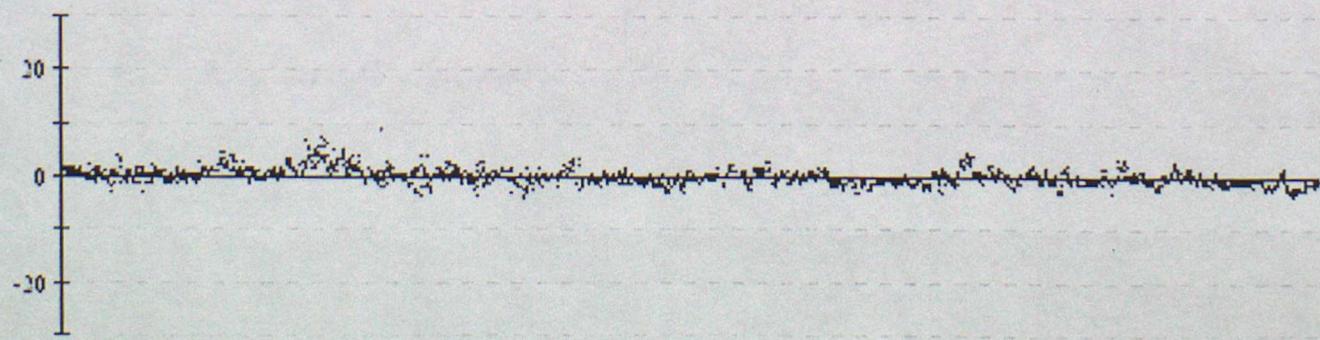
41571 Pressure



41644 Pressure

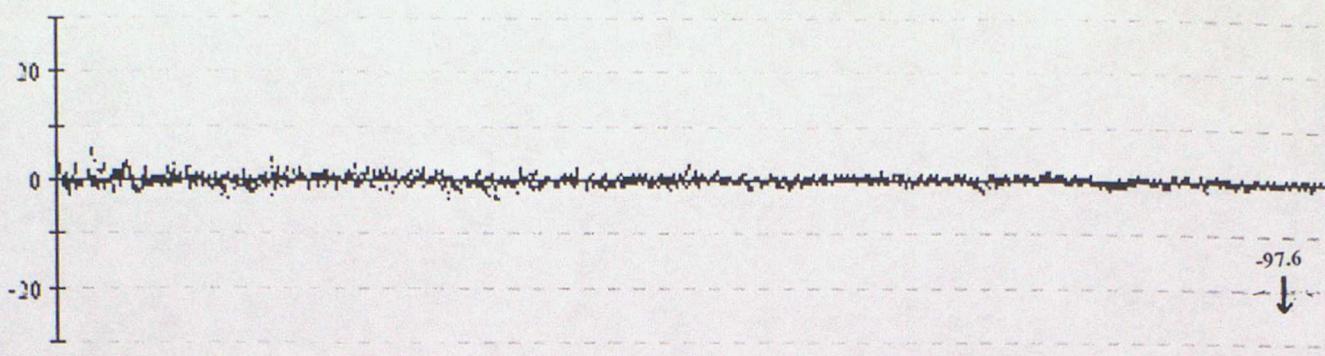


44607 Pressure

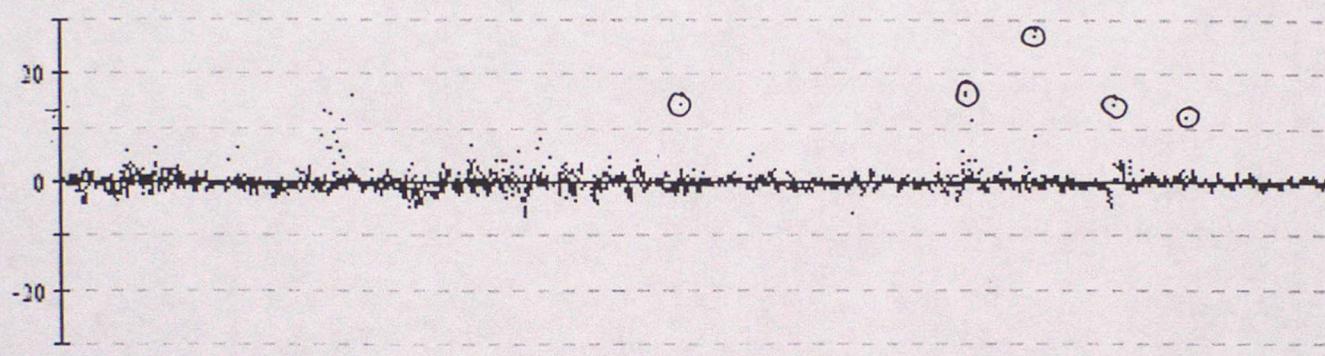


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

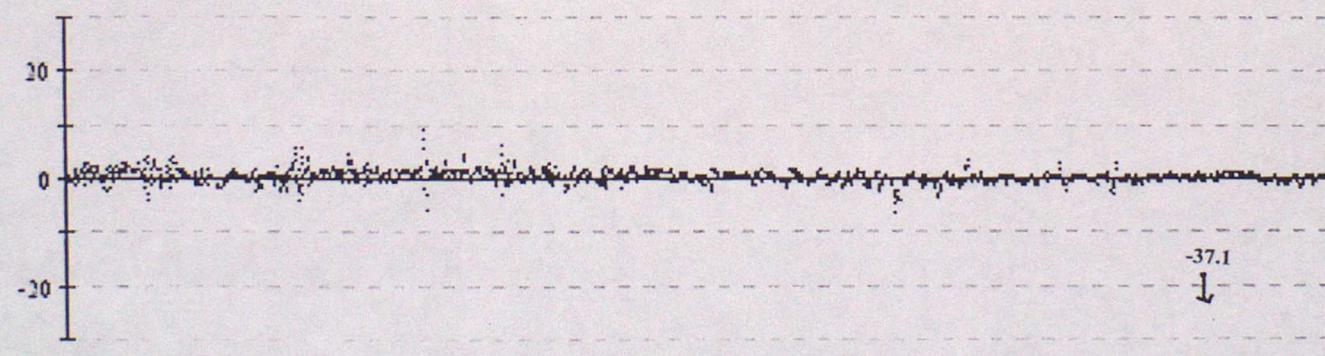
44608 Pressure



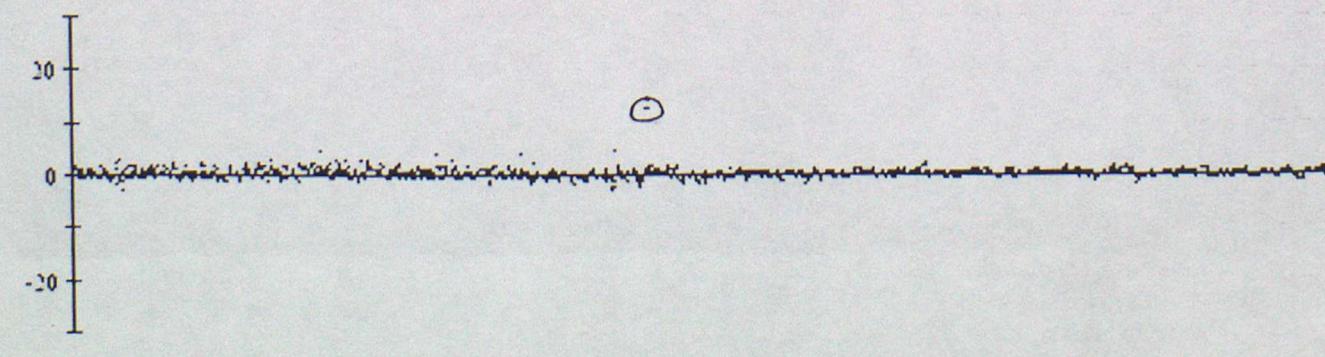
44610 Pressure



44611 Pressure

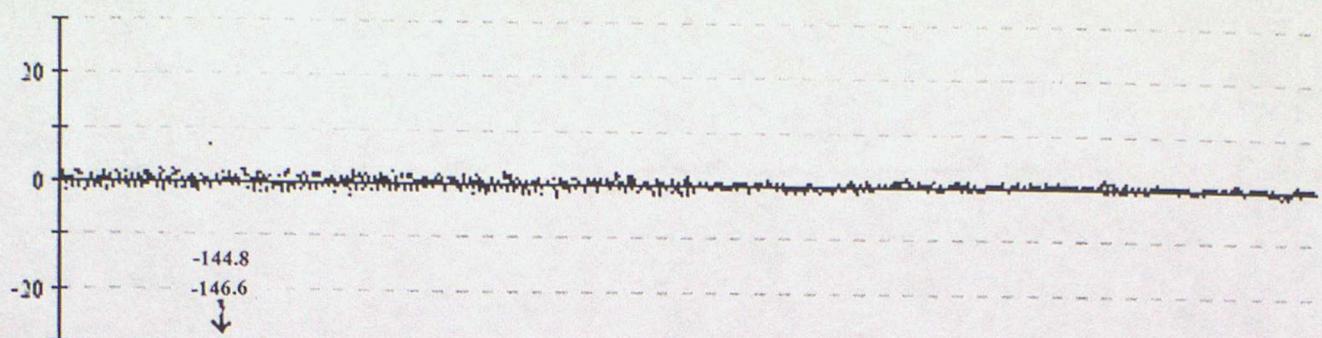


44612 Pressure

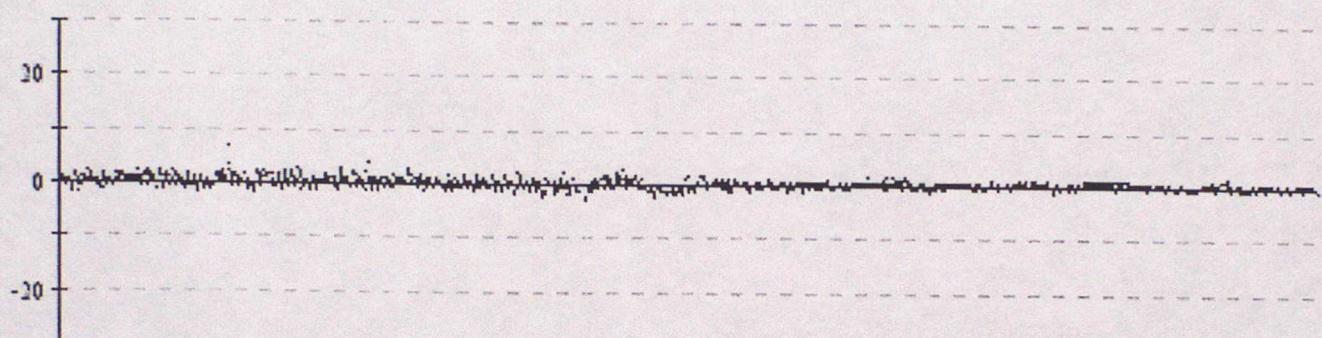


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

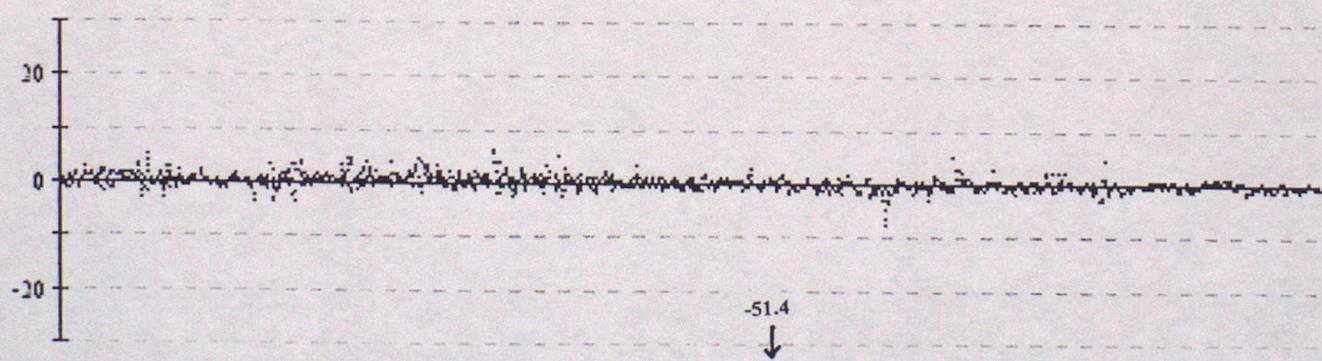
44613 Pressure



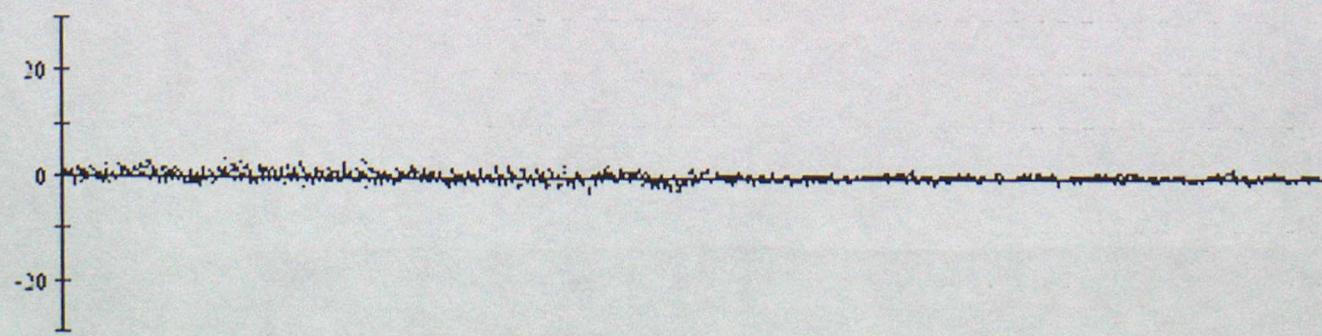
44615 Pressure



44617 Pressure

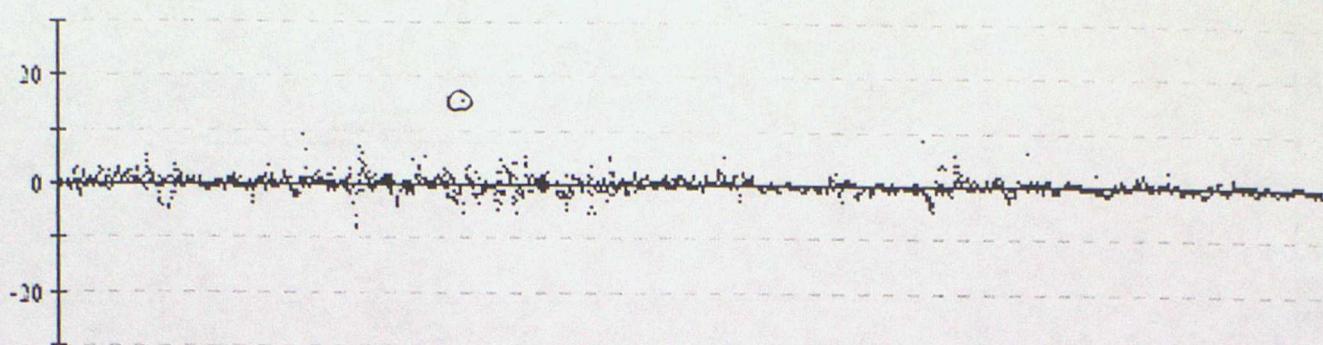


44620 Pressure

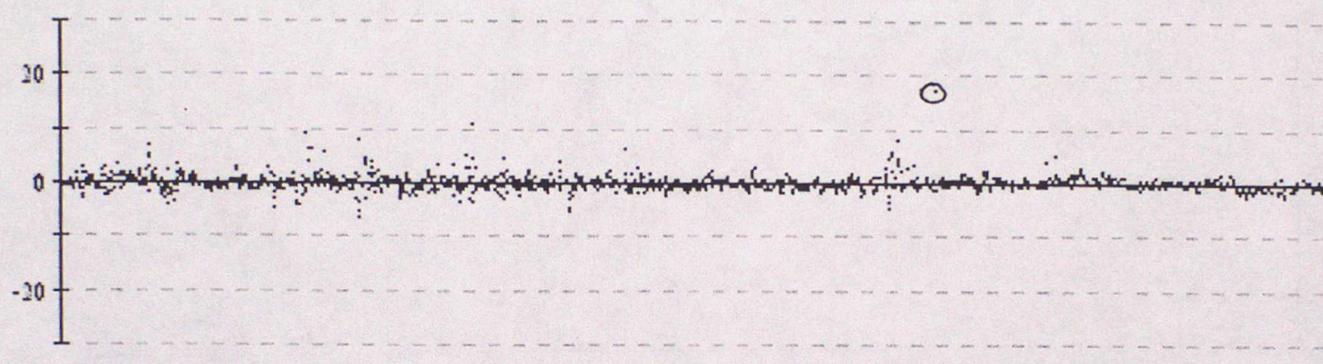


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

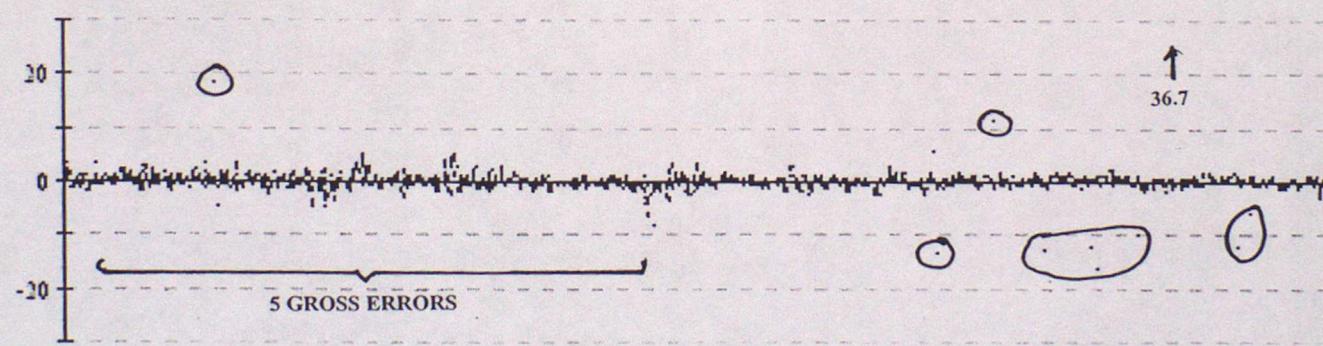
44622 Pressure



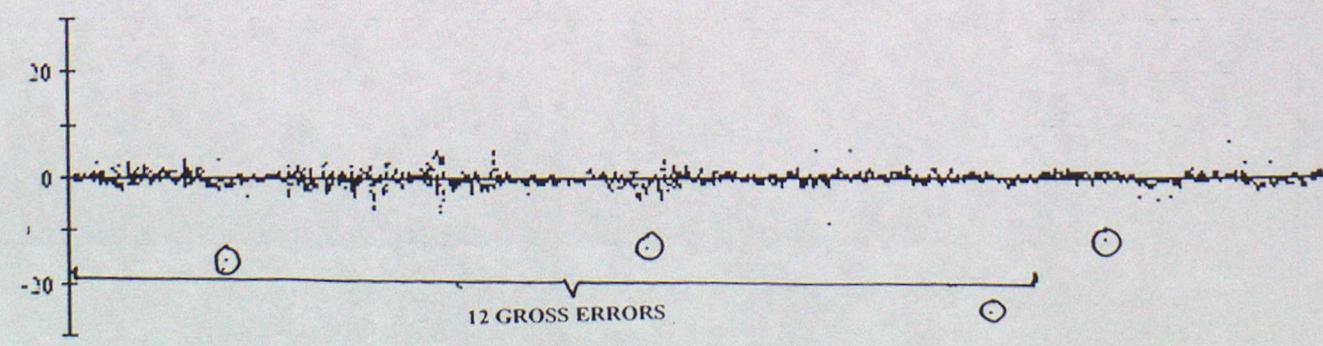
44623 Pressure



44626 Pressure

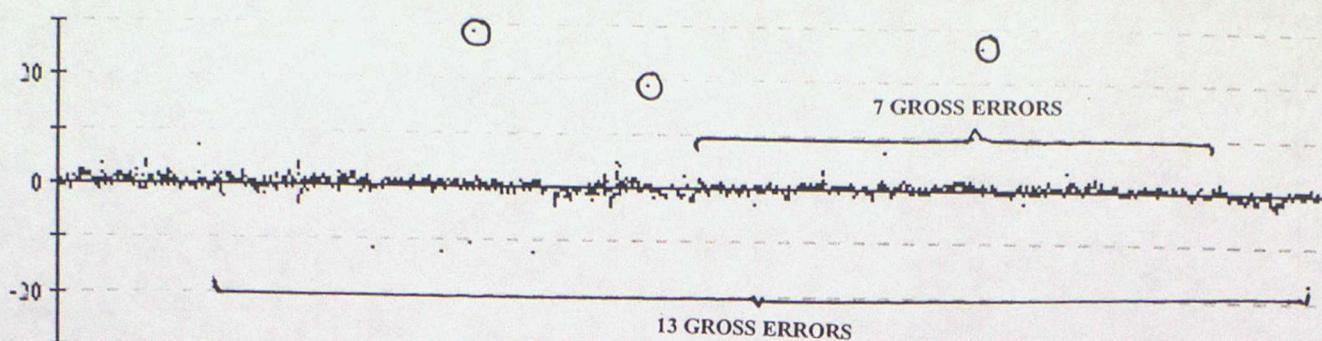


44627 Pressure

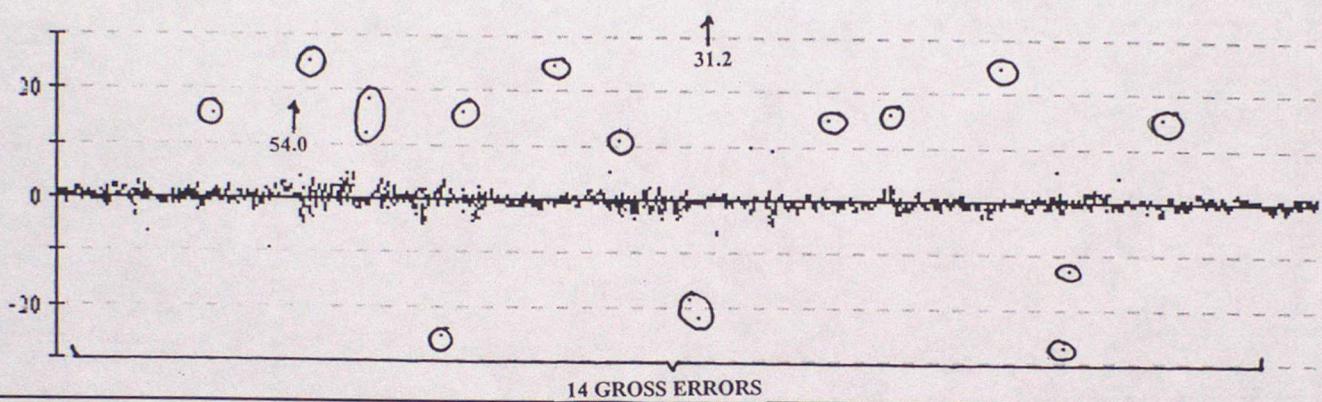


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

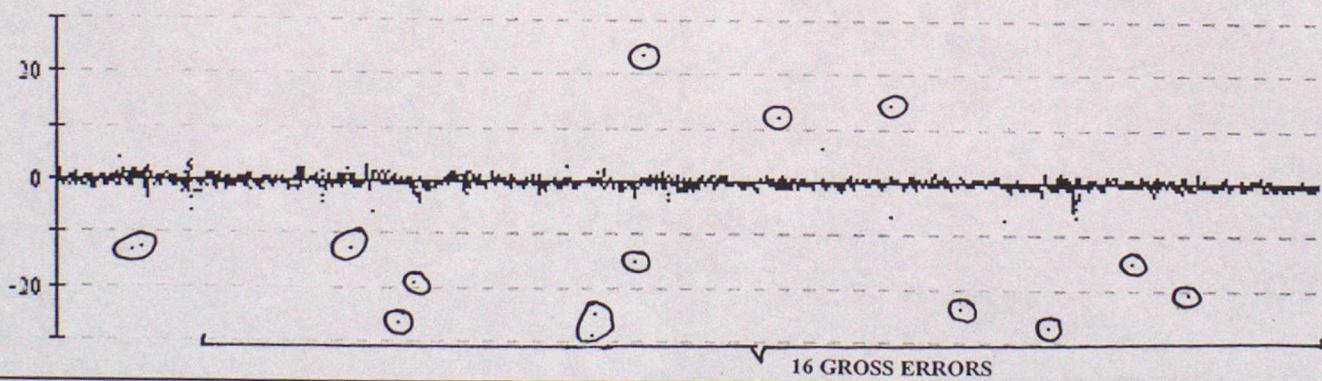
44628 Pressure



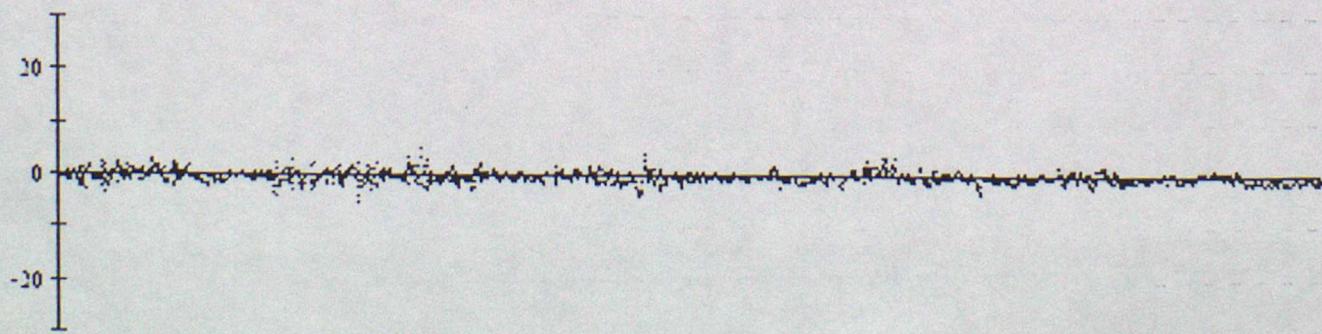
44630 Pressure



44721 Pressure

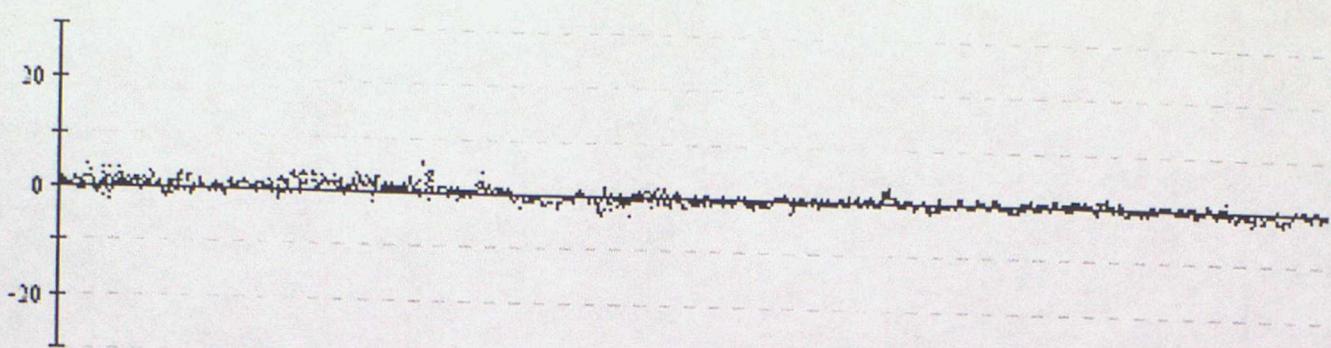


44723 Pressure

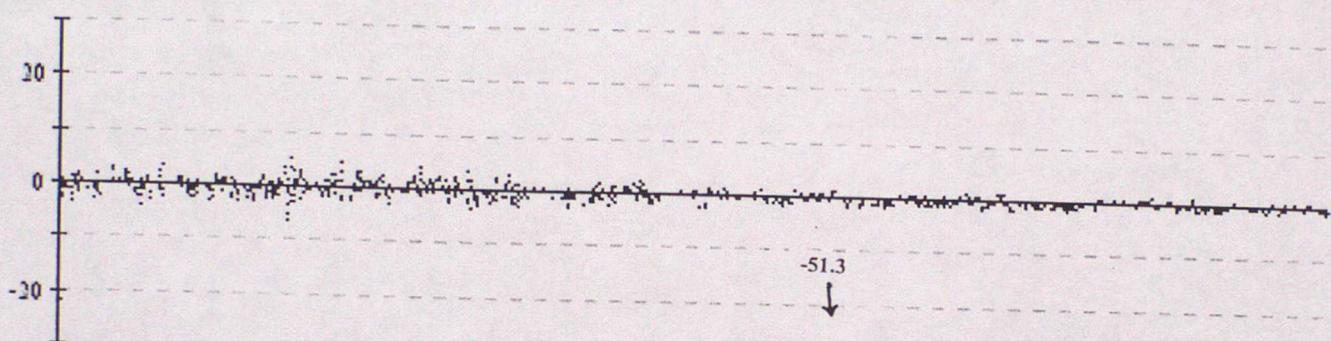


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

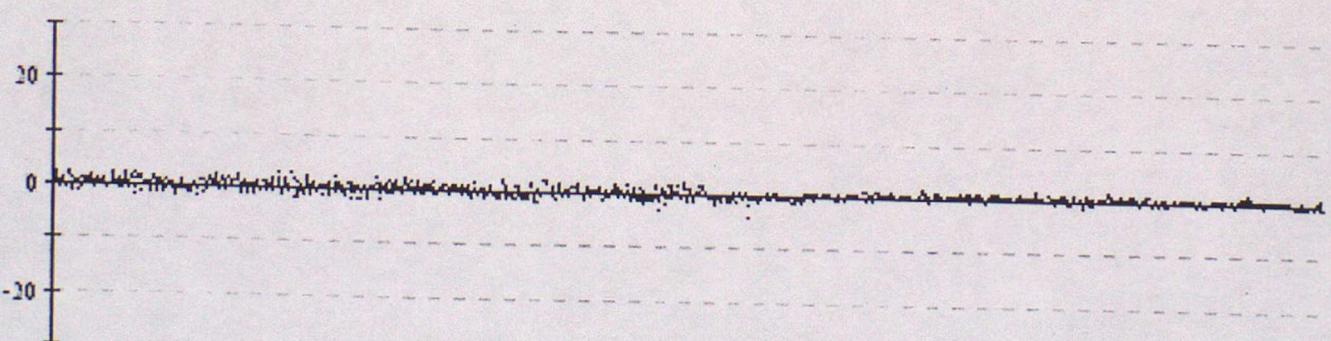
44724 Pressure



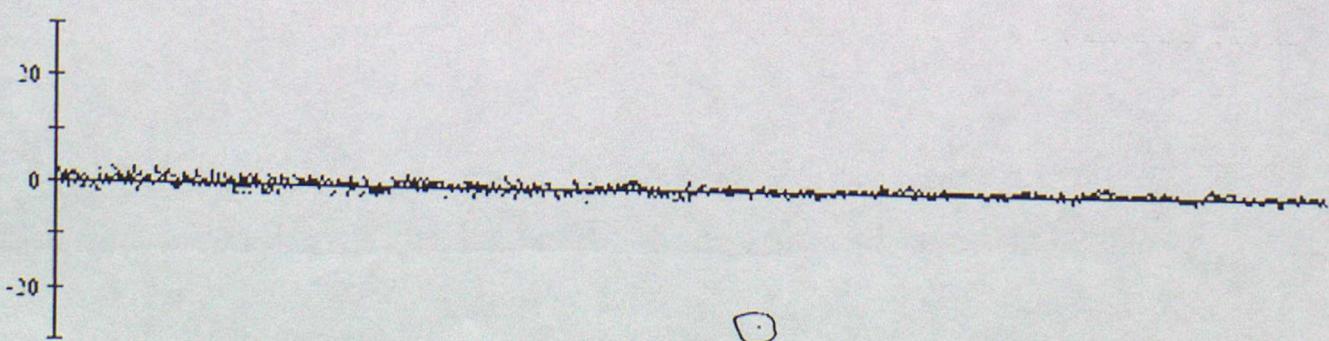
44725 Pressure



44726 Pressure

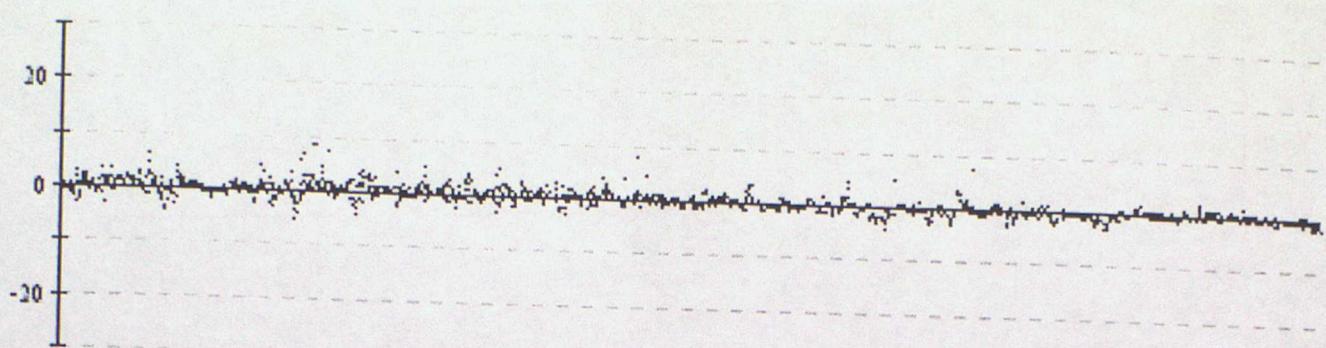


44727 Pressure

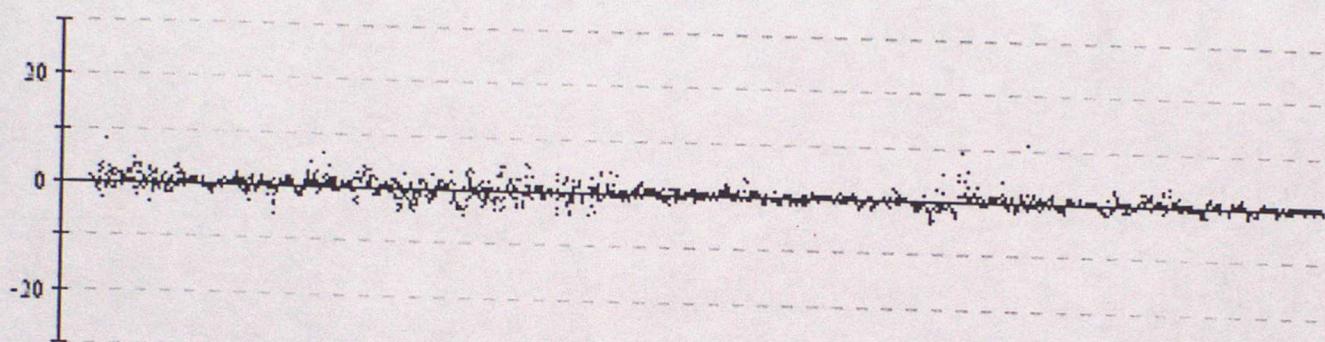


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

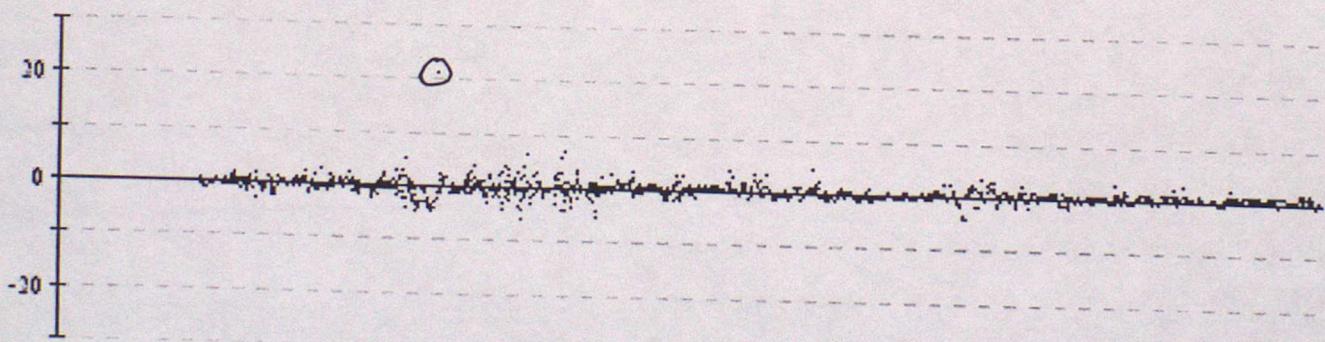
44729 Pressure



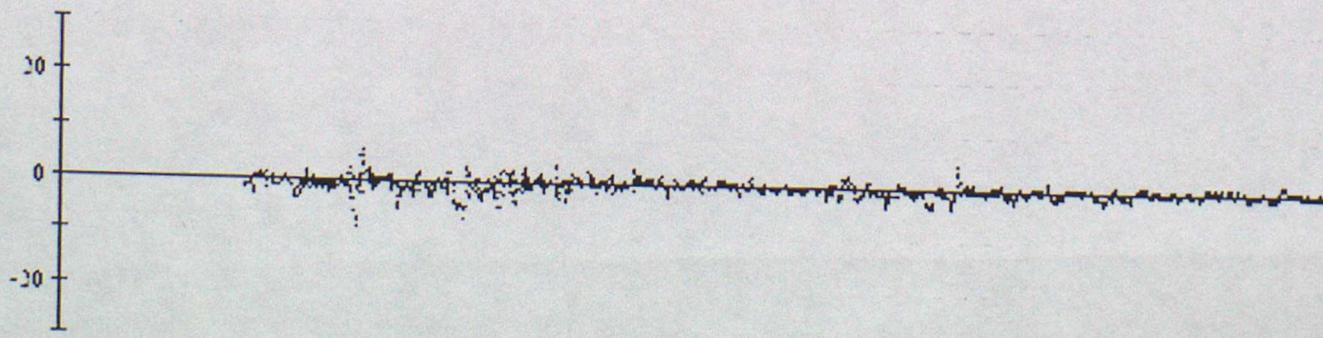
44730 Pressure



44741 Pressure

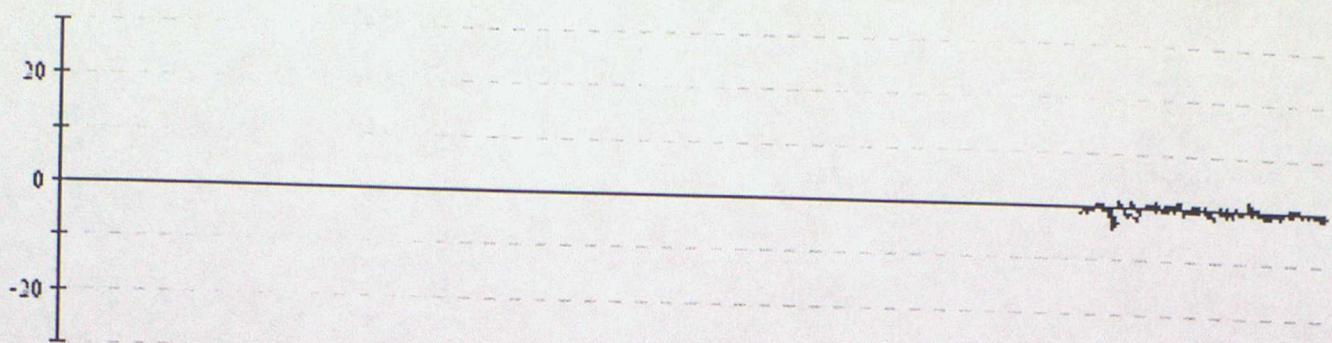


44743 Pressure

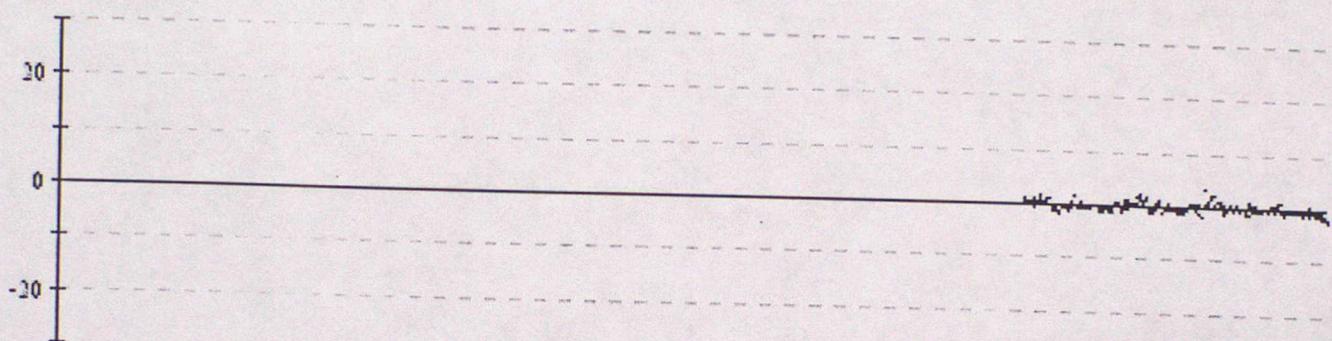


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

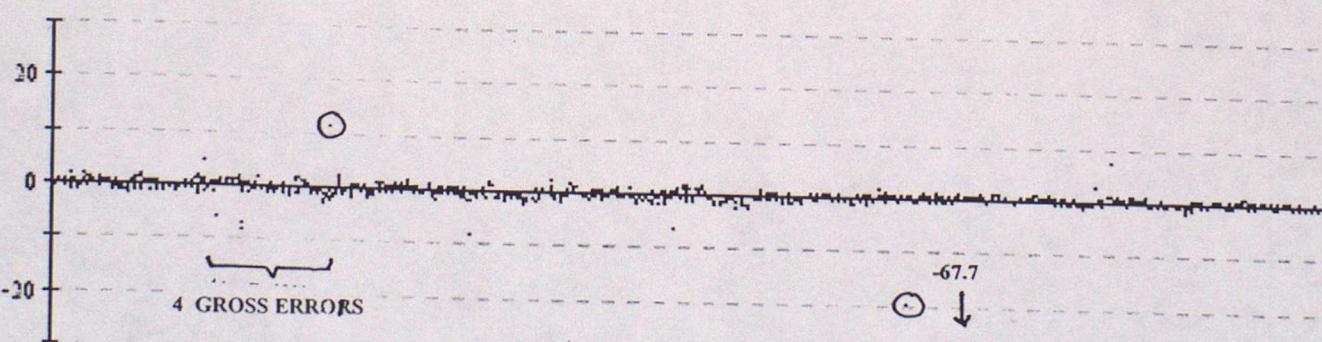
44760 Pressure



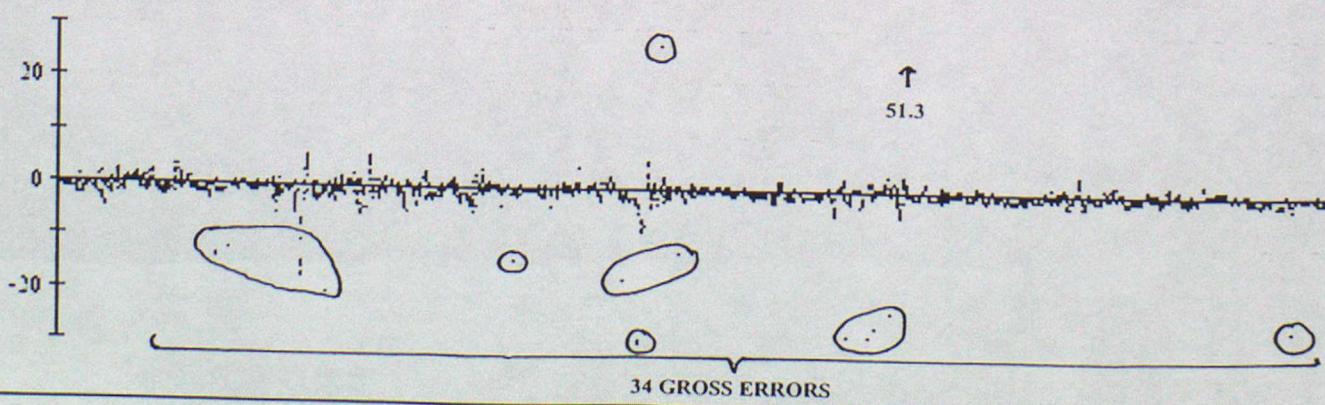
44761 Pressure



44765 Pressure

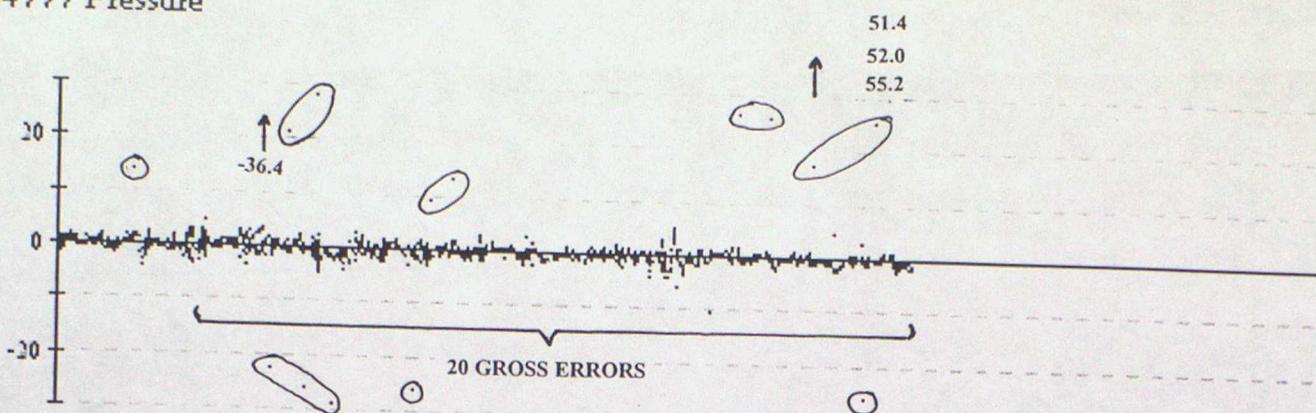


44773 Pressure

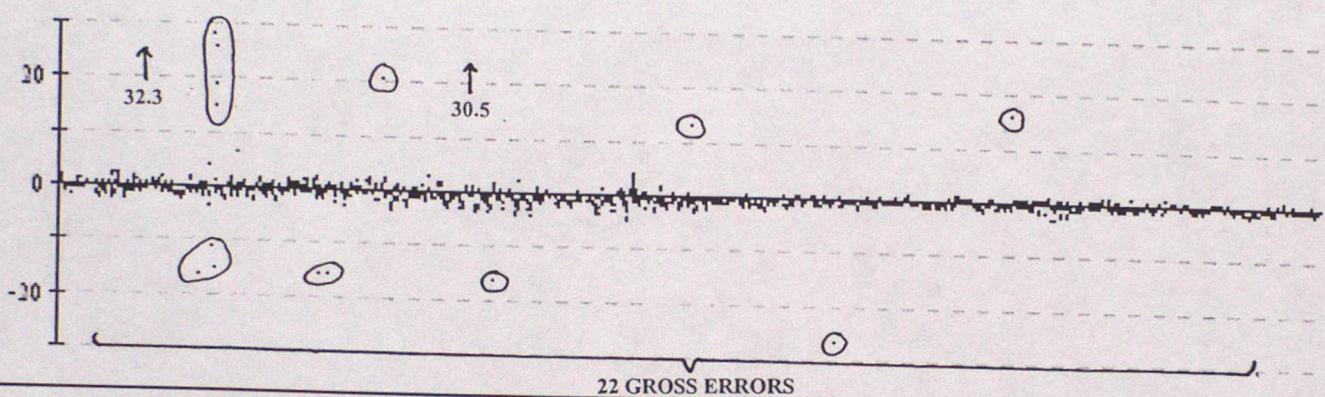


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

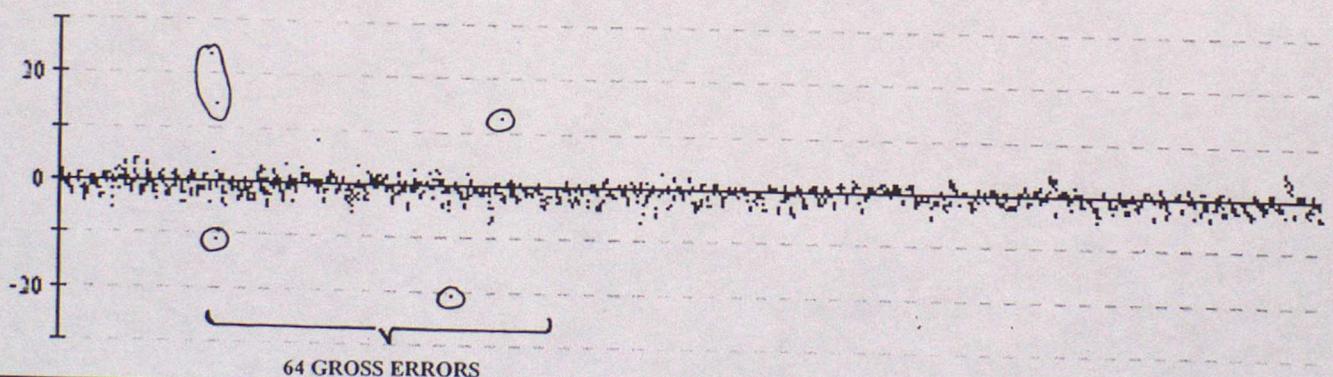
44777 Pressure



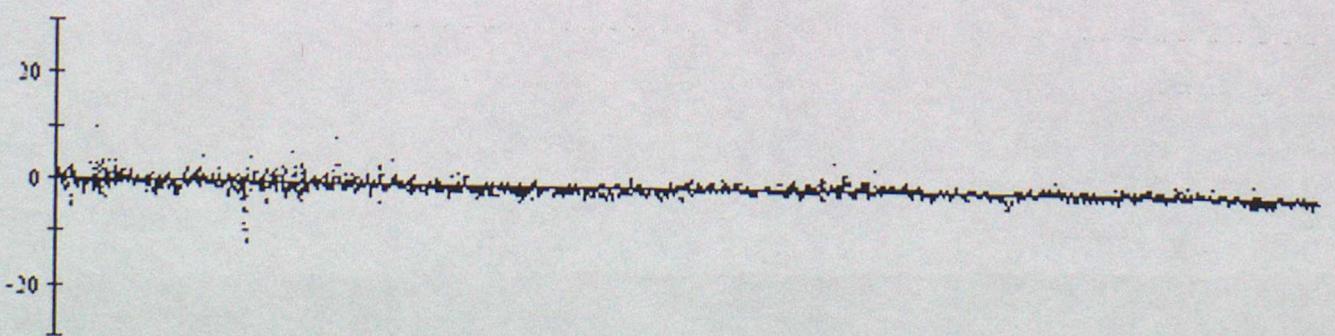
62507 Pressure



62508 Pressure

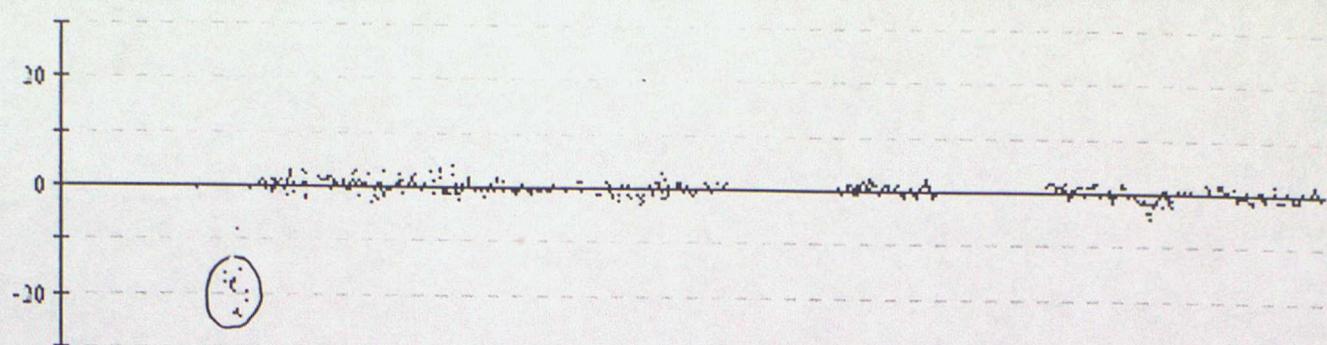


62509 Pressure

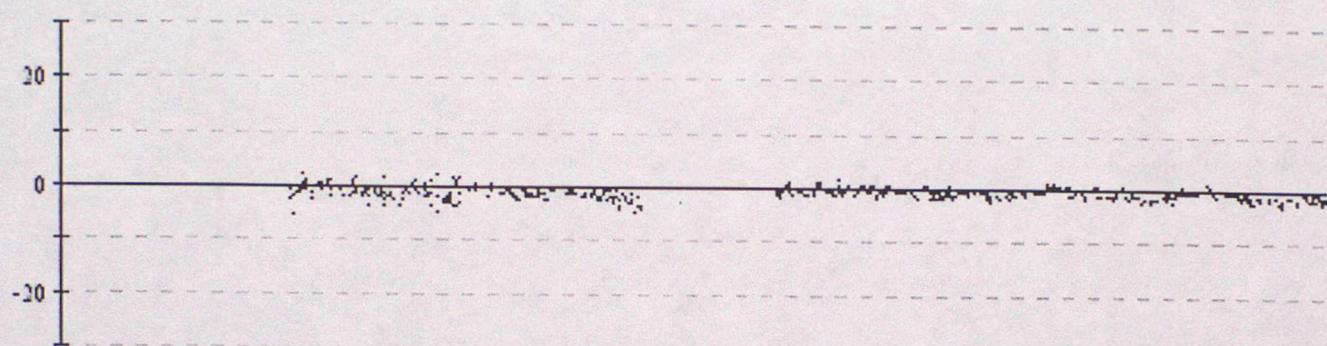


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

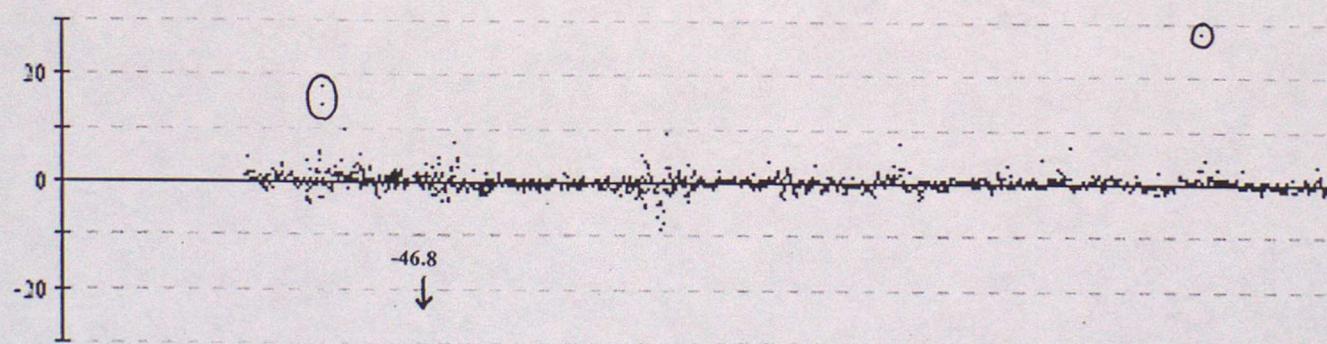
62512 Pressure



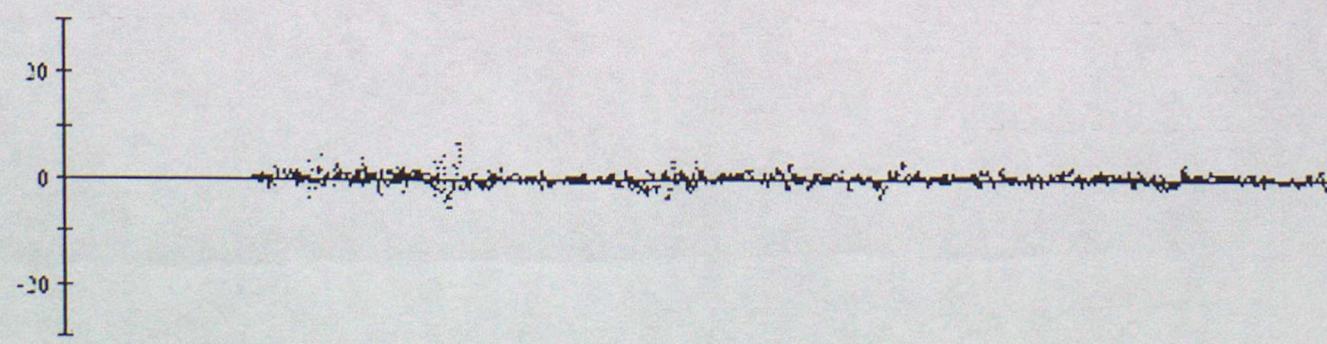
62513 Pressure



62514 Pressure

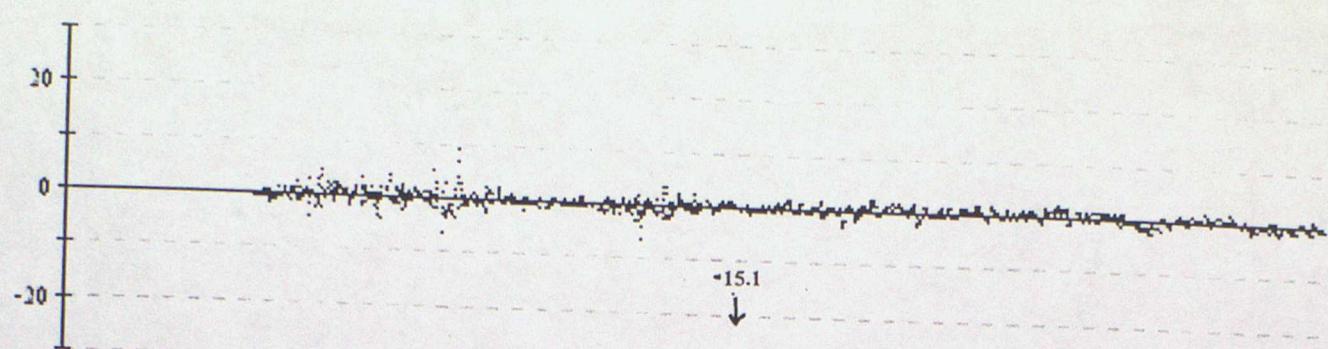


62515 Pressure

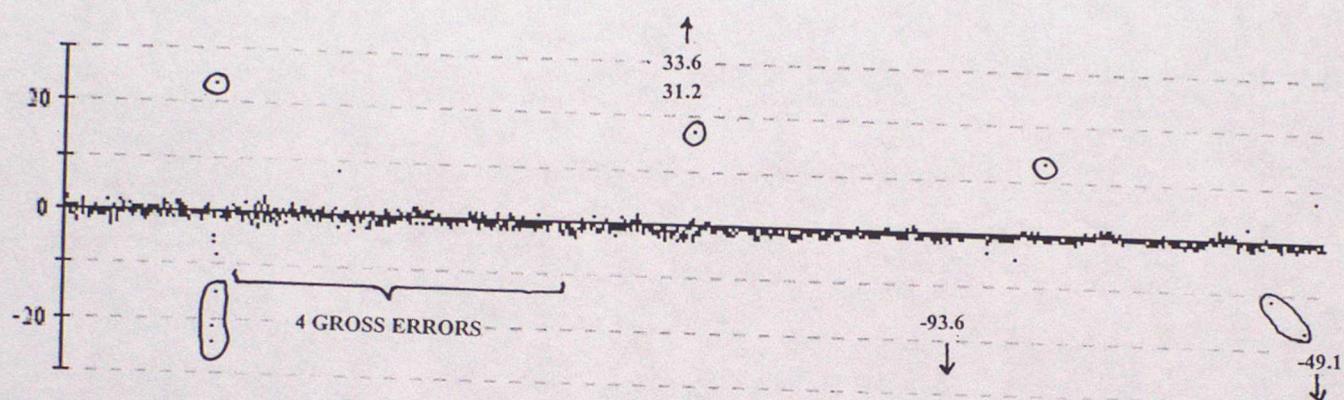


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

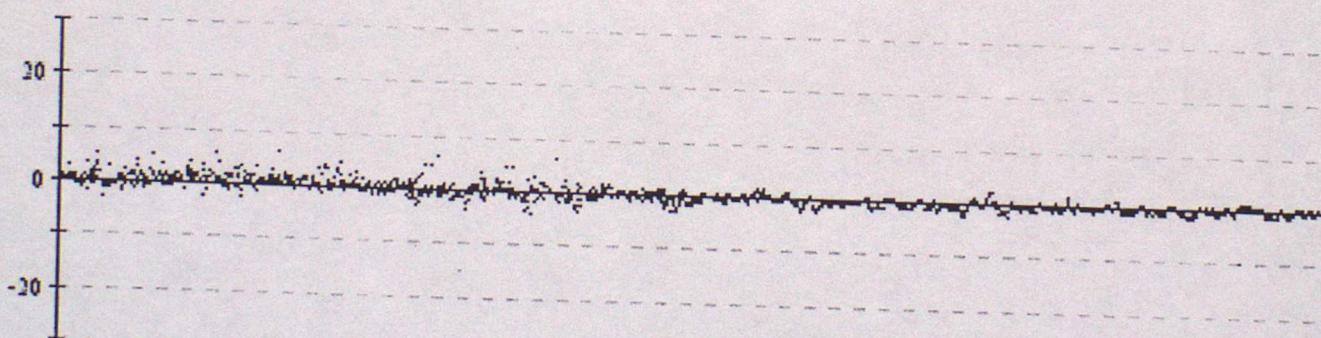
62516 Pressure



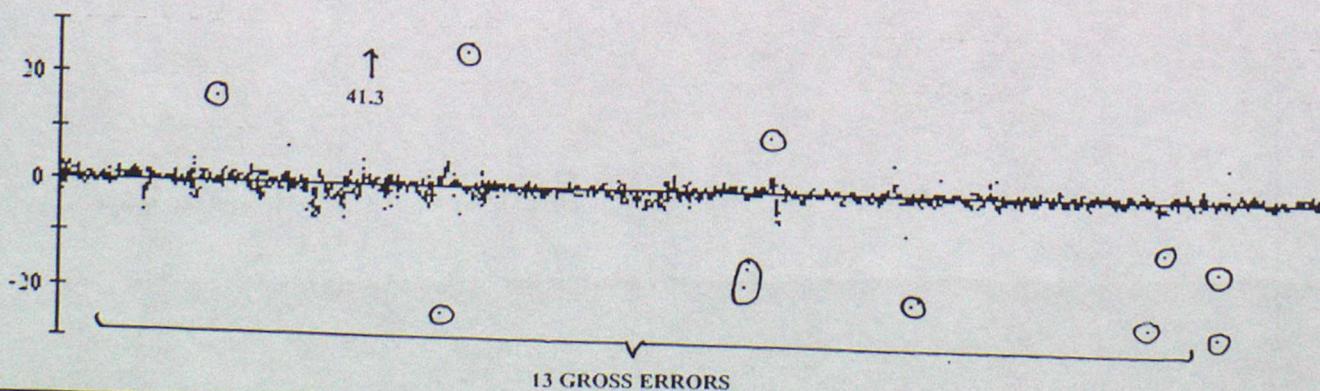
62520 Pressure



62596 Pressure

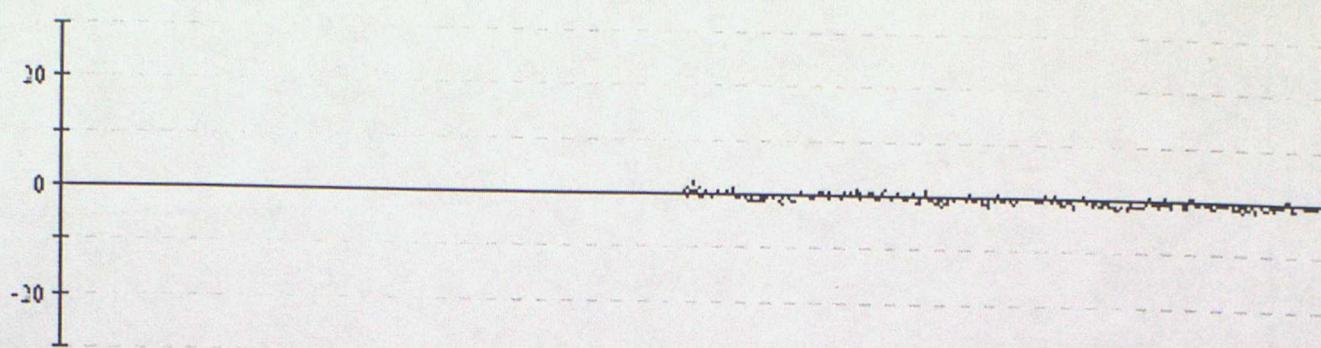


62597 Pressure

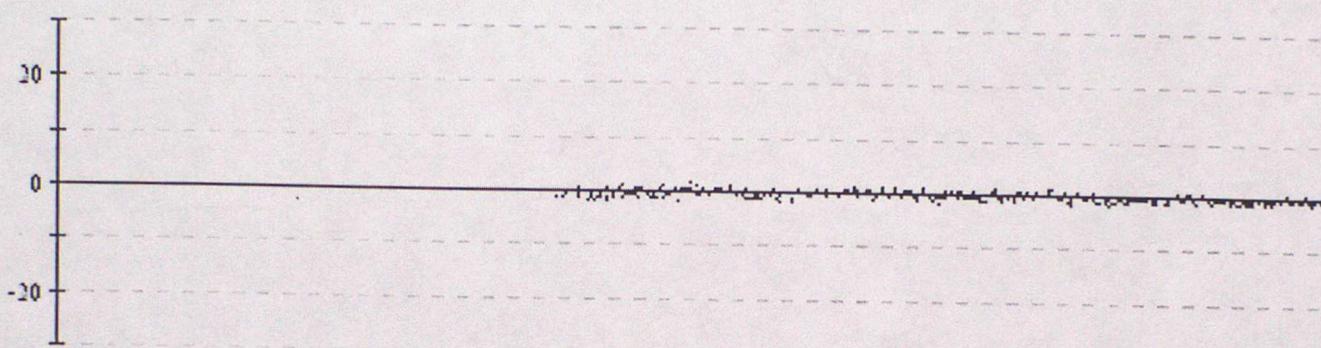


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

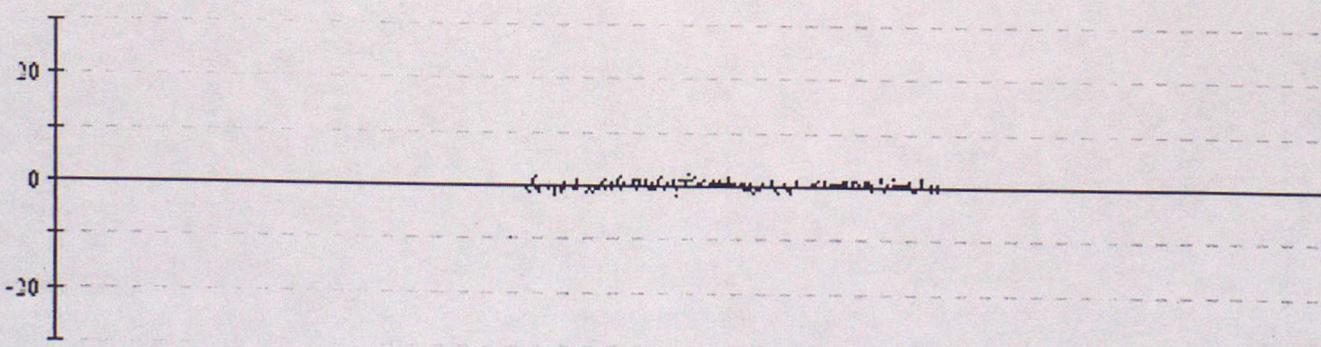
62673 Pressure



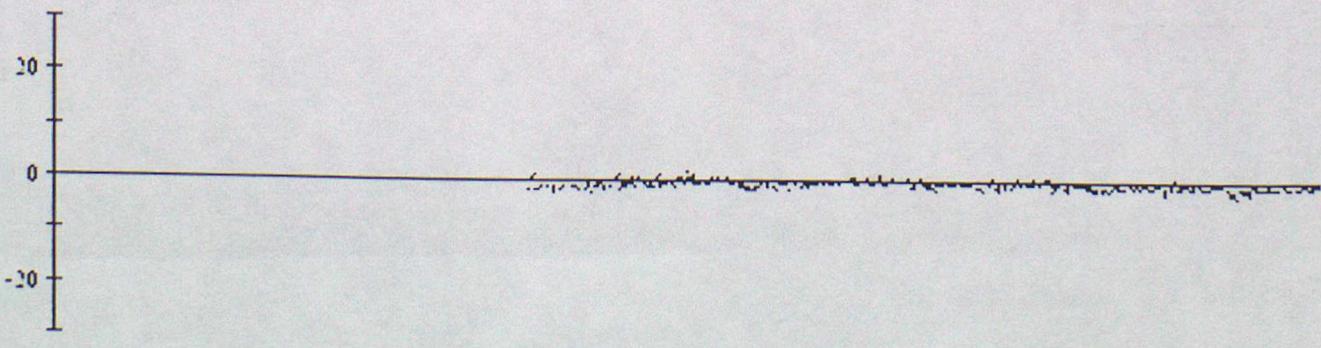
62675 Pressure



62722 Pressure

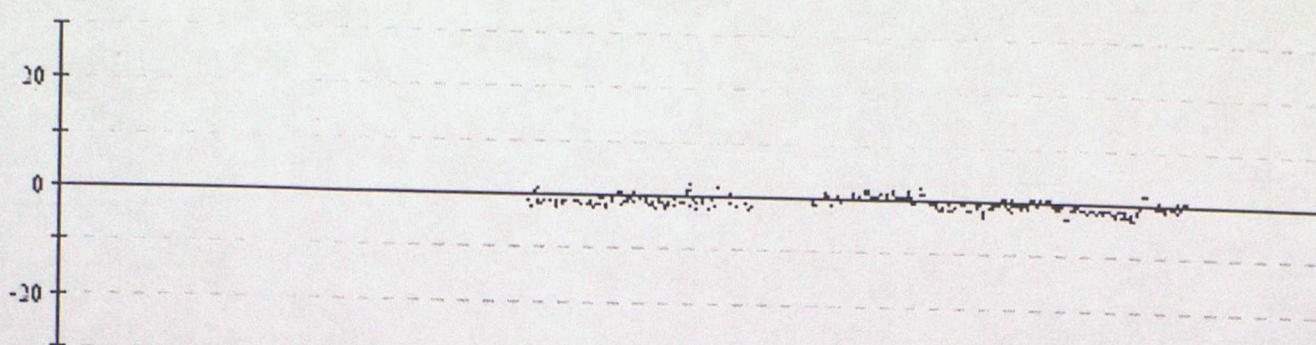


62723 Pressure

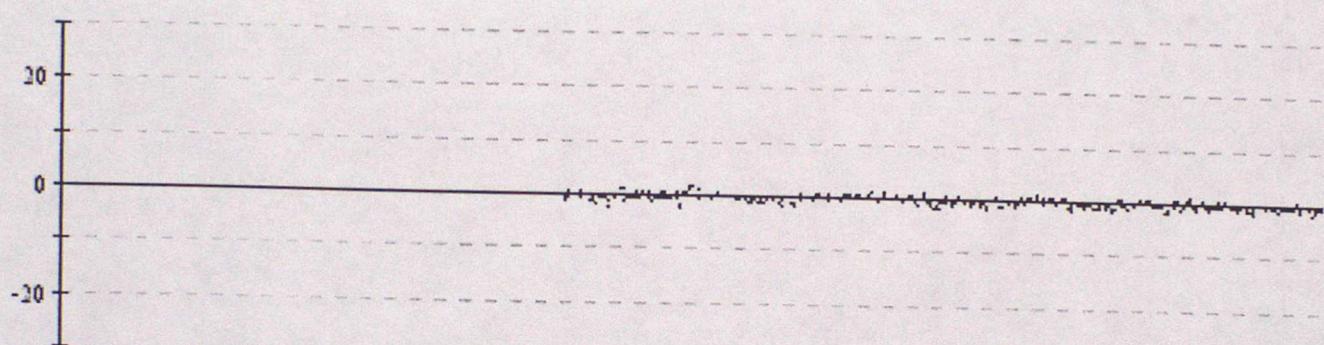


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

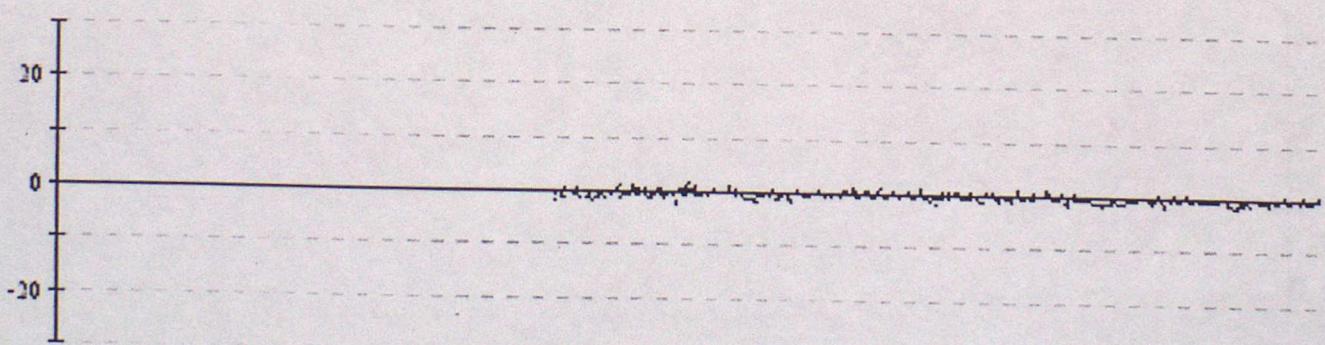
62724 Pressure



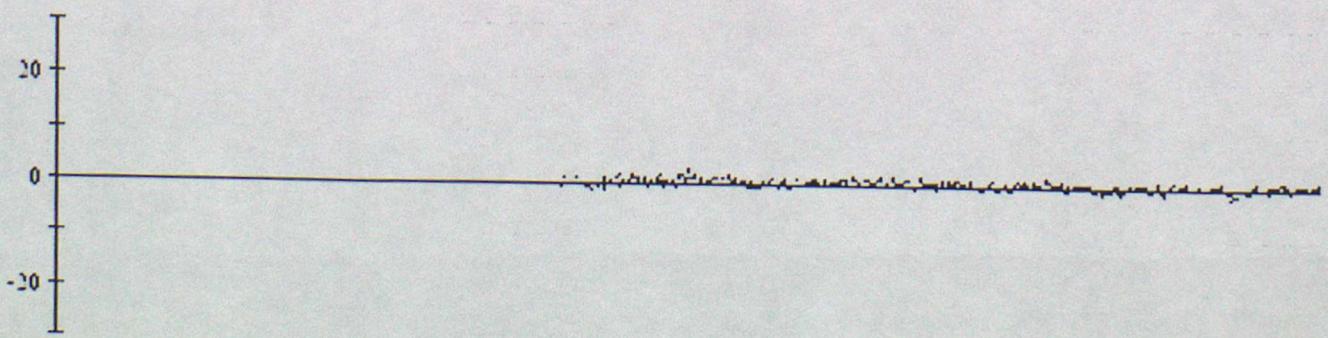
62725 Pressure



62761 Pressure

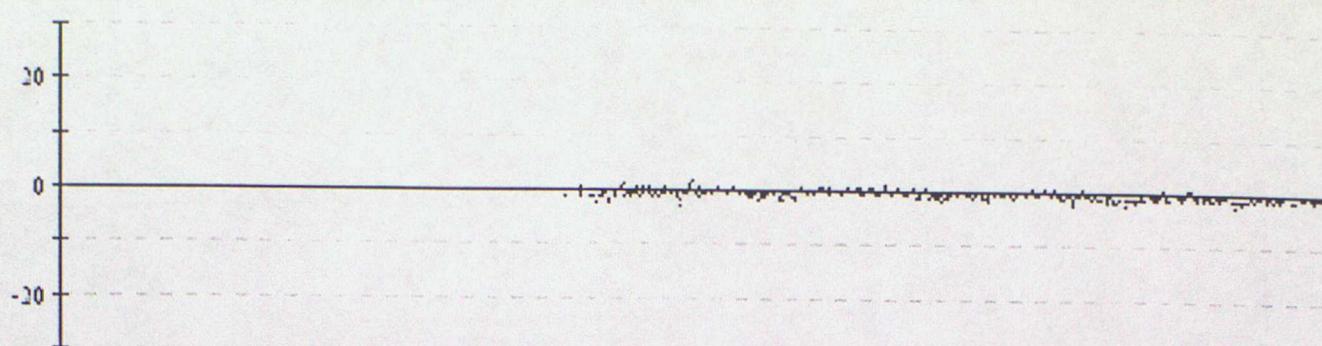


62762 Pressure

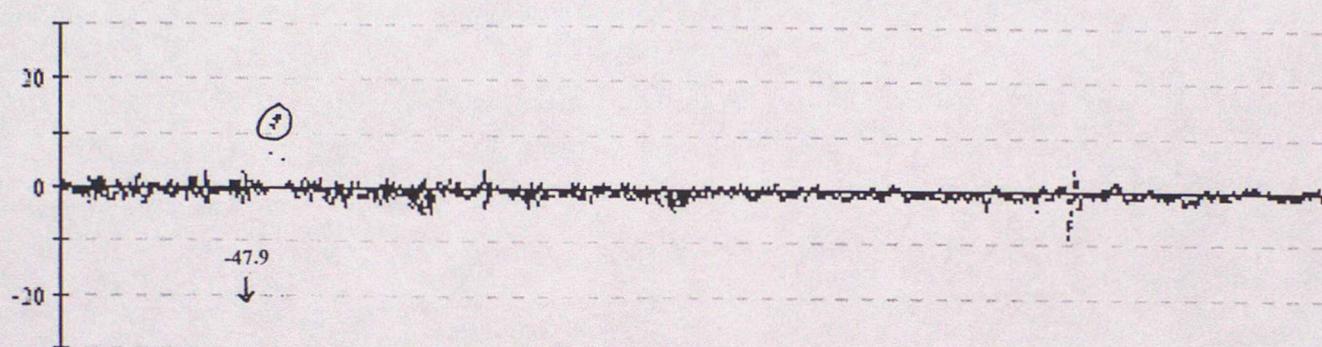


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

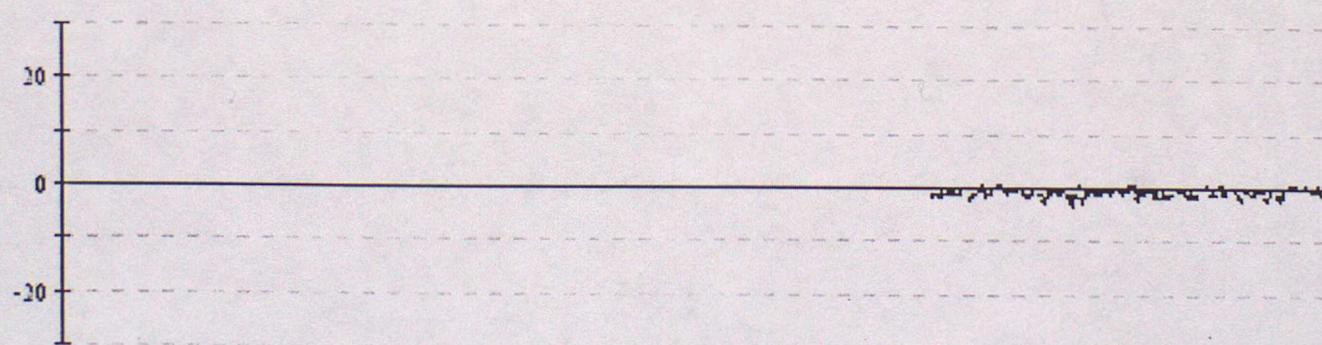
62763 Pressure



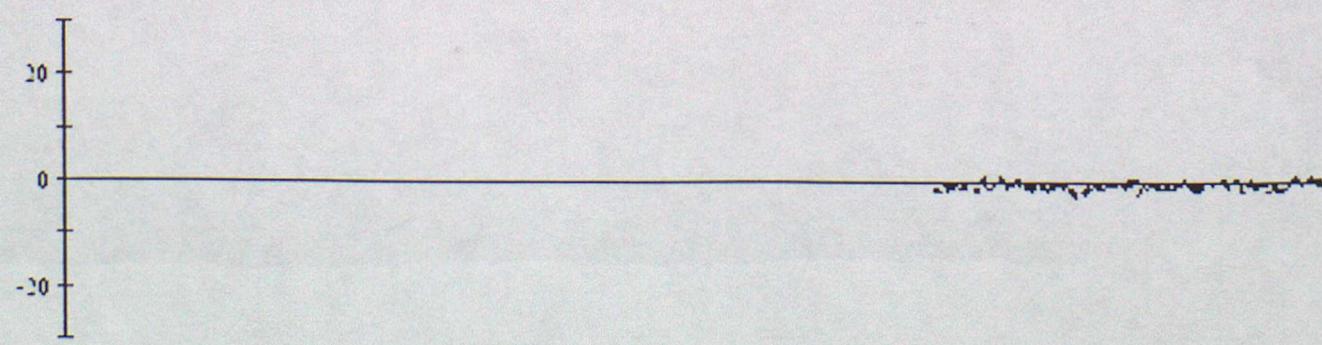
64517 Pressure



64519 Pressure

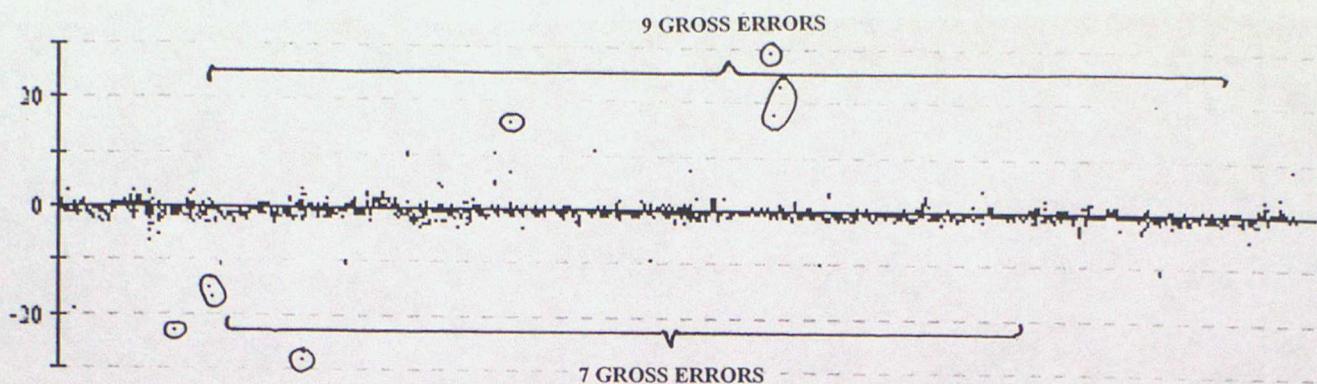


64520 Pressure

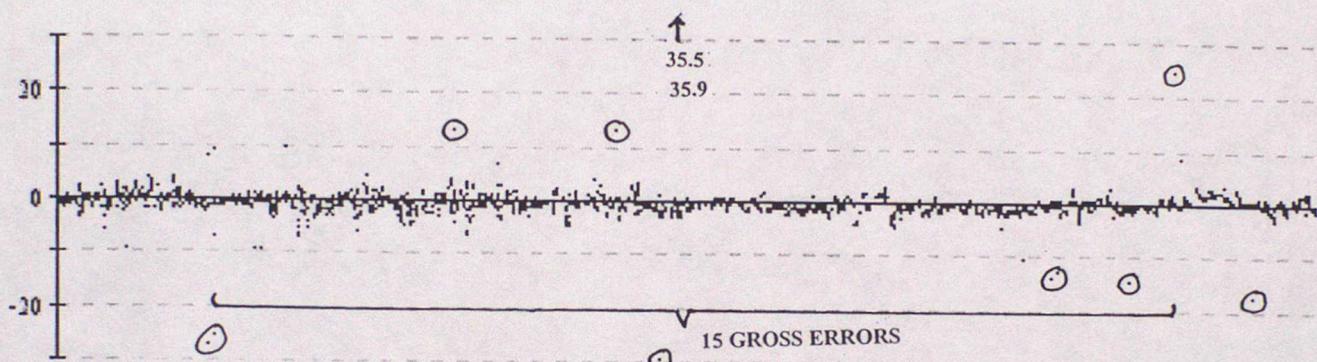


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

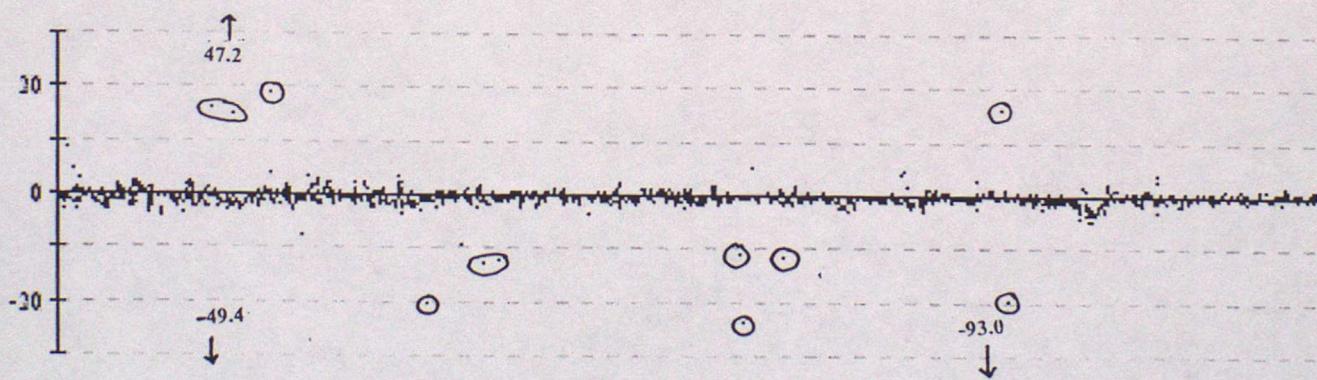
64530 Pressure



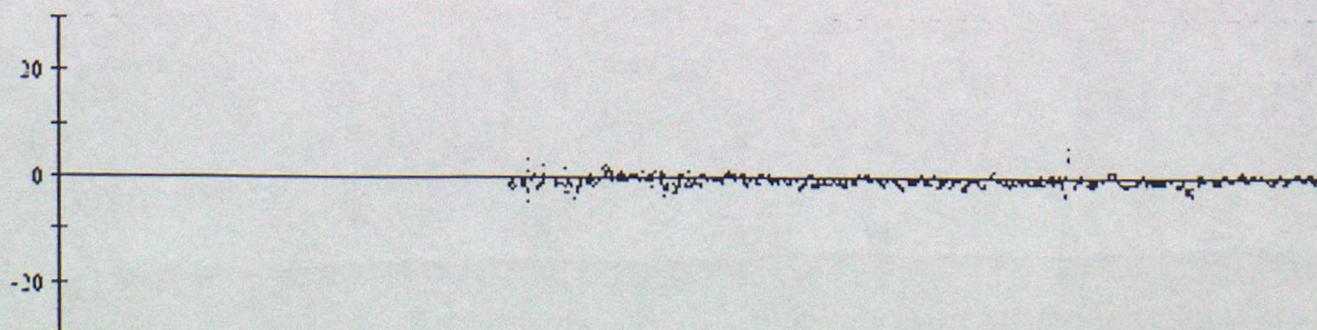
64546 Pressure



64547 Pressure

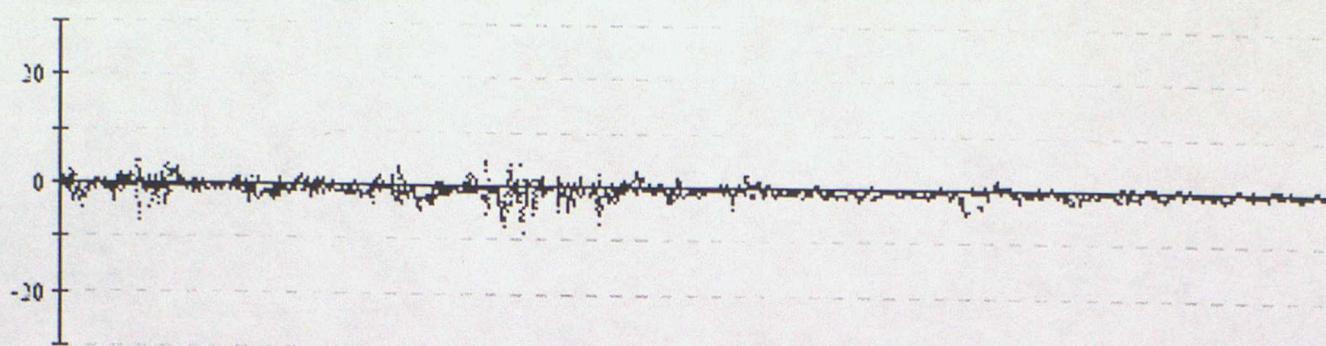


64548 Pressure

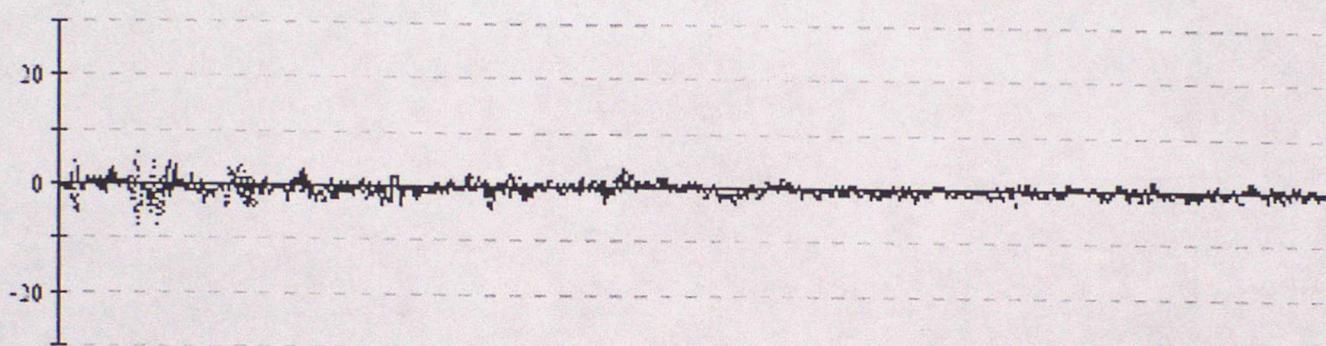


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

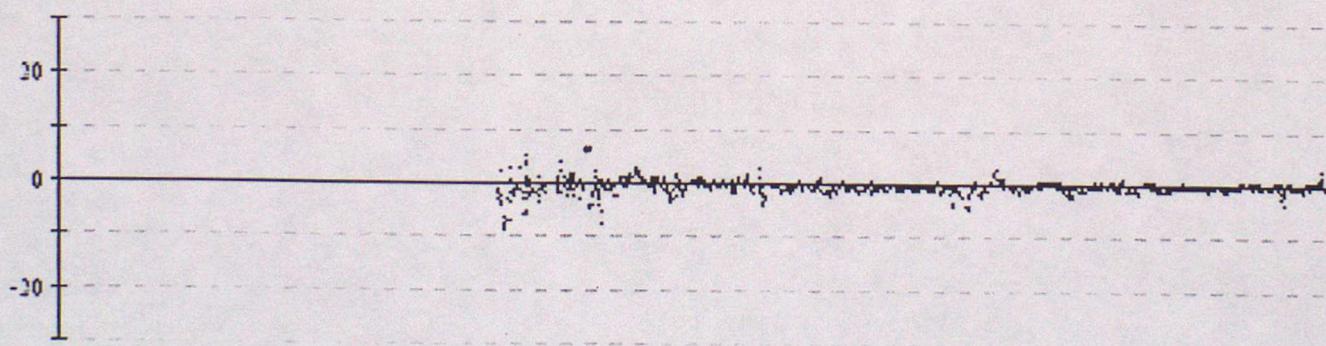
64698 Pressure



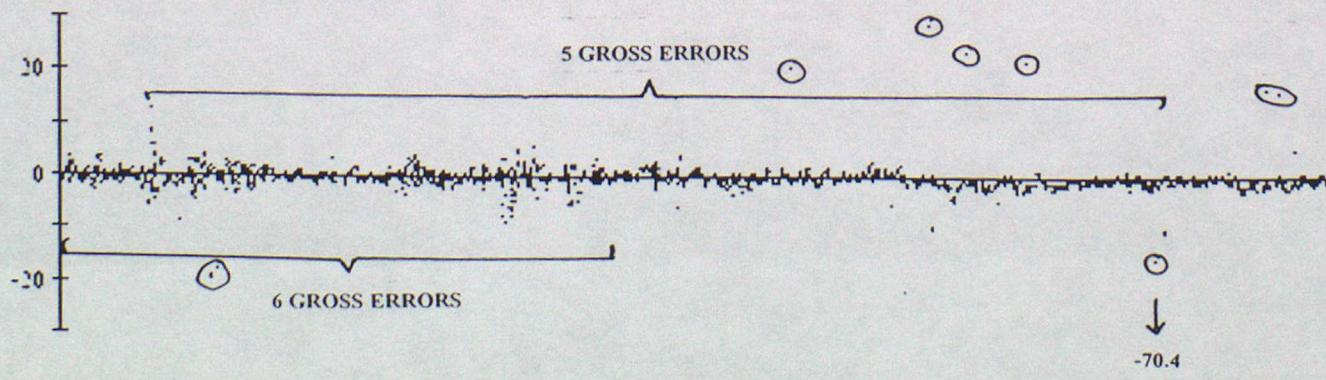
64699 Pressure



65593 Pressure

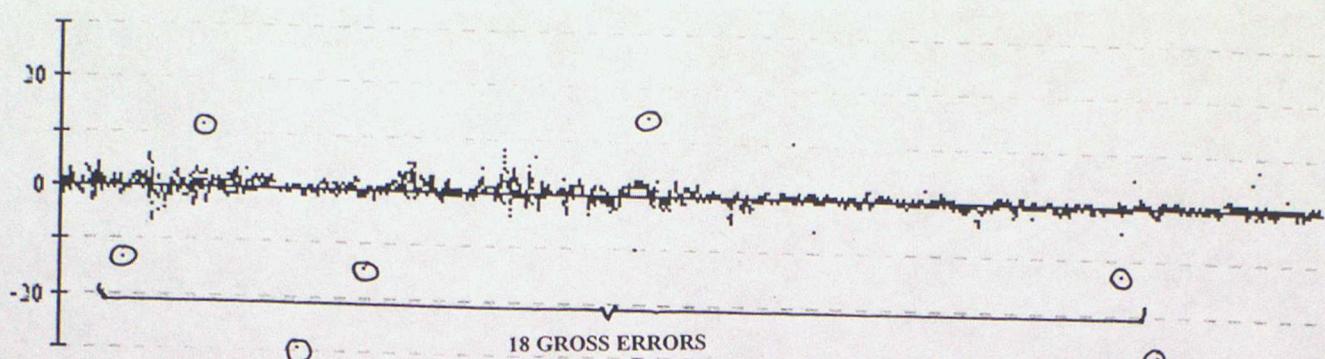


65598 Pressure

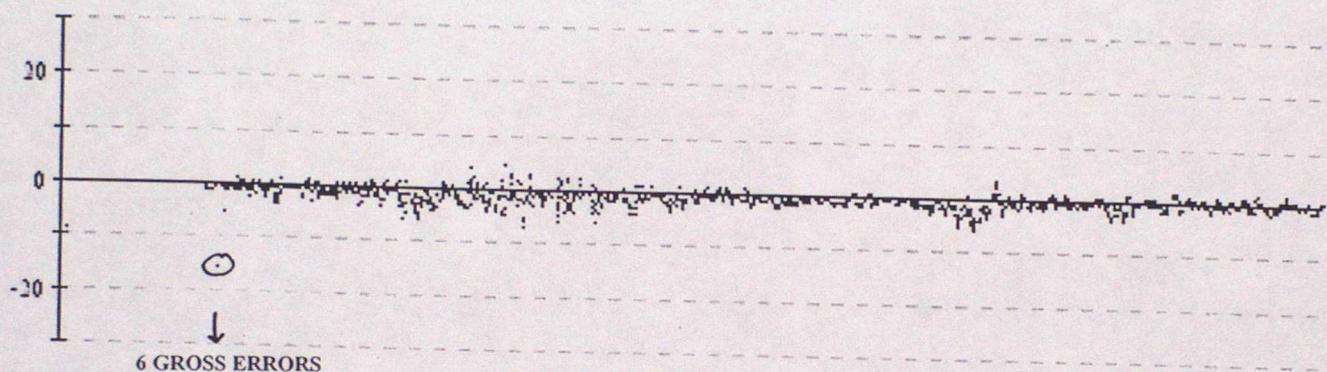


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

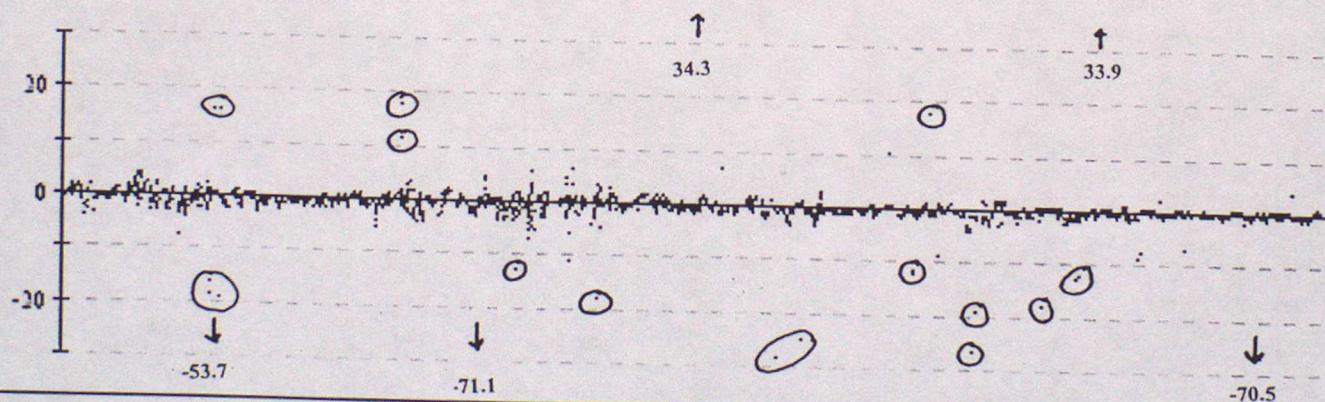
65599 Pressure



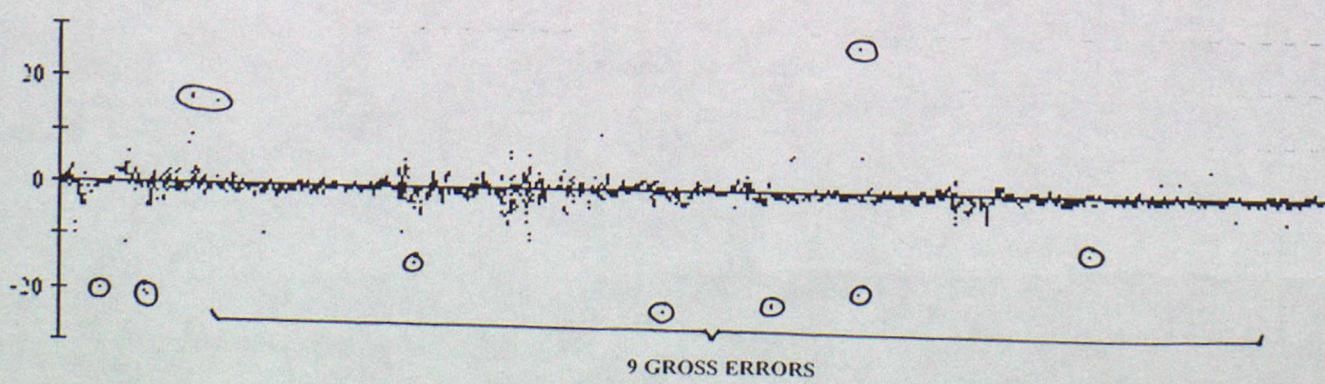
65600 Pressure



65601 Pressure



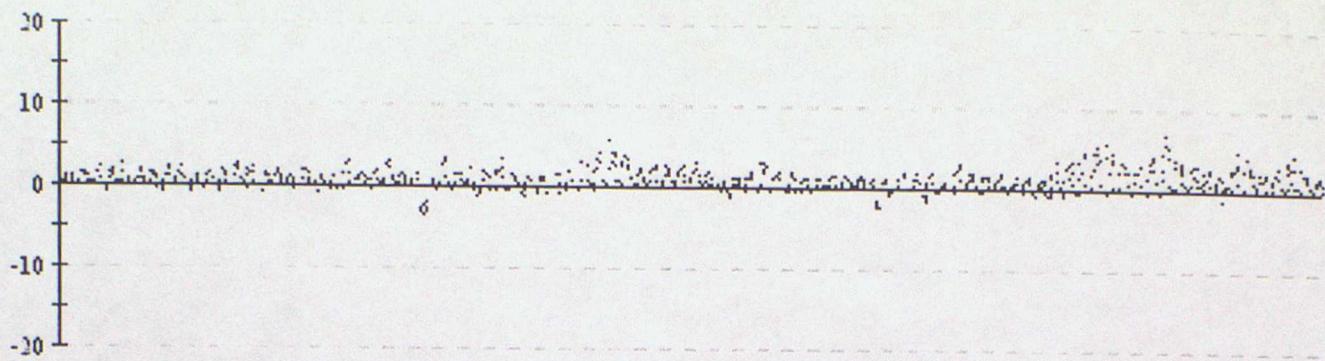
65602 Pressure



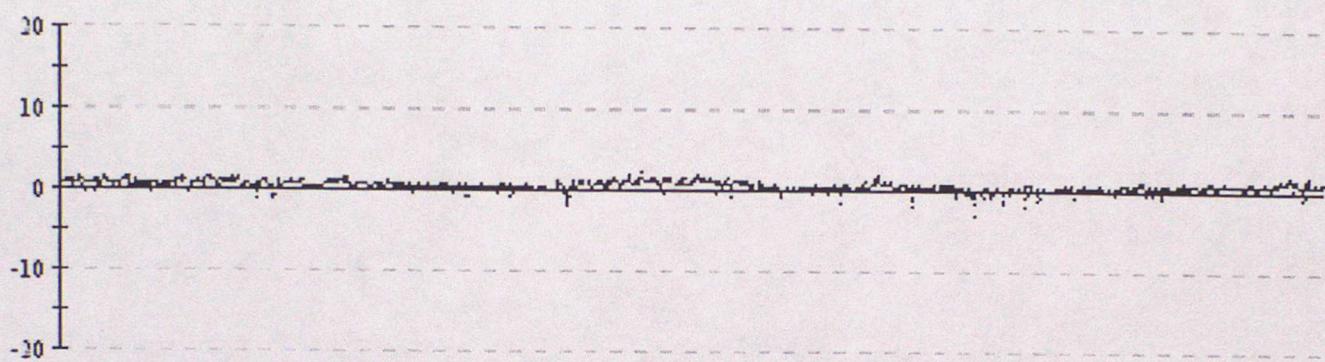
ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

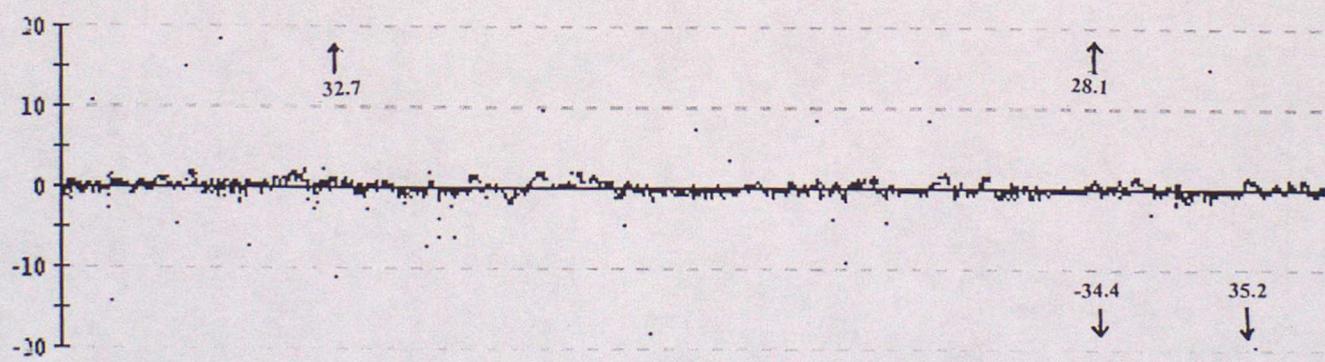
41521 Air Temperature



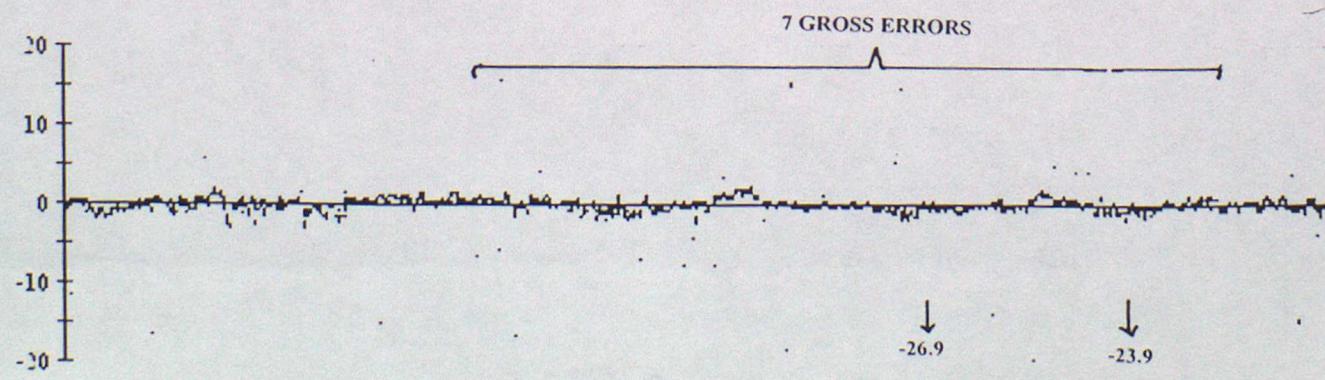
44613 Air Temperature



44626 Air Temperature

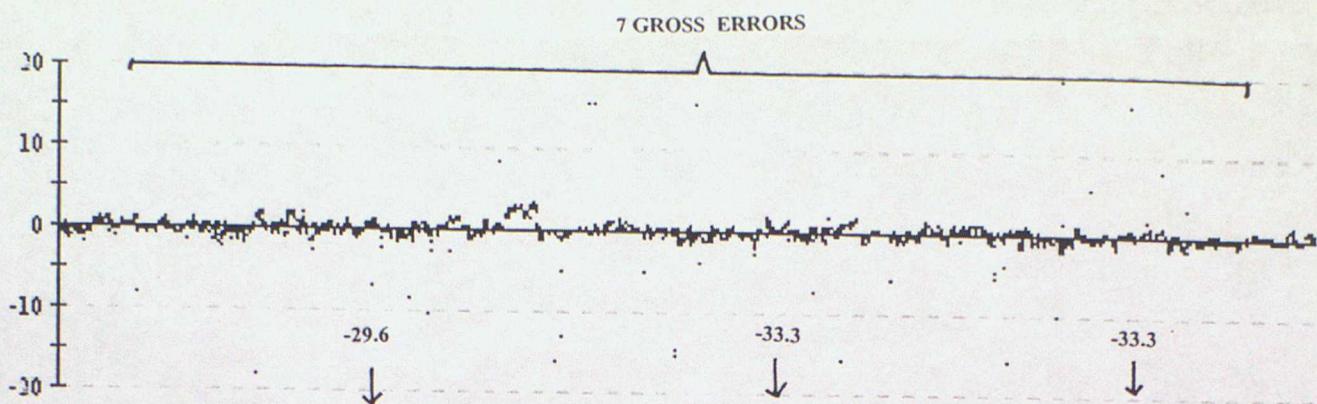


44628 Air Temperature

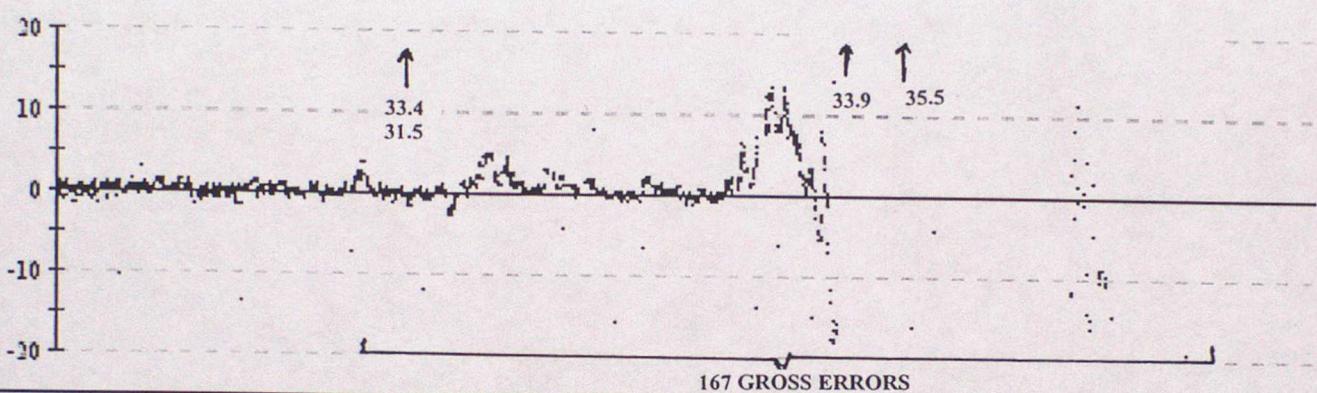


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

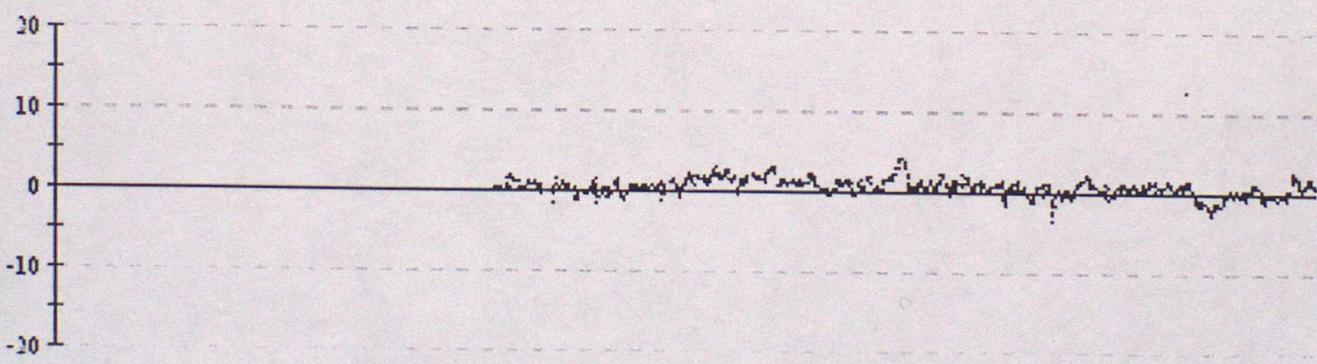
44630 Air Temperature



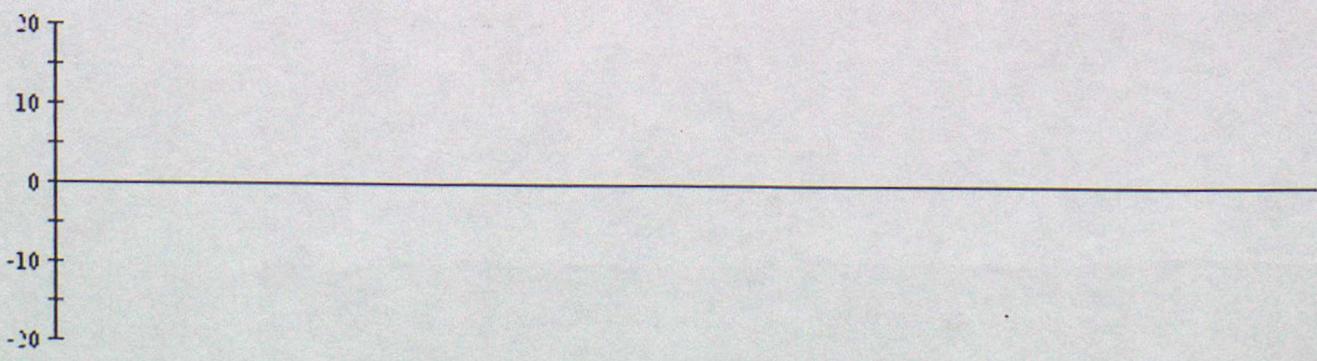
44721 Air Temperature



44743 Air Temperature

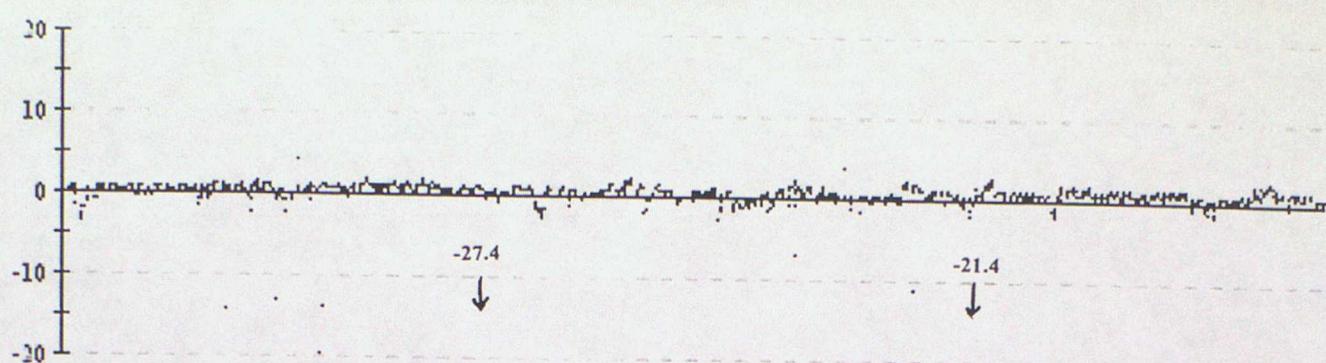


44760 Air Temperature

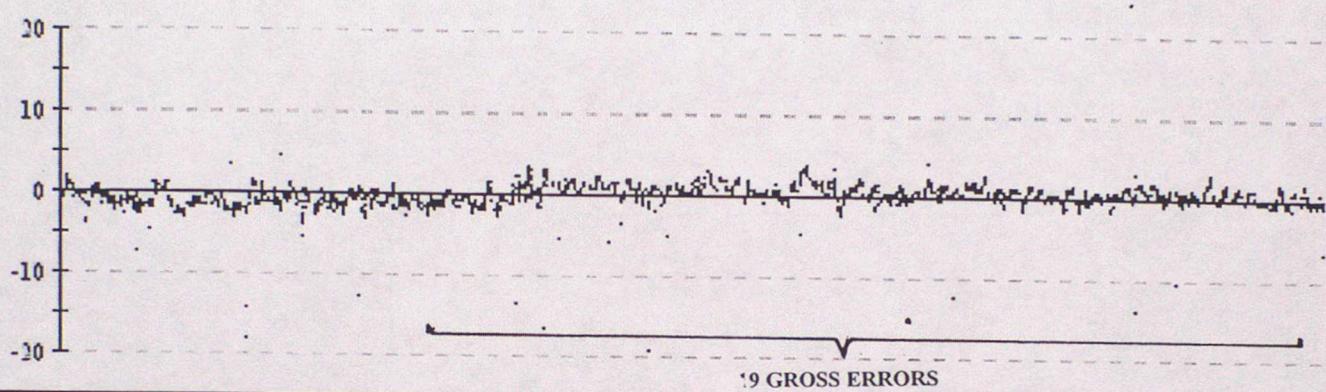


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

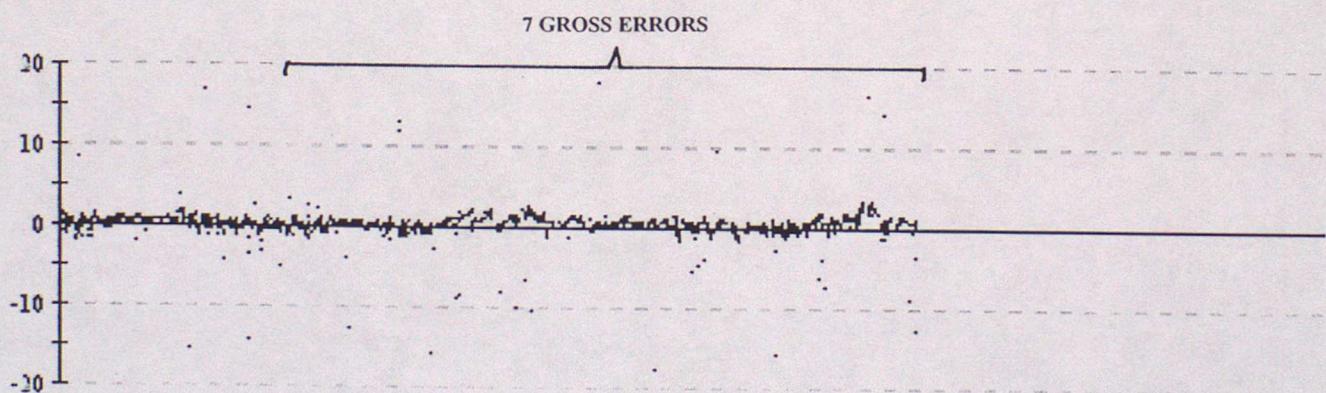
44765 Air Temperature



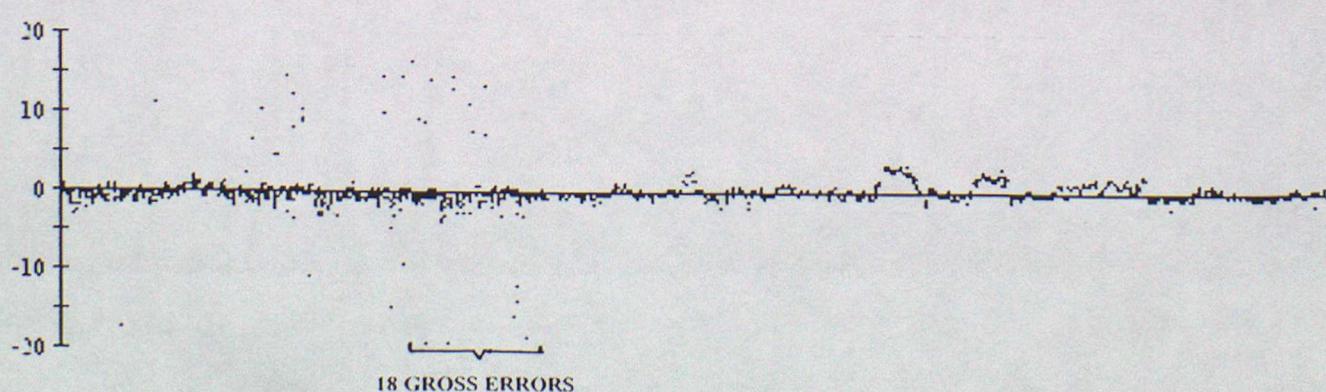
44773 Air Temperature



44777 Air Temperature

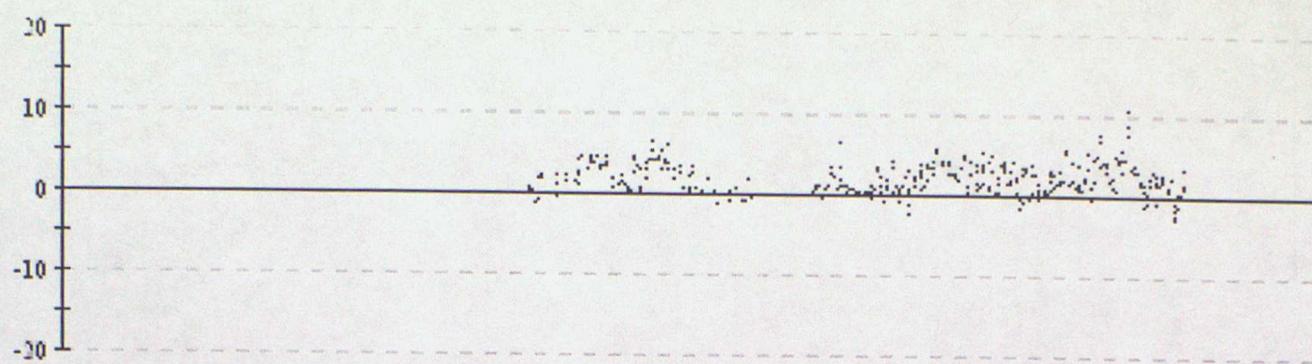


62508 Air Temperature

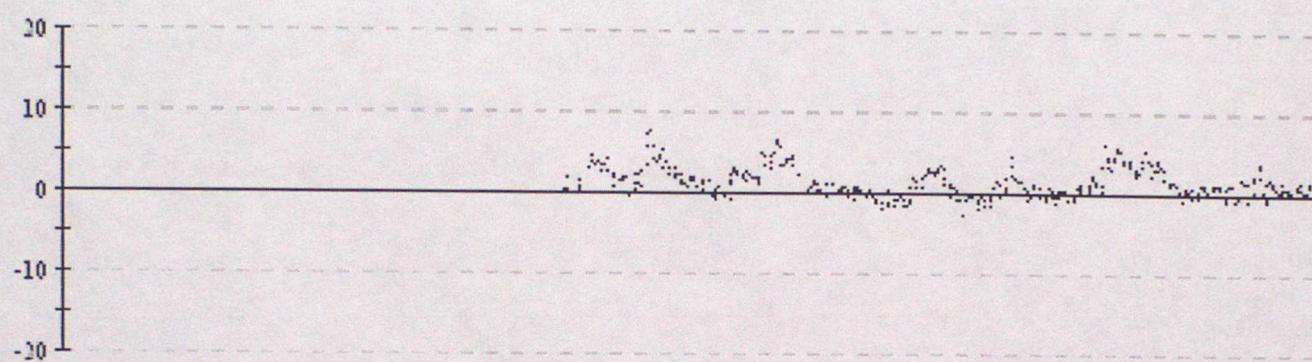


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

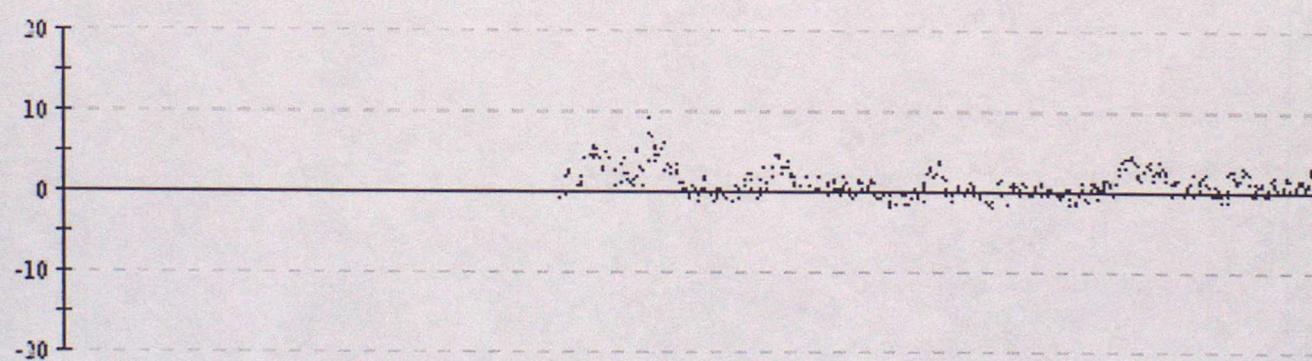
62724 Air Temperature



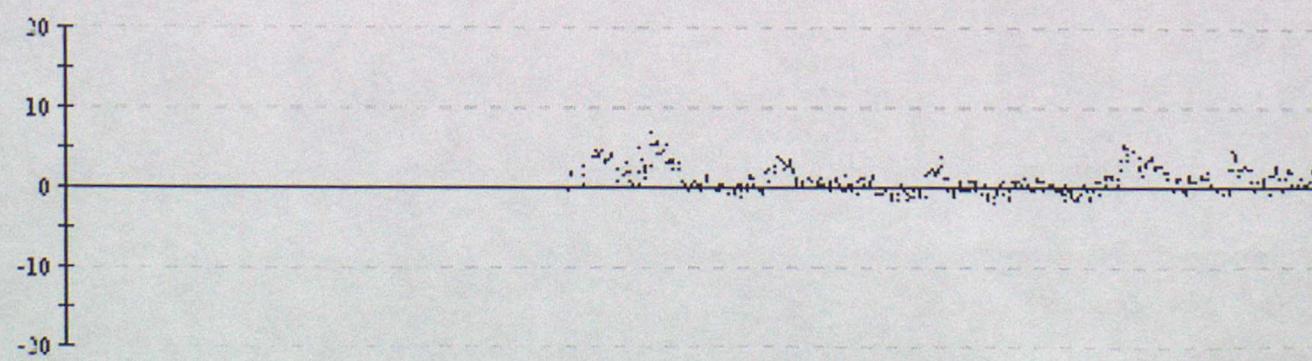
62725 Air Temperature



62761 Air Temperature

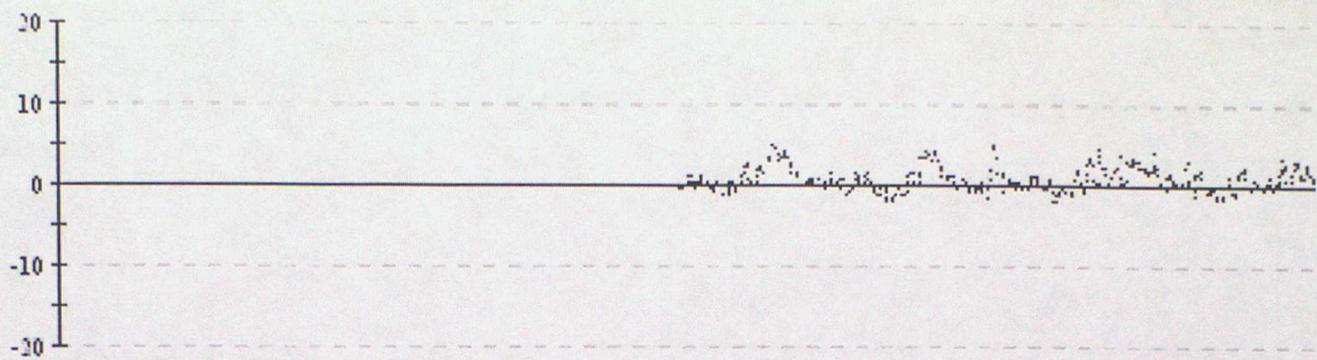


62762 Air Temperature

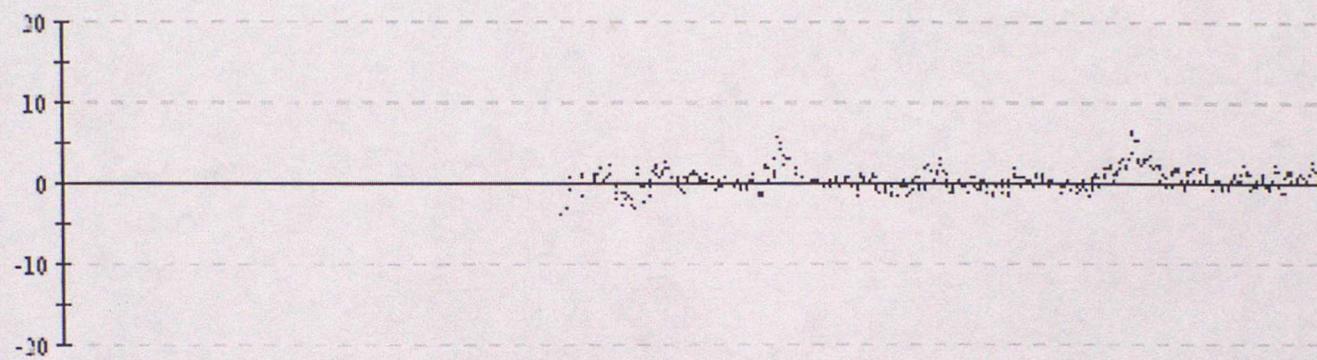


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

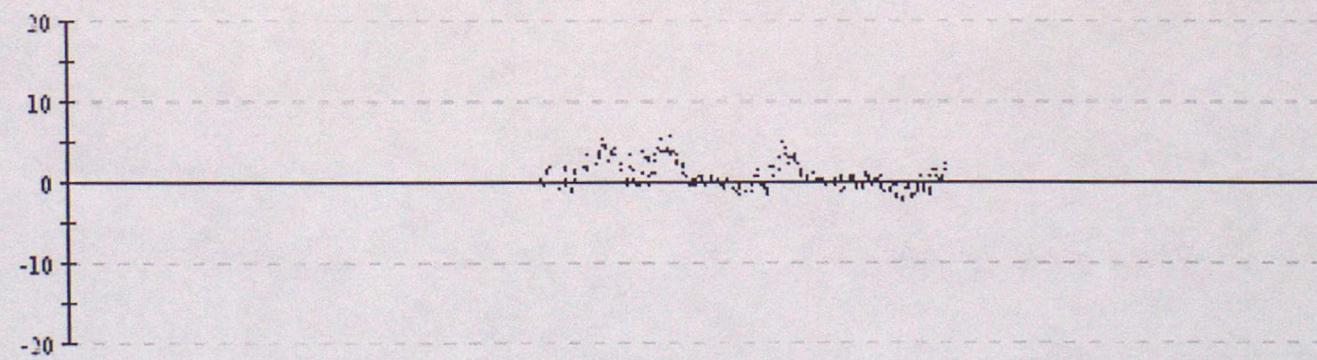
62673 Air Temperature



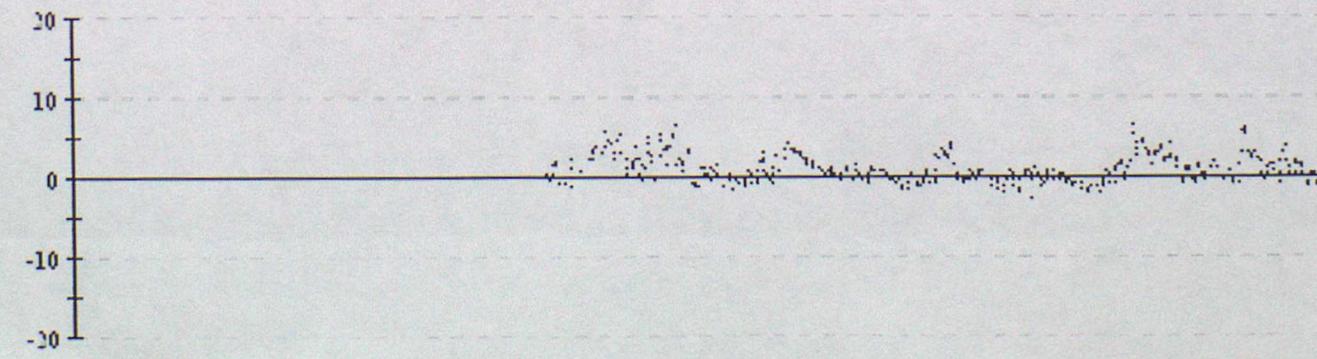
62675 Air Temperature



62722 Air Temperature

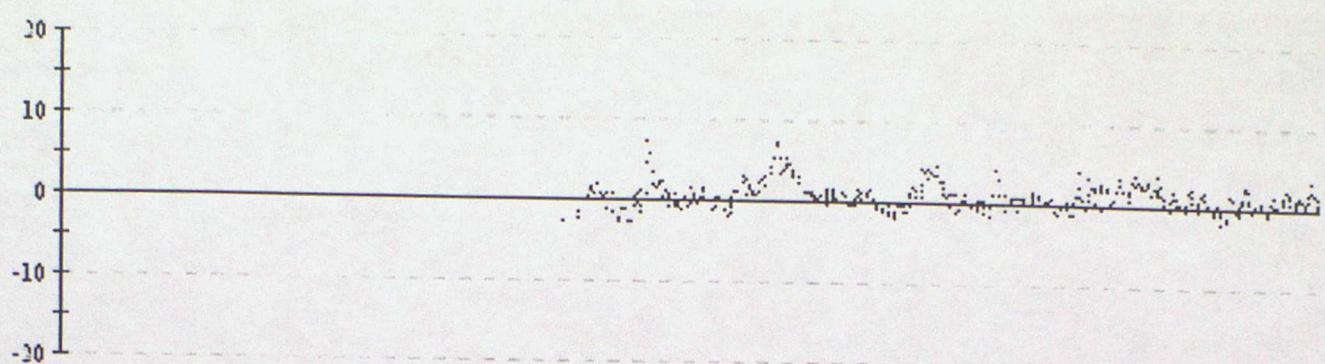


62723 Air Temperature

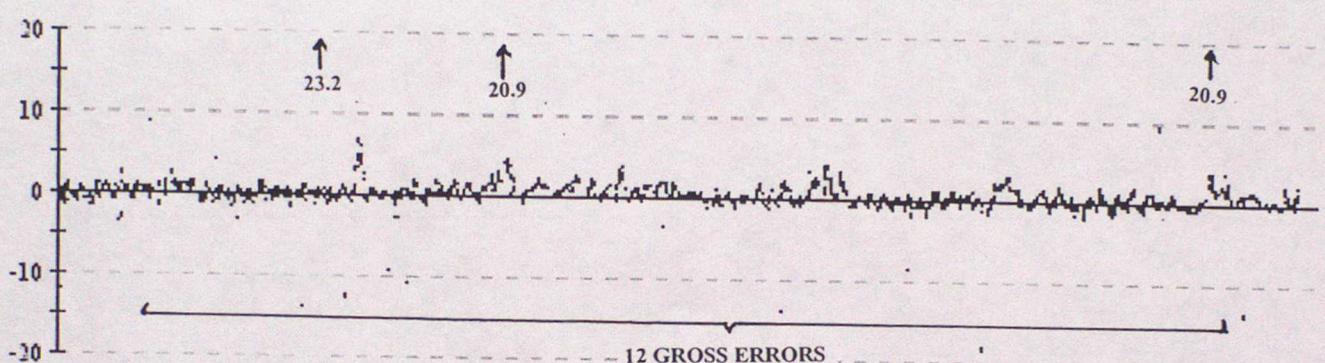


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

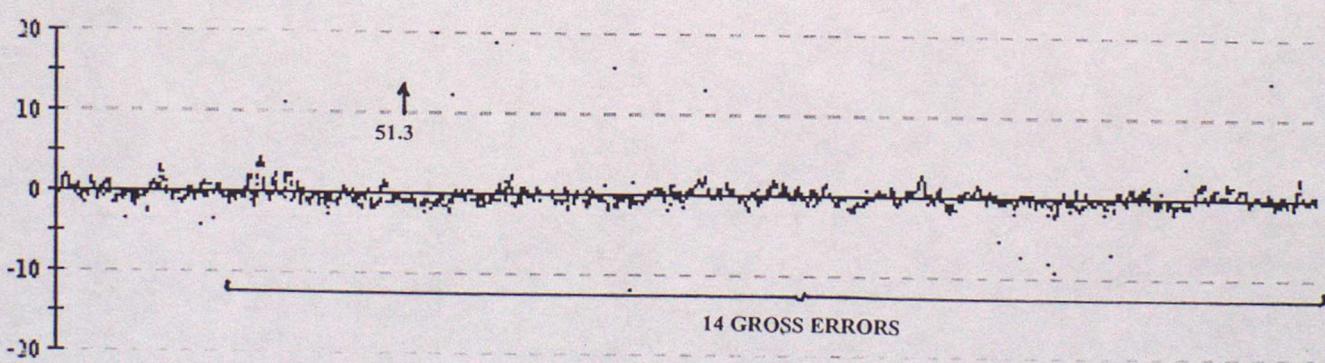
62763 Air Temperature



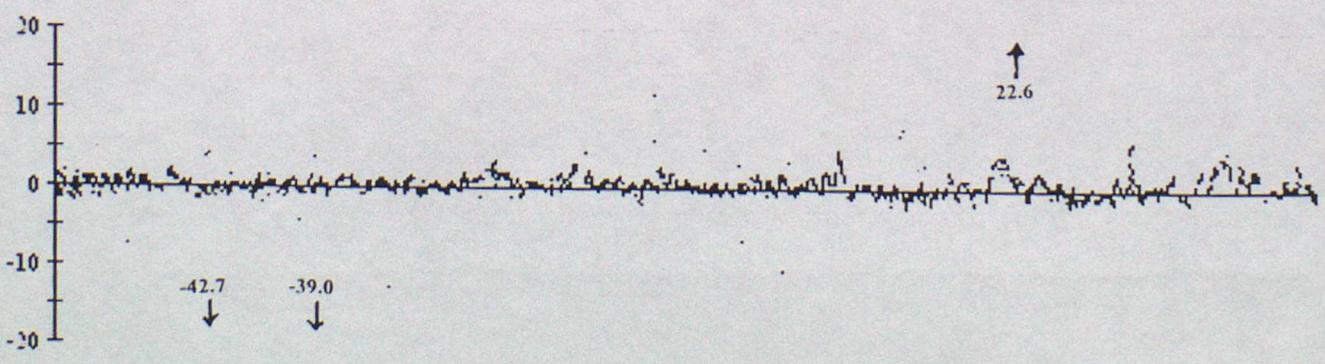
64530 Air Temperature



64546 Air Temperature

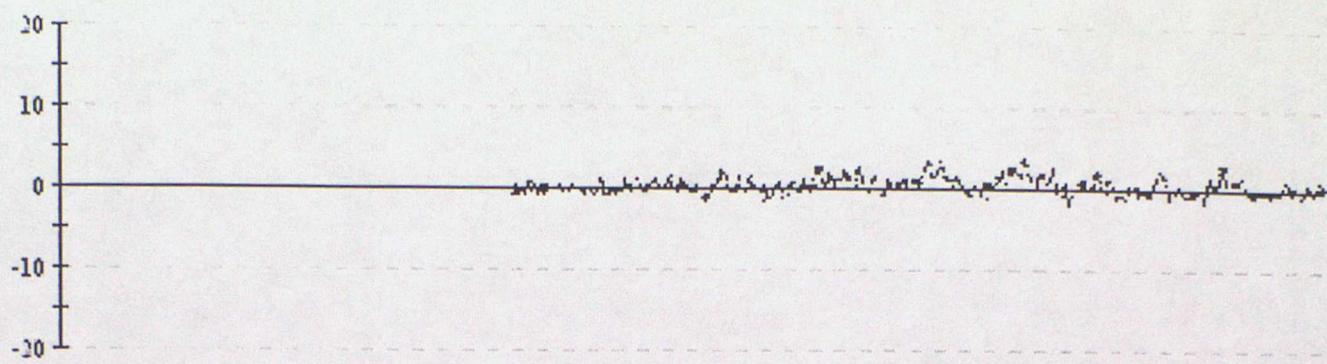


64547 Air Temperature

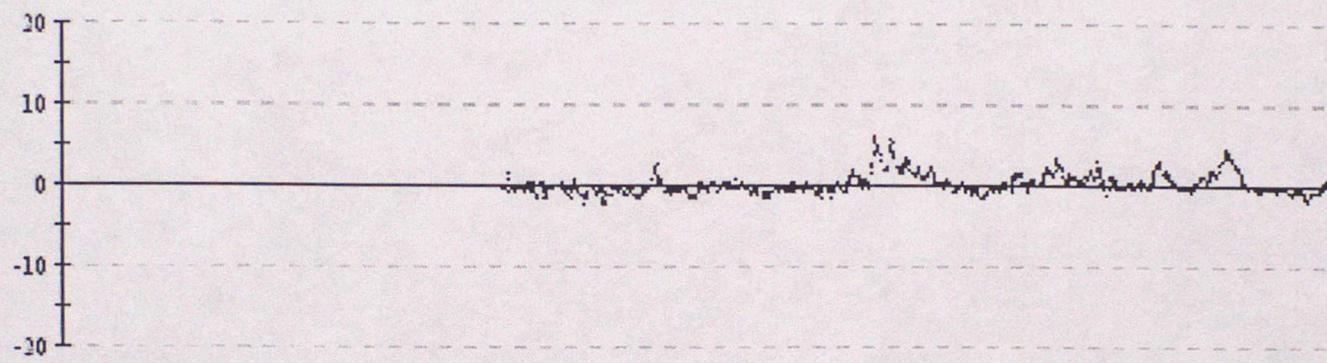


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

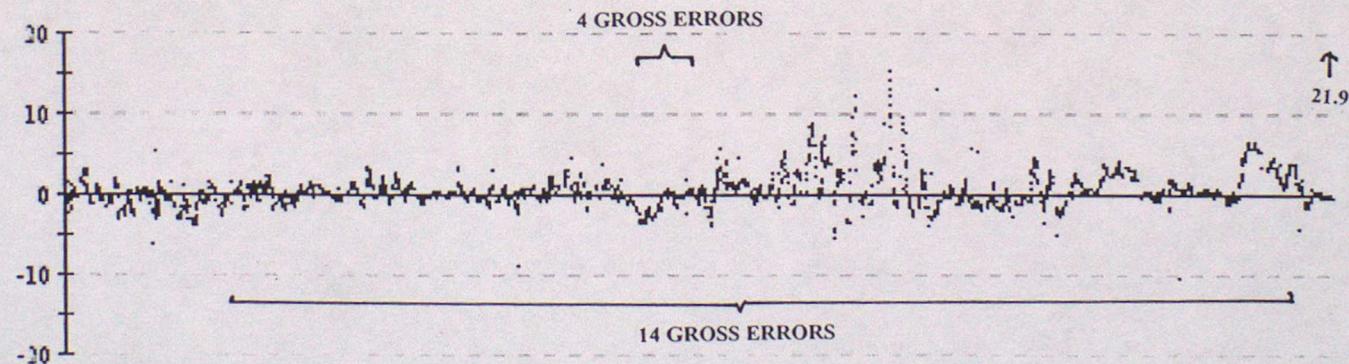
64548 Air Temperature



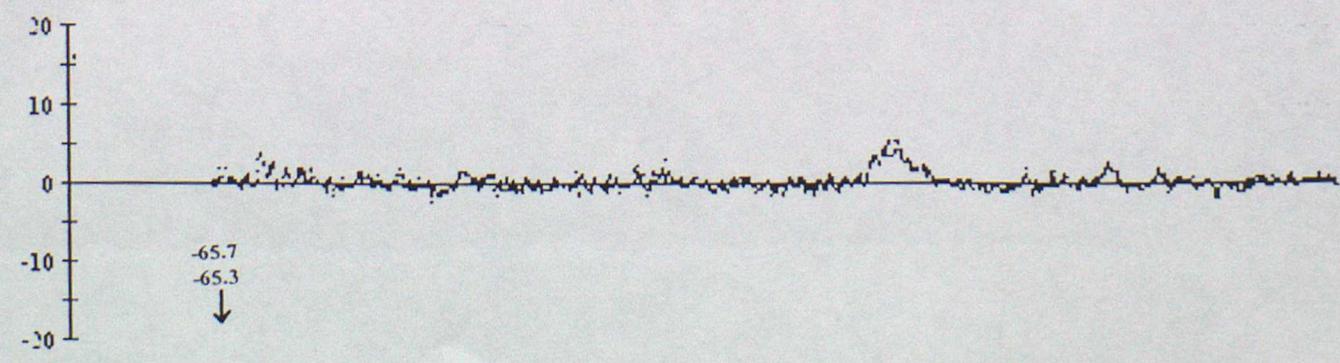
65593 Air Temperature



65598 Air Temperature

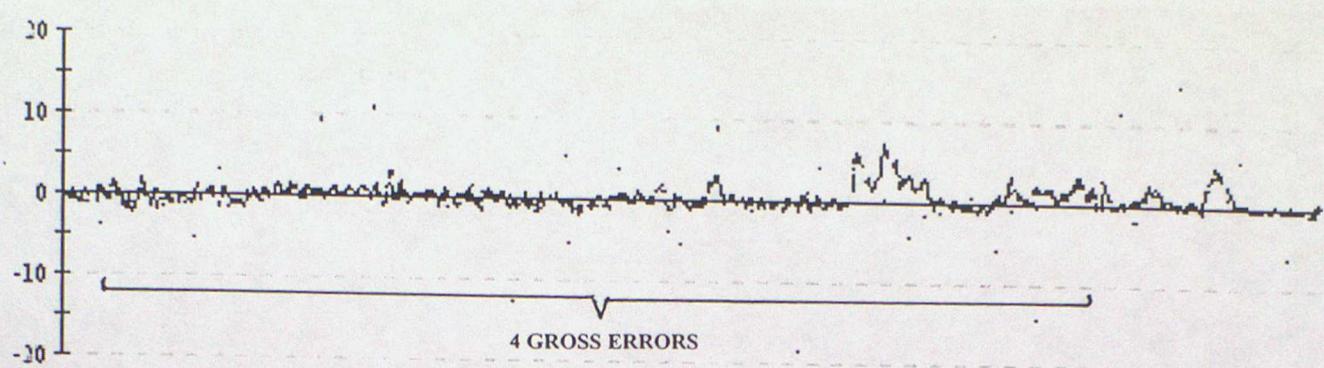


65600 Air Temperature

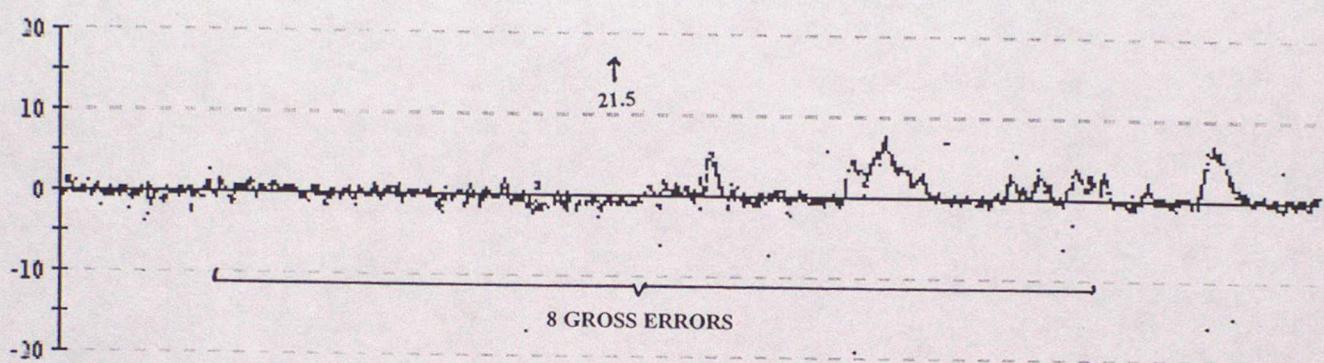


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

65601 Air Temperature



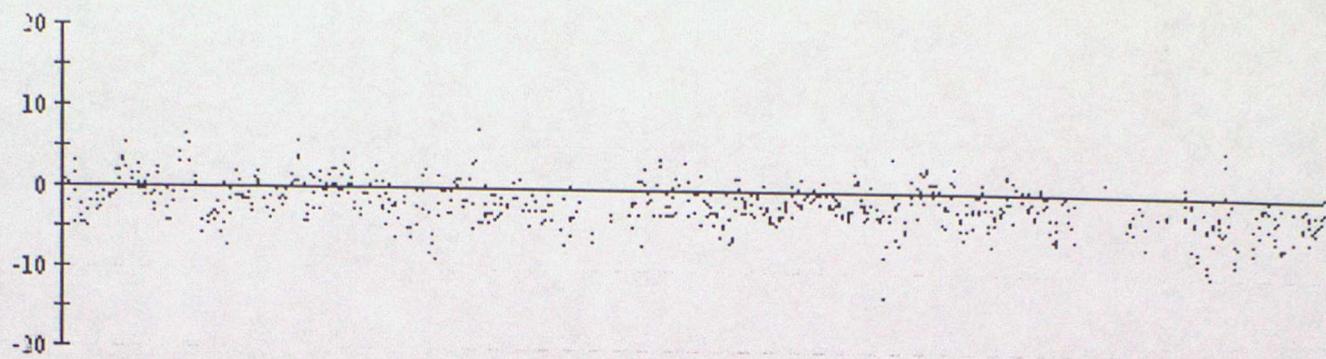
65602 Air Temperature



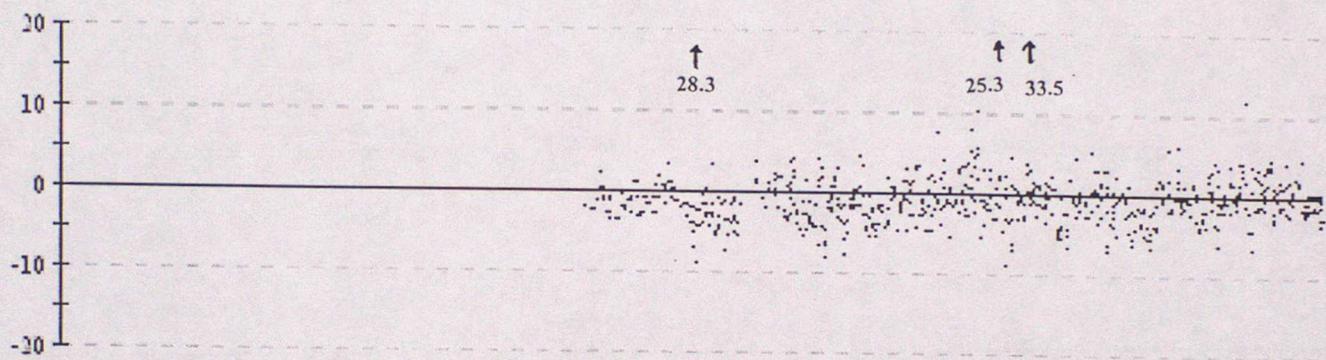
ANNEX D - TIME SERIES PLOTS OF WIND SPEED

Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

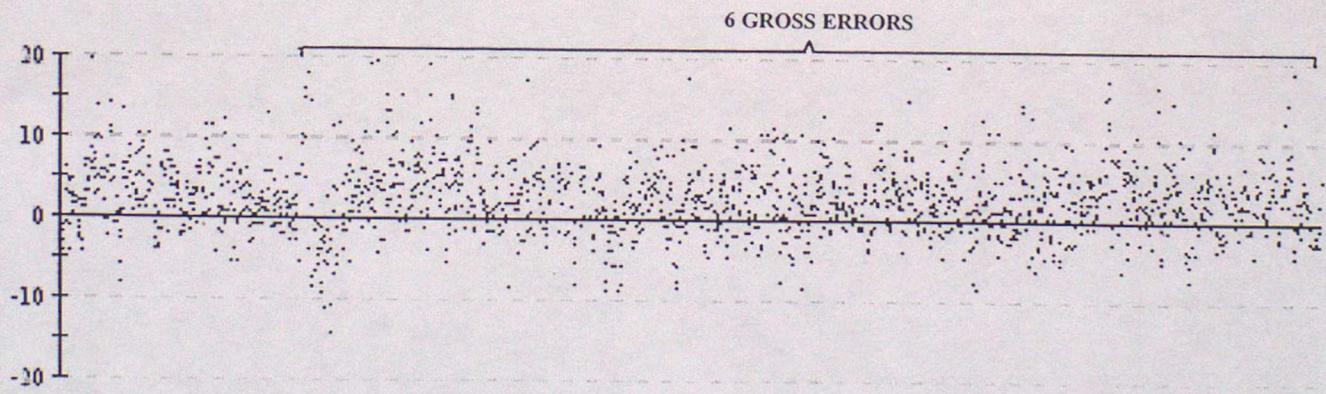
41521 Wind speed



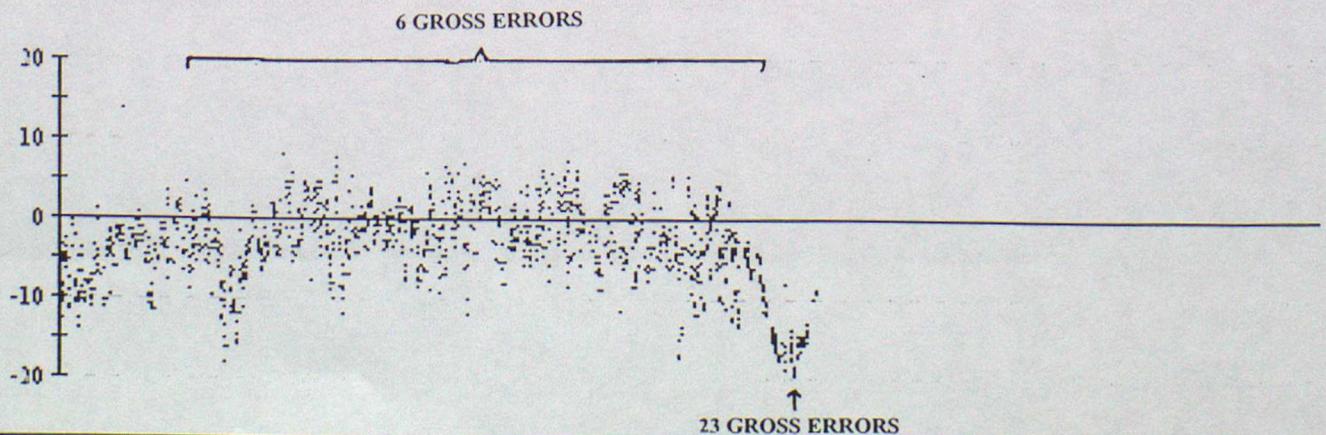
41571 Wind speed



44607 Wind speed



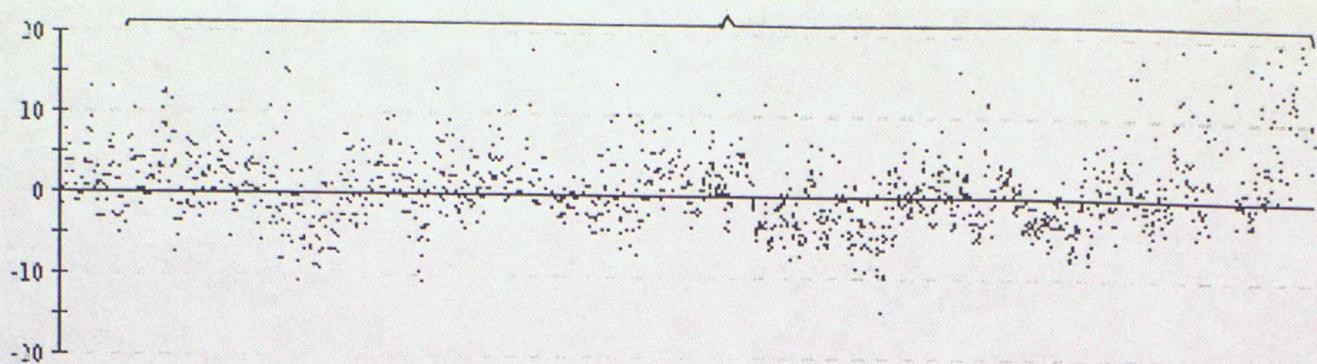
44721 Wind speed



Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

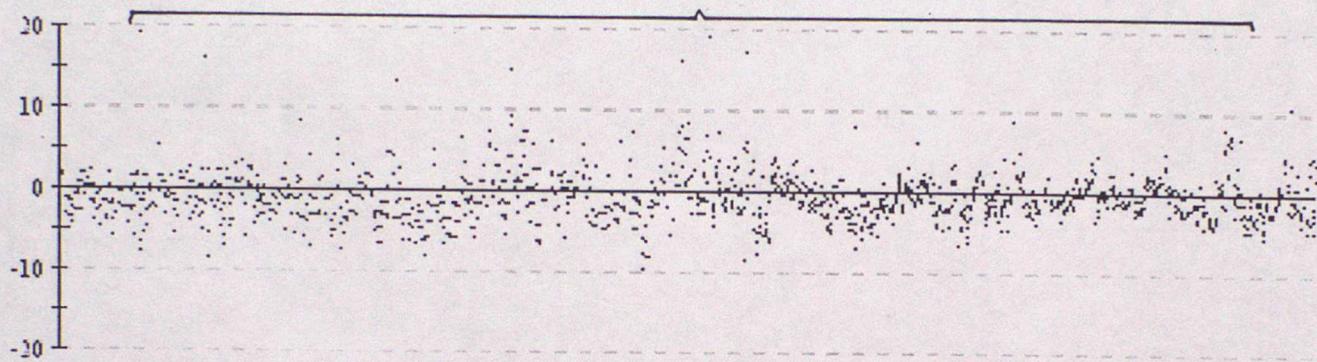
44724 Wind speed

59 GROSS ERRORS



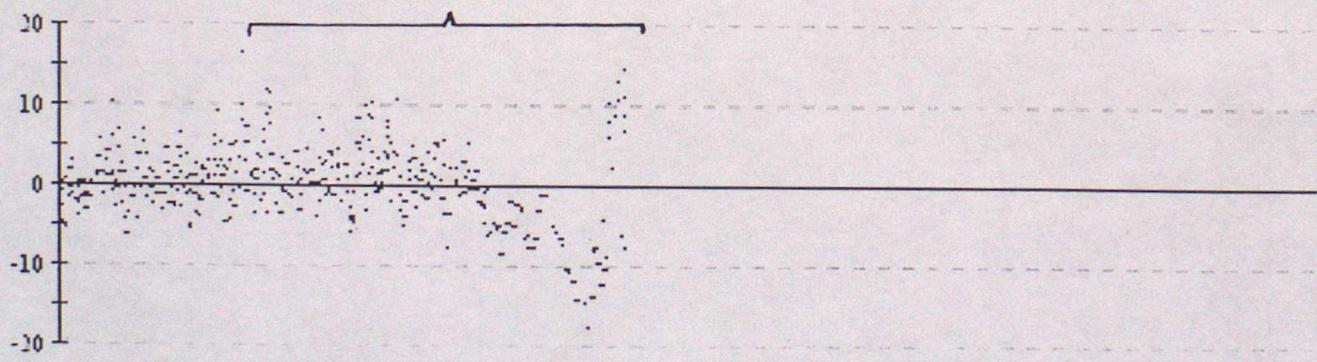
44726 Wind speed

7 GROSS ERRORS



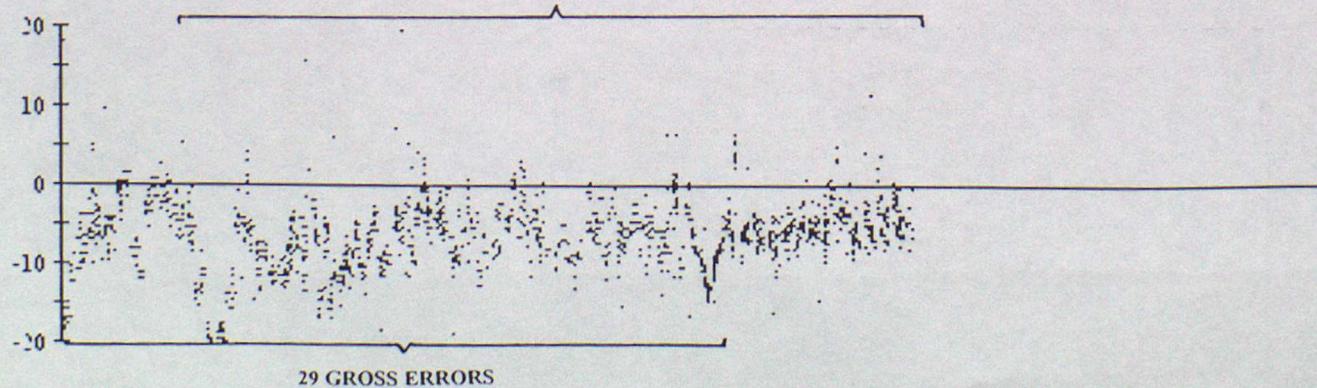
44727 Wind speed

18 GROSS ERRORS



44777 Wind speed

18 GROSS ERRORS

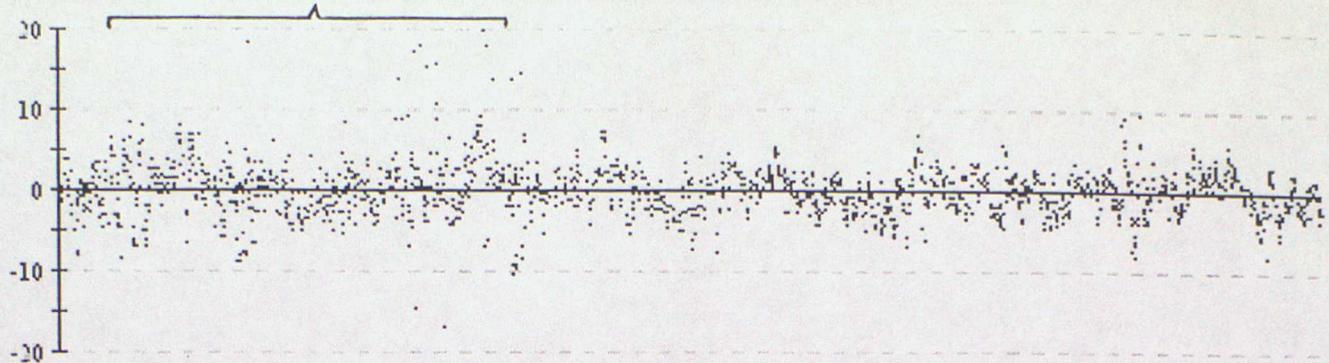


29 GROSS ERRORS

Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

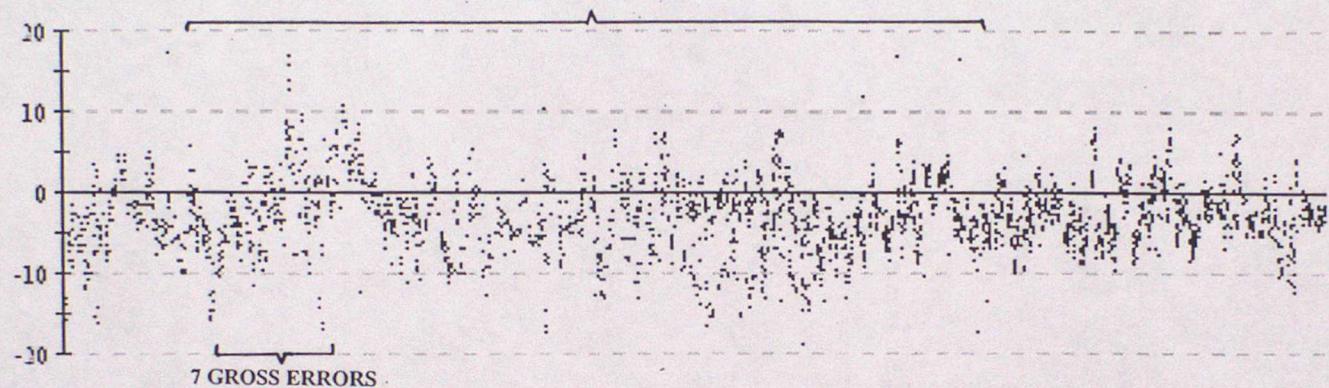
62508 Wind speed

10 GROSS ERRORS

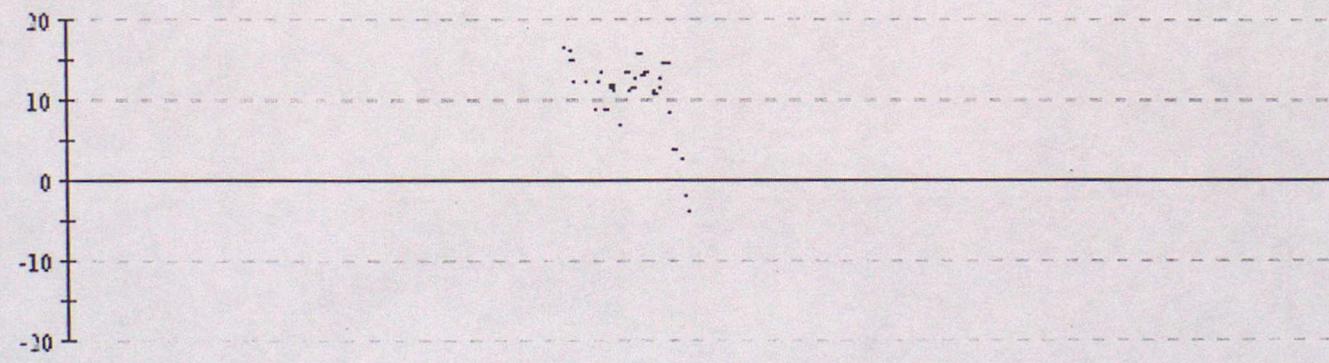


62597 Wind speed

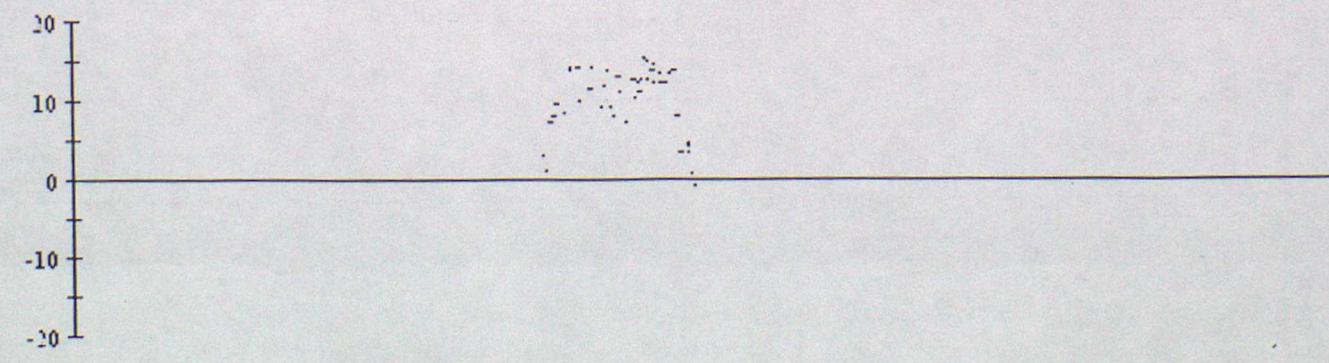
15 GROSS ERRORS



62675 Wind speed

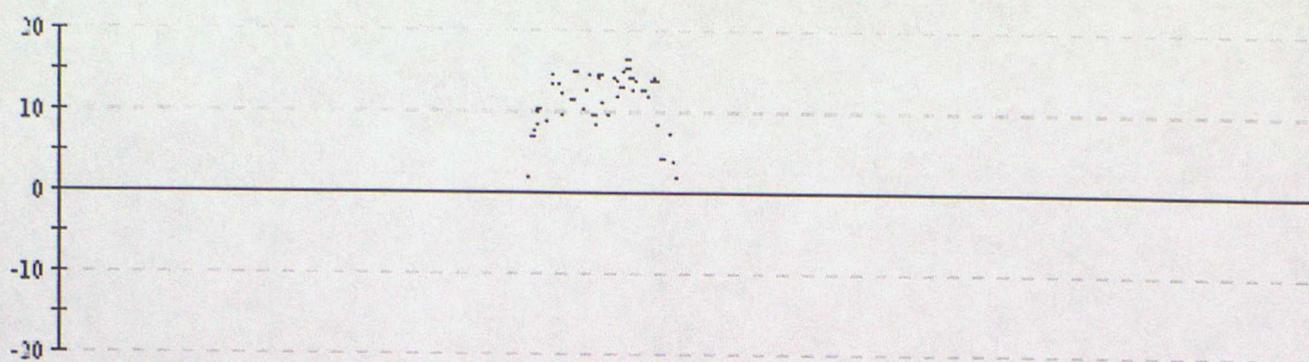


62722 Wind speed

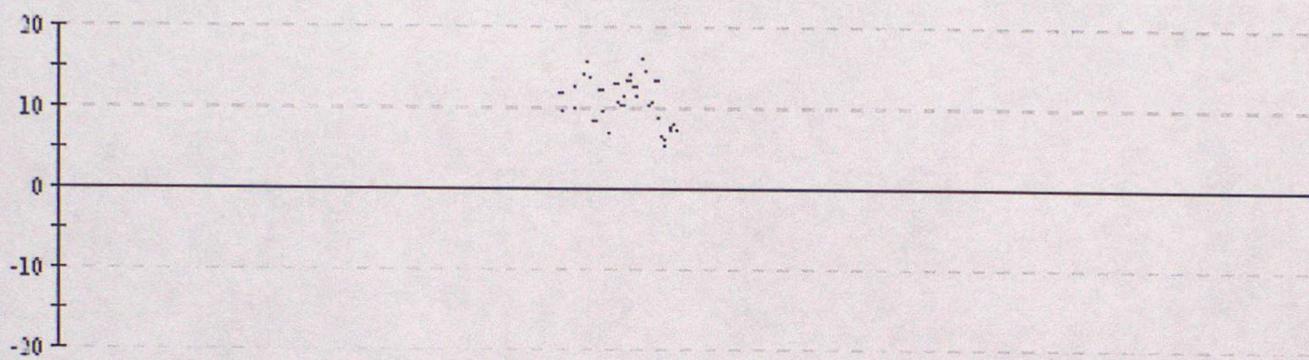


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

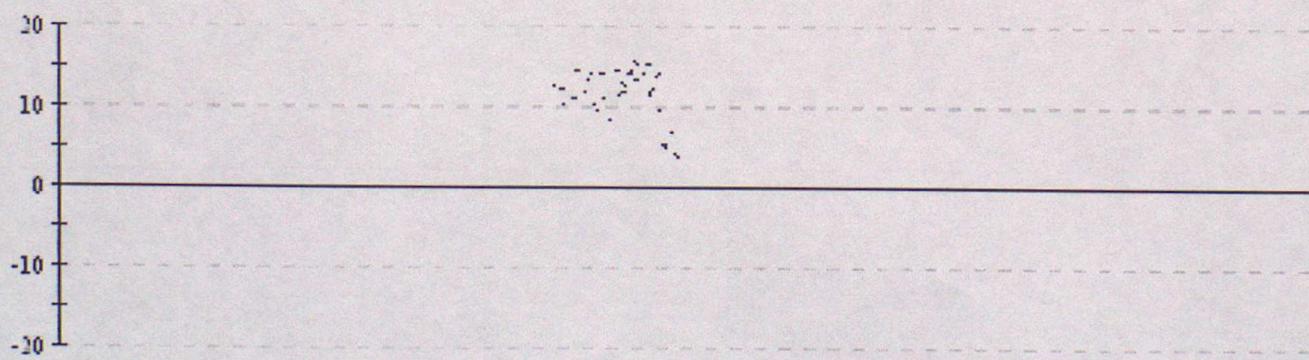
62723 Wind speed



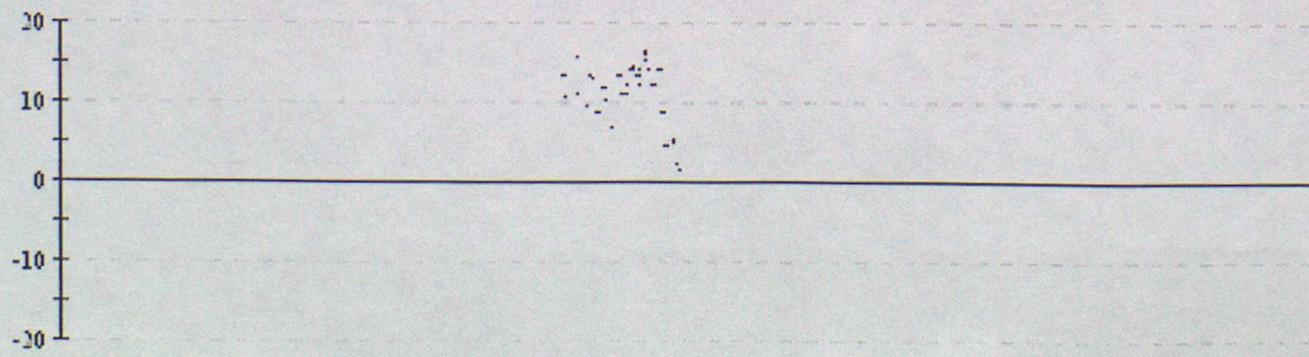
62725 Wind speed



62761 Wind speed

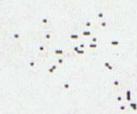
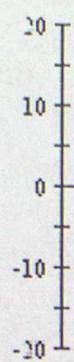


62762 Wind speed



Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

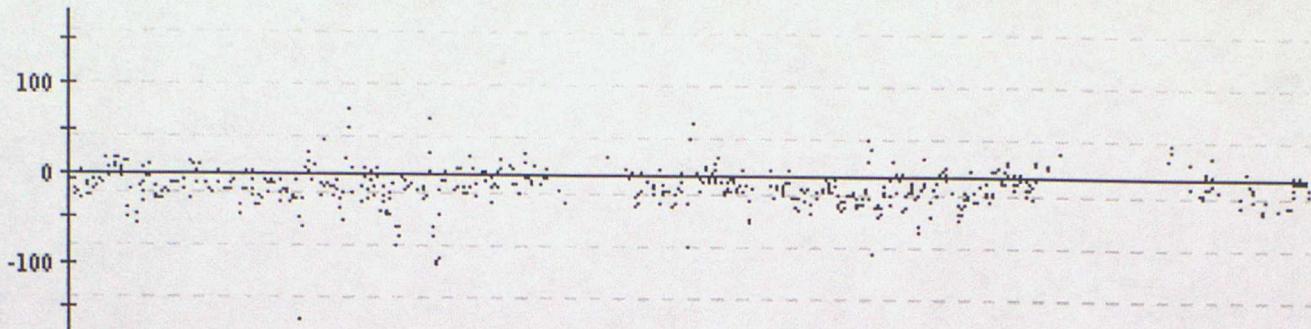
62763 Wind speed



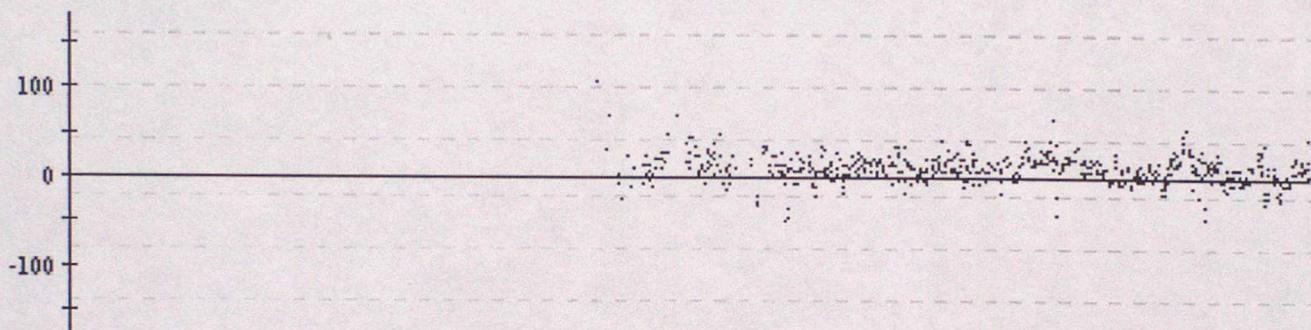
ANNEX E - TIME SERIES PLOTS OF WIND DIRECTION

Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

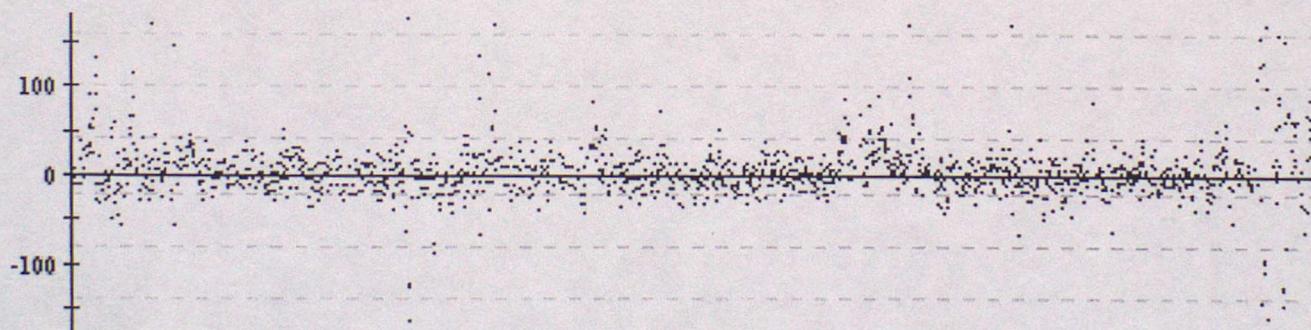
41521 Wind direction



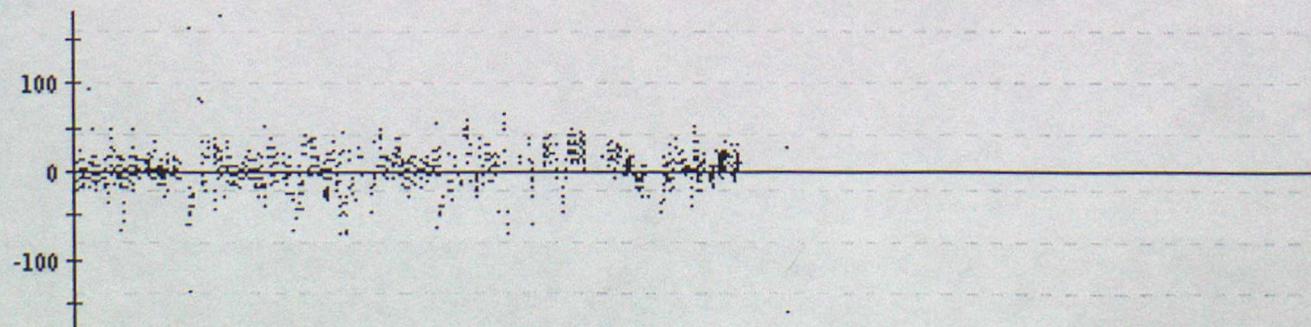
41571 Wind direction



44607 Wind direction

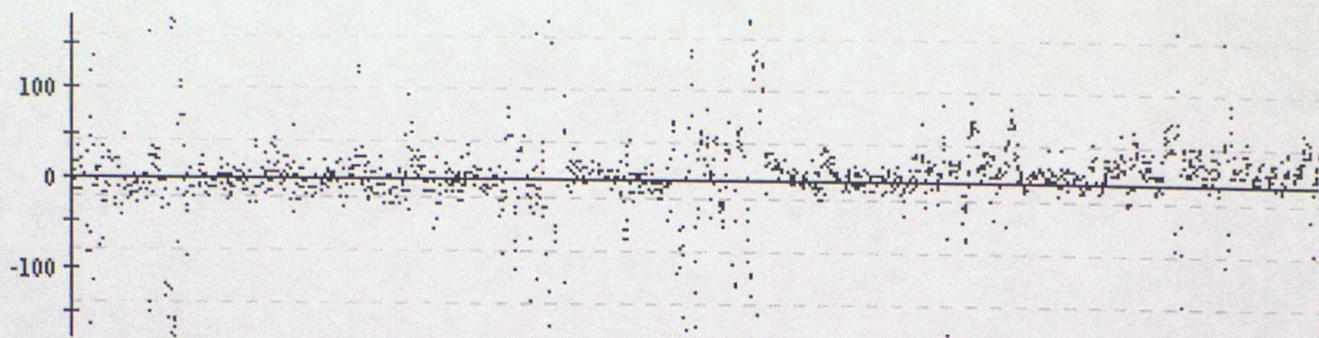


44721 Wind direction

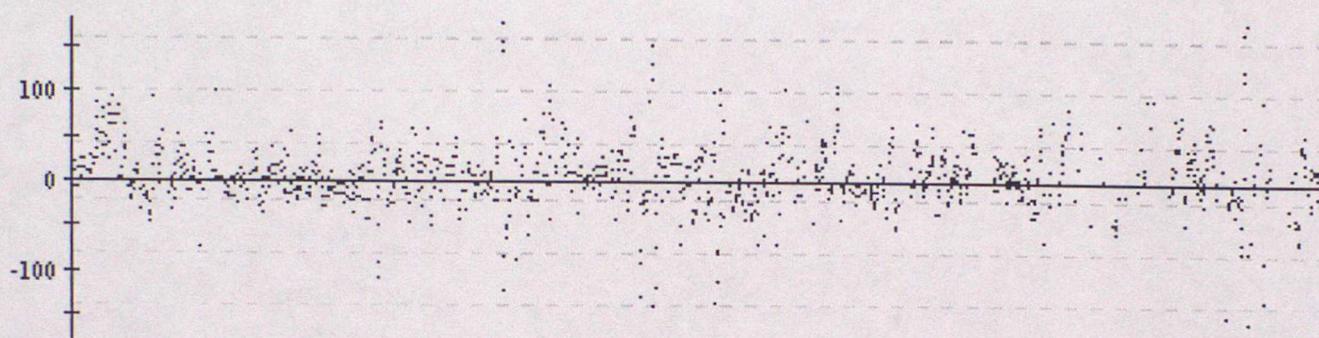


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

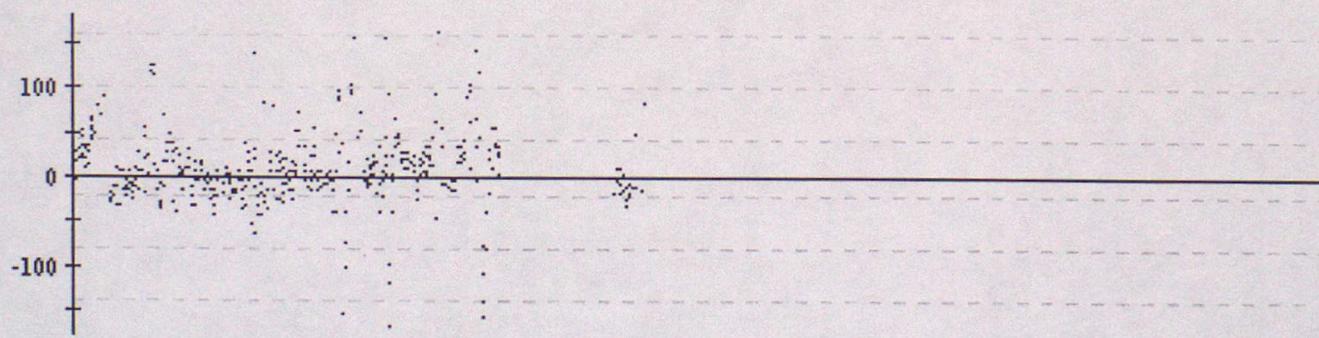
44724 Wind direction



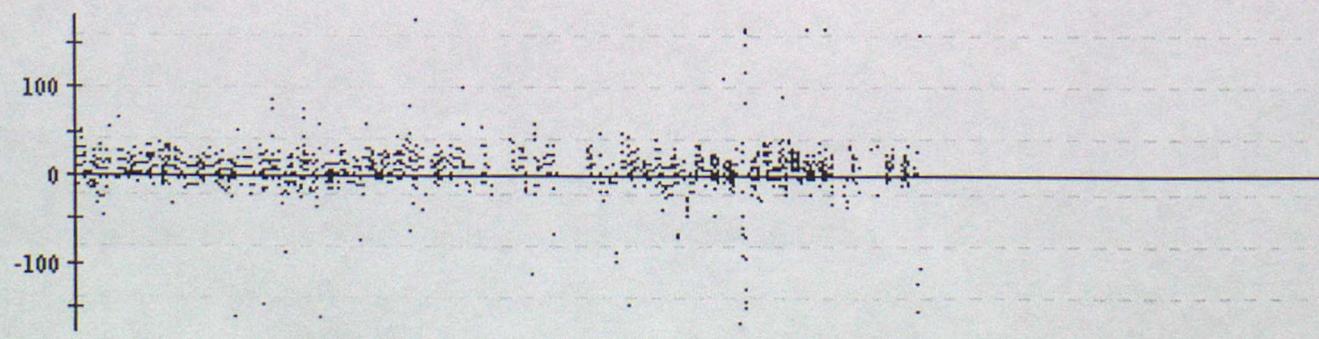
44726 Wind direction



44727 Wind direction

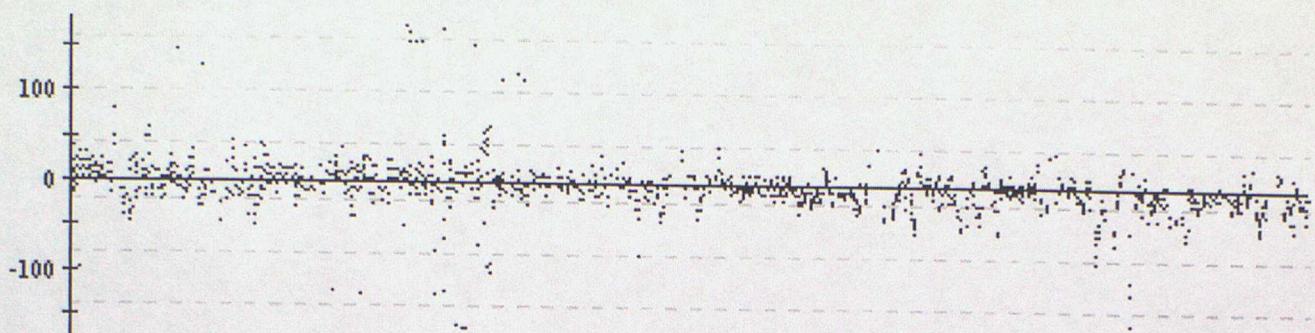


44777 Wind direction

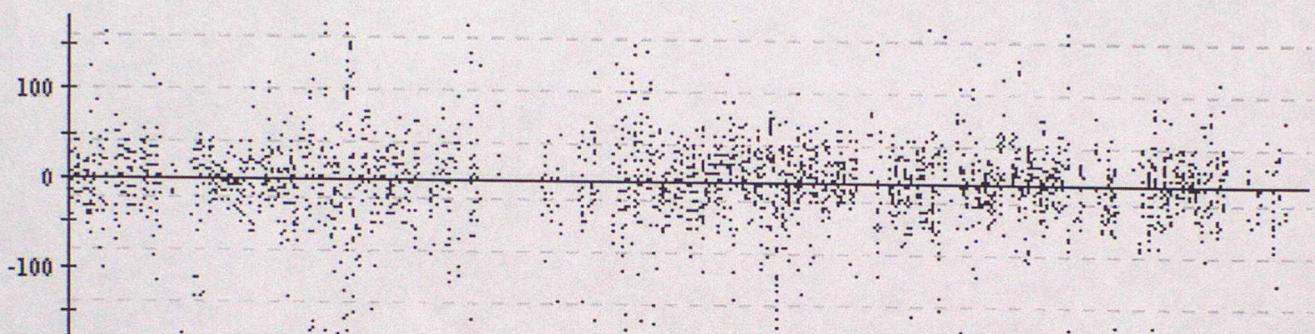


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

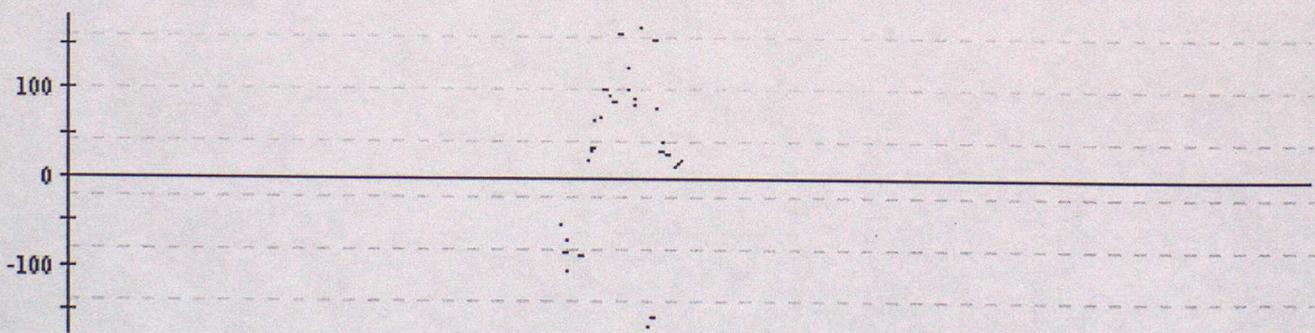
62508 Wind direction



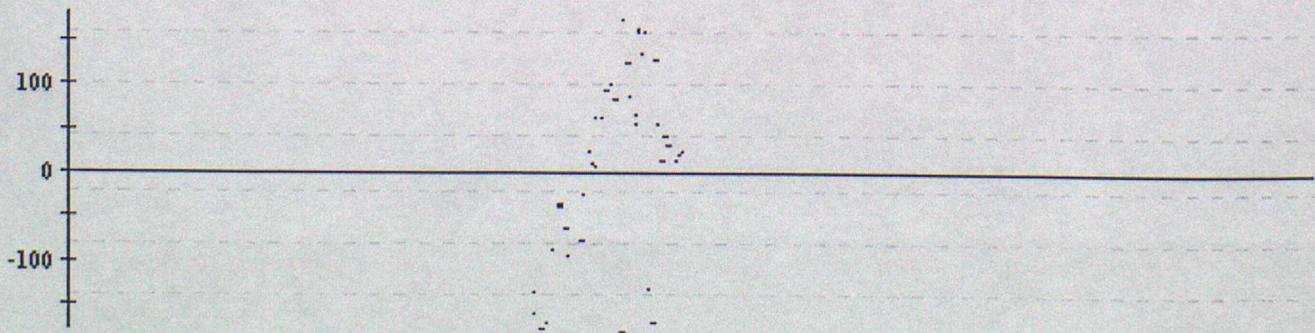
62597 Wind direction



62675 Wind direction

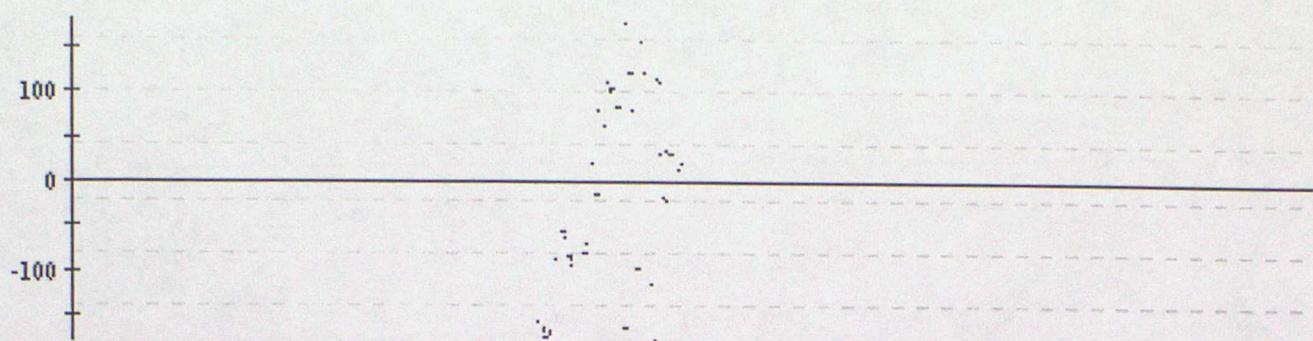


62722 Wind direction

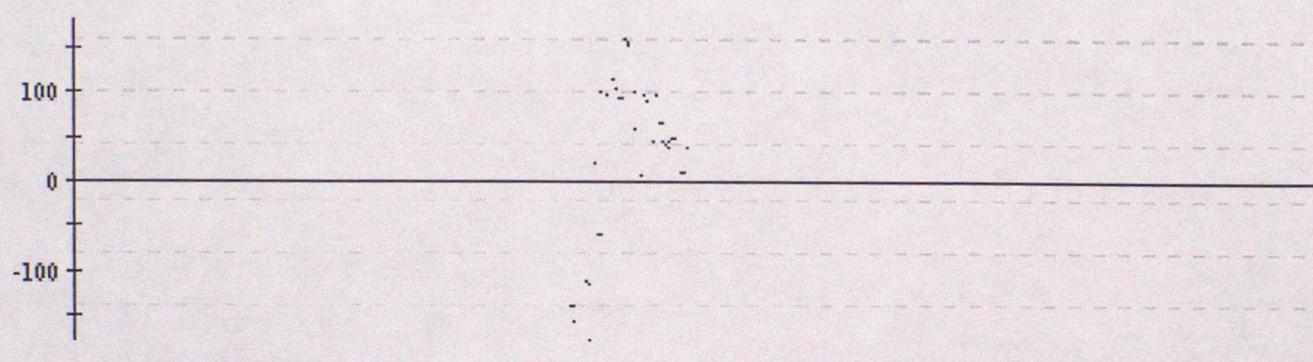


Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

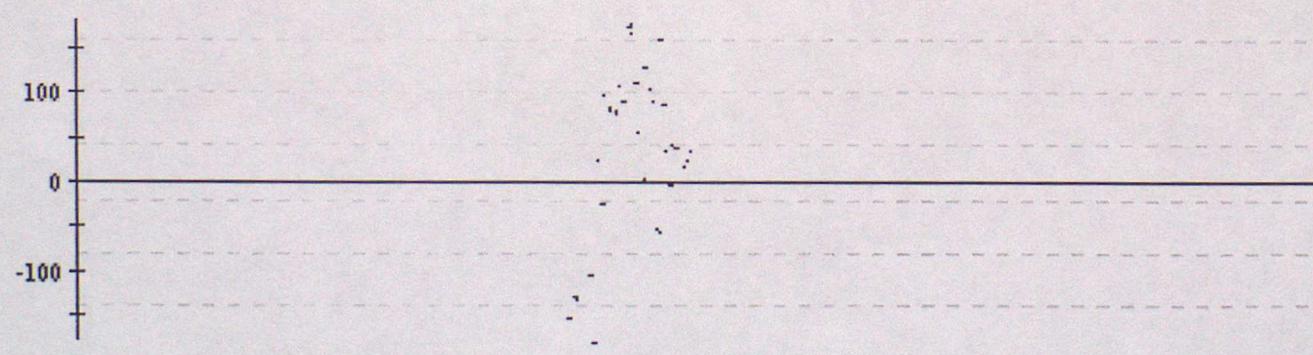
62723 Wind direction



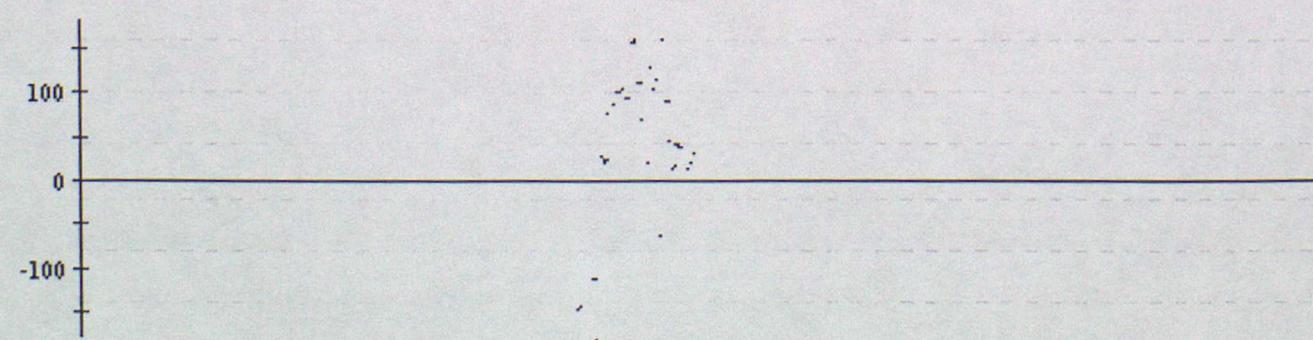
62725 Wind direction



62761 Wind direction

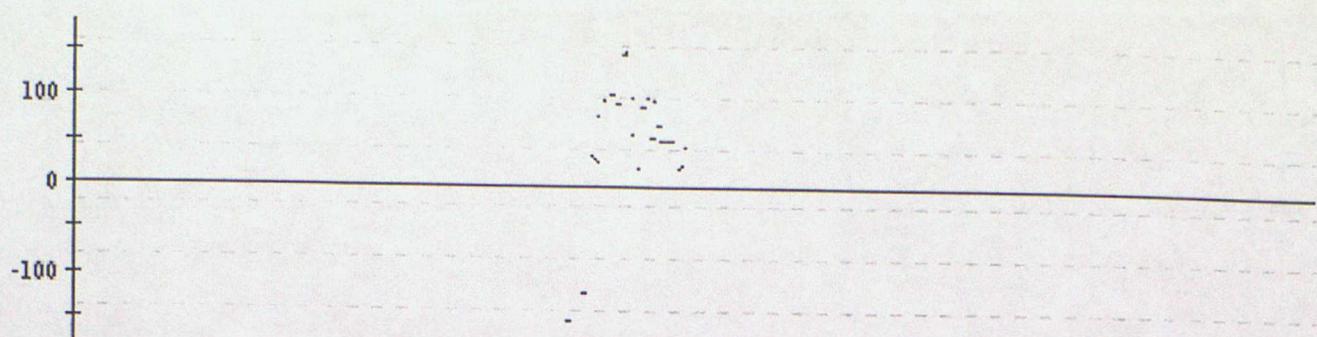


62762 Wind direction



Data from 00z on 01/04/2000 to 23z on 30/06/2000 (OBS - Background field)

62763 Wind direction



ANNEX F - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
41521			*		*	*	*	*	01/04 - 30/06
41571			*	*		*	*	*	08/05 - 30/06
41644			*			*		*	01/04 - 30/06
44607	6216	F	*	*		*	*	*	01/04 - 30/06
44608	14540	F	*	*				*	01/04 - 30/06
44610	12734	F	*	*				*	01/04 - 30/06
44611	27616	UK	*	*				*	01/04 - 30/06
44612	27619	UK	*	*				*	01/04 - 30/06
44613	28467	UK	*	*	*				01/04 - 30/06
44615	27620	UK	*	*				*	01/04 - 30/06
44617	27621	UK	*	*				*	01/04 - 30/06
44620	27622	UK	*	*				*	01/04 - 30/06
44622	27623	UK	*	*				*	01/04 - 30/06
44623	27624	UK	*	*				*	01/04 - 30/06
44626	12884	UK	*	*	*			*	01/04 - 30/06
44627	12285	UK	*	*				*	01/04 - 30/06
44628	12287	UK	*	*	*			*	01/04 - 30/06
44630	12376	UK	*	*	*			*	01/04 - 30/06
44721	28475	UK	*	*	*	*	*	*	01/04 - 30/06
44723	16392	NL	*	*				*	01/04 - 30/06
44724	27922	NL	*	*		*	*	*	01/04 - 30/06
44725	27923	UK	*	*				*	01/04 - 30/06
44726	27924	UK	*	*		*	*	*	01/04 - 30/06
44727	27925	UK	*	*		*	*	*	01/04 - 30/06
44729	25375	UK	*	*				*	01/04 - 30/06
44730	25378	UK	*	*				*	03/04 - 30/06
44741	25373	UK	*	*				*	11/04 - 30/06
44743	12414	UK	*	*	*		*	*	14/04 - 30/06
44760	12373	UK	*	*	*			*	08/06 - 30/06
44761	27615	UK	*	*				*	09/06 - 30/06
44765	28466	UK	*	*	*				01/04 - 30/06
44773	12415	UK	*	*	*			*	01/04 - 30/06
44777	12377	UK	*	*	*	*	*	*	01/04 - 01/06
62507	10111	F	*	*				*	01/04 - 30/06
62508	5822	F	*	*	*	*	*	*	01/04 - 30/06
62509	14537	F	*	*				*	01/04 - 30/06

ANNEX F - CONT'd

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
62512	12730	F	*					*	10/04 - 30/06
62513	12731	F	*					*	16/04 - 30/06
62514	7119	F	*	*				*	14/04 - 30/06
62515	7242	F	*	*				*	14/04 - 30/06
62516	7445	F	*	*				*	14/04 - 30/06
62520	14431	F	*	*				*	01/04 - 30/06
62596	16391	NL	*	*				*	01/04 - 30/06
62597	28478	UK	*	*		*	*	*	01/04 - 30/06
62673			*		*			*	15/05 - 30/06
62675			*		*	*	*	*	06/05 - 30/06
62722			*		*	*	*	*	04/05 - 03/06
62723			*		*	*	*	*	04/05 - 30/06
62724			*		*		*	*	04/05 - 21/06
62725			*		*	*	*	*	07/05 - 30/06
62761			*		*	*	*	*	06/05 - 30/06
62762			*		*	*	*	*	07/05 - 30/06
62763			*		*	*	*	*	07/05 - 30/06
64517	14178	F	*	*				*	01/04 - 30/06
64519	23618	F	*					*	02/06 - 30/06
64520	23619	F	*					*	02/06 - 30/06
64530			*	*	*			*	01/04 - 29/06
64546	3675	N	*	*	*			*	01/04 - 30/06
64547			*	*	*			*	01/04 - 30/06
64548	1153	IR	*	*	*			*	03/05 - 30/06
64698	29867	F	*	*				*	01/04 - 30/06
64699	29868	F	*	*				*	01/04 - 30/06
65593	4228	NL	*	*	*			*	02/05 - 30/06
65598	1298	D	*	*	*			*	01/04 - 30/06
65599	28477	UK	*	*				*	01/04 - 30/06
65600	3676	N	*	*	*			*	01/04 - 30/06
65601	3039	D	*	*	*			*	01/04 - 30/06
65602	6667	IR	*	*	*			*	01/04 - 30/06

