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OBSERVATIONS, PLANS AND REQUIREMENTS BRANCH

Quality Evaluation Section

FIFTIETH QUARTERLY REPORT

ON DRIFTING BUOYS

IN THE NORTH ATLANTIC

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11th August 1999

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1. INTRODUCTION

Drifting buoys operated by European countries, the United States, Canada and E.G.O.S. (European Group on Ocean Stations) provide valuable meteorological data in the North Atlantic Ocean. This report is a summary of the performance of these buoys giving information on the number of buoys operating, the accuracy of reported locations and data quality, timeliness and availability. It is compiled by looking at observations received in the Met. Office Meteorological Data Bank (Met.D.B.) and by comparisons of observations with background fields from the Met. Office forecast model. Additional information on buoy operations and data quality is extracted from E.G.O.S. Technical Secretariat reports.

2. GENERAL PERFORMANCE

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

(a) Location Accuracy

66 out of 73 of the buoys reporting, gave a '% of observations with acceptable positions' greater than 95% (67 out of 71 last quarter).

(b) Data timeliness

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

Timeliness	Last quarter.	This quarter
Very Good	49	45
Good	5	14
Satisfactory	3	8
Poor	10	0
Very poor	4	6
Total no. of buoys	71	73

(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	6	7	16	23
Good	4	5	7	6
Satisfactory	7	4	9	4
Poor	17	19	5	1
Very Poor	0	2	0	2

The total number of buoy days in the quarter was 5025 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 4055) and the number of 'buoy hours' with at least one observation was 76556 (compared with 63127 last quarter). Thus, the mean number of hours per day, for days with at least one observation (averaged over all buoys operating in the area) was 15.24 (last quarter the figure was 15.57).

3. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 24 buoys reporting pressure at the beginning of the period. 27 buoys were operating at the end of the period. 12 buoys were deployed during the period (44773, 44777, 64691, 64692, 64693, 64694, 64695, 64696, 64697, 64698, 64699 and 64700). 9 buoys ceased reporting pressure (44760, 44768, 44901, 62515, 64519, 64691, 65581, 65591 and 65592).

South of 50deg N

There were 34 buoys reporting pressure at the beginning of the period. 25 buoys were reporting at the end of the period. 3 buoys were deployed during the period (46510, 62505 and 62506). 12 buoys ceased reporting (41503, 41629, 44516, 44762, 46510, 61525, 61526, 61527, 62512, 62517, 62519 and 62675).

(e) Data Quality - Pressure

Revised RMS Differences

The technique used to assess the quality of pressure data in this report is based on the Revised RMS differences between the observations and the background field from the Global Forecast Model (see note 8 in Explanatory Notes). For buoys south of 50°N the Revised RMS differences should be less than 2.0 hPa and for buoys north of 50°N they should be below 3.0 hPa. The buoys whose revised RMS difference were found to lie outside these limits have had their performance described as 'suspect' and are included in the section below. Examination of the time-series plots (see Annex B) indicates the performance of these buoys:-

- 44516 - Pressure from this buoy showed a bias of -1.9hPa from the beginning of the period until the end of its life (19/04/99).
- 46510 - Pressure from this buoy showed a bias of -5.4hPa during its short reporting life (30/04/99 - 04/05/99).
- 62517 - Pressure data from this buoy showed a larger than normal scatter during its reporting life.
- 64691 - Pressure data from this buoy became erratic from the end of May, until it ceased reporting on 21/06/99.
- 65592 - Pressure data from this buoy became erratic from mid April, until it ceased reporting on 08/06/99.

Biases

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

WMO No.	Buoy bias (hPa)	Period of reports
44513	-1.2	01/04 - 30/06
44514	-1.2	01/04 - 30/06
44515	-0.7	01/04 - 30/06
44517	-1.0	01/04 - 30/06
44621	-0.7	01/04 - 30/06
44624	-0.6	01/04 - 30/06
44628	-0.7	01/04 - 30/06
44766	-0.6	01/04 - 30/06
44773	-0.8	20/05 - 30/06
62675	-0.6	01/04 - 23/06
64518	-0.6	01/04 - 30/06
64529	-0.7	01/04 - 30/06
64692	-0.6	16/06 - 30/06
64693	-0.6	16/06 - 30/06
64694	-0.6	14/06 - 30/06
64696	-0.8	10/05 - 30/06
64697	-0.7	10/05 - 30/06
64698	-0.6	11/06 - 30/06
65581	-0.8	01/04 - 27/04
65593	-0.7	01/04 - 30/06
65594	-0.6	01/04 - 30/06
65595	-0.9	01/04 - 30/06

Summary of Pressure Performance

Pressure Summary	Last Quarter	This Quarter
Acceptable	54	46
Suspect - RMS	8	5
Suspect - Bias	9	22
Total no. of buoys	71	73

(4) Air Temperatures

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

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

Air Temperature				Air Temperature			
WMO No.	Mean	St. Dev	No. of Obs	WMO No.	Mean	St. Dev	No. of Obs
41504	0.88	1.26	788	41521	0.90	1.37	809
41629	1.11	1.74	553	44513	0.49	1.37	843
44514	0.5	1.38	995	44515	0.50	1.40	890
44516	0.03	1.48	146	44517	0.62	1.38	862
44613	0.62	1.77	3161	44616	0.53	1.00	3709
44621	-0.15	1.82	1531	44624	0.28	1.07	3490
44728	0.28	1.35	1807	44742	0.54	1.63	3306
44760	-2.43	2.52	44	44764	1.11	1.11	3380
44765	0.42	1.73	1242	44766	-0.14	1.50	2195
44773	0.20	1.80	652	44777	0.63	1.36	860
44780	0.97	1.12	6755	46510	14.12	2.97	26
61525	1.50	2.03	625	61526	1.96	2.89	132
61527	1.72	2.15	620	62505	0.53	0.84	1082
62517	-11.55	3.10	27	62675	0.56	1.38	772
64529	0.23	1.48	3500	65581	0.72	1.28	285
65591	1.44	1.02	248	65592	-12.47	5.92	1416
65593	0.17	1.12	3294	65594	0.07	1.32	3402
65595	0.21	0.96	3195				

Summary

Buoys 41629(1.11), 44760(-2.43), 44764(1.11), 61525(1.50), 61527(1.72) and 65591(1.44) all showed significant air temperature bias.

Data from buoy 61526(1.96) became erratic at the beginning, and the end of April when it ceased reporting.

Although all data from buoys 46510(14.12) and 62517(-11.55) were erroneous, it should be noted that only 26 and 27 reports, respectively, were received.

All data from buoy 65592(-12.47) became erroneous from late April.

(5) Winds

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

NOTE: Although buoys 41502 and 41503 both reported wind direction during the period, no wind speeds were received. 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
41504	-2.10	4.04	602	0.86	24.29	424
41521	-0.75	2.80	747	-12.53	24.09	621
41629	-2.86	3.86	465	8.93	27.52	285
41636	-2.44	3.37	976	15.12	31.90	771
41637	-2.80	2.79	569	-18.50	45.45	524
41638	-1.89	2.95	1137	19.58	34.32	1017
44607	2.92	4.15	1830	5.65	26.72	1716
44762	-1.64	4.15	589	-9.38	31.97	565
44773	-0.80	3.35	1491	-1.81	21.59	1386
44777	-4.76	4.08	1759	2.23	18.74	1242
46510	4.03	4.25	14	-9.06	92.11	8
62505	0.61	3.28	1371	-14.22	23.41	1173
62506	1.47	3.30	1190	-0.19	34.27	984
62517	-0.72	5.54	344	-3.68	58.89	160
65599	-0.19	3.85	4152	1.28	21.80	3877

Buoy 44777(-4.76) showed a significant speed bias throughout its reporting life.

Buoys 41521(-12.53), 41636(15.12), 41637(-18.50), 41638(19.58), 44762(-9.38) and 62505(-14.22) all showed significant wind direction biases throughout their reporting lives. (Note: 41637 became significantly worse towards the end of the period.)

Although buoy 46510 showed significant biases for both wind speed(4.25) and wind direction(-9.06), it should be noted that very few reports were received.

6. EXPLANATORY NOTES:

1. Buoy owners are as follows,

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

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

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

Unflagged data are those data used in model analyses.

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

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

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

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

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

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

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

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

Annex A - TABLE OF STATISTICS

WMO No./Country	41502	41503	41504
Argos Id No.			
Period Within Area	01/04 - 30/06	01/04 - 05/05	01/04 - 30/06
Mean Latitude	23.2	25.9	25.5
Mean Longitude	-47.8	-66.4	-75.9
No. of Obs Received	638	105	843
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	95.8	100.0	97.0
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	96.6
Wind Speed/Dir	0.0/ 93.4	0.0/ 91.4	74.5/ 96.0
Sea-Surface Temp.	96.4	97.1	96.9
Median delay (min)	67	30	35
Number of days	91	35	91
Mean No. of obs/day	7.0	3.0	9.3
No. of Hours with obs	594	104	791
Mean no. of hours/day with obs	6.5	3.0	8.7
% of hour periods without an ob	72.8	87.4	63.8
Mean (Ob-Bg)	0.2	-0.6	0.3
RMS (Ob-Bg) unflagged data	0.9	0.9	0.8
Mean (Ob-Bg)	0.2	-0.6	0.3
RMS (Ob-Bg) all data	0.9	0.9	0.8
Revised RMS (Ob-Bg)	0.9	0.9	0.8
% of data flagged	3	1	7
Operating at end of period	YES	NO	YES
Performance			
Availability	Poor	Very Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	41505	41521	41528
Argos Id No.			
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	30.3	28.1	29.2
Mean Longitude	-59.2	-54.2	-71.6
No. of Obs Received	847	877	843
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	98.5	95.8	98.9
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	95.3	0.0
Wind Speed/Dir	0.0/ 0.0	88.6/ 94.6	0.0/ 0.0
Sea-Surface Temp.	99.2	95.6	99.2
Median delay (min)	36	36	34
Number of days	91	91	91
Mean No. of obs/day	9.3	9.6	9.3
No. of Hours with obs	815	808	797
Mean no. of hours/day with obs	9.0	8.9	8.8
% of hour periods without an ob	62.7	63.0	63.5
Mean (Ob-Bg)	-0.1	0.0	0.2
RMS (Ob-Bg) unflagged data	0.9	0.8	0.8
Mean (Ob-Bg)	-0.1	0.0	0.2
RMS (Ob-Bg) all data	0.9	0.8	0.8
Revised RMS (Ob-Bg)	0.9	0.8	0.8
% of data flagged	5	7	7
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	41598	41599	41629
Argos Id No.			
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 10/06
Mean Latitude	26.4	28.6	23.6
Mean Longitude	-47.0	-36.9	-73.5
No. of Obs Received	1216	2869	609
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	97.9	97.5	85.6
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	94.6
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	80.3/ 93.6
Sea-Surface Temp.	73.1	56.5	0.0
Median delay (min)	254	340	36
Number of days	91	91	71
Mean No. of obs/day	13.4	31.5	8.6
No. of Hours with obs	831	1821	550
Mean no. of hours/day with obs	9.1	20.0	7.7
% of hour periods without an ob	62.0	16.4	67.7
Mean (Ob-Bg)	0.0	-0.4	0.1
RMS (Ob-Bg) unflagged data	0.9	0.9	0.8
Mean (Ob-Bg)	0.0	-0.7	0.1
RMS (Ob-Bg) all data	1.7	3.1	0.8
Revised RMS (Ob-Bg)	0.9	0.9	0.8
% of data flagged	32	33	10
Operating at end of period	YES	YES	NO
Performance			
Availability	Poor	Good	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Poor	Very Poor	Very Good
Comments			

Annex A - cont'd

WMO No./Country	41636	41637	41638
Argos Id No.			
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	22.9	25.2	24.9
Mean Longitude	-60.2	-46.5	-59.3
No. of Obs Received	2430	1586	2562
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	96.9	96.3	98.9
P. Tendancy	0.0	0.0	0.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	45.8/ 53.1	44.4/ 52.5	49.6/ 54.6
Sea-Surface Temp.	53.5	52.9	55.2
Median delay (min)	312	336	302
Number of days	91	91	91
Mean No. of obs/day	26.7	17.4	28.2
No. of Hours with obs	1625	1234	1753
Mean no. of hours/day with obs	17.9	13.6	19.3
% of hour periods without an ob	25.6	43.3	19.7
Mean (Ob-Bg)	0.3	0.3	0.0
RMS (Ob-Bg) unflagged data	1.1	0.9	1.1
Mean (Ob-Bg)	20.4	0.0	0.0
RMS (Ob-Bg) all data	92.5	3.1	1.4
Revised RMS (Ob-Bg)	1.1	0.9	1.1
% of data flagged	40	25	33
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Acceptable	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Poor	Very Poor	Very Poor
Comments			

Annex A - cont'd

WMO No./Country	44513	44514	44515
Argos Id No.			
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	38.5	47.7	41.0
Mean Longitude	-37.4	-34.0	-39.1
No. of Obs Received	921	1094	961
% of obs with Acceptable Position	100.0	99.8	100.0
% of Present Pressure	98.0	96.4	97.5
P. Tendency	0.0	0.0	0.0
Air Temperature	96.1	96.1	96.8
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	97.9	97.3	97.8
Median delay (min)	34	33	33
Number of days	91	91	91
Mean No. of obs/day	10.1	12.0	10.6
No. of Hours with obs	858	961	885
Mean no. of hours/day with obs	9.4	10.6	9.7
% of hour periods without an ob	60.7	56.0	59.5
Mean (Ob-Bg)	-1.2	-1.2	-0.7
RMS (Ob-Bg) unflagged data	1.5	1.7	1.3
Mean (Ob-Bg)	-1.2	-1.2	-0.8
RMS (Ob-Bg) all data	1.5	1.7	1.4
Revised RMS (Ob-Bg)	1.5	1.7	1.4
% of data flagged	6	13	8
Operating at end of period	YES	YES	YES
Performance Availability	Poor	Poor	Poor
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44516	44517	44546
Argos Id No.			
Period Within Area	01/04 - 19/04	01/04 - 30/06	01/04 - 30/06
Mean Latitude	44.2	40.6	43.9
Mean Longitude	-42.2	-36.8	-39.5
No. of Obs Received	165	944	5508
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	93.3	97.1	99.9
P. Tendency	0.0	0.0	99.7
Air Temperature	93.3	96.5	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	94.5	97.5	99.8
Median delay (min)	27	34	149
Number of days	19	91	91
Mean No. of obs/day	8.7	10.4	60.5
No. of Hours with obs	127	876	1972
Mean no. of hours/day with obs	6.7	9.6	21.7
% of hour periods without an ob	71.5	59.9	9.5
Mean (Ob-Bg)	-1.9	-1.0	-0.2
RMS (Ob-Bg) unflagged data	2.6	1.4	1.1
Mean (Ob-Bg)	-1.9	-1.0	-0.1
RMS (Ob-Bg) all data	2.6	1.4	1.2
Revised RMS (Ob-Bg)	2.6	1.4	1.1
% of data flagged	19	6	67
Operating at end of period	NO	YES	YES
Performance			
Availability	Poor	Poor	Very Good
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Very Good	Very Good	Acceptable
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	52.6	48.3	53.9
Mean Longitude	-47.2	-36.3	-39.0
No. of Obs Received	1974	5258	5286
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	99.2	99.8	99.8
P. Tendency	98.0	99.6	99.4
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	97.6/ 97.5	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.8	99.7	99.8
Median delay (min)	90	148	147
Number of days	91	91	91
Mean No. of obs/day	21.7	57.8	58.1
No. of Hours with obs	1971	2000	1971
Mean no. of hours/day with obs	21.7	22.0	21.7
% of hour periods without an ob	9.8	8.3	9.6
Mean (Ob-Bg)	-0.4	-0.5	-0.5
RMS (Ob-Bg) unflagged data	1.3	1.2	1.3
Mean (Ob-Bg)	-0.4	-0.4	-0.4
RMS (Ob-Bg) all data	1.7	1.3	1.5
Revised RMS (Ob-Bg)	1.4	1.2	1.3
% of data flagged	1	65	66
Operating at end of period	YES	YES	YES
Performance Availability	Acceptable	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Acceptable	Acceptable
Comments			

Annex A - cont'd

WMO No./Country	44613/UK	44616/UK	44621/UK
Argos Id No.	28467	28468	12372
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	39.7	57.5	47.6
Mean Longitude	-19.0	-23.9	-40.6
No. of Obs Received	3422	4119	1668
% of obs with Acceptable Position	94.0	99.9	99.6
% of Present Pressure	96.7	93.7	95.6
P. Tendency	92.4	89.1	91.7
Air Temperature	95.7	93.0	95.7
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.1
Sea-Surface Temp.	0.0	93.9	95.9
Median delay (min)	27	39	22
Number of days	91	91	91
Mean No. of obs/day	37.6	45.3	18.3
No. of Hours with obs	1585	1815	1201
Mean no. of hours/day with obs	17.4	19.9	13.2
% of hour periods without an ob	27.4	16.8	45.0
Mean (Ob-Bg)	-0.2	-0.3	-0.7
RMS (Ob-Bg) unflagged data	1.0	1.4	1.4
Mean (Ob-Bg)	-0.6	-0.4	-1.4
RMS (Ob-Bg) all data	6.1	2.9	8.4
Revised RMS (Ob-Bg)	1.0	1.4	1.3
% of data flagged	61	63	34
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	44624/UK	44728	44742/UK
Argos Id No.	28470		28471
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	55.2	52.3	44.9
Mean Longitude	-26.7	-27.1	-5.1
No. of Obs Received	3841	1990	3666
% of obs with Acceptable Position	99.6	99.4	98.3
% of Present Pressure	94.1	94.5	95.6
P. Tendency	89.3	89.7	90.0
Air Temperature	93.8	94.7	93.6
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	94.5	95.2	94.4
Median delay (min)	37	23	26
Number of days	91	91	91
Mean No. of obs/day	42.2	21.9	40.3
No. of Hours with obs	1772	1312	1663
Mean no. of hours/day with obs	19.5	14.4	18.3
% of hour periods without an ob	18.7	39.8	23.8
Mean (Ob-Bg)	-0.6	-0.7	-0.1
RMS (Ob-Bg) unflagged data	1.4	1.3	1.0
Mean (Ob-Bg)	-0.7	-1.0	-0.6
RMS (Ob-Bg) all data	2.5	5.7	7.7
Revised RMS (Ob-Bg)	1.4	1.4	1.1
% of data flagged	62	42	62
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Acceptable	Very Good
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44760/UK	44762/UK	44764/UK
Argos Id No.	28469	12594	28464
Period Within Area	01/04 - 09/06	01/04 - 28/05	01/04 - 30/06
Mean Latitude	53.6	38.4	50.0
Mean Longitude	-9.8	-44.1	-9.0
No. of Obs Received	93	753	3772
% of obs with Acceptable Position	98.9	99.7	99.8
% of Present			
Pressure	100.0	85.0	94.3
P. Tendency	98.9	78.2	88.8
Air Temperature	48.4	0.0	93.1
Wind Speed/Dir	0.0/ 0.0	82.6/ 83.1	0.0/ 0.0
Sea-Surface Temp.	100.0	53.7	93.8
Median delay (min)	18	50	35
Number of days	70	58	91
Mean No. of obs/day	1.3	13.0	41.5
No. of Hours with obs	77	547	1679
Mean no. of hours/day with obs	1.1	9.4	18.5
% of hour periods without an ob	95.4	60.5	23.0
Mean (Ob-Bg)	0.2	-0.2	-0.3
RMS (Ob-Bg) unflagged data	1.0	1.1	1.1
Mean (Ob-Bg)	-1.2	-0.5	-0.4
RMS (Ob-Bg) all data	8.9	4.2	4.4
Revised RMS (Ob-Bg)	0.9	1.2	1.1
% of data flagged	34	49	62
Operating at end of period	NO	NO	YES
Performance			
Availability	Very Poor	Poor	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44765/UK	44766/UK	44768/UK
Argos Id No.	28466	28465	26746
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 09/06
Mean Latitude	36.4	55.3	67.5
Mean Longitude	-51.0	-46.3	12.1
No. of Obs Received	1322	2380	1376
% of obs with Acceptable Position	96.6	100.0	98.1
% of Present Pressure	96.4	95.7	97.3
P. Tendency	92.4	90.4	94.1
Air Temperature	96.7	95.5	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	51.5	88.8	91.1
Median delay (min)	22	24	20
Number of days	91	91	70
Mean No. of obs/day	14.5	26.2	19.7
No. of Hours with obs	1067	1475	641
Mean no. of hours/day with obs	11.7	16.2	9.2
% of hour periods without an ob	51.1	32.5	61.5
Mean (Ob-Bg)	-0.4	-0.6	-0.1
RMS (Ob-Bg) unflagged data	1.0	1.4	1.2
Mean (Ob-Bg)	-0.6	-1.0	-1.0
RMS (Ob-Bg) all data	4.9	6.9	12.2
Revised RMS (Ob-Bg)	1.2	1.5	1.2
% of data flagged	26	49	63
Operating at end of period	YES	YES	NO
Performance			
Availability	Poor	Good	Acceptable
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44773/UK	44777	44778/UK
Argos Id No.	26751		28473
Period Within Area	20/05 - 30/06	20/05 - 30/06	01/04 - 30/06
Mean Latitude	56.1	62.5	48.7
Mean Longitude	-38.3	-31.7	-12.0
No. of Obs Received	2131	2570	4266
% of obs with Acceptable Position	99.4	99.6	98.8
% of Present Pressure	95.8	95.0	95.9
P. Tendency	90.6	89.8	91.4
Air Temperature	31.6	34.5	0.0
Wind Speed/Dir	74.3/ 78.5	73.7/ 73.3	0.0/ 0.0
Sea-Surface Temp.	96.0	94.9	95.3
Median delay (min)	24	25	25
Number of days	42	42	91
Mean No. of obs/day	50.7	61.2	46.9
No. of Hours with obs	845	880	1734
Mean no. of hours/day with obs	20.1	21.0	19.1
% of hour periods without an ob	15.8	12.4	20.5
Mean (Ob-Bg)	-0.8	-0.4	-0.3
RMS (Ob-Bg) unflagged data	1.3	1.1	1.2
Mean (Ob-Bg)	-0.9	-0.8	-0.8
RMS (Ob-Bg) all data	3.6	5.8	7.6
Revised RMS (Ob-Bg)	1.3	1.3	1.3
% of data flagged	67	72	66
Operating at end of period	YES	YES	YES
Performance Availability	Very Good	Very Good	Very Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44780/UK	44901	46510
Argos Id No.	27642		
Period Within Area	01/04 - 30/06	01/04 - 28/05	30/04 - 04/05
Mean Latitude	72.6	53.2	44.7
Mean Longitude	7.3	-9.0	-63.6
No. of Obs Received	7407	175	33
% of obs with Acceptable Position	98.9	98.3	100.0
% of Present			
Pressure	96.4	85.7	81.8
P. Tendency	91.5	43.4	0.0
Air Temperature	95.9	0.0	87.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	45.5/ 81.8
Sea-Surface Temp.	96.4	0.0	81.8
Median delay (min)	31	79	35
Number of days	91	58	5
Mean No. of obs/day	81.4	3.0	6.6
No. of Hours with obs	2122	156	30
Mean no. of hours/day with obs	23.3	2.7	6.0
% of hour periods without an ob	2.8	88.6	69.7
Mean (Ob-Bg)	-0.1	0.3	-5.4
RMS (Ob-Bg) unflagged data	1.2	1.1	5.4
Mean (Ob-Bg)	-1.0	0.3	-6.0
RMS (Ob-Bg) all data	10.3	1.1	6.0
Revised RMS (Ob-Bg)	1.2	1.1	6.0
% of data flagged	76	14	59
Operating at end of period	YES	NO	NO
Performance			
Availability	Very Good	Very Poor	Poor
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	61525	61526	61527
Argos Id No.			
Period Within Area	01/04 - 17/06	01/04 - 24/04	01/04 - 21/06
Mean Latitude	38.5	39.8	40.0
Mean Longitude	6.1	7.7	5.5
No. of Obs Received	789	153	823
% of obs with Acceptable Position	99.9	100.0	100.0
% of Present Pressure	93.2	94.1	92.2
P. Tendency	0.0	0.0	0.0
Air Temperature	93.4	94.1	88.8
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	94.8	94.1	91.9
Median delay (min)	36	26	35
Number of days	78	24	82
Mean No. of obs/day	10.1	6.4	10.0
No. of Hours with obs	713	134	744
Mean no. of hours/day with obs	9.1	5.6	9.1
% of hour periods without an ob	61.6	76.3	62.0
Mean (Ob-Bg)	-0.1	-0.1	-0.3
RMS (Ob-Bg) unflagged data	1.0	1.1	1.0
Mean (Ob-Bg)	-0.1	-0.1	-0.3
RMS (Ob-Bg) all data	1.0	1.1	1.0
Revised RMS (Ob-Bg)	1.0	1.1	1.0
% of data flagged	10	13	9
Operating at end of period	NO	NO	NO
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62505	62506	62512/F
Argos Id No.			12730
Period Within Area	03/05 - 30/06	03/05 - 30/06	01/04 - 23/05
Mean Latitude	47.1	44.9	44.6
Mean Longitude	-18.7	-18.4	-18.5
No. of Obs Received	1632	1268	188
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	93.0	99.4	85.1
P. Tendency	82.6	99.1	0.0
Air Temperature	69.4	0.0	0.0
Wind Speed/Dir	91.2/ 90.0	98.3/ 98.3	0.0/ 0.0
Sea-Surface Temp.	92.5	99.2	43.6
Median delay (min)	25	98	481
Number of days	59	59	53
Mean No. of obs/day	27.7	21.5	3.5
No. of Hours with obs	1004	1258	157
Mean no. of hours/day with obs	17.0	21.3	3.0
% of hour periods without an ob	28.5	10.3	87.6
Mean (Ob-Bg)	-0.4	0.2	0.1
RMS (Ob-Bg) unflagged data	1.2	1.2	1.4
Mean (Ob-Bg)	-0.3	0.2	0.1
RMS (Ob-Bg) all data	1.5	1.2	1.4
Revised RMS (Ob-Bg)	1.2	1.2	1.4
% of data flagged	49	1	13
Operating at end of period	YES	YES	NO
Performance Availability	Good	Acceptable	Very Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Good	Very Poor
Comments			

Annex A - cont'd

WMO No./Country	62515/F	62517/F	62519/F
Argos Id No.	6569	5823	6570
Period Within Area	01/04 - 27/04	01/04 - 28/04	01/04 - 17/05
Mean Latitude	60.0	43.8	33.3
Mean Longitude	-9.5	-5.8	-19.7
No. of Obs Received	1716	499	1435
% of obs with Acceptable Position	99.4	97.6	90.5
% of Present Pressure	97.0	10.4	96.0
P. Tendency	6.1	89.6	9.4
Air Temperature	0.1	5.8	0.0
Wind Speed/Dir	0.0/ 0.0	76.0/ 75.8	0.0/ 0.0
Sea-Surface Temp.	86.2	94.0	0.0
Median delay (min)	26	22	28
Number of days	27	28	47
Mean No. of obs/day	63.6	17.8	30.5
No. of Hours with obs	546	327	736
Mean no. of hours/day with obs	20.2	11.7	15.7
% of hour periods without an ob	15.2	49.8	34.3
Mean (Ob-Bg)	0.0	0.0	-0.1
RMS (Ob-Bg) unflagged data	1.4	1.4	0.9
Mean (Ob-Bg)	-0.4	4.2	-0.5
RMS (Ob-Bg) all data	11.8	6.5	13.7
Revised RMS (Ob-Bg)	1.5	4.8	0.8
% of data flagged	74	0	58
Operating at end of period	NO	NO	NO
Performance			
Availability	Very Good	Acceptable	Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62520/F	62554/F	62675
Argos Id No.	14431	14430	
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 23/06
Mean Latitude	40.5	41.2	40.0
Mean Longitude	-19.7	-13.2	-35.9
No. of Obs Received	3244	3187	858
% of obs with Acceptable Position	94.4	96.1	100.0
% of Present Pressure	96.1	96.2	95.9
P. Tendency	88.3	87.2	0.0
Air Temperature	0.0	0.0	94.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	95.7	96.1	96.0
Median delay (min)	21	21	32
Number of days	91	91	84
Mean No. of obs/day	35.6	35.0	10.2
No. of Hours with obs	1549	1526	792
Mean no. of hours/day with obs	17.0	16.8	9.4
% of hour periods without an ob	29.0	30.0	60.4
Mean (Ob-Bg)	-0.5	0.0	-0.6
RMS (Ob-Bg) unflagged data	1.1	0.9	1.0
Mean (Ob-Bg)	-0.6	0.0	-0.6
RMS (Ob-Bg) all data	3.2	3.3	1.0
Revised RMS (Ob-Bg)	1.2	0.9	1.0
% of data flagged	61	60	7
Operating at end of period	YES	YES	NO
Performance			
Availability	Very Good	Very Good	Poor
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	64516	64517/F	64518/F
Argos Id No.		14178	14180
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	64.4	62.5	62.7
Mean Longitude	-30.4	-38.0	-36.8
No. of Obs Received	7451	6010	6521
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	99.8	99.8	99.7
P. Tendency	99.5	99.5	99.3
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.6	99.8	99.6
Median delay (min)	137	142	147
Number of days	91	91	91
Mean No. of obs/day	81.9	66.0	71.7
No. of Hours with obs	2108	2016	2112
Mean no. of hours/day with obs	23.2	22.2	23.2
% of hour periods without an ob	3.3	7.5	3.3
Mean (Ob-Bg)	-0.4	-0.2	-0.6
RMS (Ob-Bg) unflagged data	1.3	1.3	1.4
Mean (Ob-Bg)	-0.4	-0.2	-0.7
RMS (Ob-Bg) all data	1.5	1.6	1.4
Revised RMS (Ob-Bg)	1.4	1.3	1.4
% of data flagged	74	69	70
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Acceptable	Acceptable	Acceptable
Comments			

Annex A - cont'd

WMO No./Country	64519	64529/D	64691
Argos Id No.		6669	
Period Within Area	01/04 - 21/05	01/04 - 30/06	15/05 - 21/06
Mean Latitude	60.7	60.6	65.8
Mean Longitude	-30.5	-10.4	-26.2
No. of Obs Received	2973	4093	1004
% of obs with Acceptable Position	100.0	89.4	100.0
% of Present Pressure	99.6	90.2	99.9
P. Tendency	99.3	60.0	98.2
Air Temperature	0.0	89.6	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.6	72.7	55.8
Median delay (min)	151	21	103
Number of days	51	91	38
Mean No. of obs/day	58.3	45.0	26.4
No. of Hours with obs	1064	1649	581
Mean no. of hours/day with obs	20.9	18.1	15.3
% of hour periods without an ob	12.4	24.3	34.3
Mean (Ob-Bg)	-0.3	-0.7	-0.3
RMS (Ob-Bg) unflagged data	1.4	1.5	2.0
Mean (Ob-Bg)	-0.2	-1.1	7.5
RMS (Ob-Bg) all data	2.0	6.4	13.9
Revised RMS (Ob-Bg)	1.6	1.6	6.9
% of data flagged	67	70	73
Operating at end of period	NO	YES	NO
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Suspect	Suspect
Timeliness	Acceptable	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64692	64693	64694
Argos Id No.			
Period Within Area	16/06 - 30/06	16/06 - 30/06	14/06 - 30/06
Mean Latitude	64.9	65.8	66.3
Mean Longitude	-24.8	-25.3	-24.5
No. of Obs Received	509	529	591
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	99.6	99.8	99.7
P. Tendency	99.6	99.4	99.8
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.	99.4	99.6	100.0
Median delay (min)	109	86.5	109
Number of days	15	15	17
Mean No. of obs/day	33.9	35.3	34.8
No. of Hours with obs	278	269	322
Mean no. of hours/day with obs	18.5	17.9	18.9
% of hour periods without an ob	20.1	22.7	19.5
Mean (Ob-Bg)	-0.6	-0.6	-0.6
RMS (Ob-Bg) unflagged data	1.4	1.2	1.3
Mean (Ob-Bg)	-0.6	-0.5	-0.6
RMS (Ob-Bg) all data	1.5	1.2	1.4
Revised RMS (Ob-Bg)	1.4	1.2	1.4
% of data flagged	51	53	49
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Very Good	Good
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64695	64696	64697
Argos Id No.			
Period Within Area	20/04 - 30/06	10/05 - 30/06	10/05 - 30/06
Mean Latitude	64.7	64.8	64.4
Mean Longitude	-24.3	-23.5	-23.4
No. of Obs Received	2642	1720	1580
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	100.0	99.9	99.8
P. Tendency	99.7	99.8	99.7
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.8	99.8	99.9
Median delay (min)	101	107	108
Number of days	72	52	52
Mean No. of obs/day	36.7	33.1	30.4
No. of Hours with obs	1421	986	955
Mean no. of hours/day with obs	19.7	19.0	18.4
% of hour periods without an ob	17.3	20.4	22.7
Mean (Ob-Bg)	-0.4	-0.8	-0.7
RMS (Ob-Bg) unflagged data	1.2	1.4	1.3
Mean (Ob-Bg)	-0.4	-0.9	-0.7
RMS (Ob-Bg) all data	1.3	1.5	1.6
Revised RMS (Ob-Bg)	1.2	1.4	1.4
% of data flagged	52	50	47
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Good	Good
Pressure Quality	Acceptable	Suspect	Suspect
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64698	64699	64700
Argos Id No.			
Period Within Area	11/06 - 30/06	16/06 - 30/06	16/06 - 30/06
Mean Latitude	65.3	65.7	64.8
Mean Longitude	-25.8	-25.6	-25.4
No. of Obs Received	968	639	595
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.6	99.7	99.5
P. Tendency	99.2	99.1	99.3
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.3	99.2	99.5
Median delay (min)	123	113	106
Number of days	20	15	15
Mean No. of obs/day	48.4	42.6	39.7
No. of Hours with obs	438	323	304
Mean no. of hours/day with obs	21.9	21.5	20.3
% of hour periods without an ob	8.4	8.5	14.1
Mean (Ob-Bg)	-0.6	-0.4	-0.1
RMS (Ob-Bg)	1.3	1.2	1.4
unflagged data			
Mean (Ob-Bg)	-0.7	-0.2	0.1
RMS (Ob-Bg)	1.3	2.1	2.3
all data			
Revised RMS (Ob-Bg)	1.3	1.4	1.5
% of data flagged	57	55	55
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Acceptable	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	65581/D	65591/UK	65592/D
Argos Id No.	2294	26748	4270
Period Within Area	01/04 - 27/04	01/04 - 07/04	01/04 - 08/06
Mean Latitude	58.0	56.5	61.5
Mean Longitude	-0.5	-6.6	-21.0
No. of Obs Received	388	289	1535
% of obs with Acceptable Position	94.3	94.5	99.0
% of Present Pressure	80.2	95.5	58.6
P. Tendency	72.9	90.7	92.1
Air Temperature	79.4	91.7	95.8
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	46.4	0.0	87.9
Median delay (min)	37	66.5	20
Number of days	27	7	69
Mean No. of obs/day	14.4	41.3	22.2
No. of Hours with obs	290	126	944
Mean no. of hours/day with obs	10.7	18.0	13.7
% of hour periods without an ob	54.5	18.2	42.4
Mean (Ob-Bg)	-0.8	-0.5	-0.5
RMS (Ob-Bg) unflagged data	1.4	1.1	2.6
Mean (Ob-Bg)	-0.9	-0.5	-2.4
RMS (Ob-Bg) all data	2.1	1.1	12.7
Revised RMS (Ob-Bg)	1.4	1.1	6.8
% of data flagged	28	62	74
Operating at end of period	NO	NO	NO
Performance			
Availability	Poor	Very Good	Acceptable
Pressure Quality	Suspect	Acceptable	Suspect
Timeliness	Very Good	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	65593/NL	65594	65595
Argos Id No.	4228		
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	59.8	59.8	57.2
Mean Longitude	-22.3	-36.2	-40.8
No. of Obs Received	3718	3909	3466
% of obs with Acceptable Position	71.3	96.5	99.8
% of Present Pressure	93.1	90.7	94.9
P. Tendency	87.3	85.9	91.6
Air Temperature	92.0	90.3	94.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	77.5	75.2	70.0
Median delay (min)	19	21	22
Number of days	91	91	91
Mean No. of obs/day	40.9	43.0	38.1
No. of Hours with obs	1694	1676	1637
Mean no. of hours/day with obs	18.6	18.4	18.0
% of hour periods without an ob	22.4	23.2	25.0
Mean (Ob-Bg)	-0.7	-0.6	-0.9
RMS (Ob-Bg) unflagged data	1.5	1.4	1.6
Mean (Ob-Bg)	-0.3	-0.4	-0.4
RMS (Ob-Bg) all data	4.0	4.1	5.5
Revised RMS (Ob-Bg)	1.5	1.4	1.6
% of data flagged	64	66	62
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

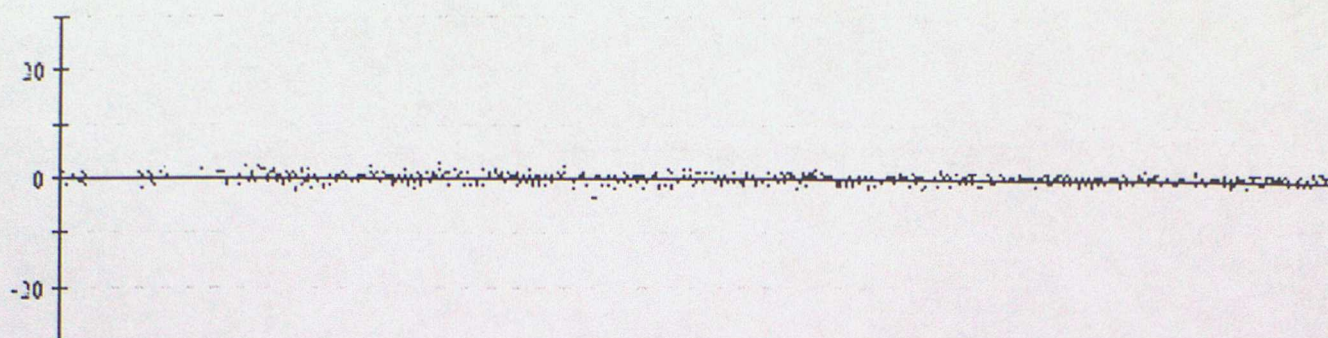
Annex A - cont'd

WMO No./Country	65599/UK		
Argos Id No.	28477		
Period Within Area	01/04 - 30/06		
Mean Latitude	61.0		
Mean Longitude	-36.8		
No. of Obs Received	6257		
% of obs with Acceptable Position	99.2		
% of Present Pressure	95.7		
P. Tendency	90.8		
Air Temperature	0.0		
Wind Speed/Dir	69.8/ 69.6		
Sea-Surface Temp.	95.6		
Median delay (min)	24		
Number of days	91		
Mean No. of obs/day	68.8		
No. of Hours with obs	1932		
Mean no. of hours/day with obs	21.2		
% of hour periods without an ob	11.5		
Mean (Ob-Bg)	-0.1		
RMS (Ob-Bg) unflagged data	1.3		
Mean (Ob-Bg)	-0.8		
RMS (Ob-Bg) all data	8.1		
Revised RMS (Ob-Bg)	1.3		
% of data flagged	74		
Operating at end of period	YES		
Performance Availability Pressure Quality Timeliness	Very Good Acceptable Very Good		
Comments			

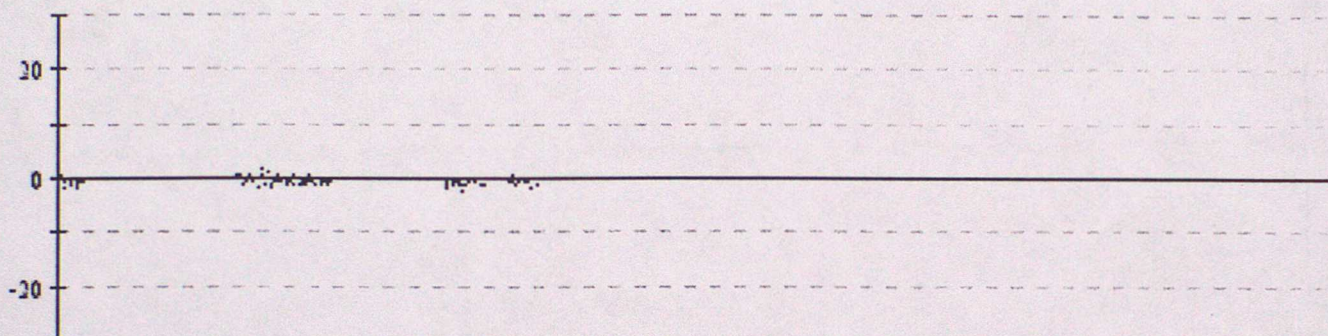
ANNEX B - TIME SERIES PLOTS OF PRESSURE

Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

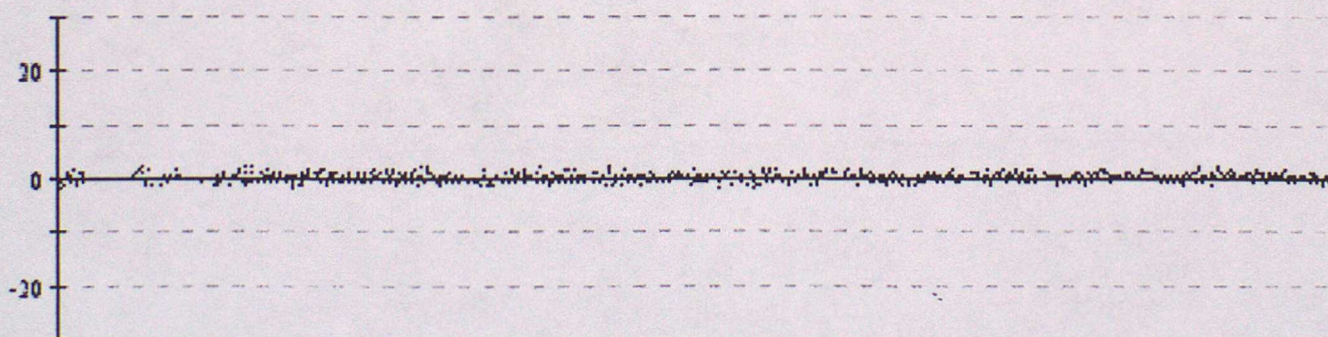
41502 Pressure



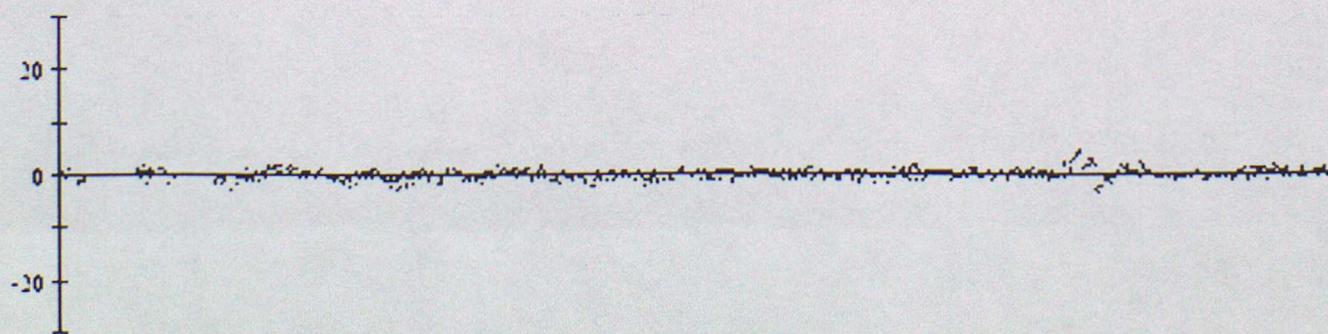
41503 Pressure



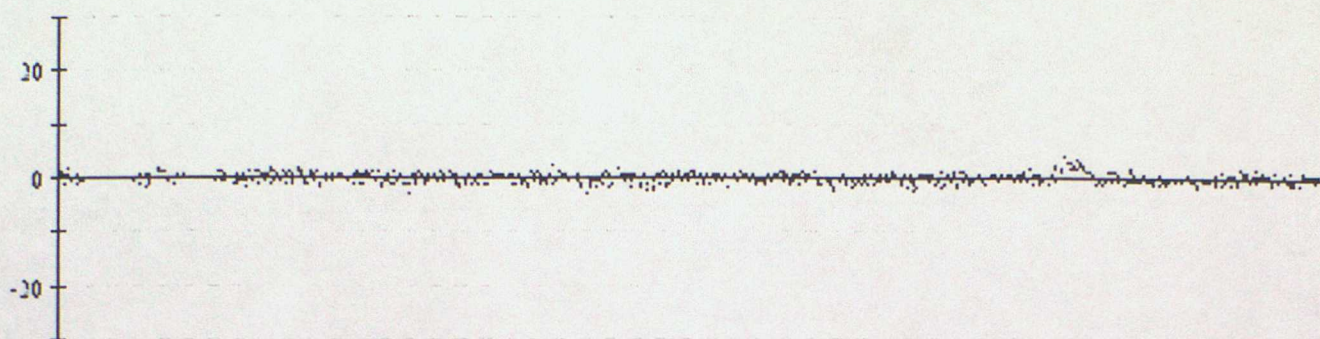
41504 Pressure



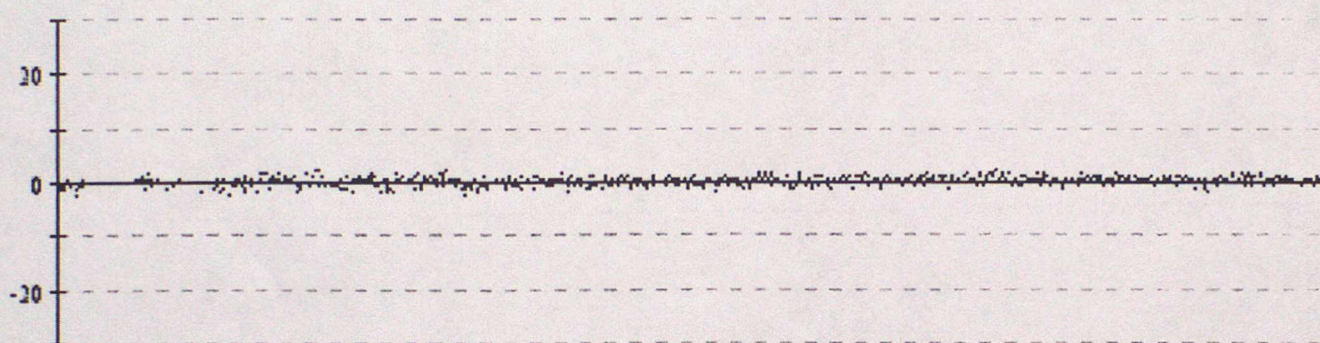
41505 Pressure



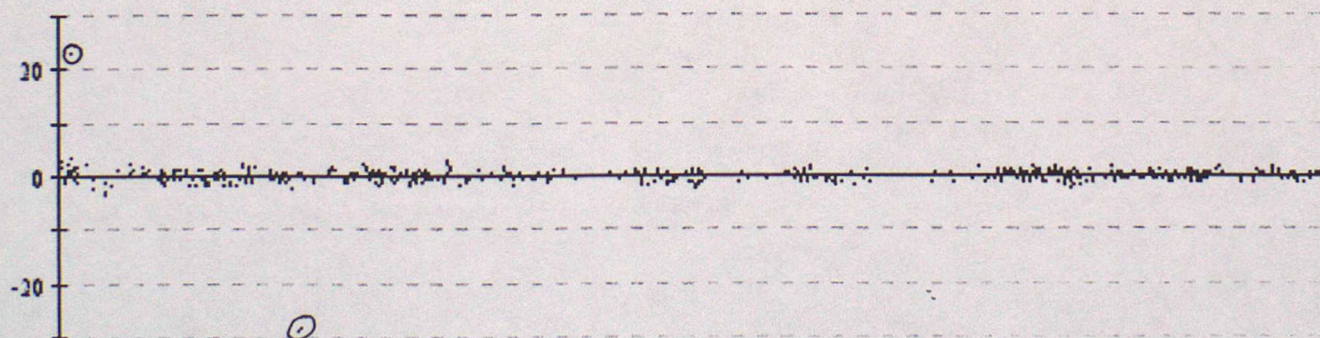
41521 Pressure



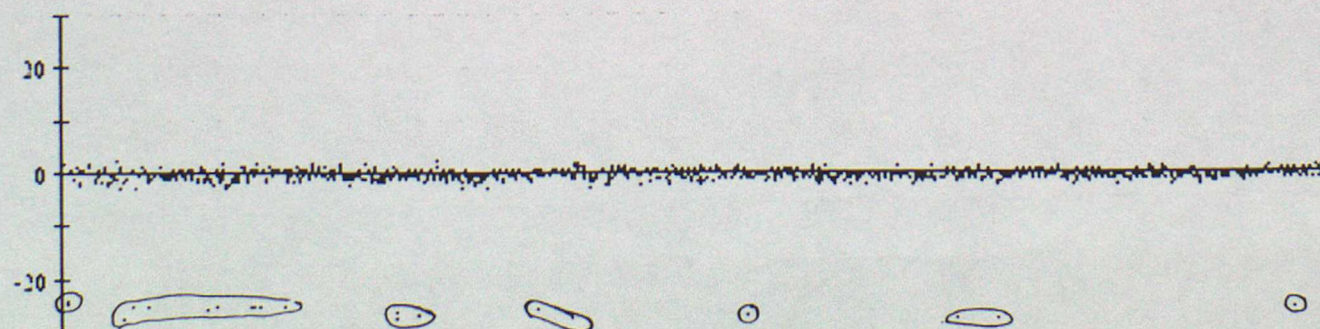
41528 Pressure



41598 Pressure

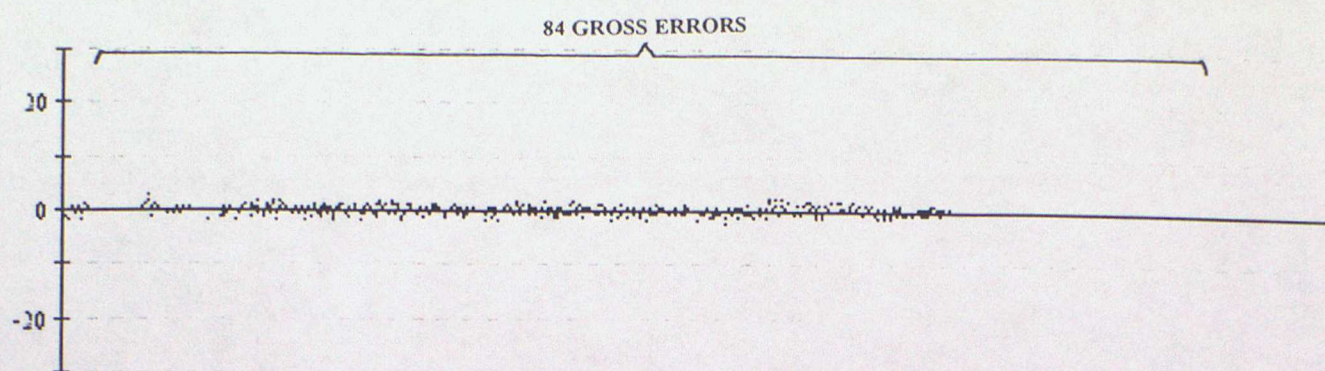


41599 Pressure

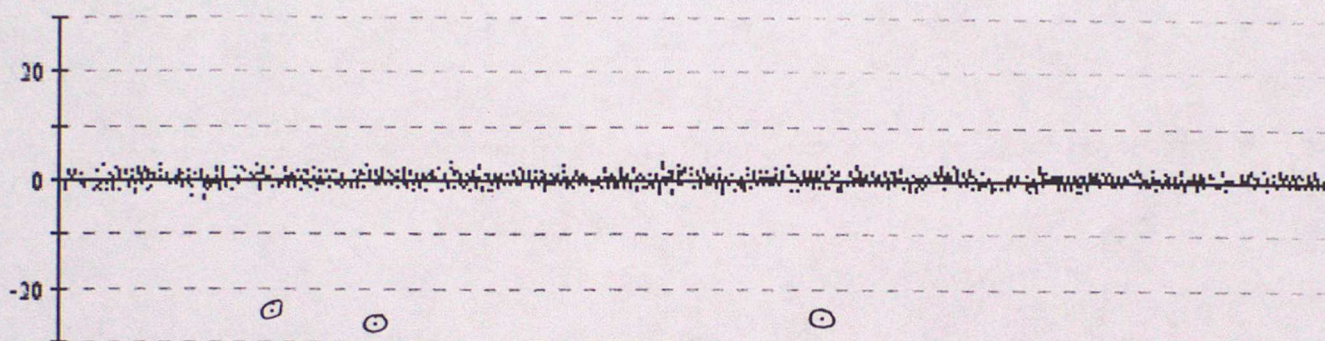


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

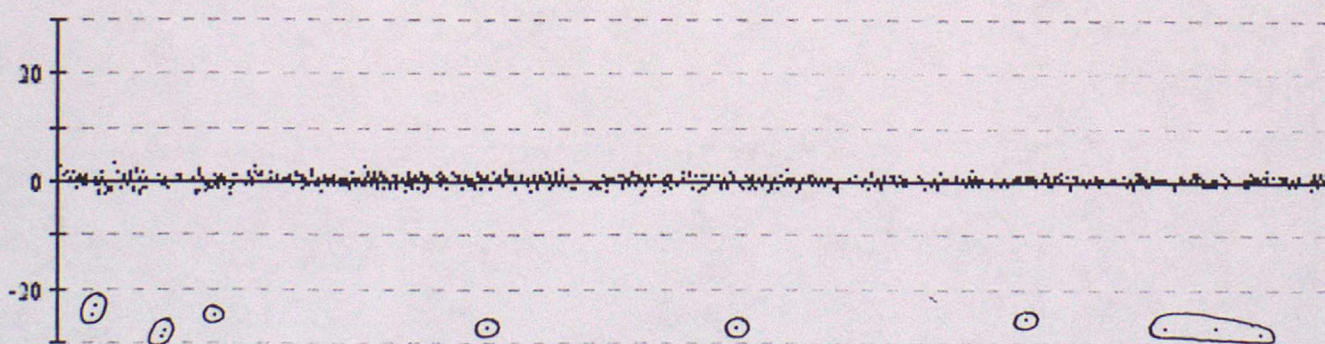
41629 Pressure



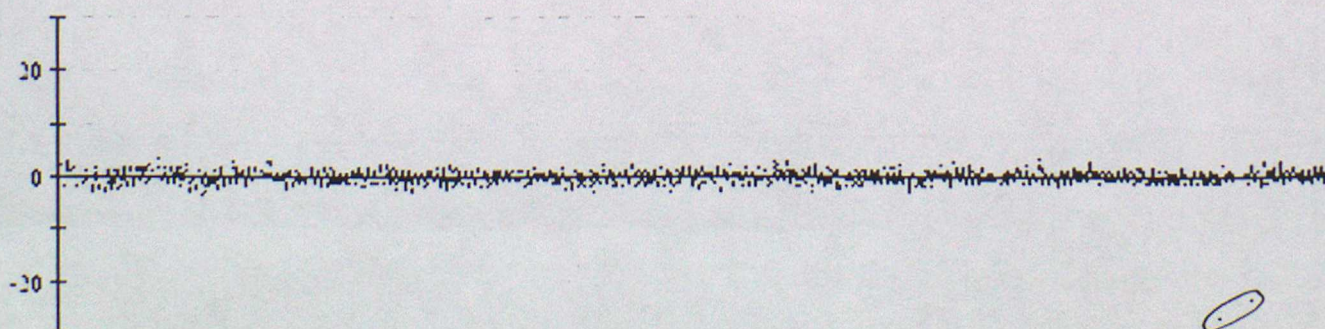
41636 Pressure



41637 Pressure

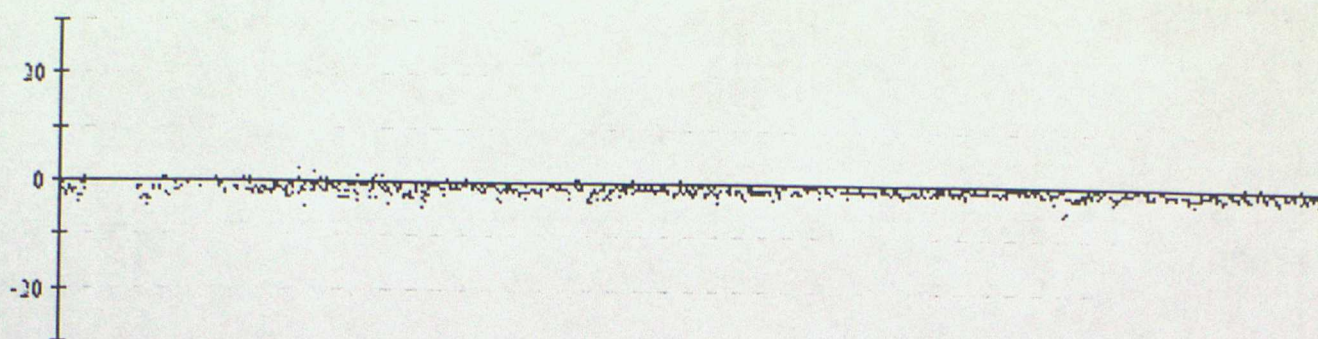


41638 Pressure

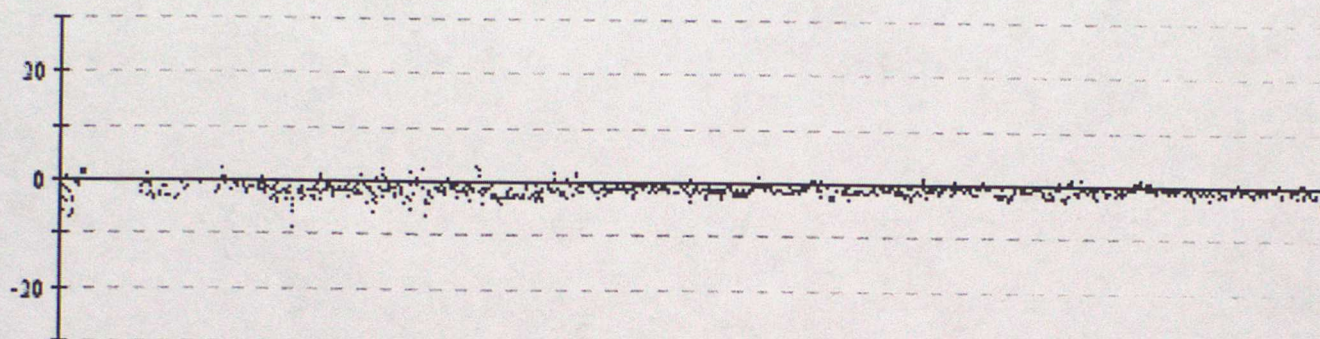


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

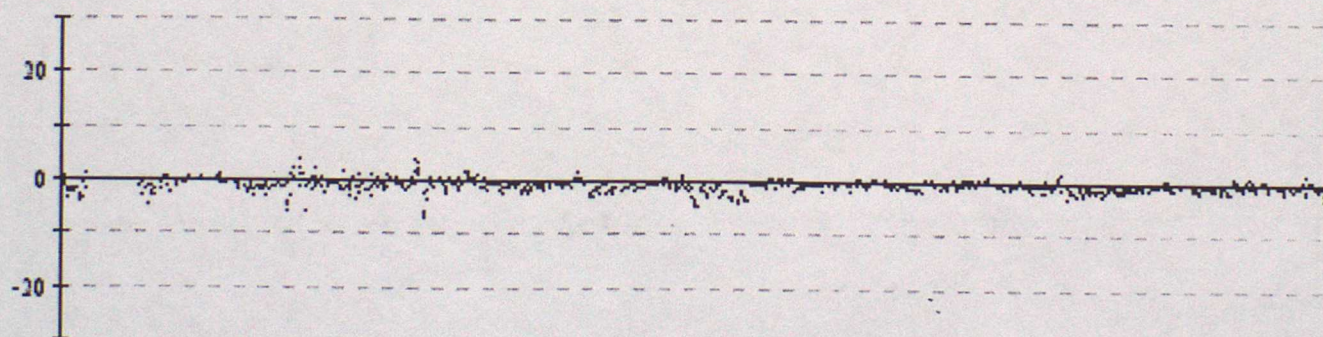
44513 Pressure



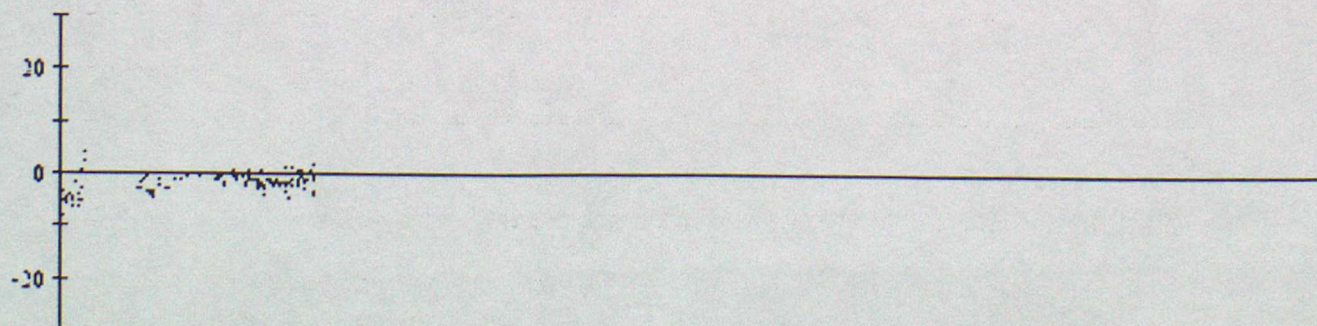
44514 Pressure



44515 Pressure

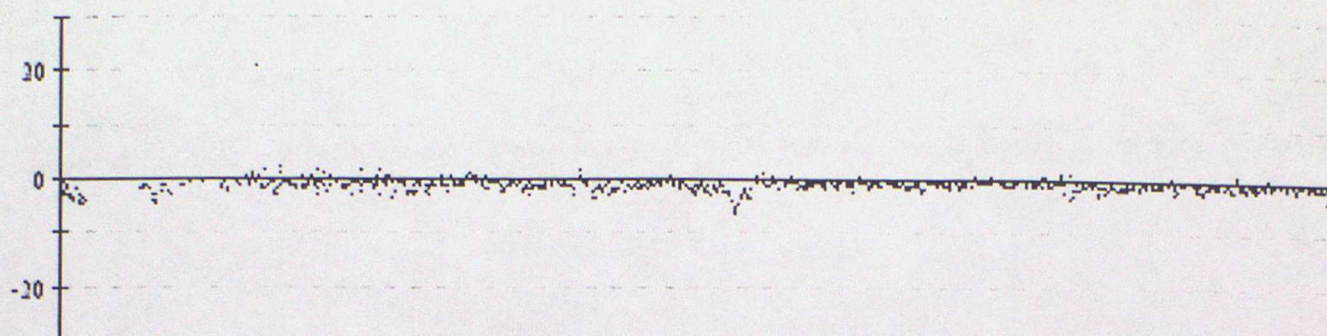


44516 Pressure

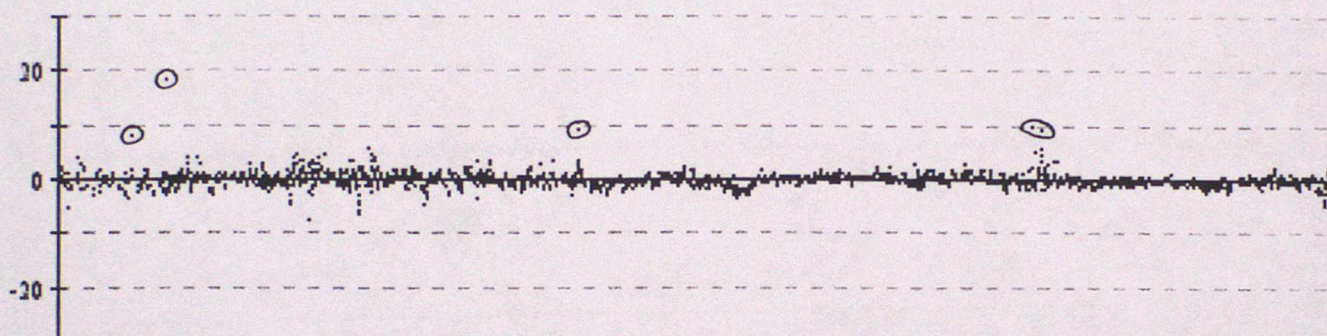


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

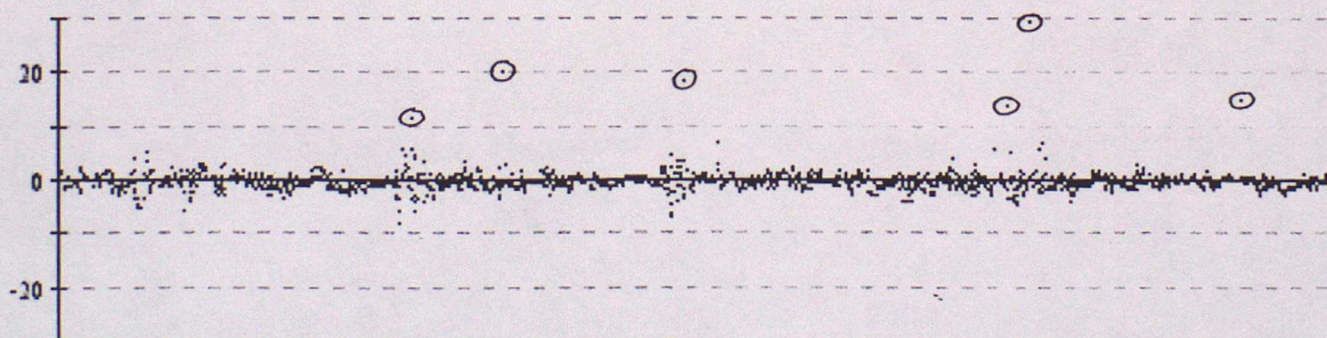
44517 Pressure



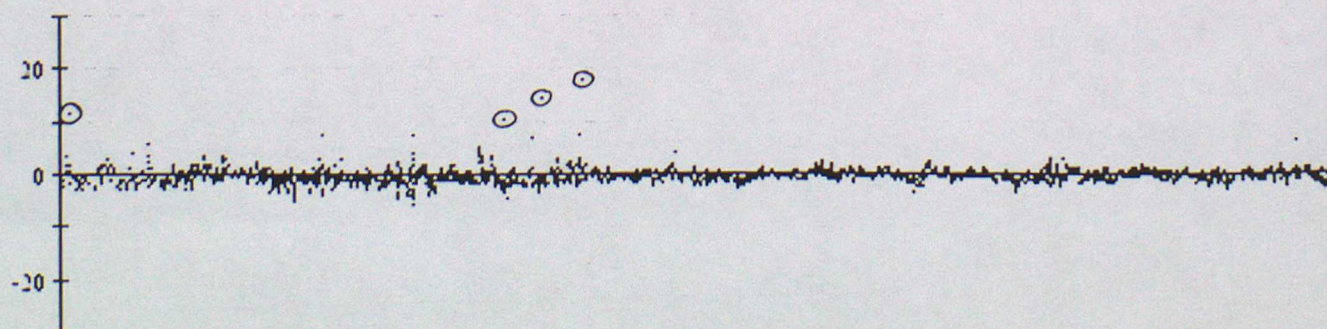
44546 Pressure



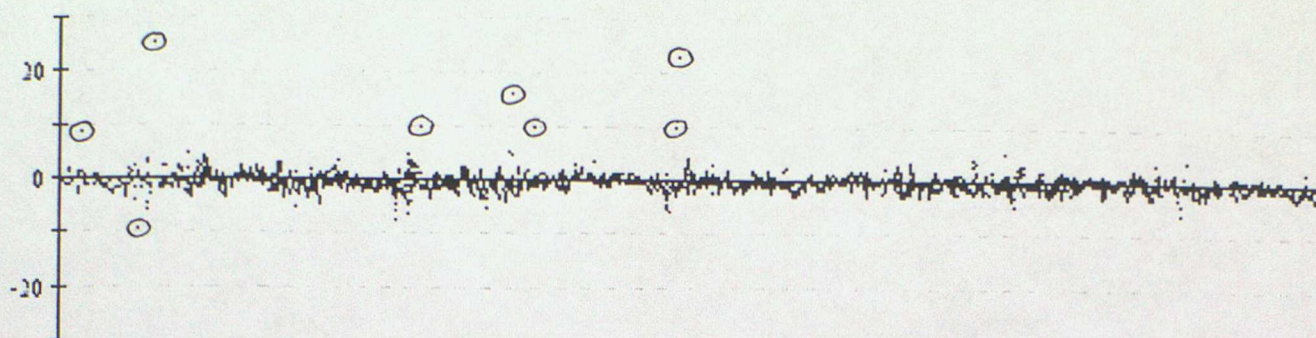
44607 Pressure



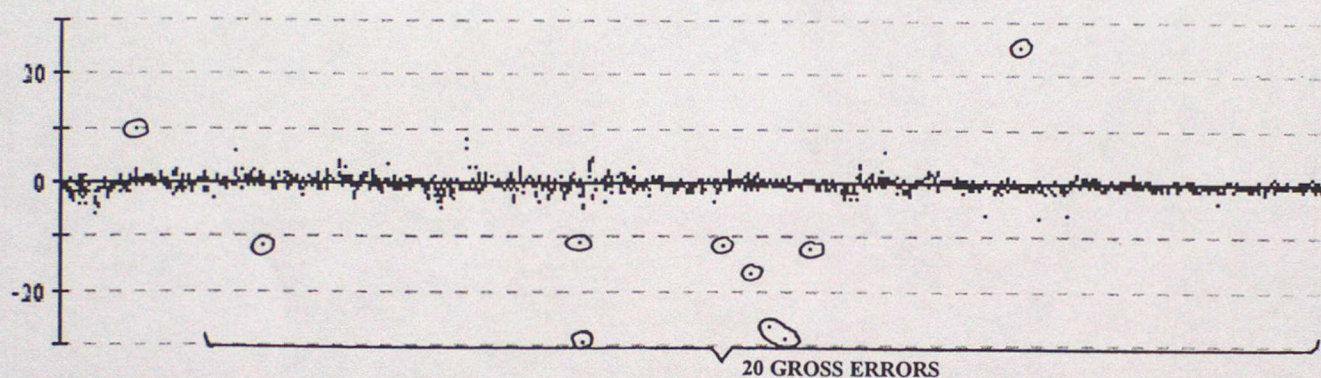
44608 Pressure



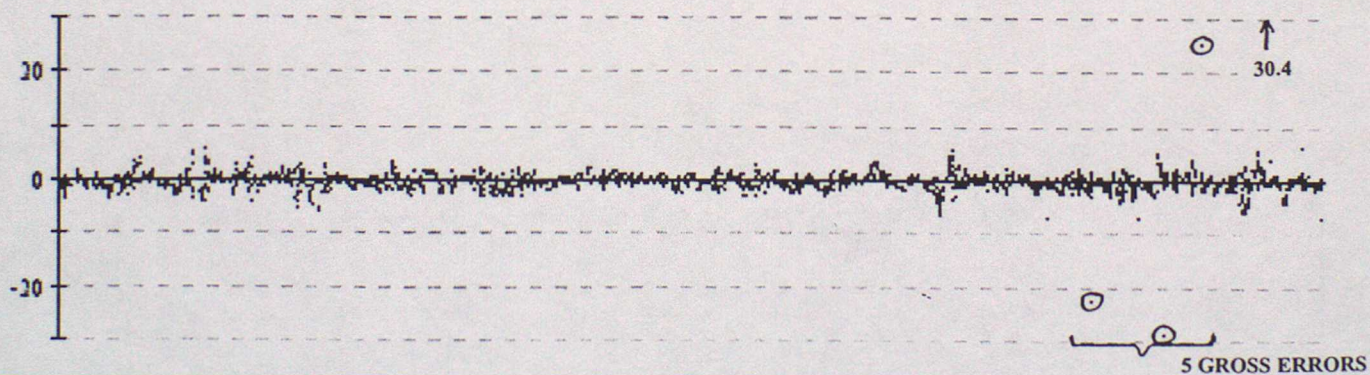
44610 Pressure



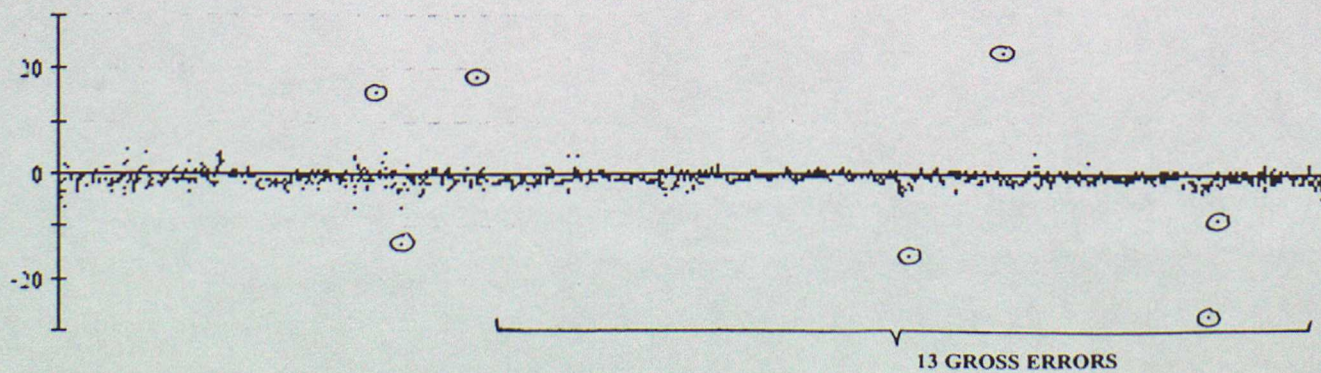
44613 Pressure



44616 Pressure

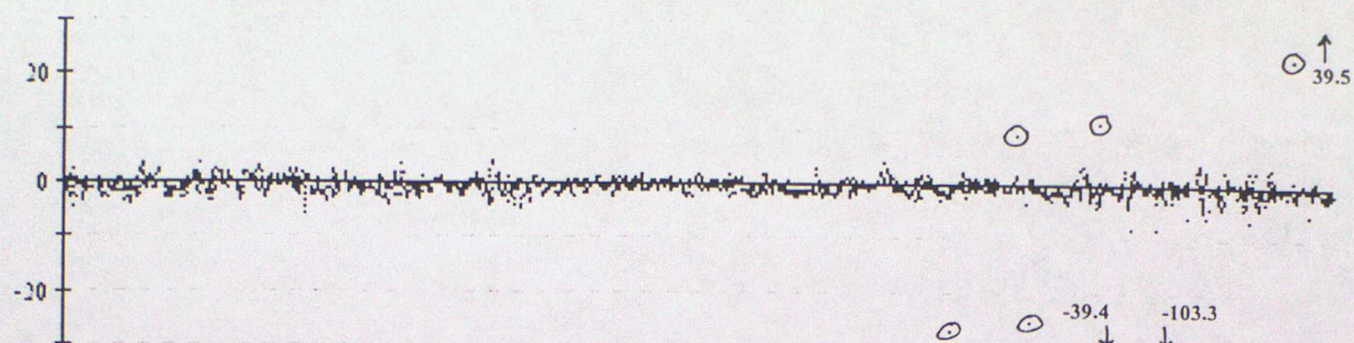


44621 Pressure

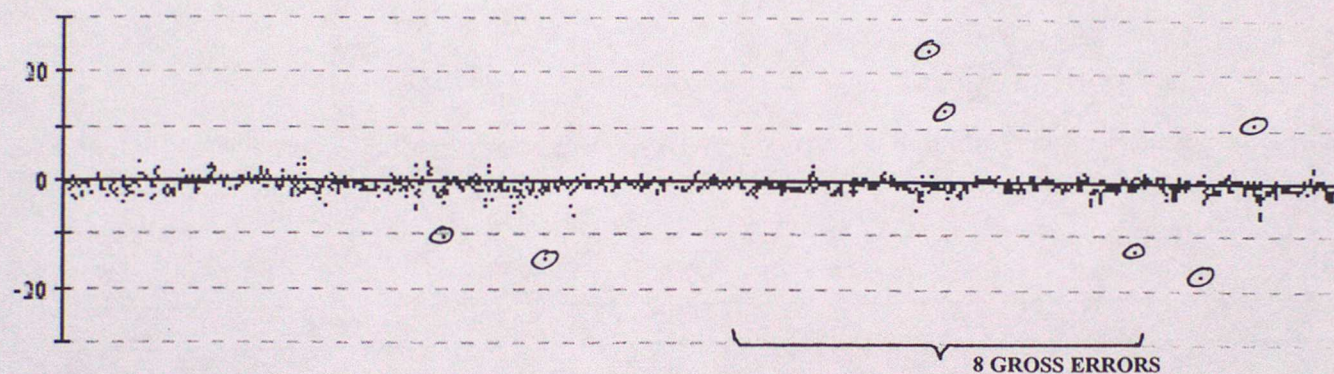


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

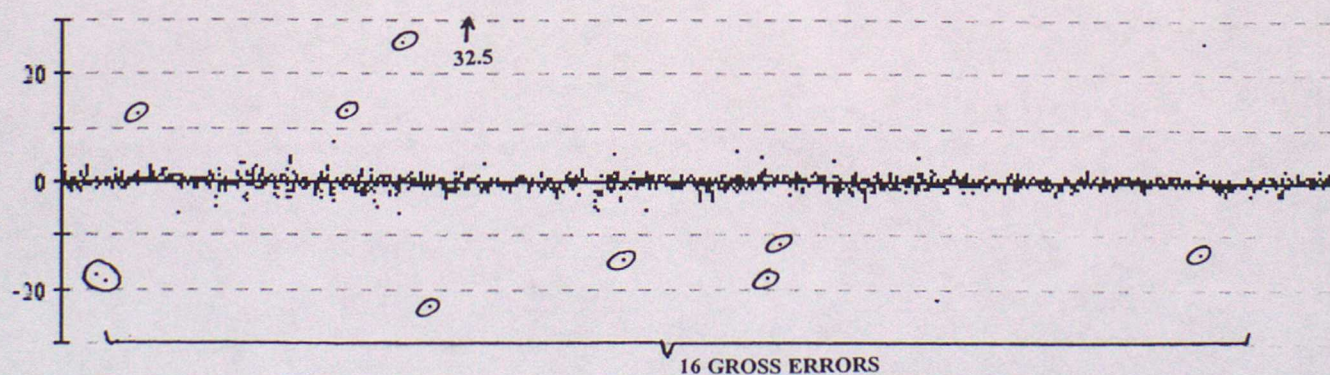
44624 Pressure



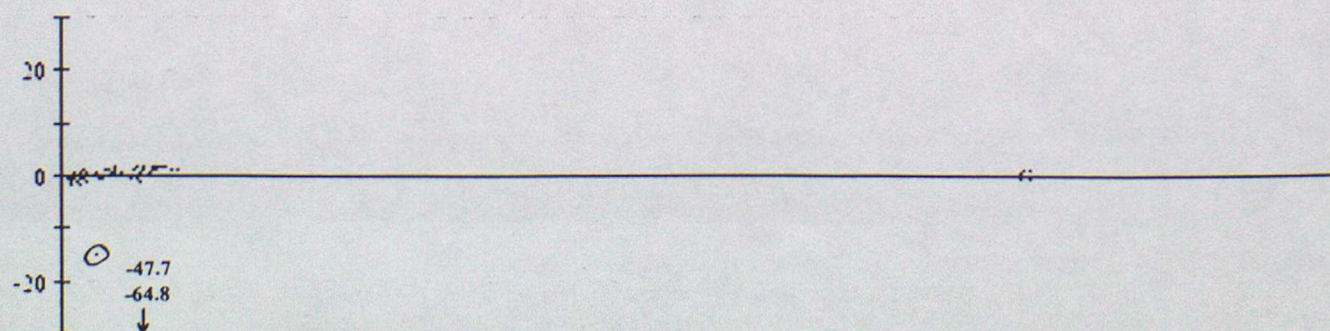
44728 Pressure



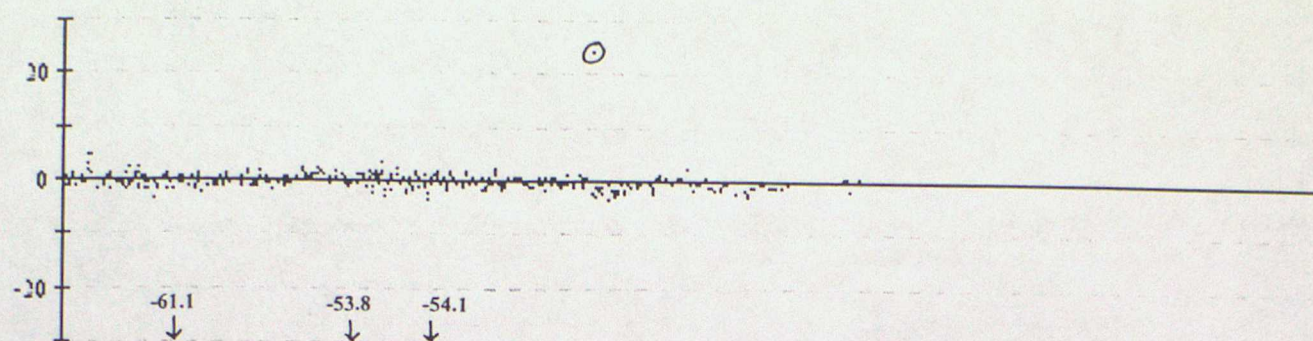
44742 Pressure



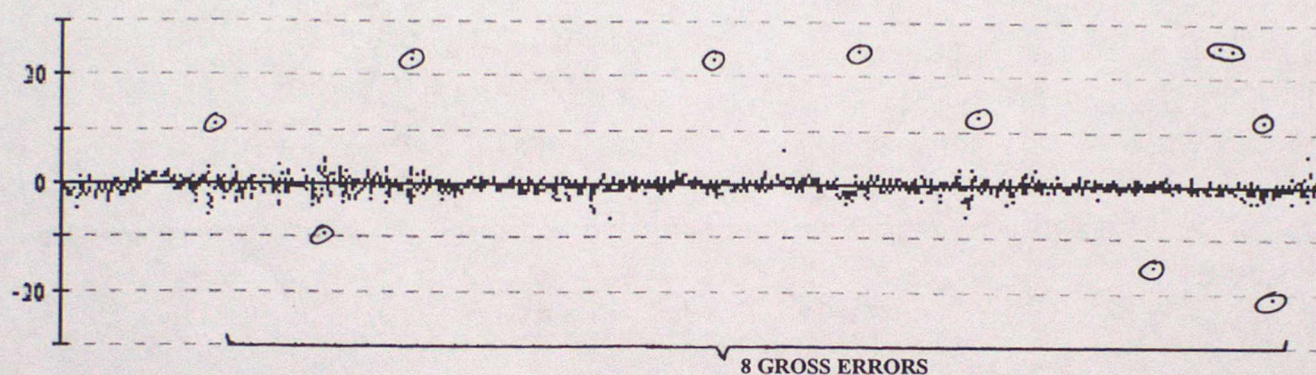
44760 Pressure



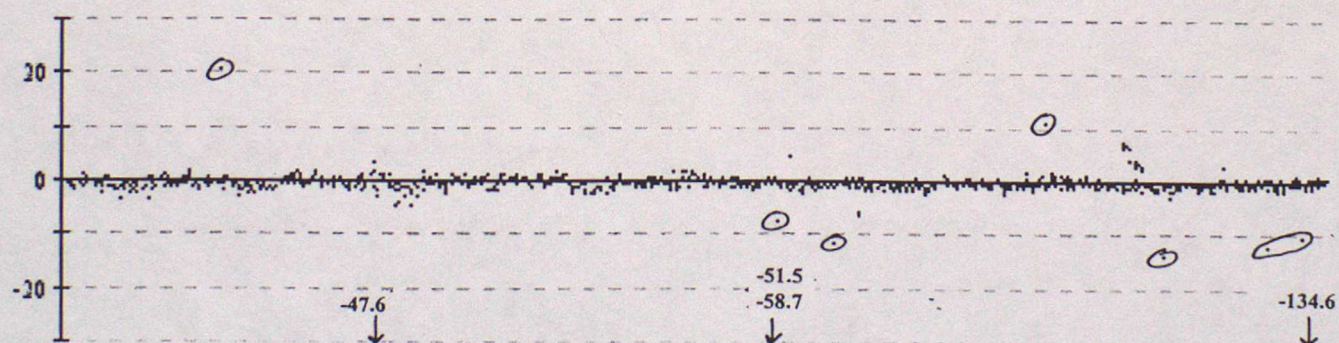
44762 Pressure



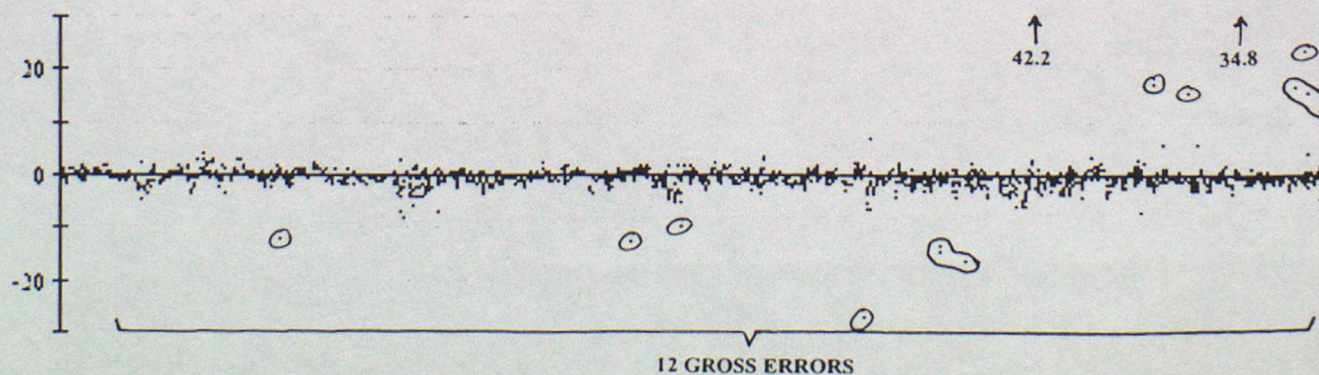
44764 Pressure



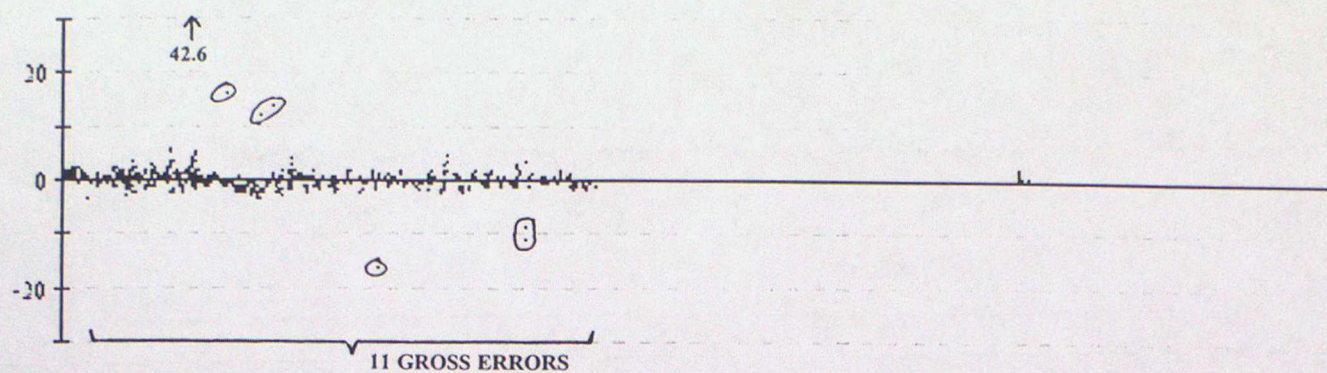
44765 Pressure



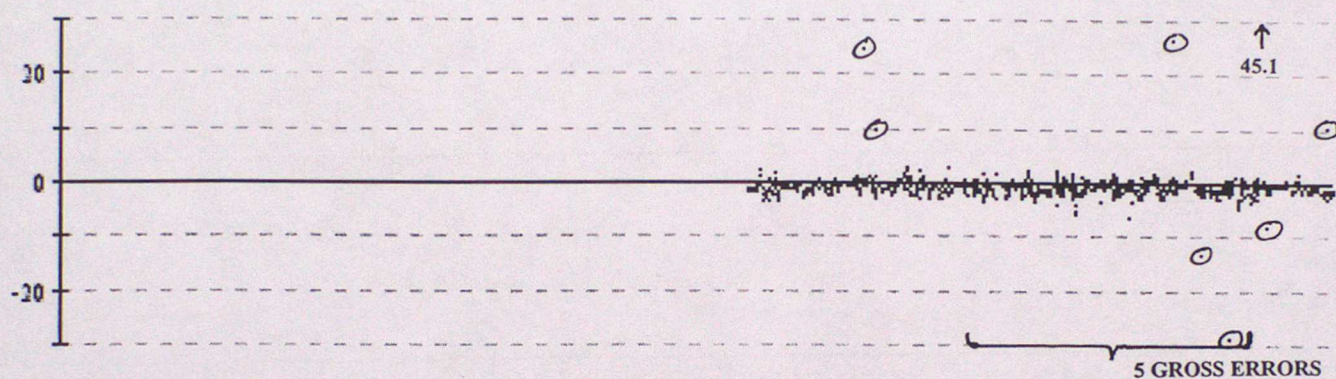
44766 Pressure



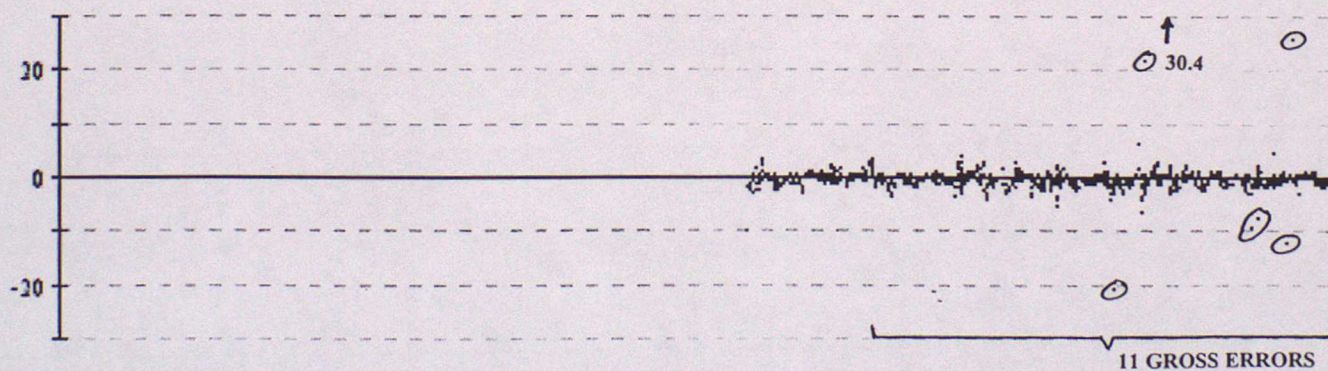
44768 Pressure



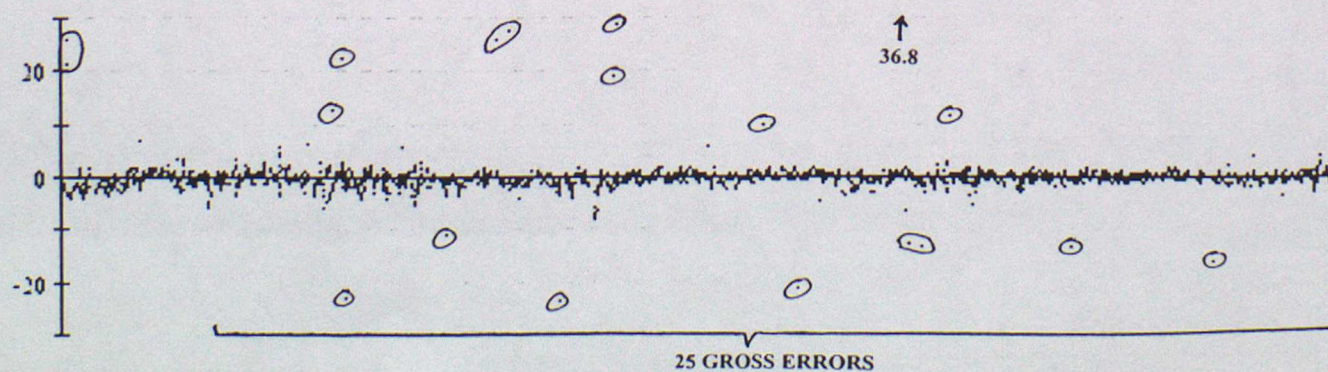
44773 Pressure



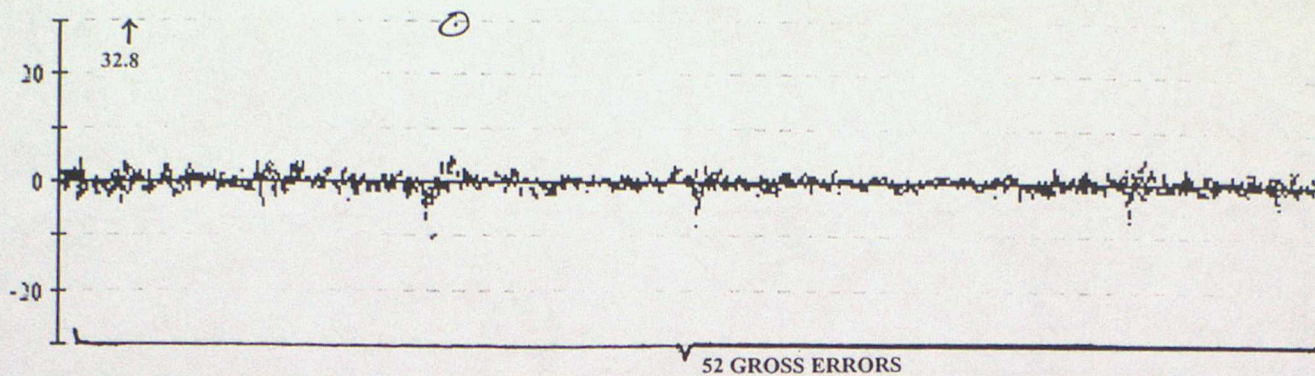
44777 Pressure



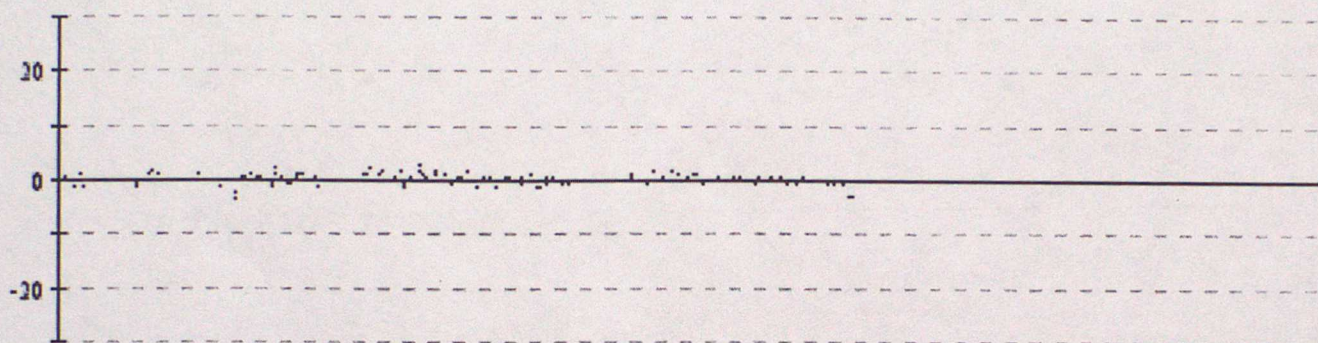
44778 Pressure



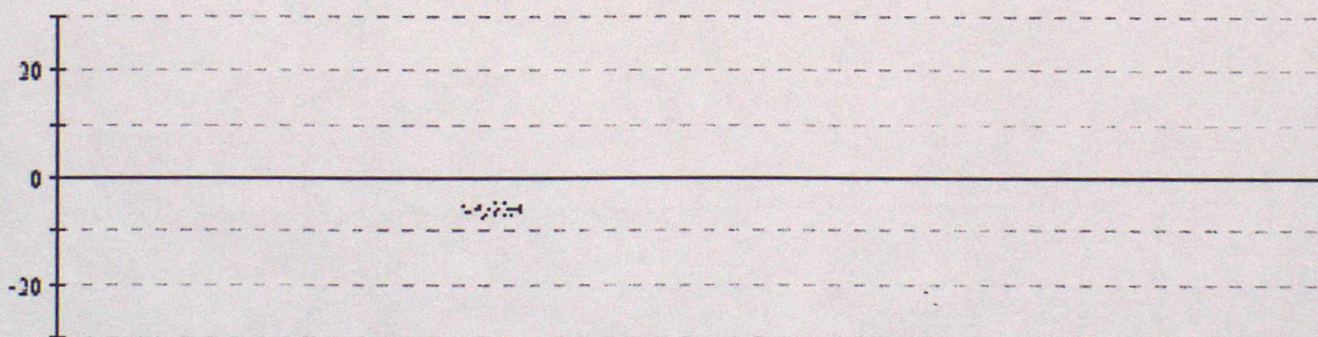
44780 Pressure



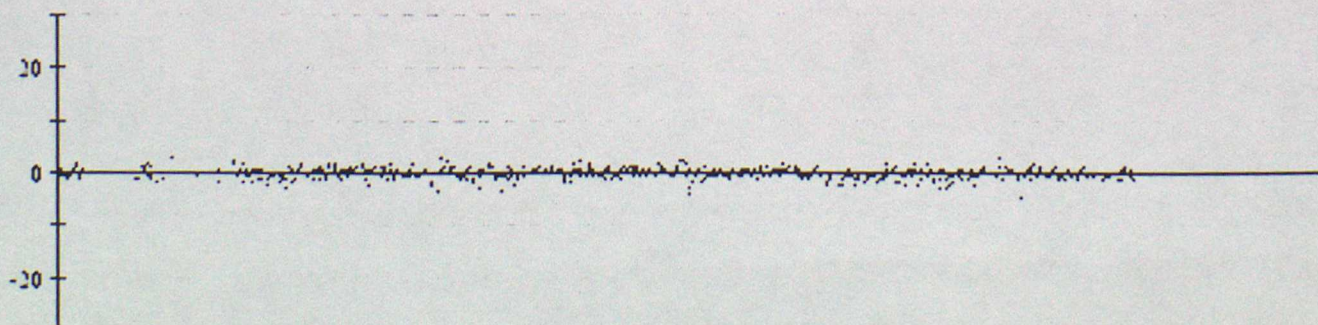
44901 Pressure



46510 Pressure

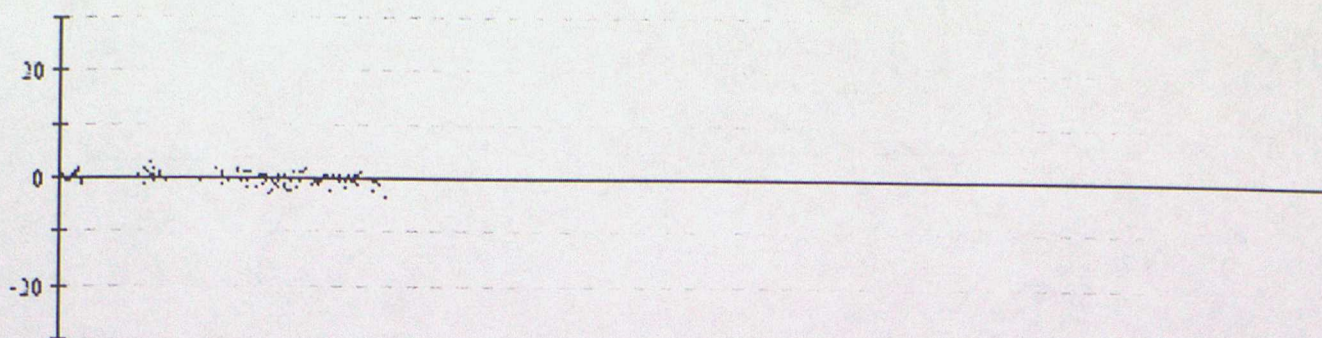


61525 Pressure

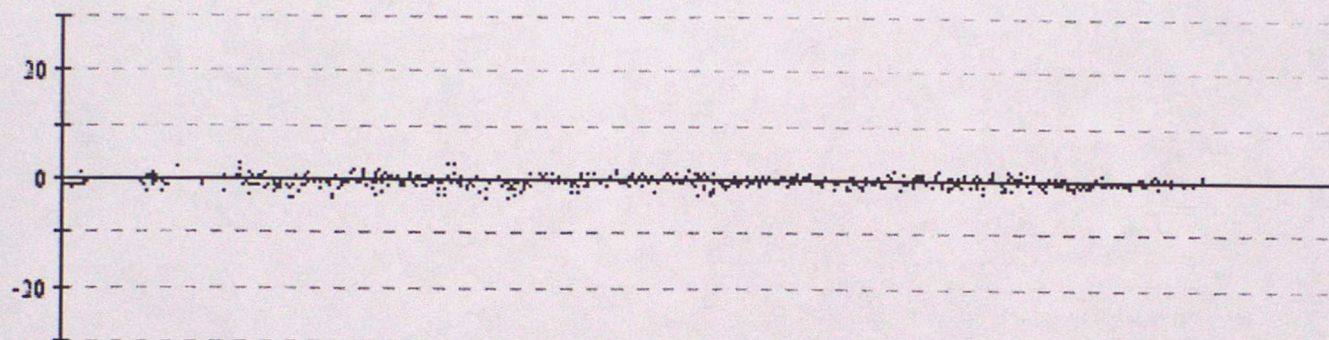


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

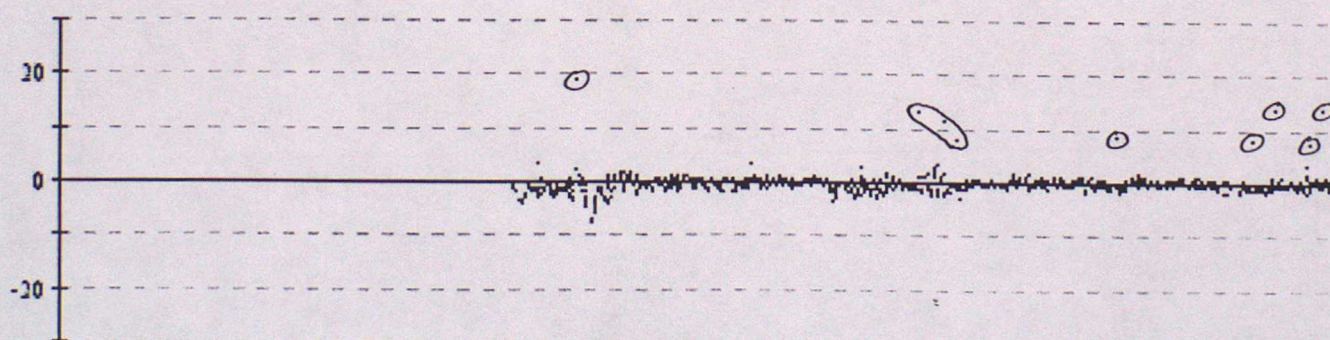
61526 Pressure



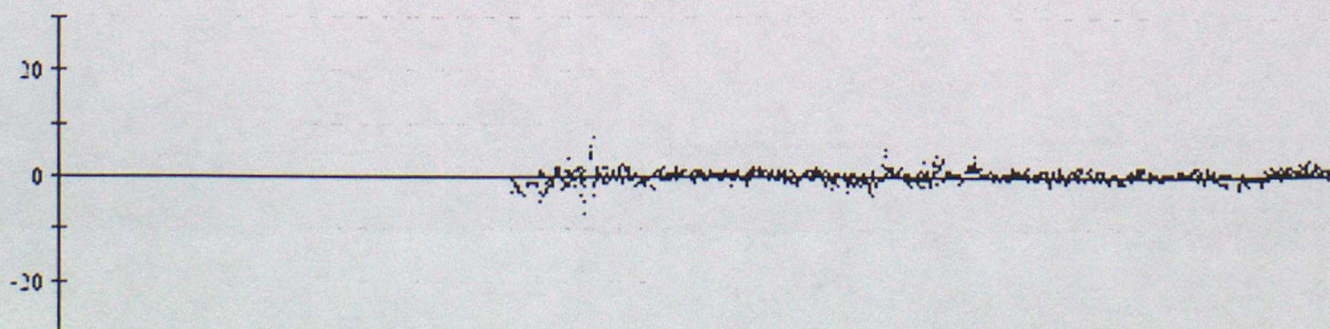
61527 Pressure



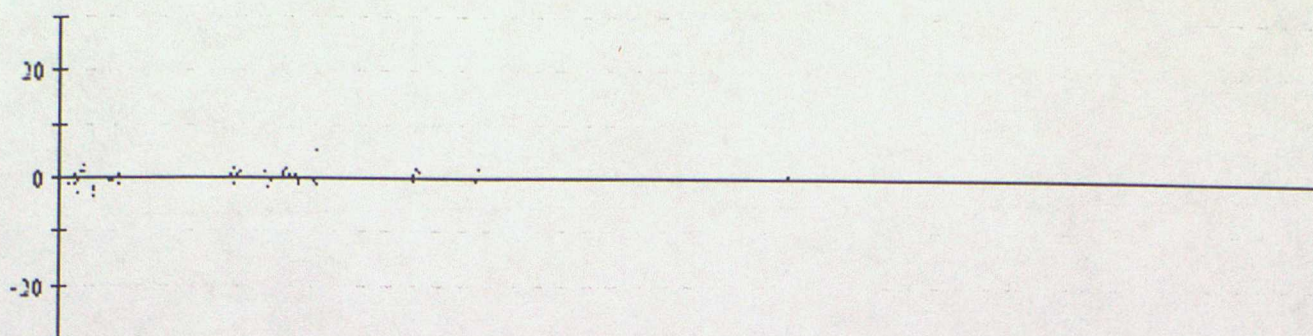
62505 Pressure



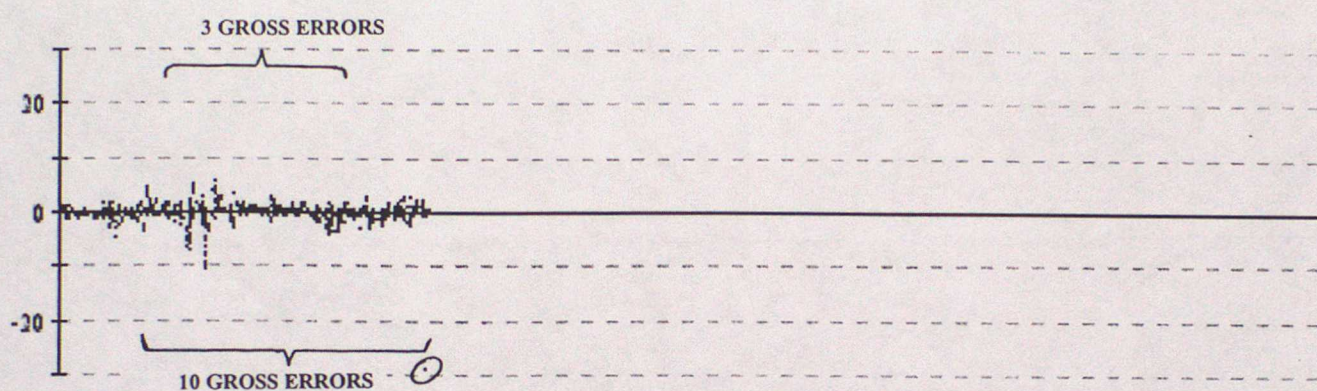
62506 Pressure



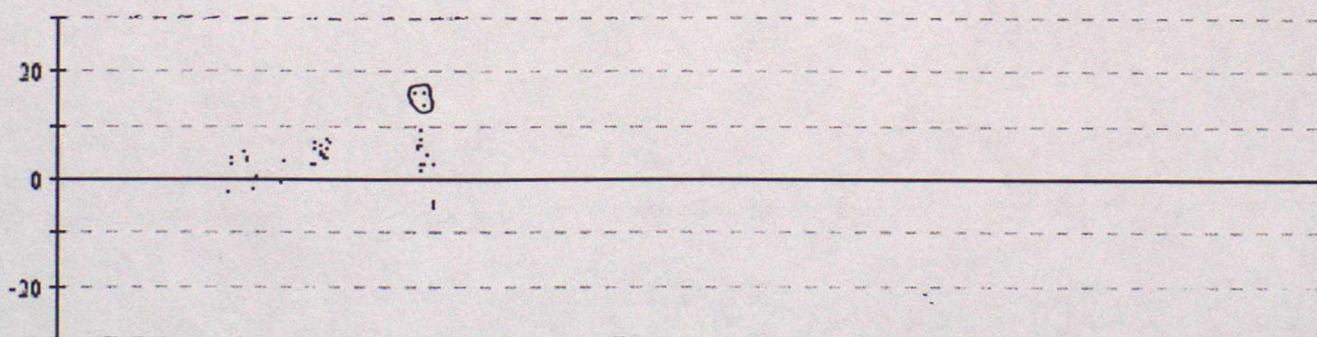
62512 Pressure



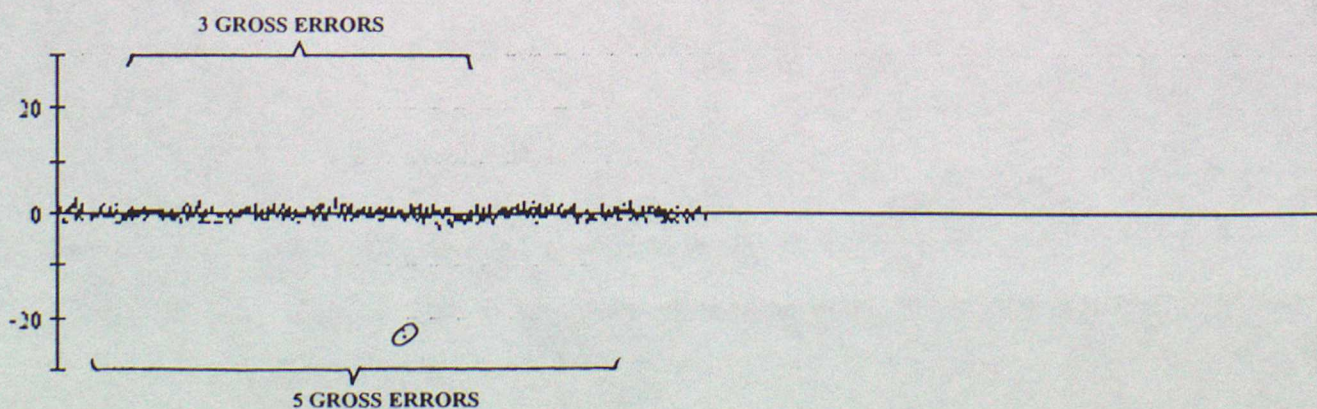
62515 Pressure



62517 Pressure

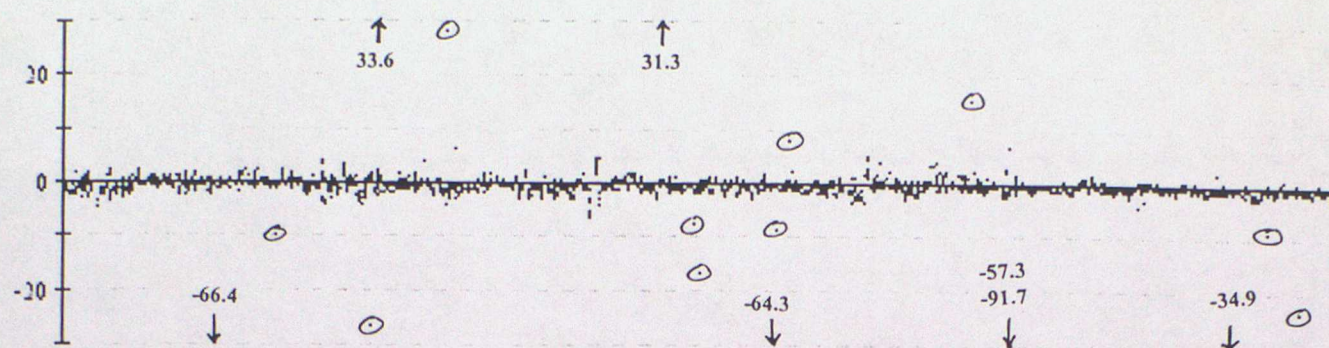


62519 Pressure

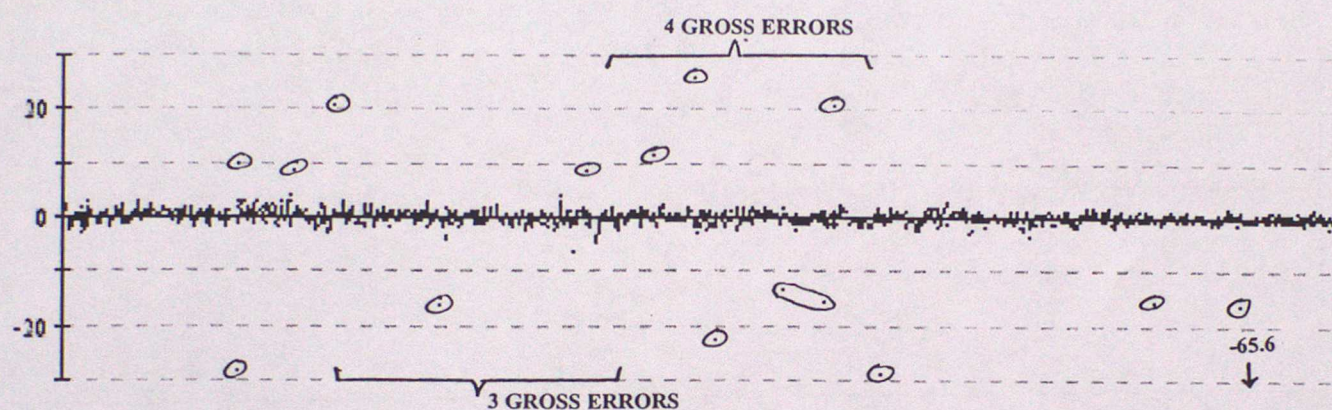


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

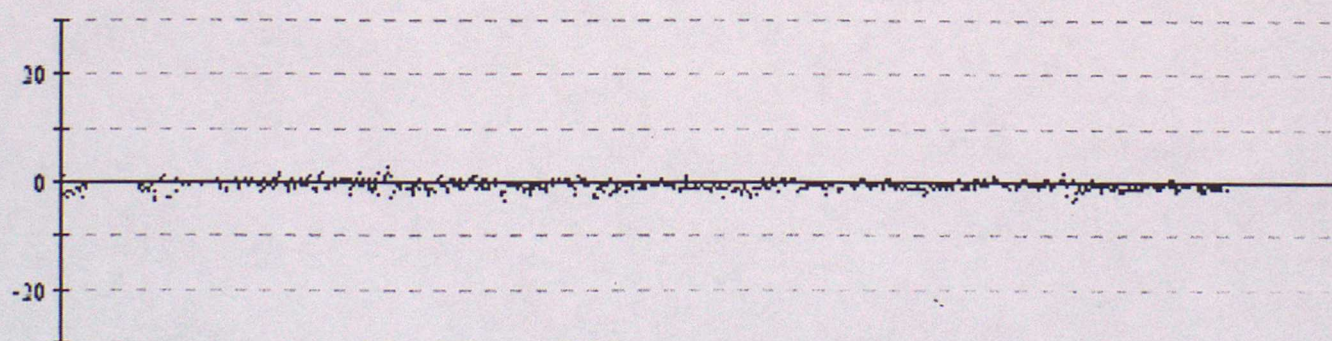
62520 Pressure



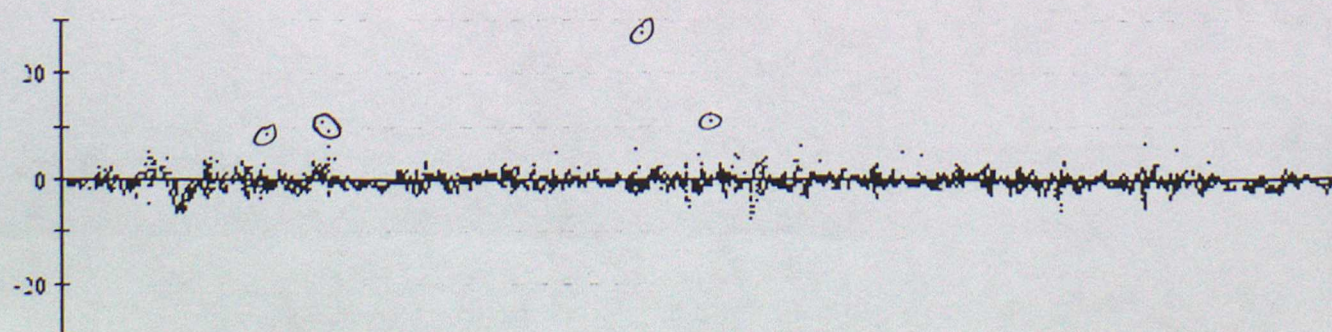
62554 Pressure



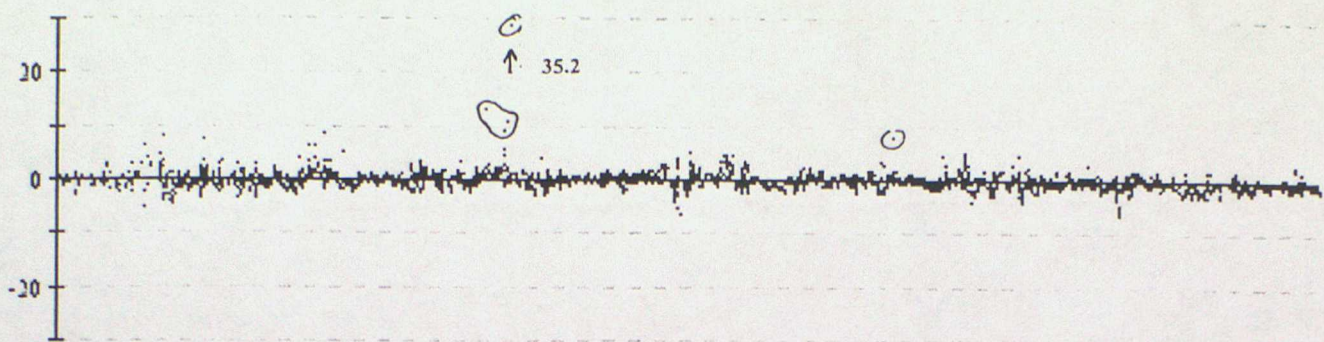
62675 Pressure



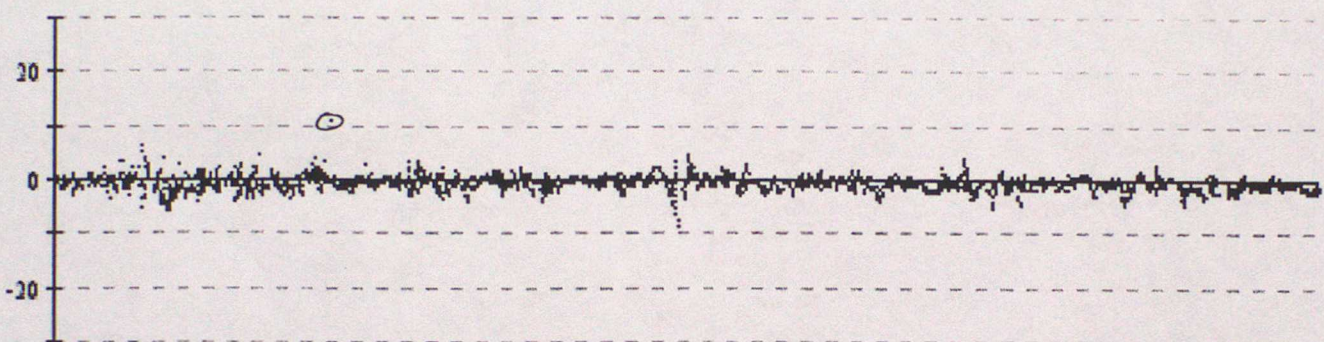
64516 Pressure



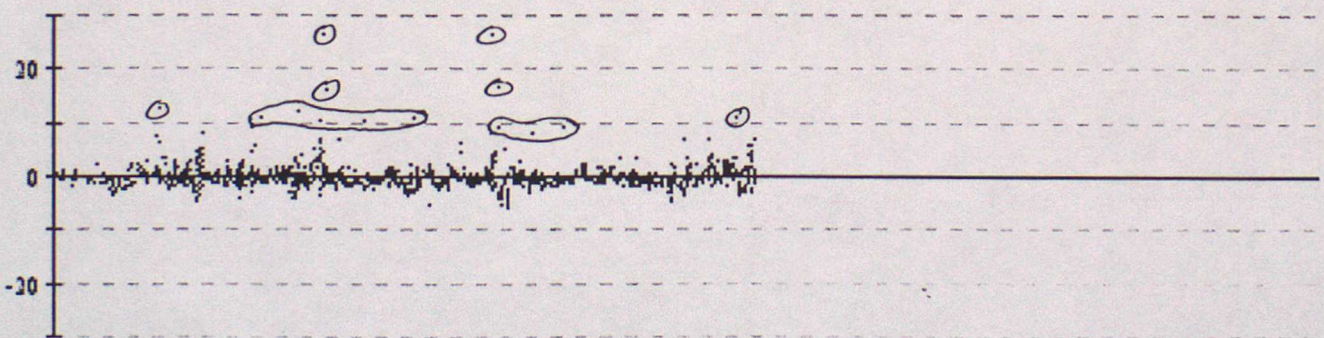
64517 Pressure



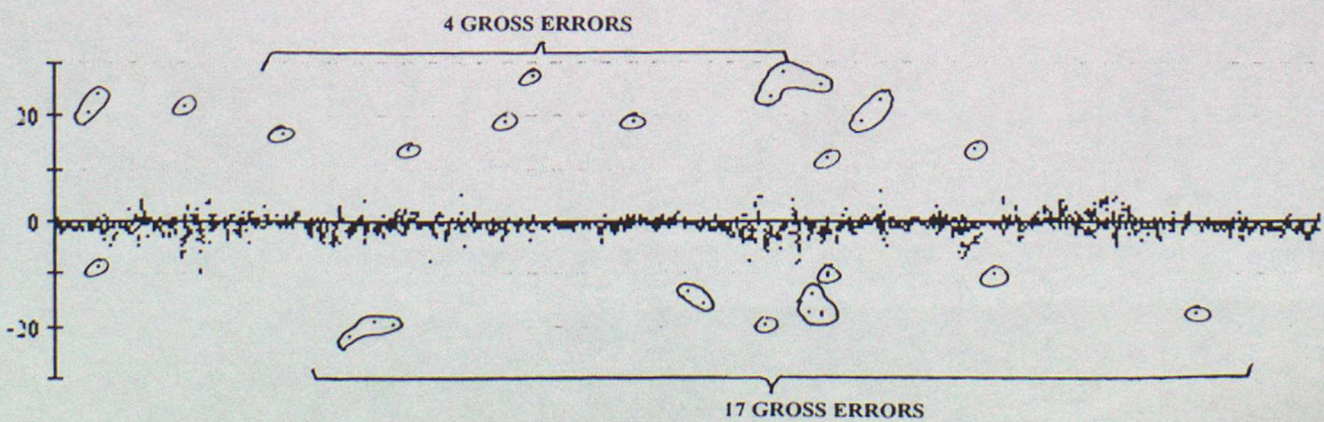
64518 Pressure



64519 Pressure

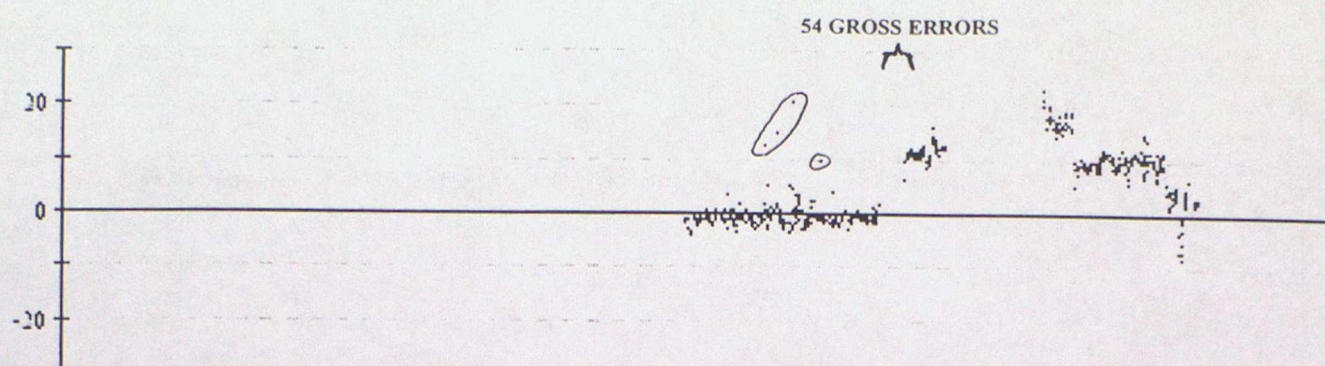


64529 Pressure

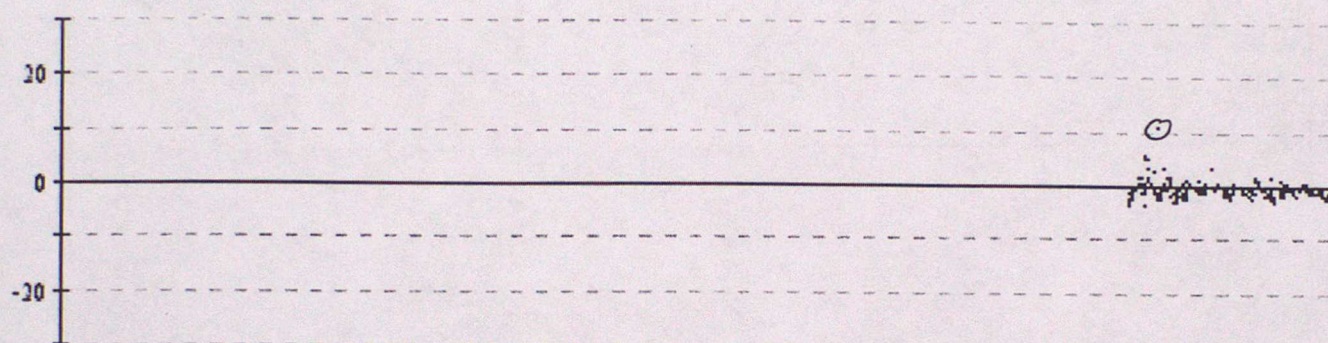


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

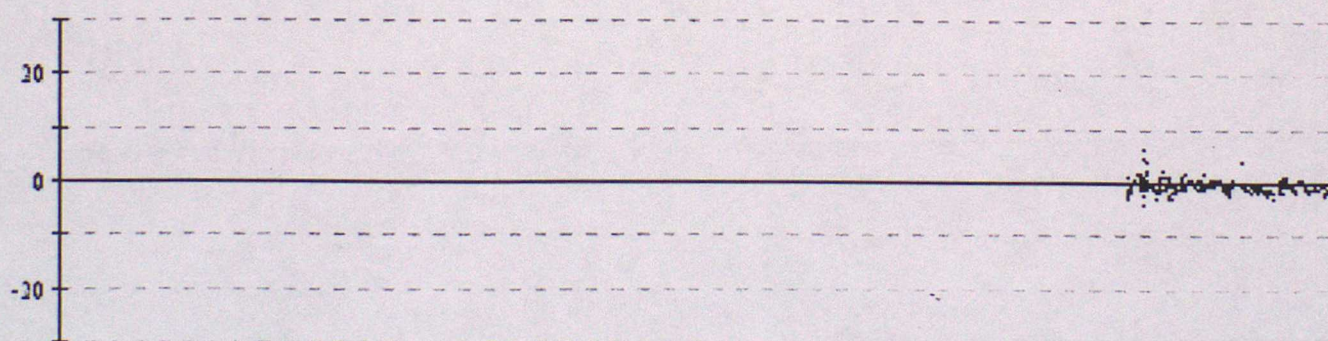
64691 Pressure



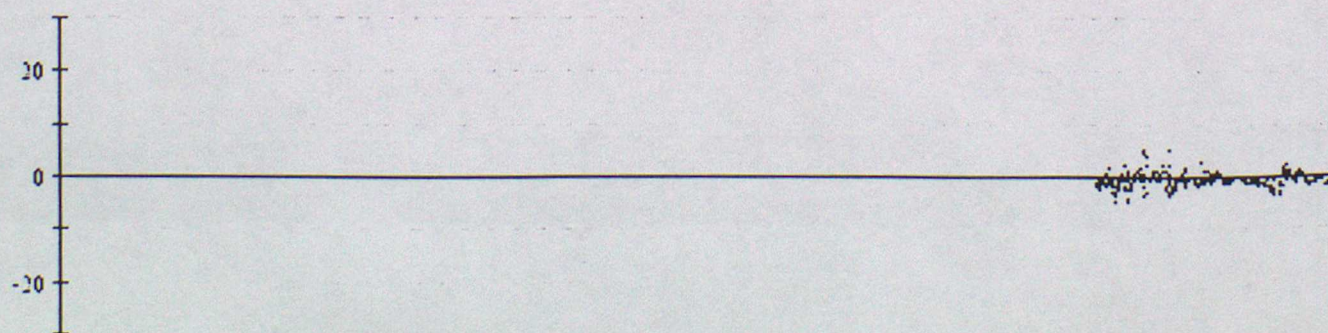
64692 Pressure



64693 Pressure

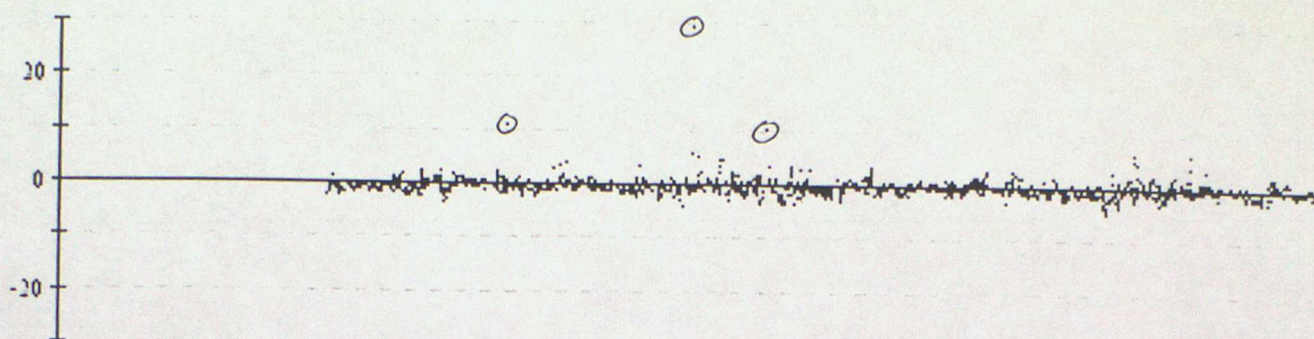


64694 Pressure

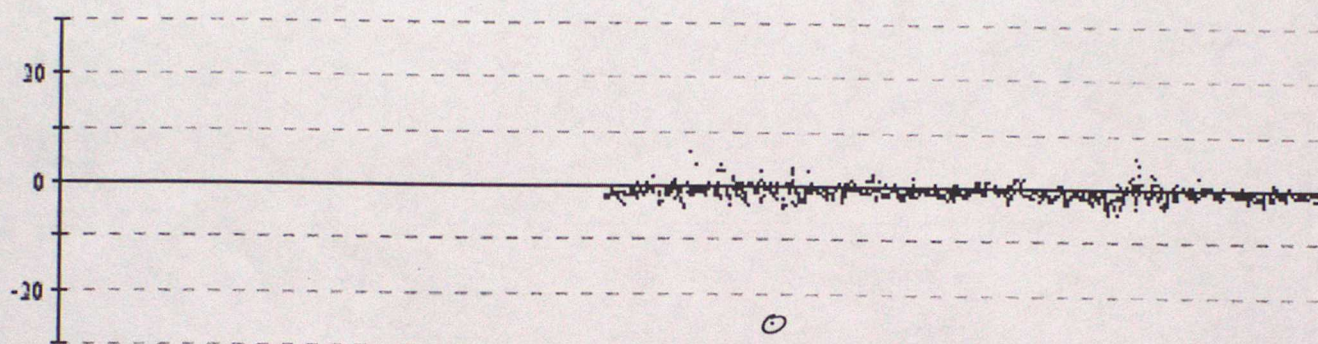


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

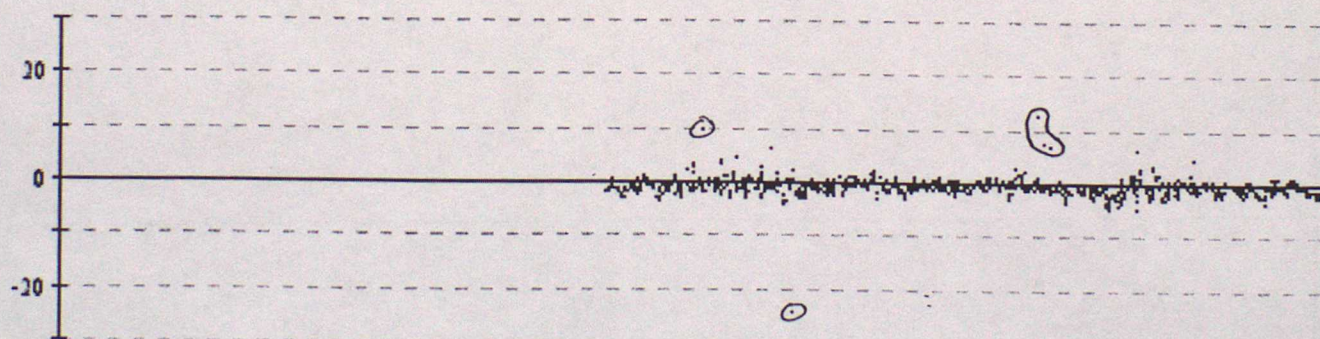
64695 Pressure



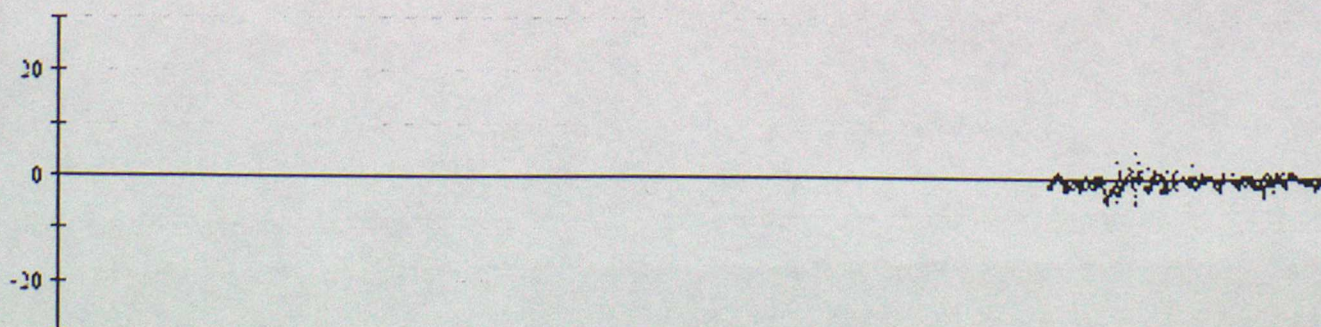
64696 Pressure



64697 Pressure

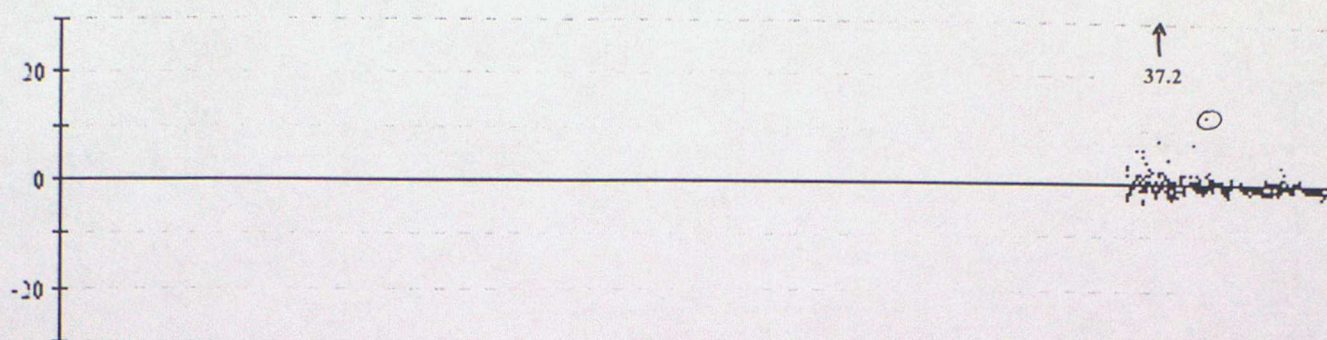


64698 Pressure

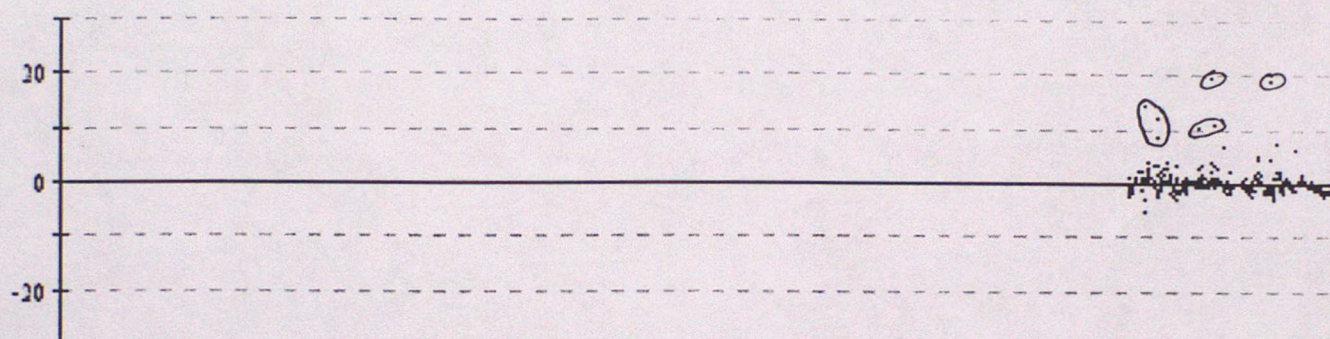


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

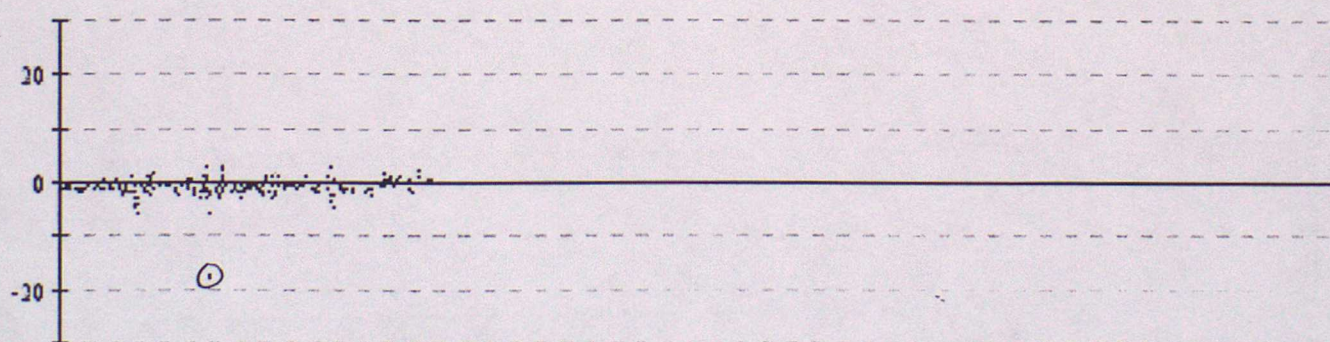
64699 Pressure



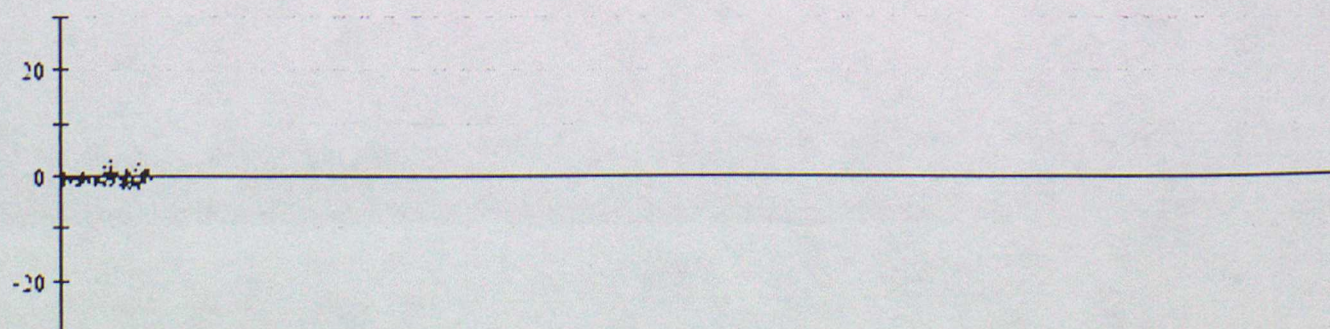
64700 Pressure



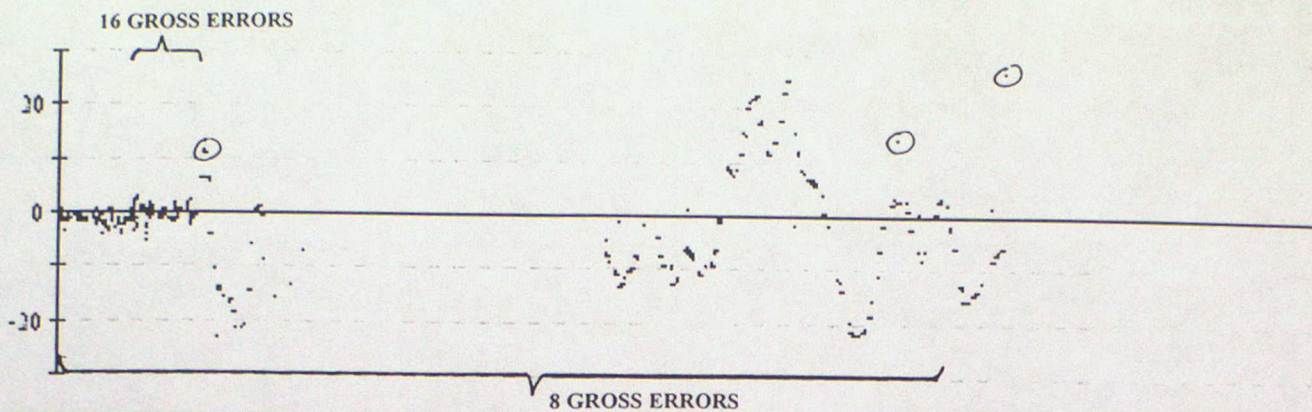
65581 Pressure



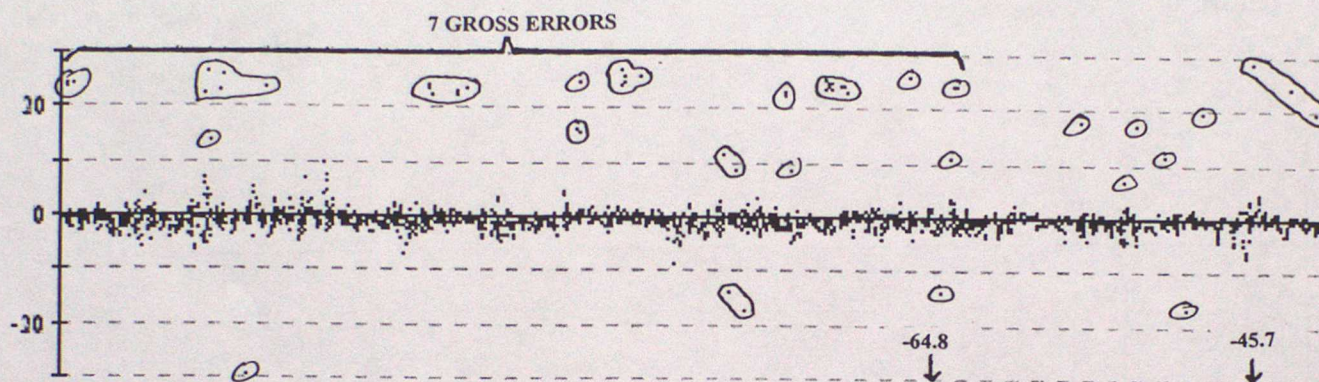
65591 Pressure



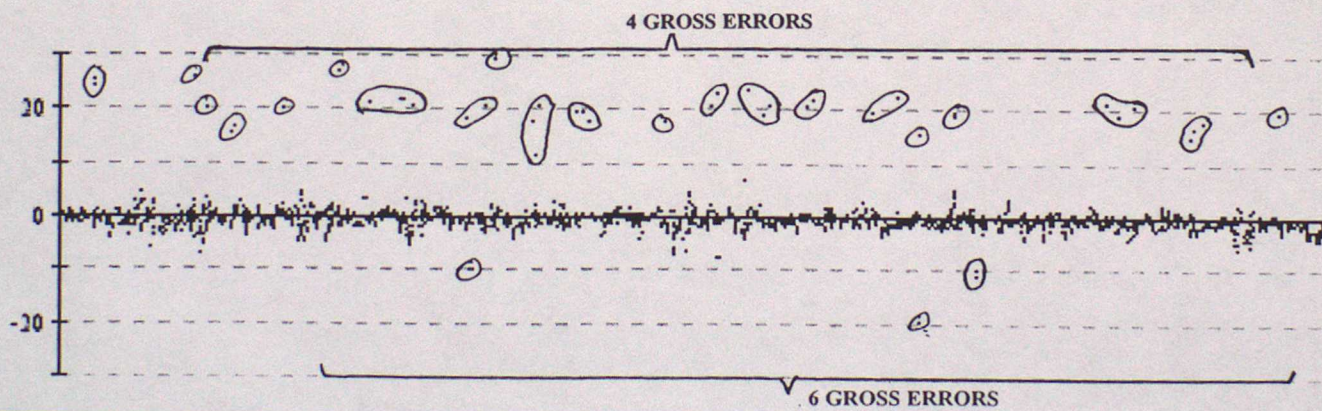
65592 Pressure



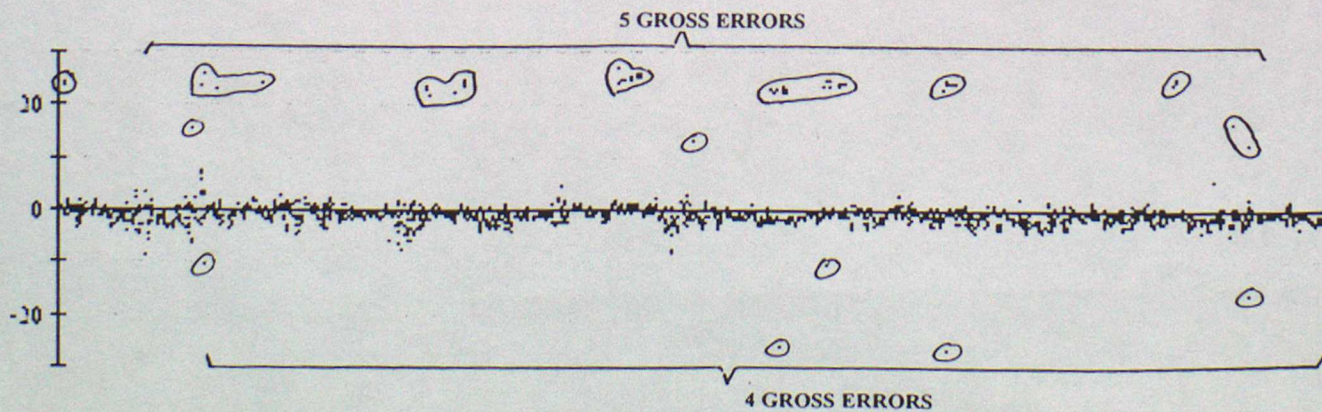
65593 Pressure



65594 Pressure

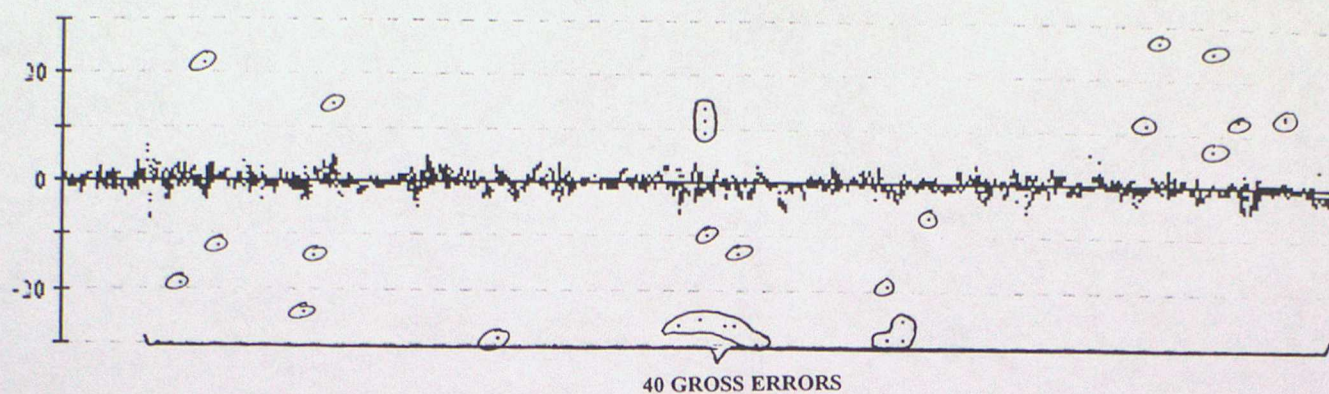


65595 Pressure



Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

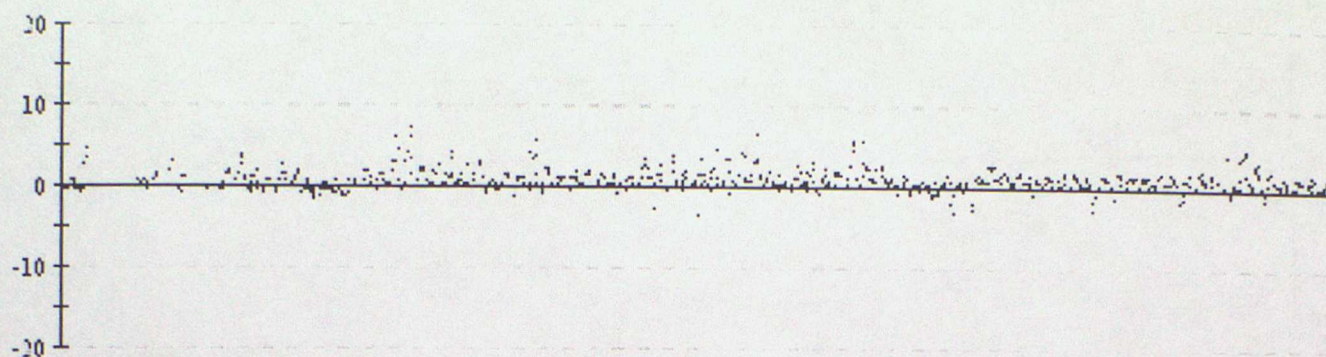
65599 Pressure



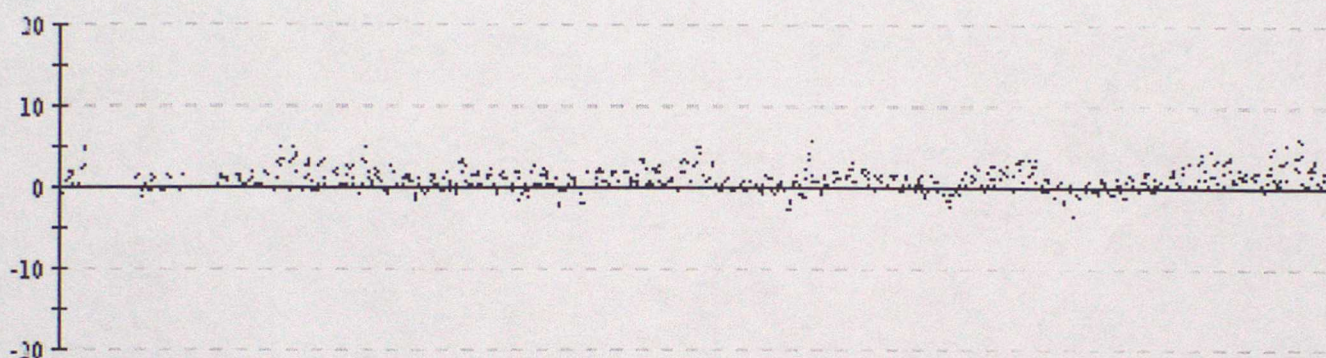
ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

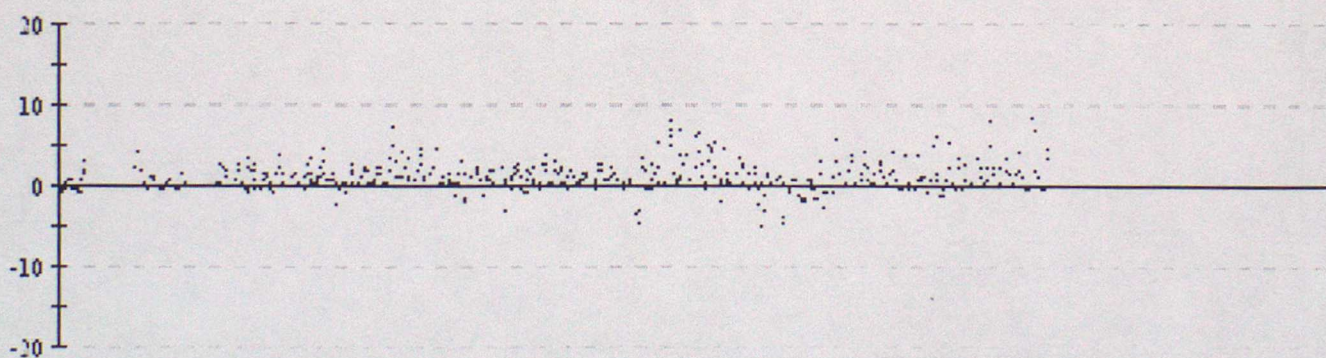
41504 Air Temperature



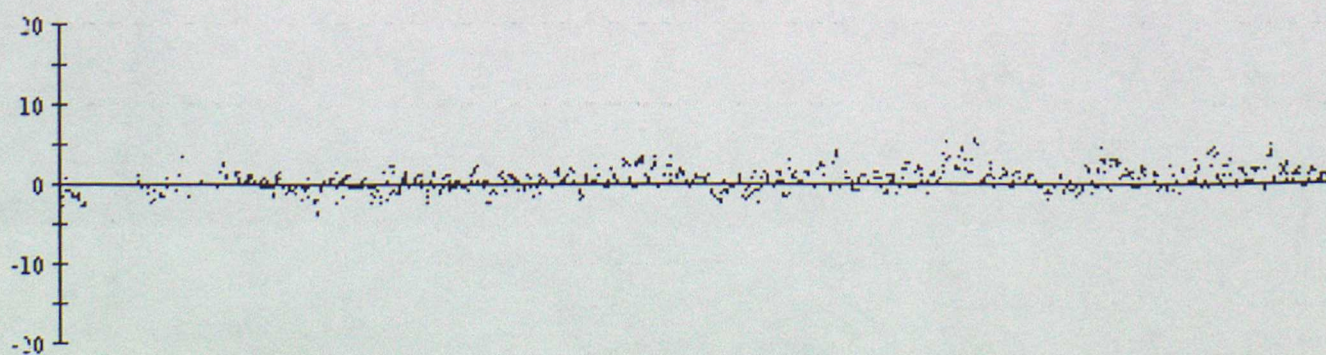
41521 Air Temperature



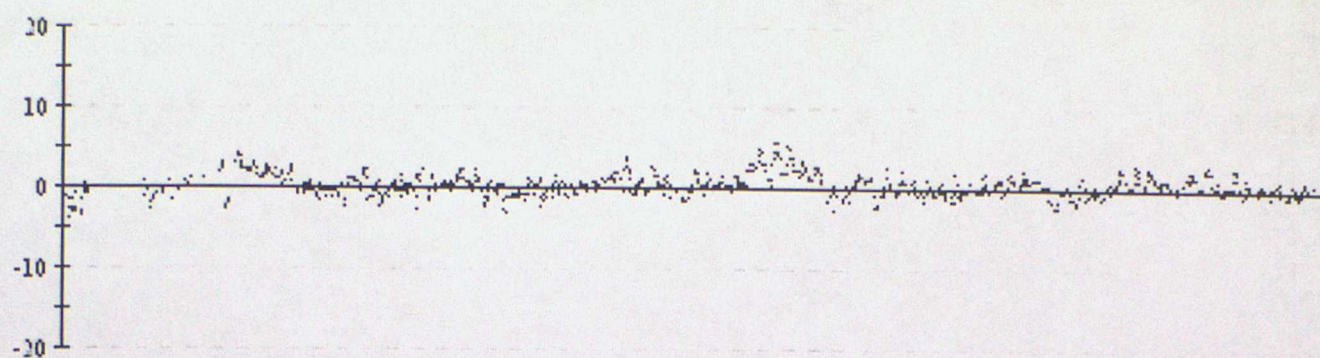
41629 Air Temperature



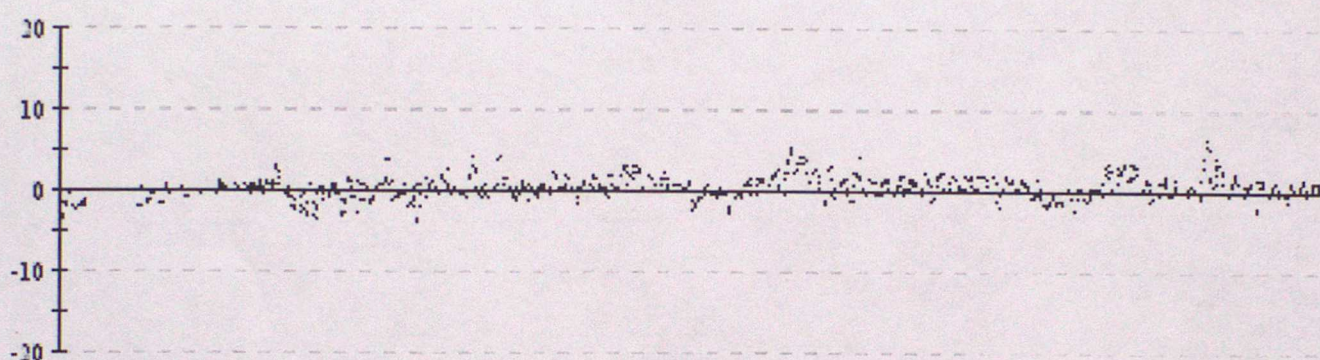
44513 Air Temperature



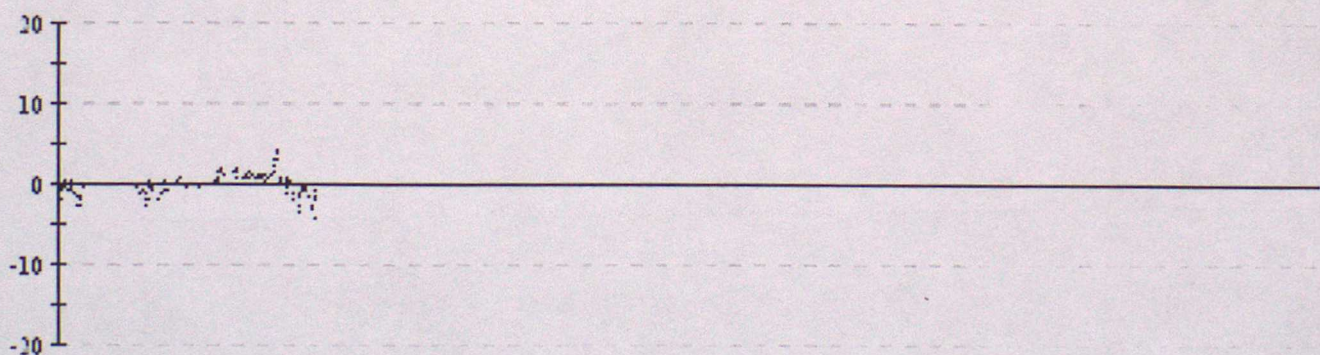
44514 Air Temperature



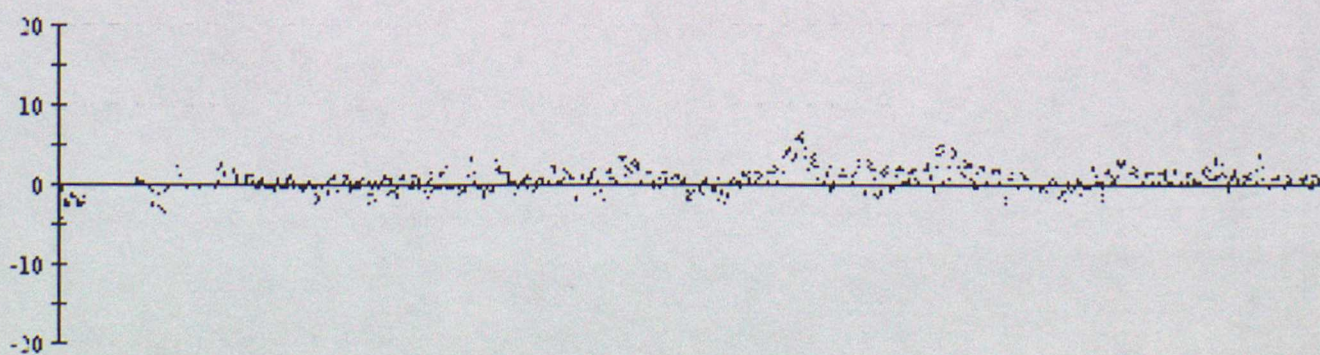
44515 Air Temperature



44516 Air Temperature

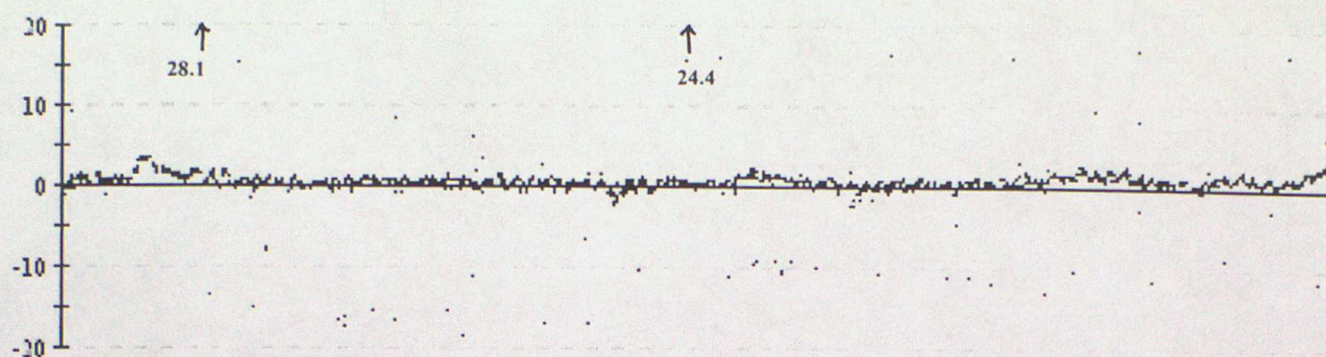


44517 Air Temperature

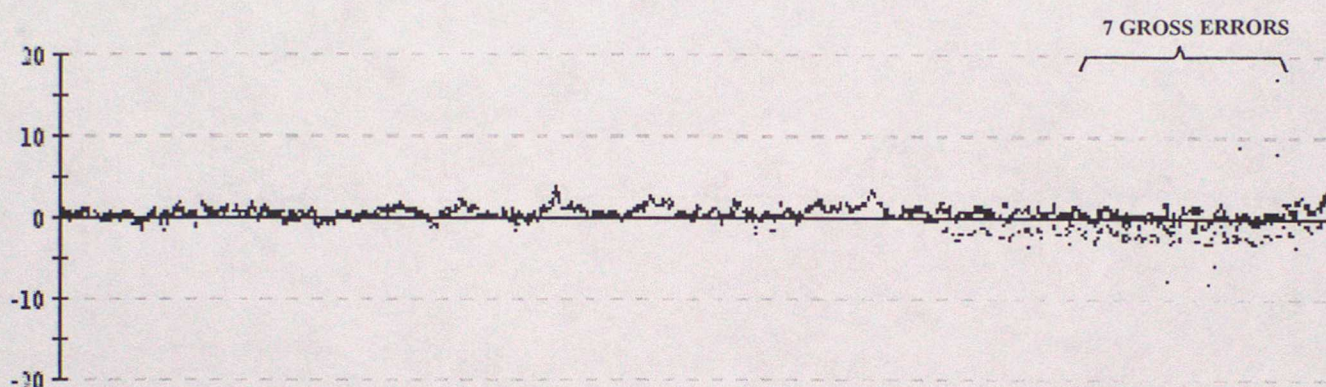


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

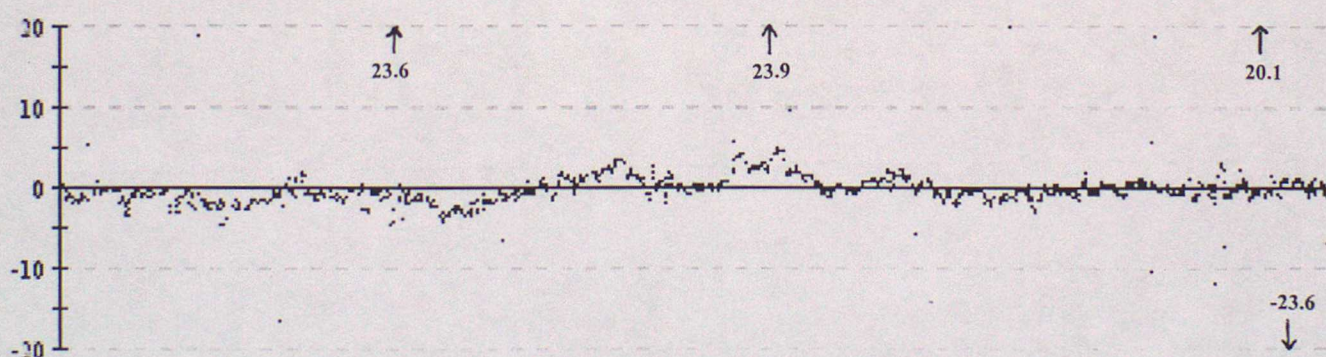
44613 Air Temperature



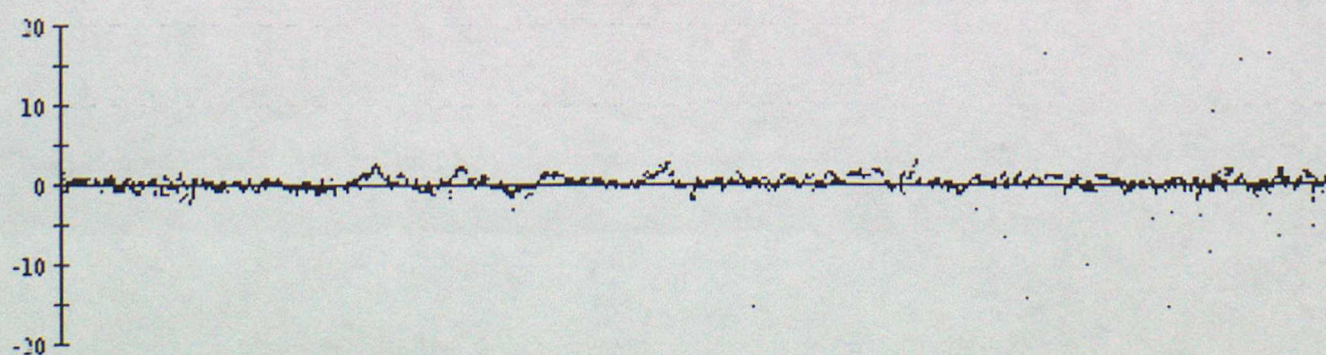
44616 Air Temperature



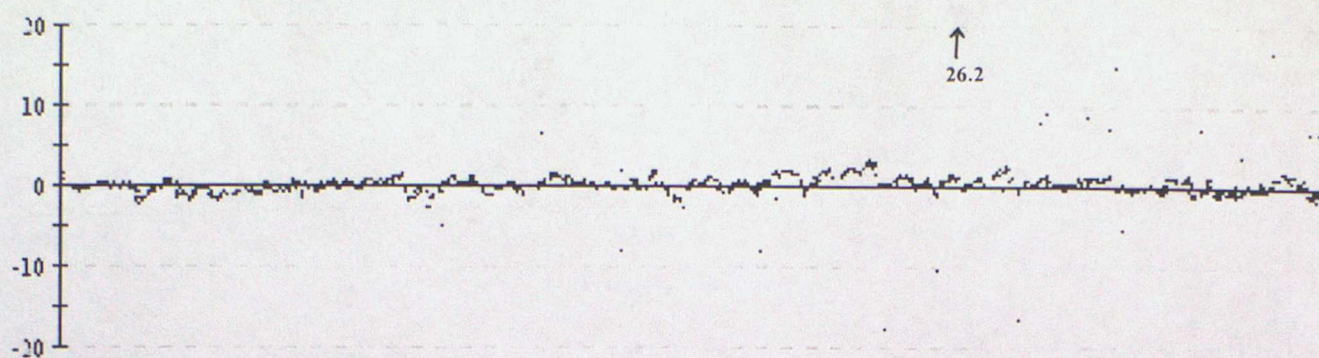
44621 Air Temperature



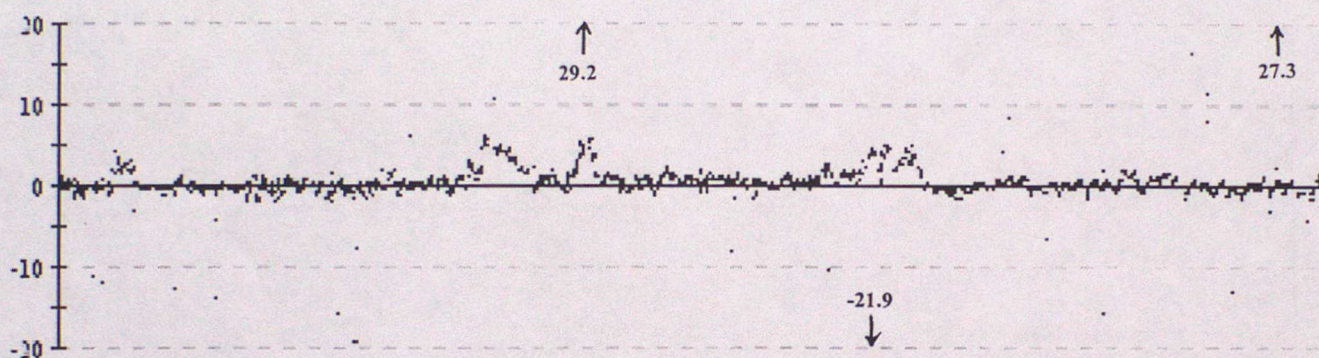
44624 Air Temperature



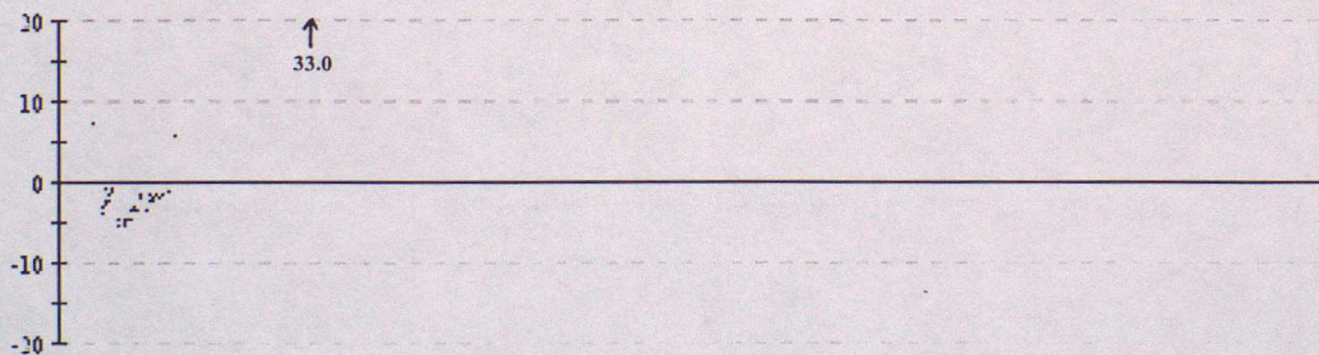
44728 Air Temperature



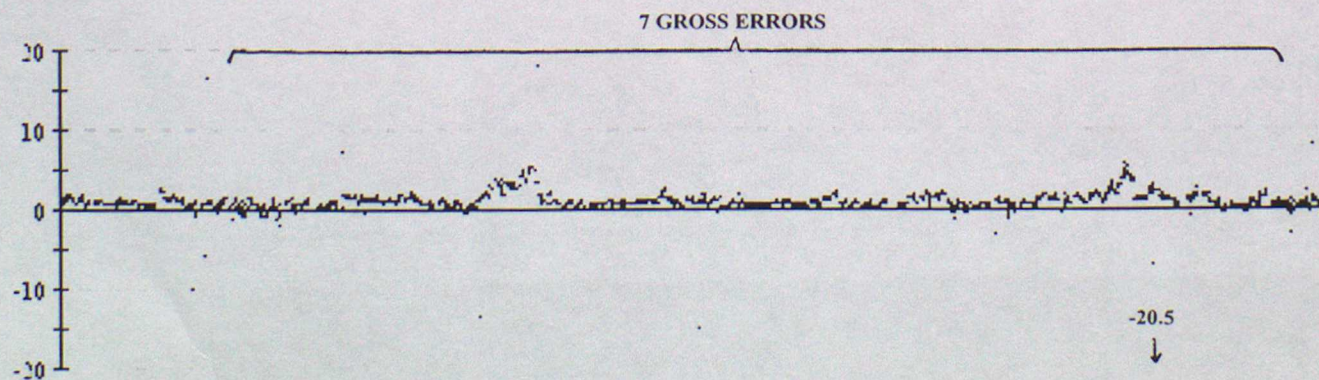
44742 Air Temperature



44760 Air Temperature

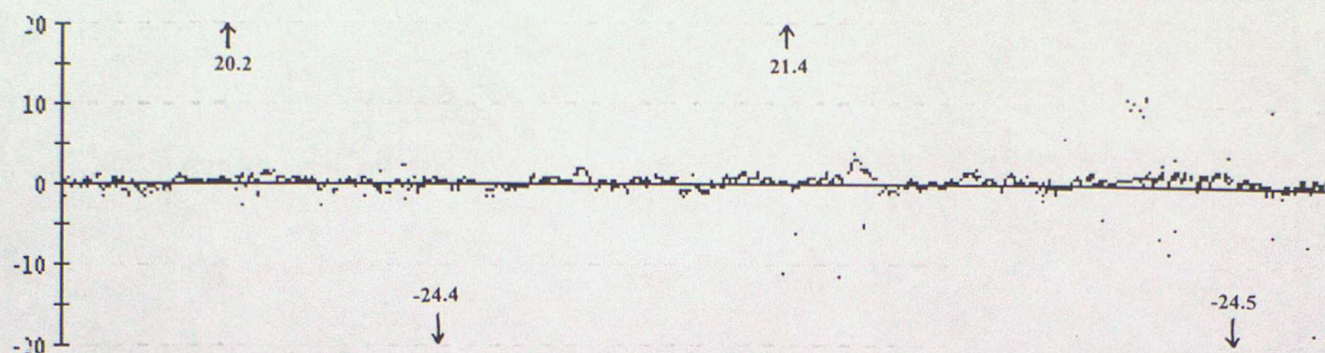


44764 Air Temperature

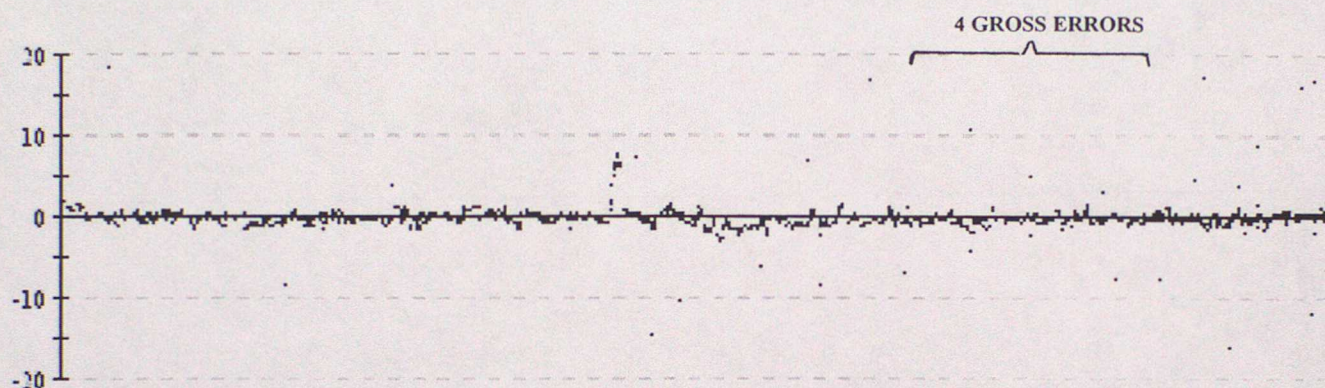


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

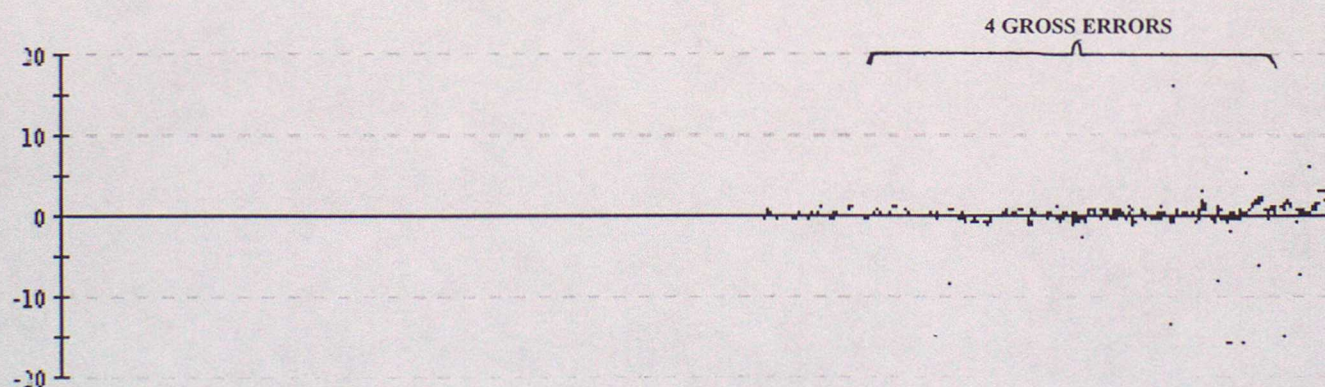
44765 Air Temperature



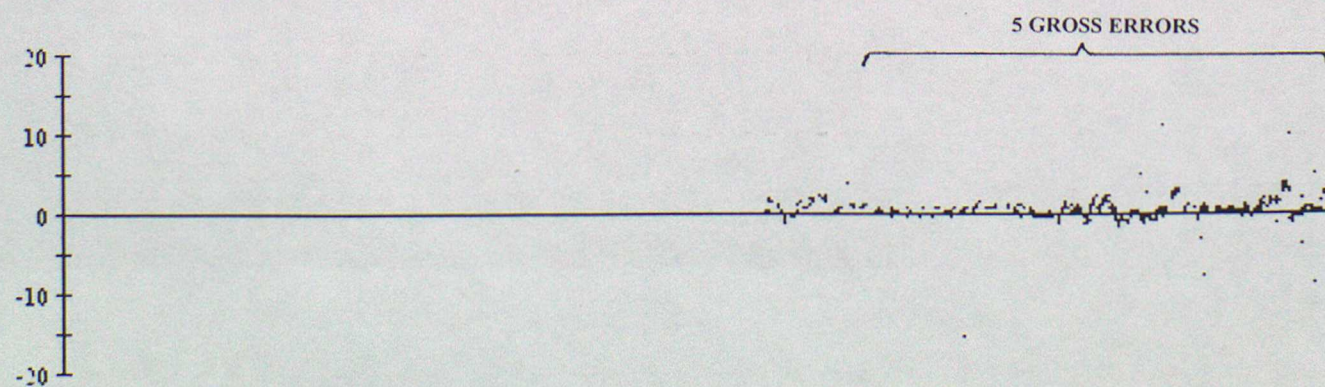
44766 Air Temperature



44773 Air Temperature

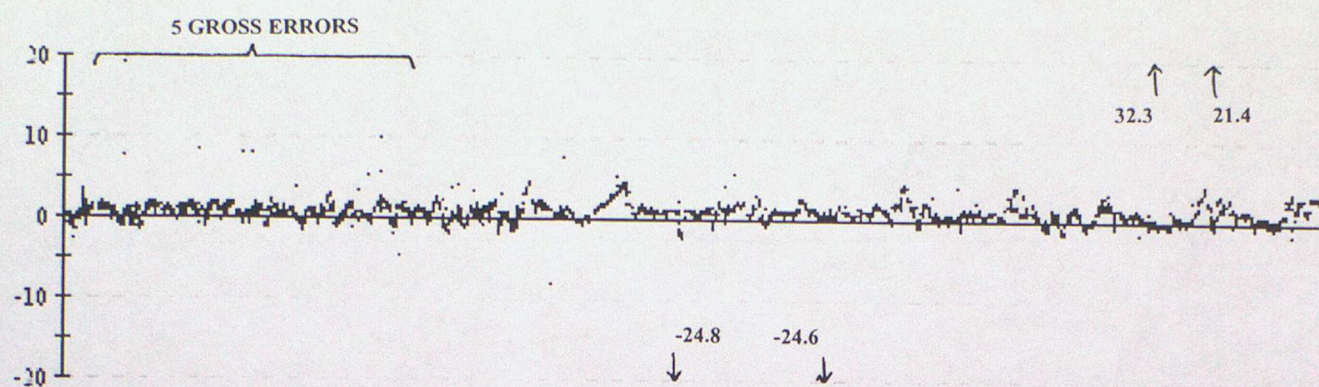


44777 Air Temperature

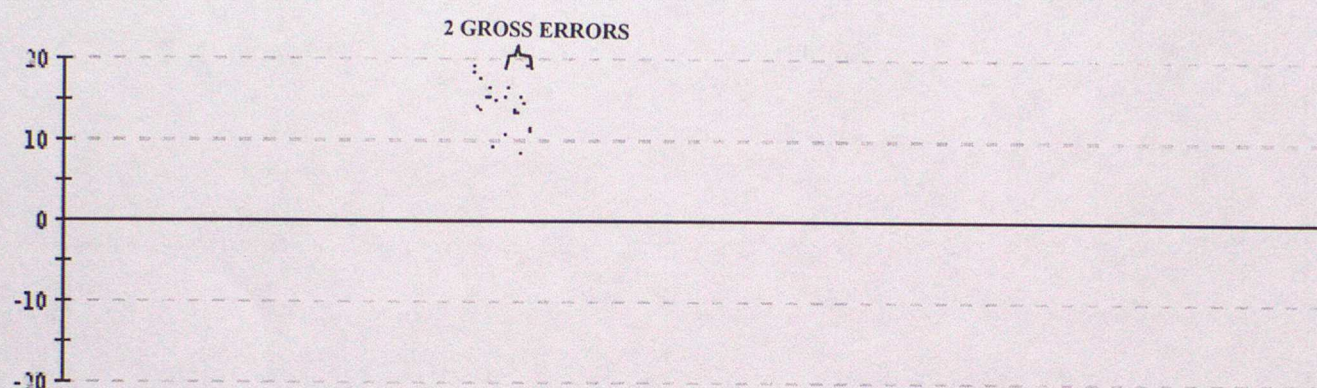


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

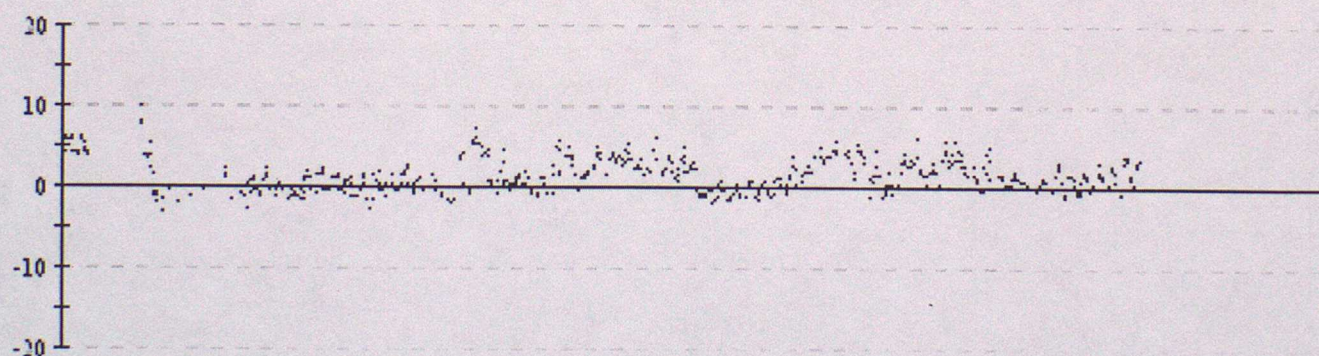
44780 Air Temperature



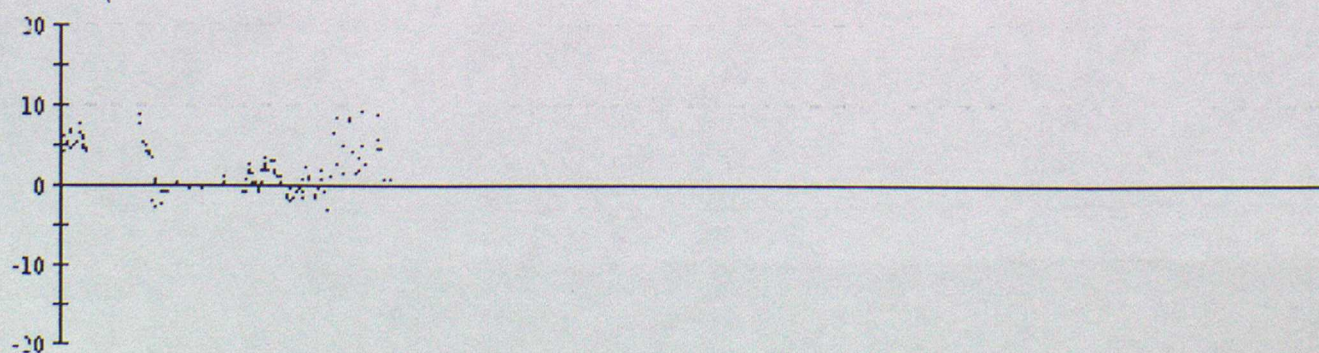
46510 Air Temperature



61525 Air Temperature

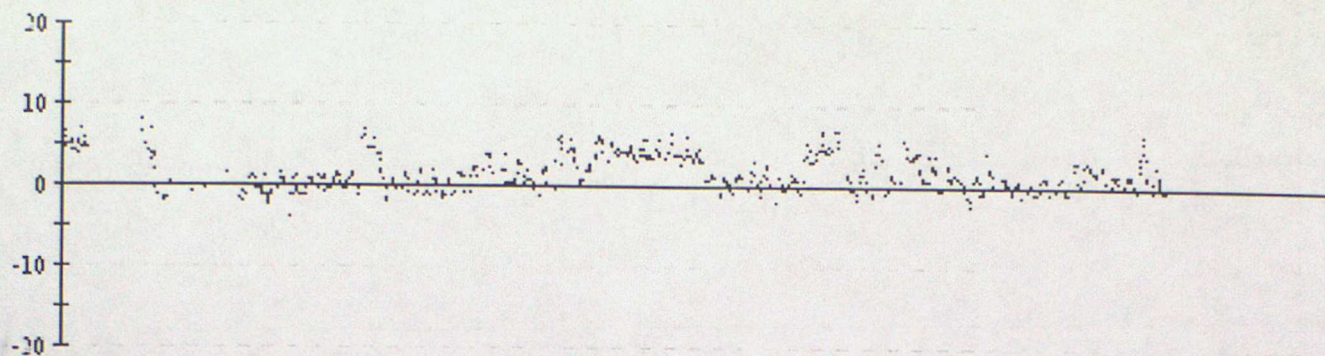


61526 Air Temperature

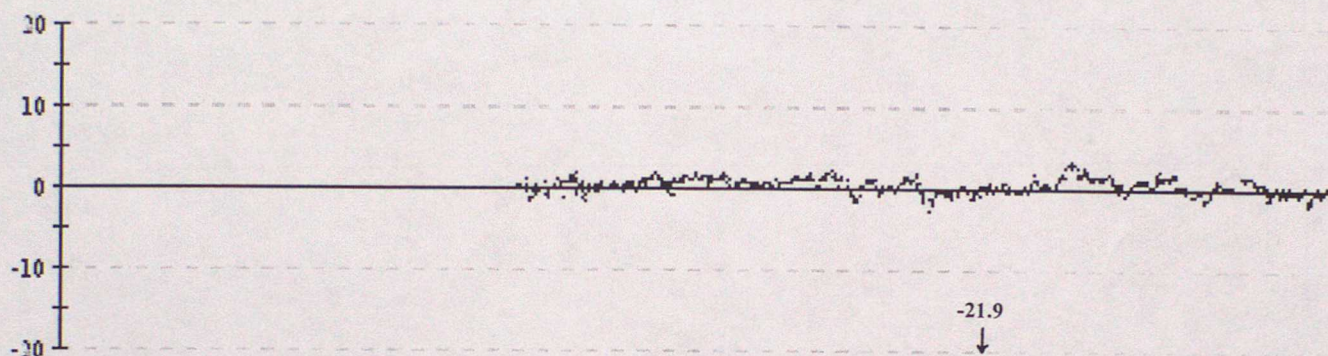


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

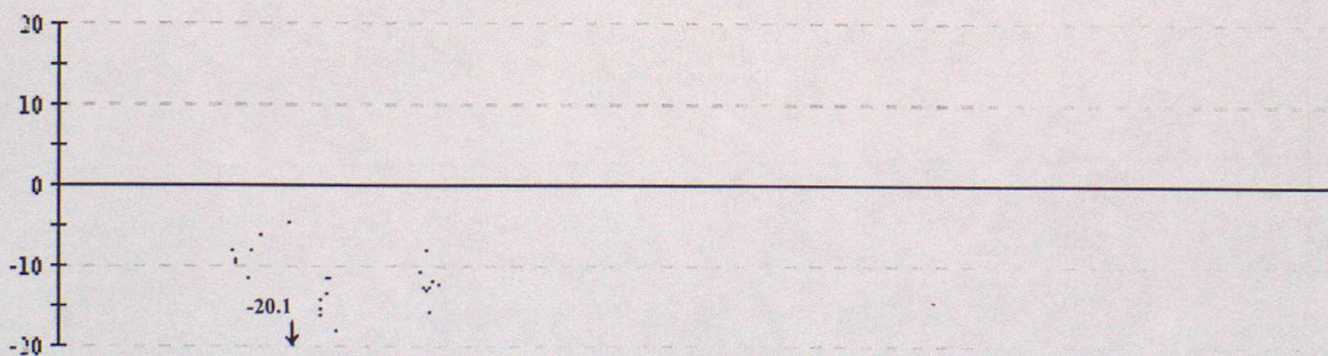
61527 Air Temperature



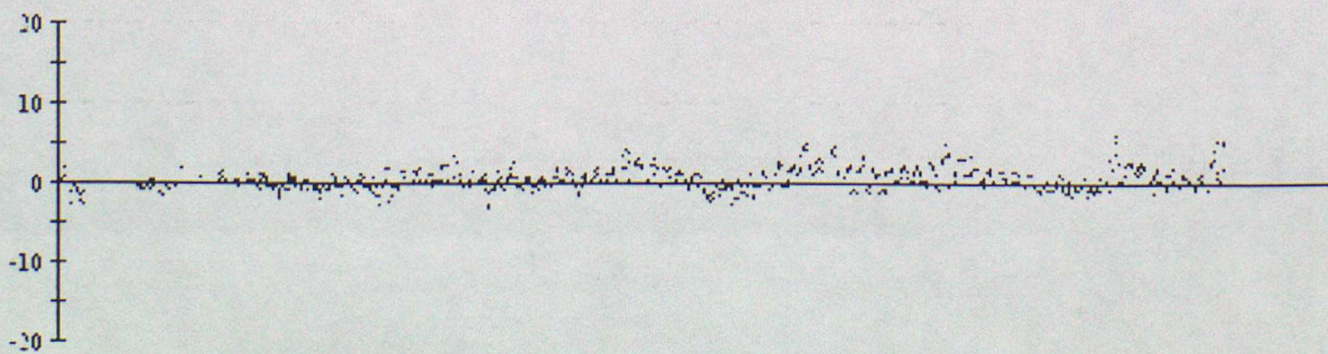
62505 Air Temperature



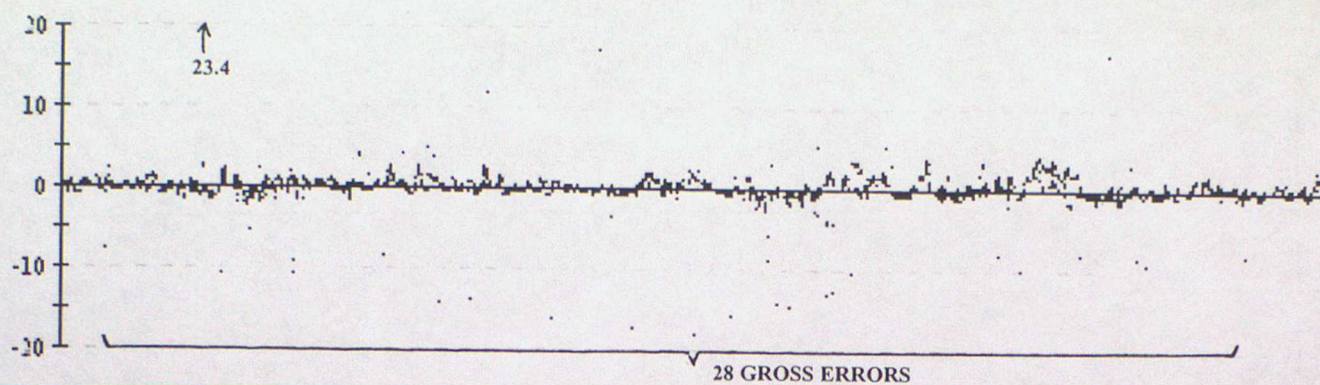
62517 Air Temperature



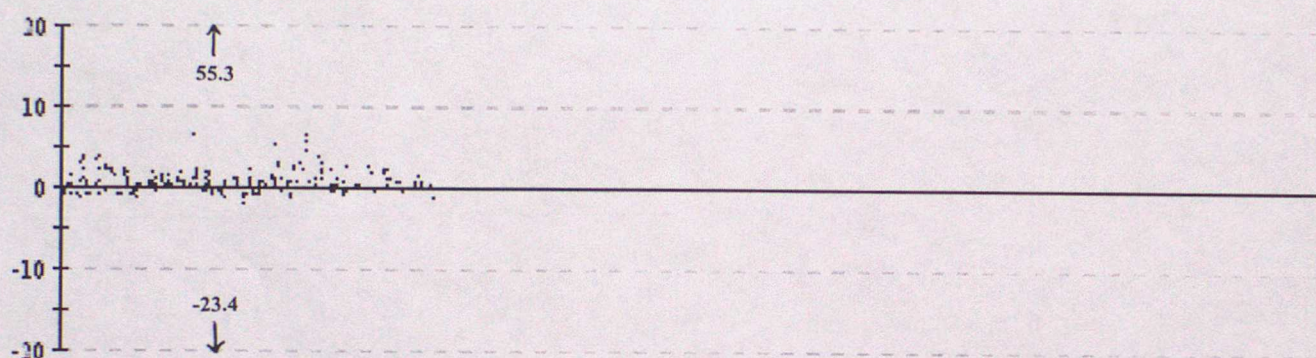
62675 Air Temperature



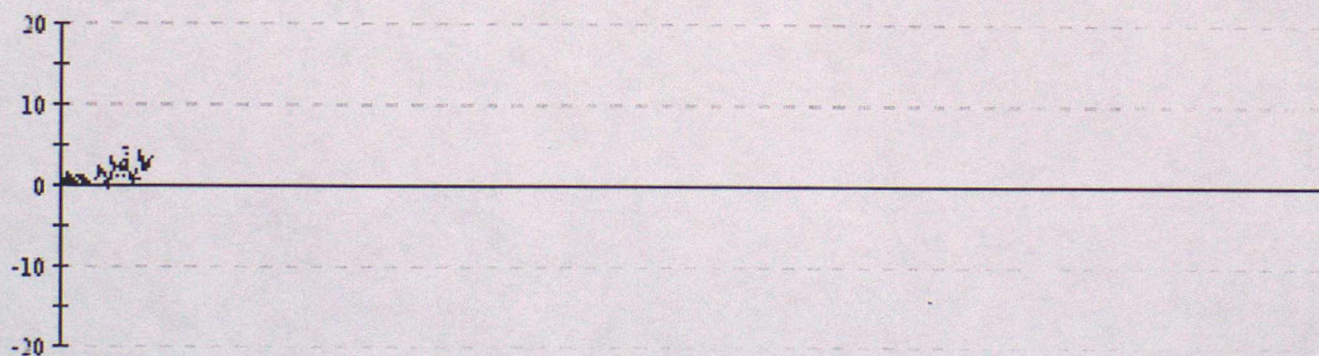
64529 Air Temperature



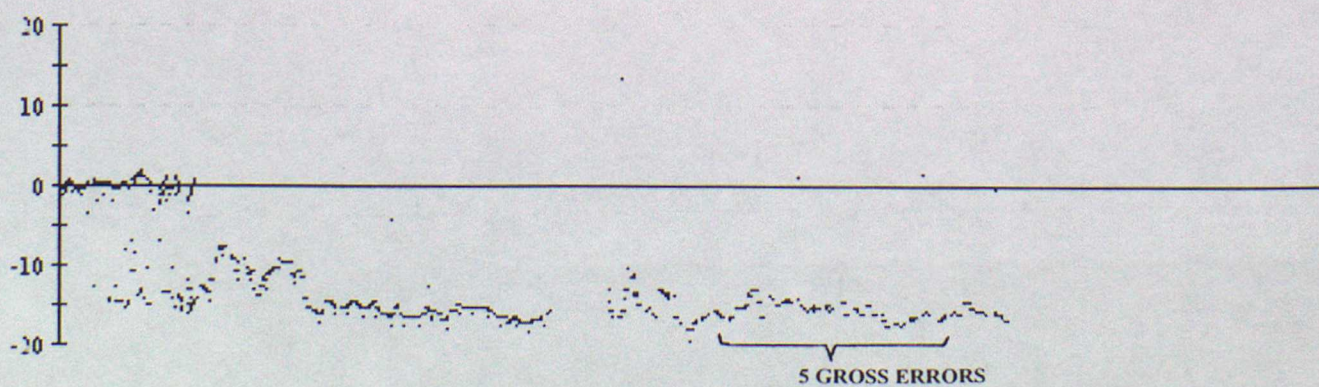
65581 Air Temperature



65591 Air Temperature

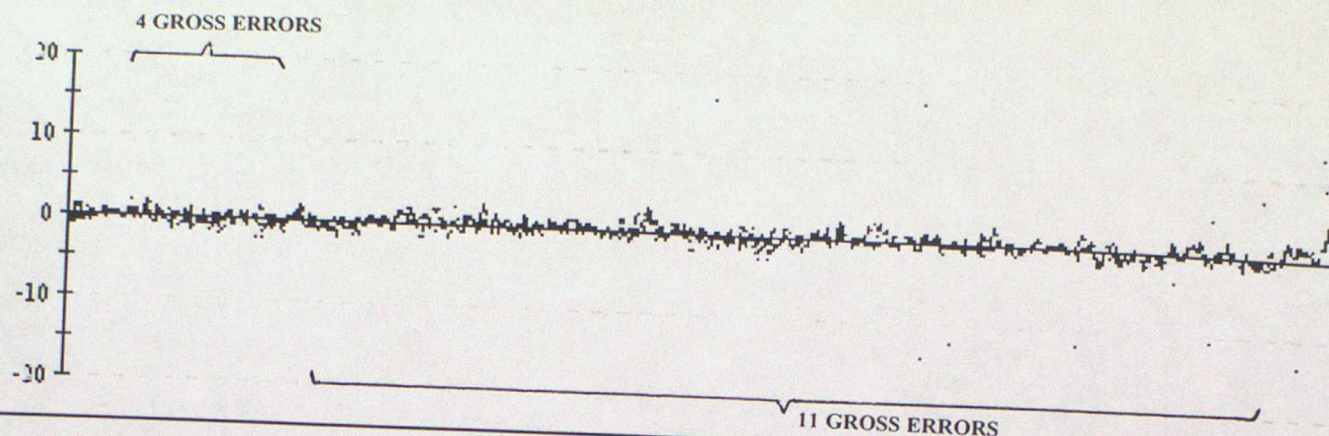


65592 Air Temperature

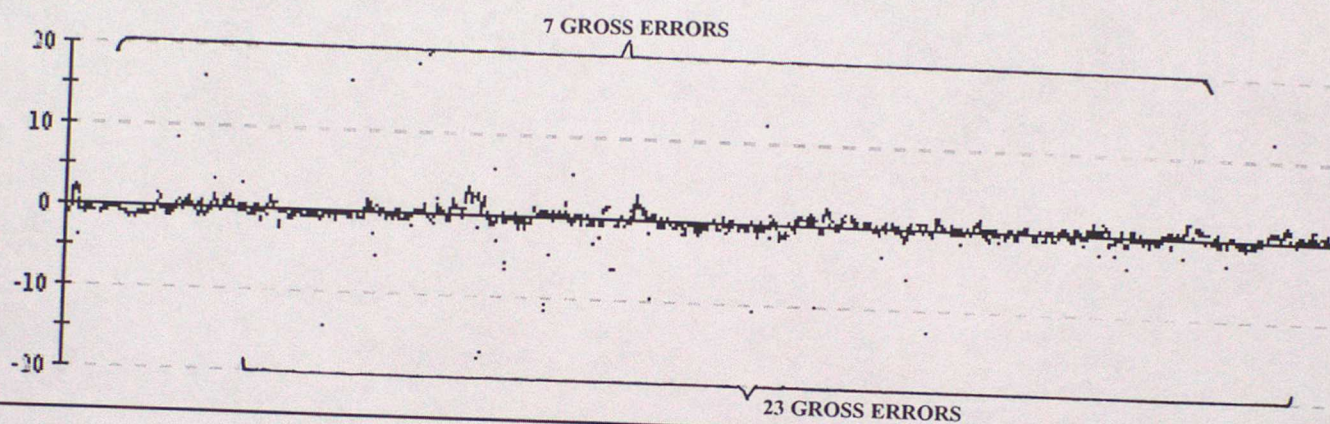


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

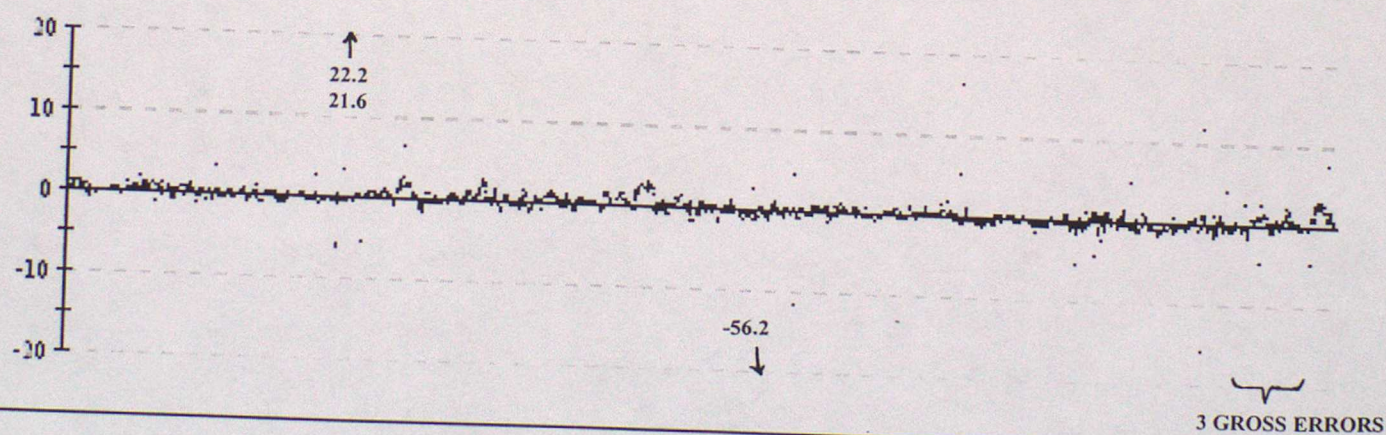
65593 Air Temperature



65594 Air Temperature



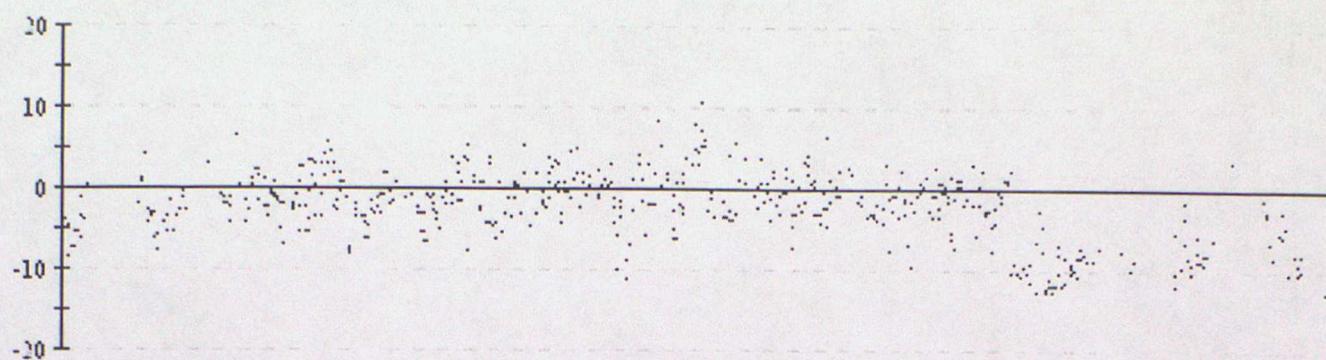
65595 Air Temperature



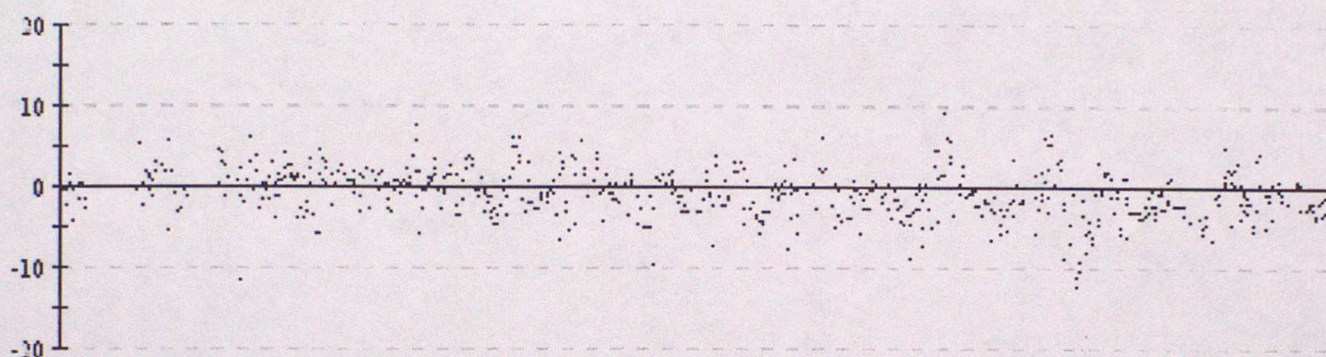
ANNEX D - TIME SERIES PLOTS OF WIND SPEED

Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

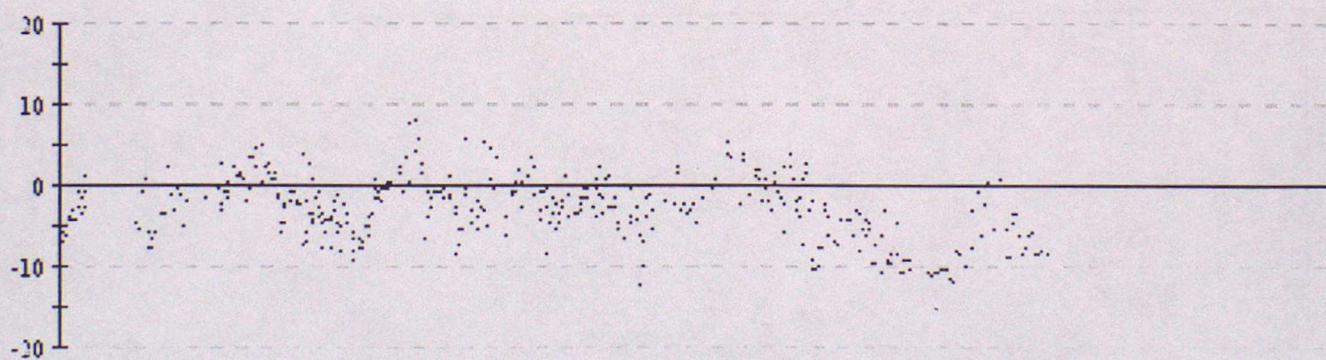
41504 Wind speed



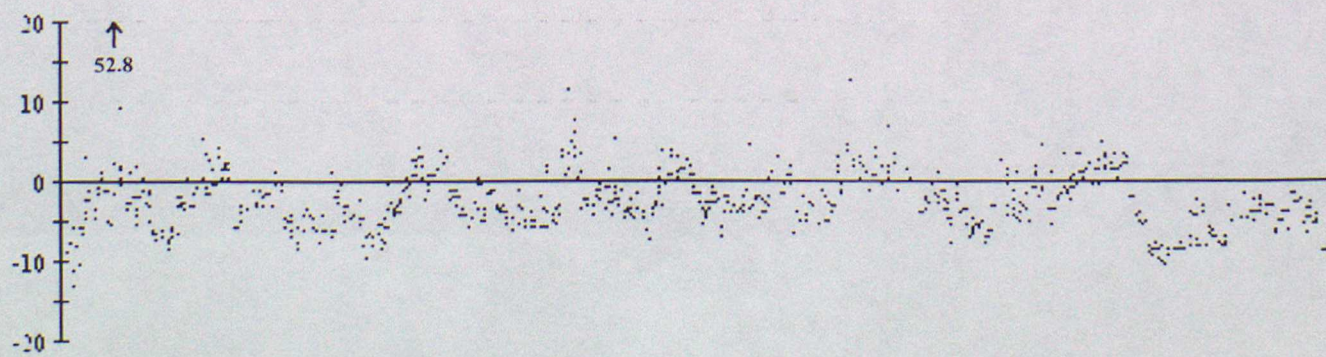
41521 Wind speed



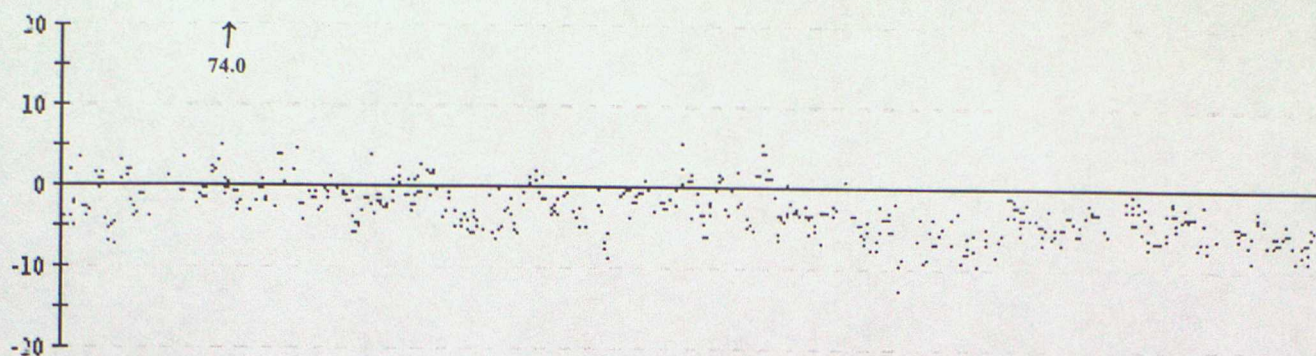
41629 Wind speed



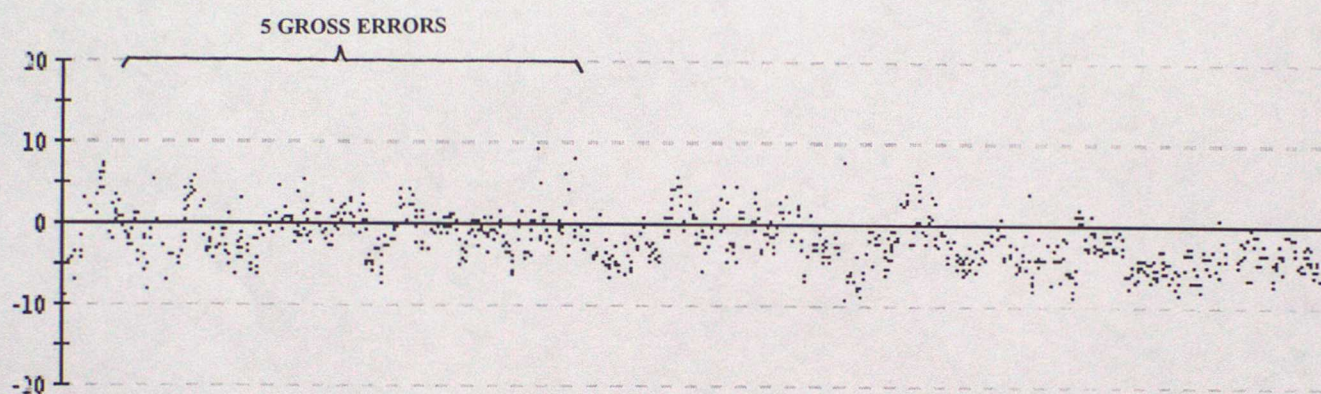
41636 Wind speed



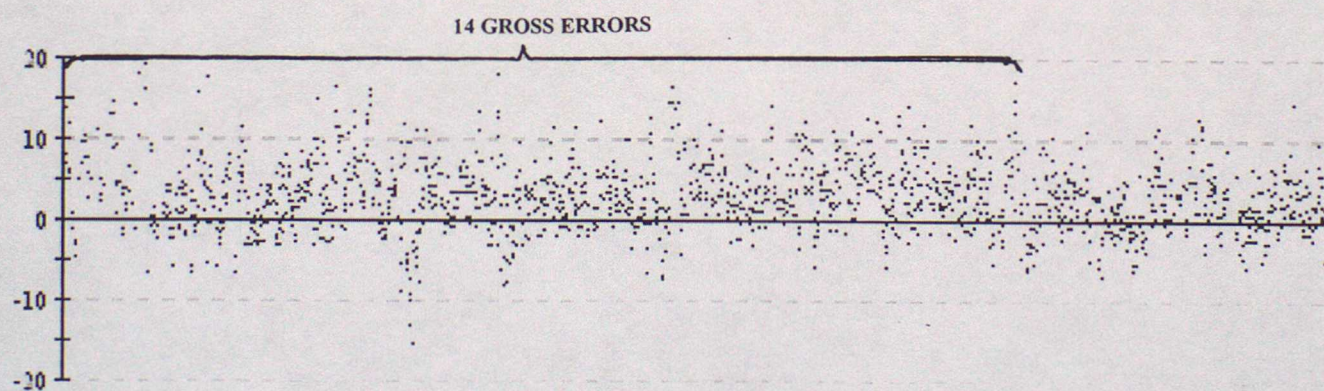
41637 Wind speed



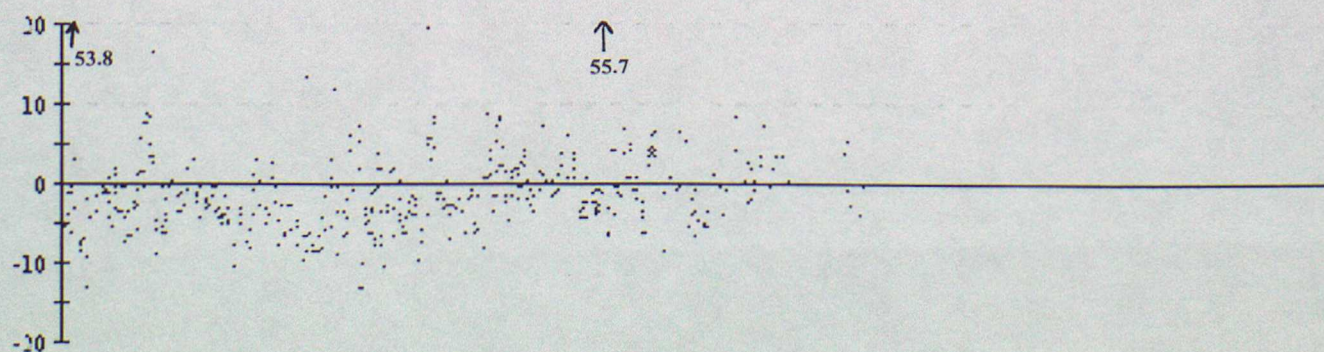
41638 Wind speed



44607 Wind speed

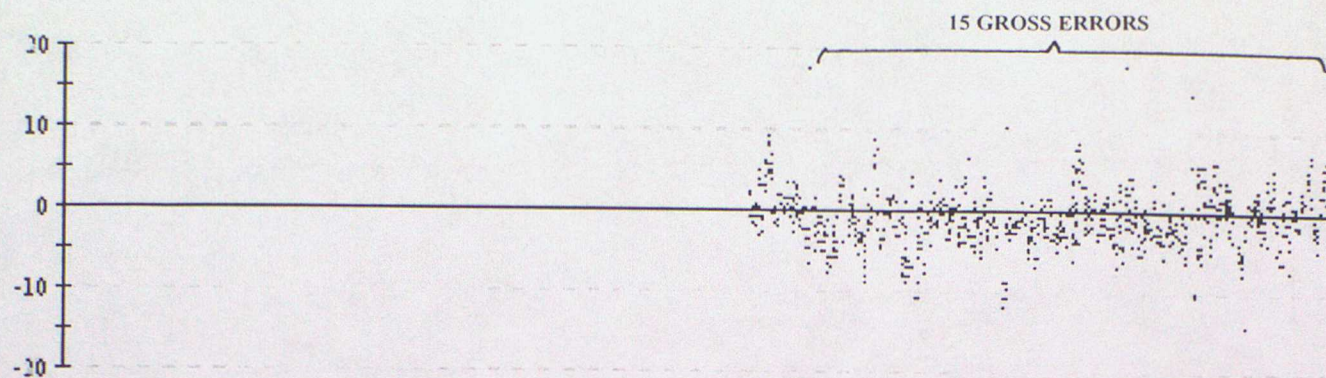


44762 Wind speed

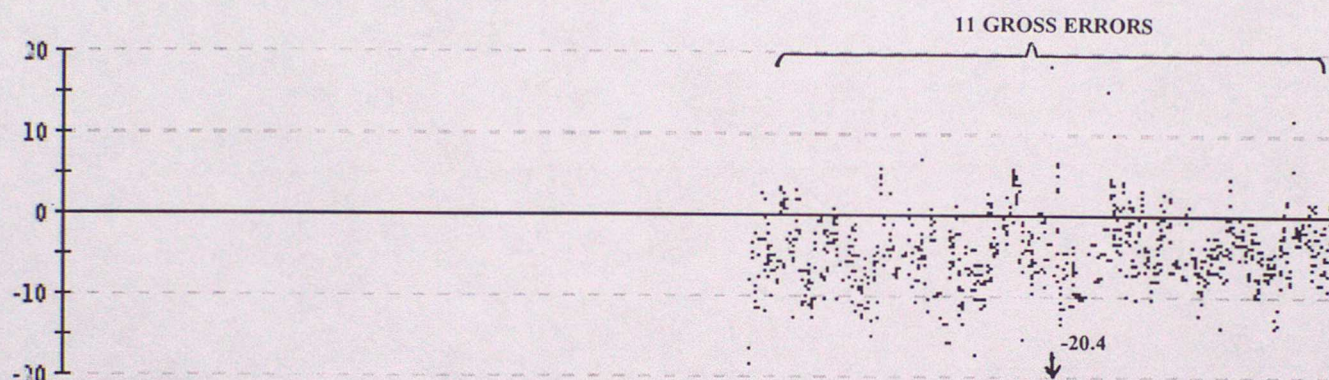


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

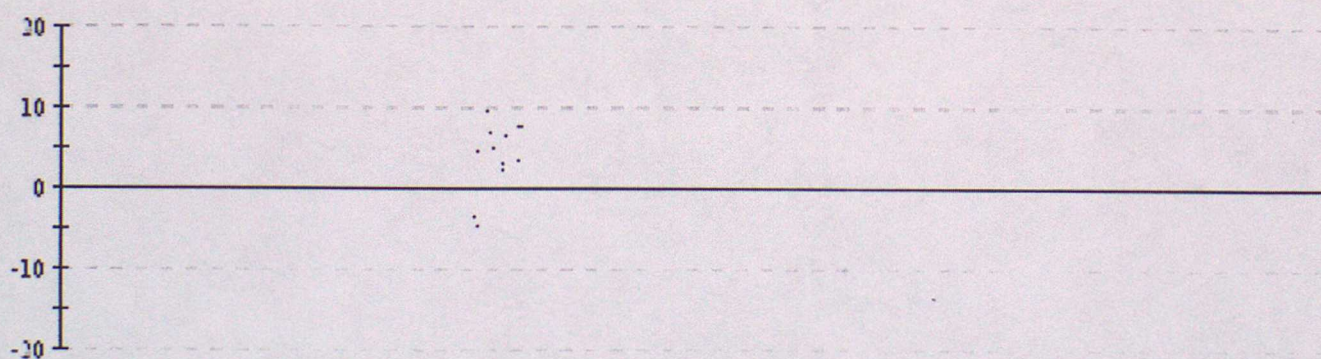
44773 Wind speed



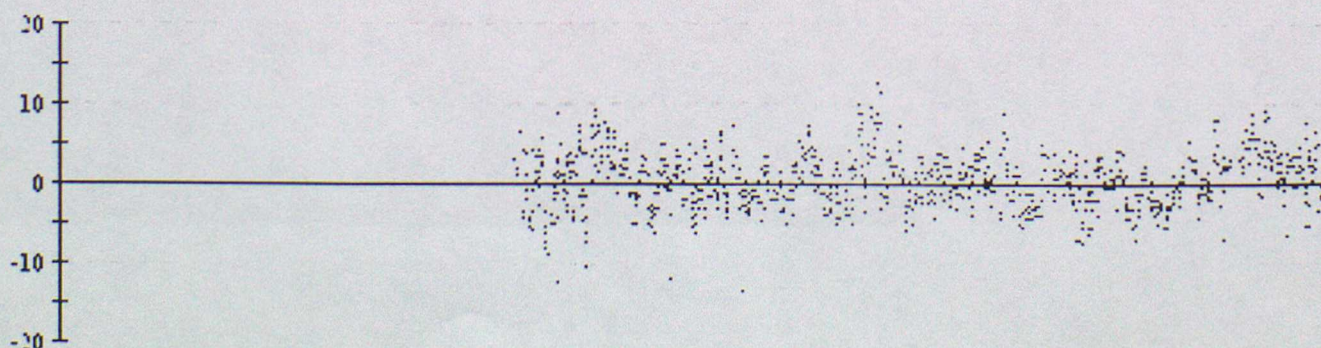
44777 Wind speed



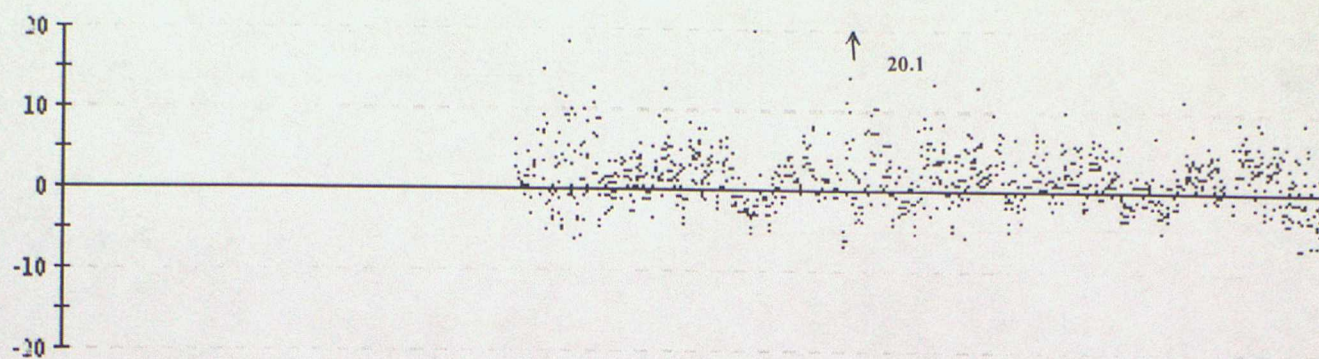
46510 Wind speed



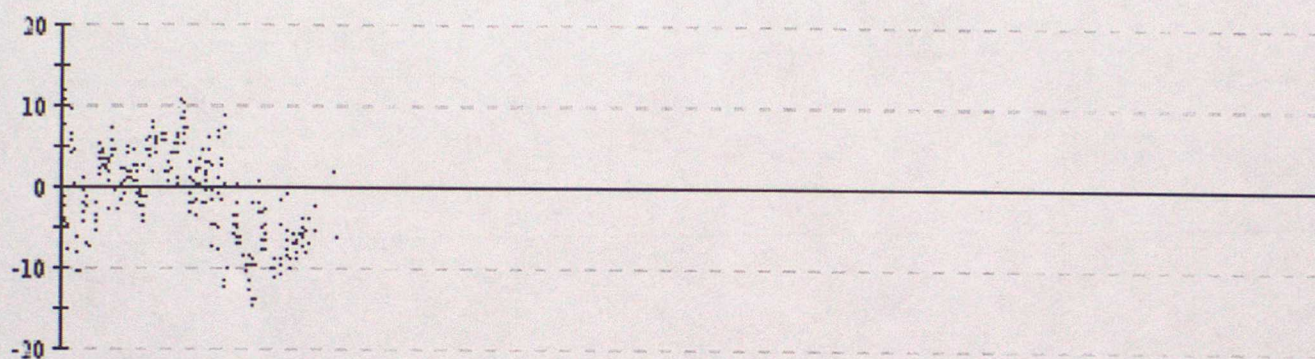
62505 Wind speed



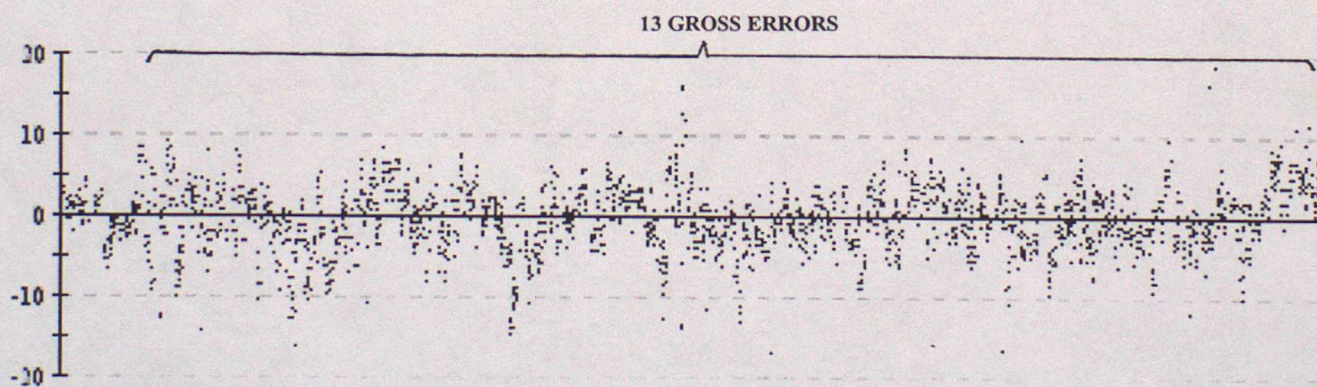
62506 Wind speed



62517 Wind speed



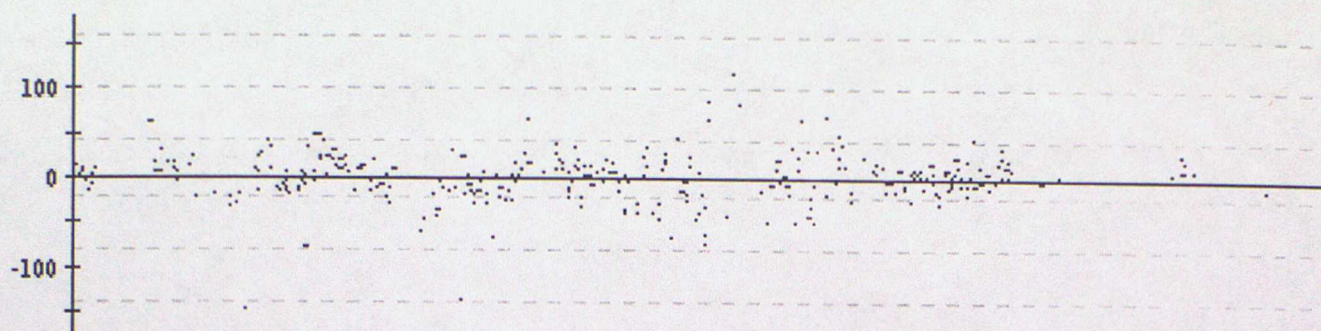
65599 Wind speed



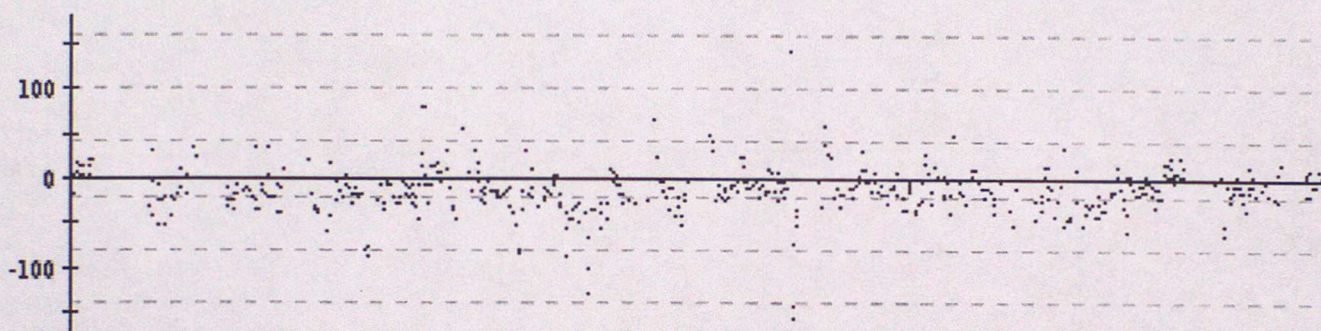
ANNEX E - TIME SERIES PLOTS OF WIND DIRECTION

Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

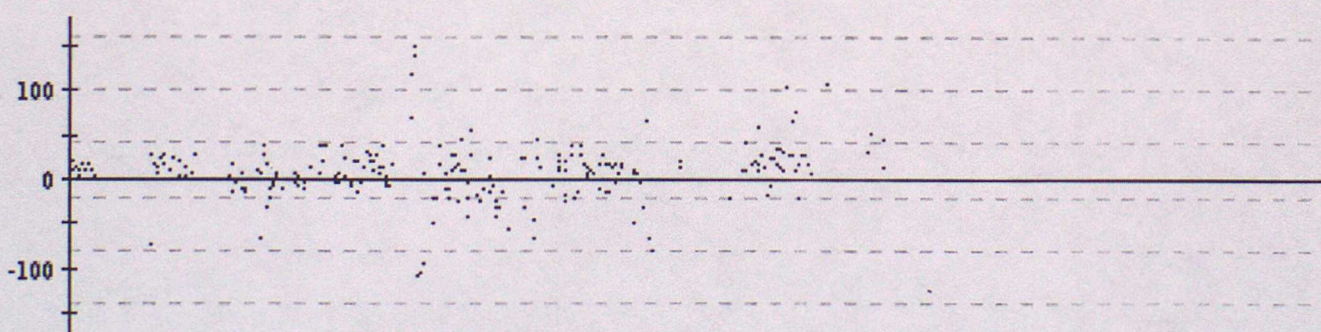
41504 Wind direction



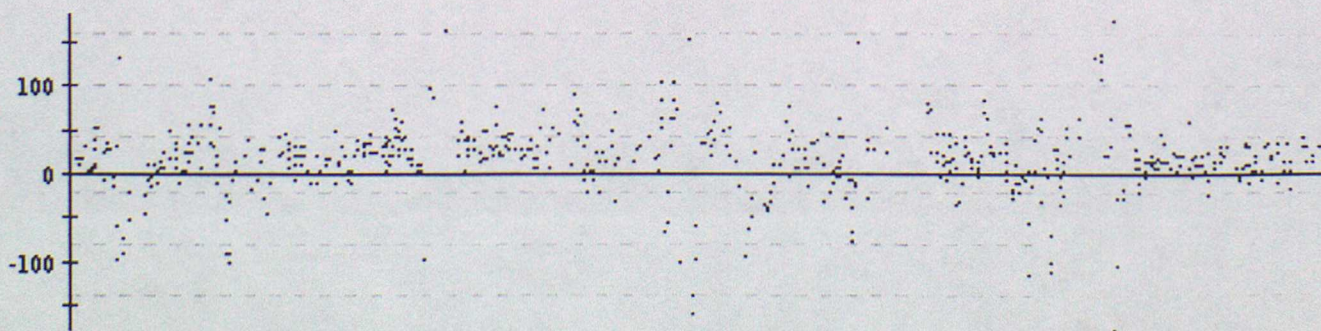
41521 Wind direction



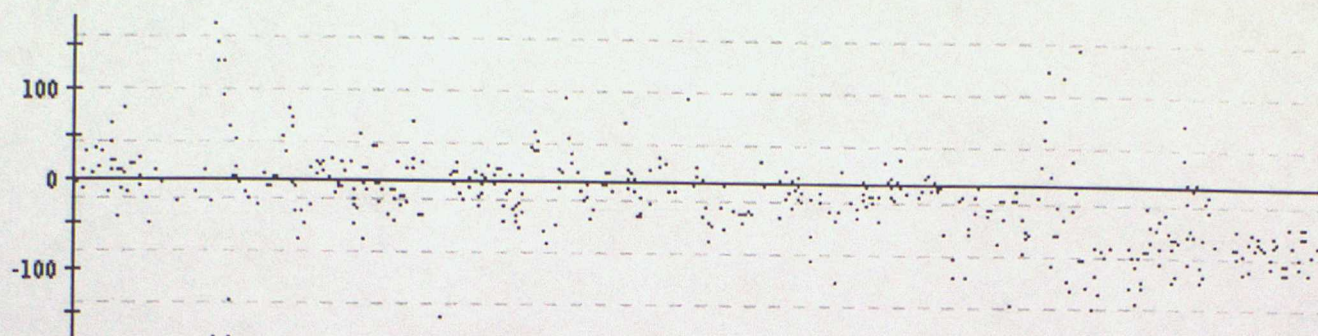
41629 Wind direction



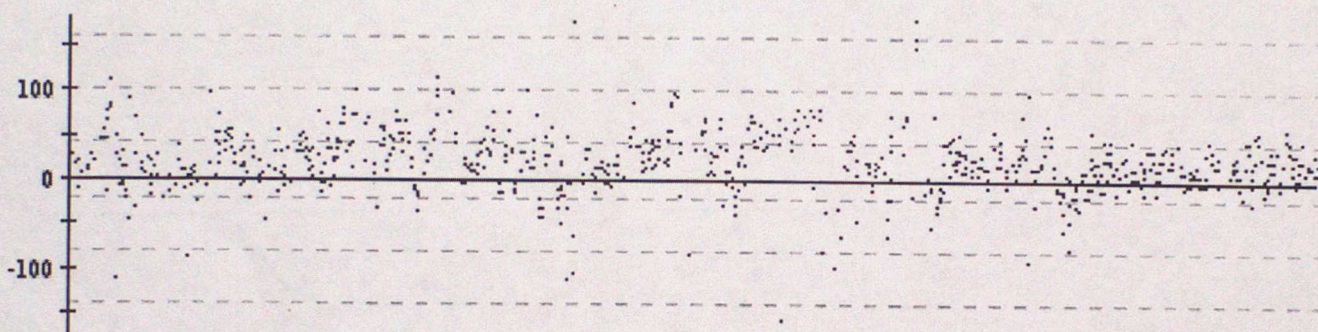
41636 Wind direction



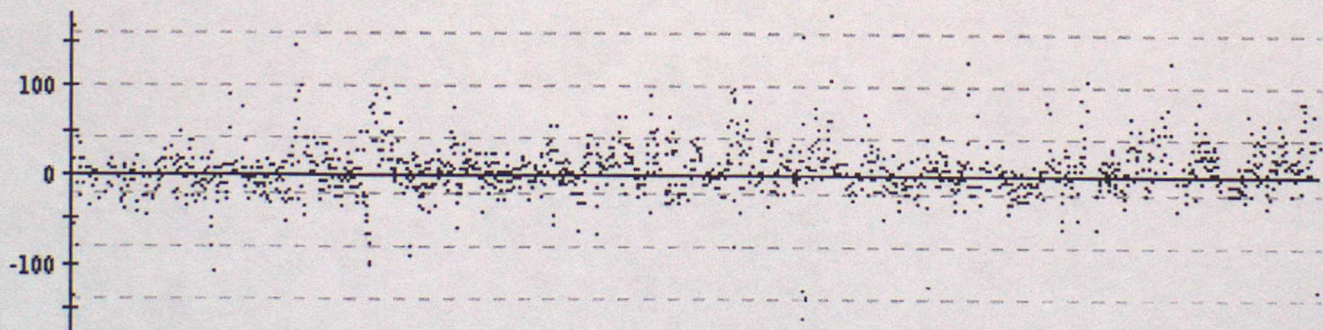
41637 Wind direction



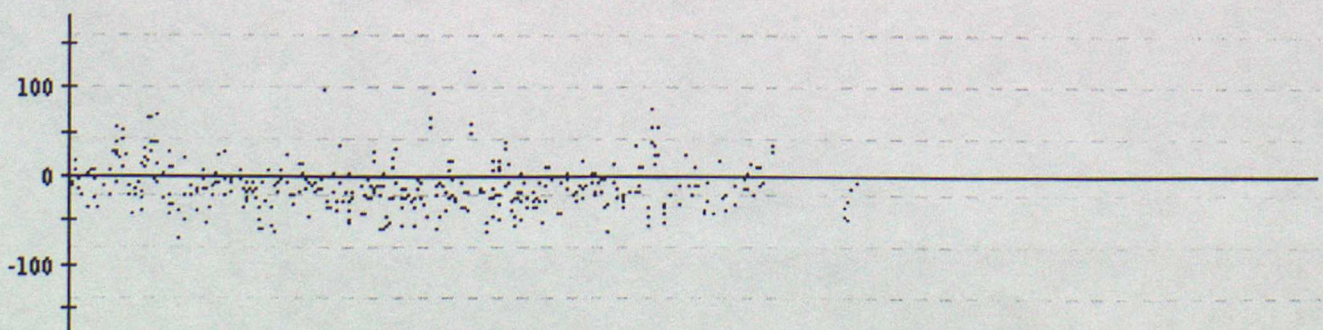
41638 Wind direction



44607 Wind direction

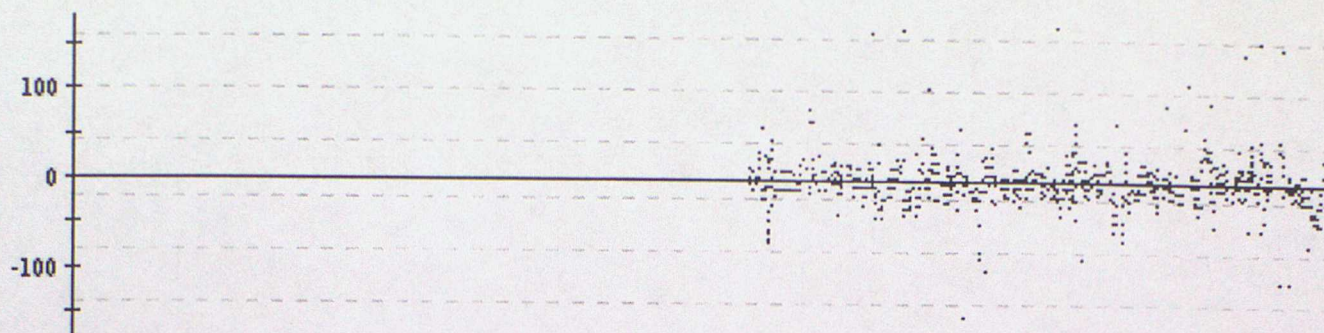


44762 Wind direction

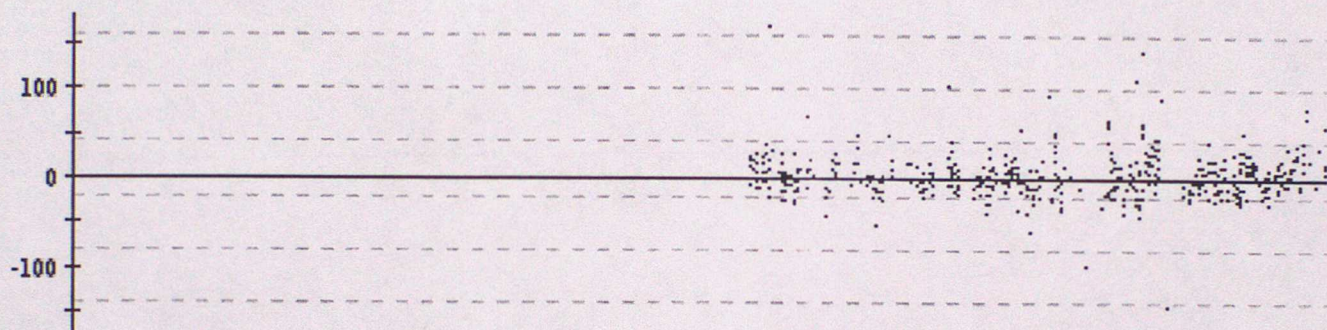


Data from 00z on 01/04/1999 to 23z on 30/06/1999 (OBS - Background field)

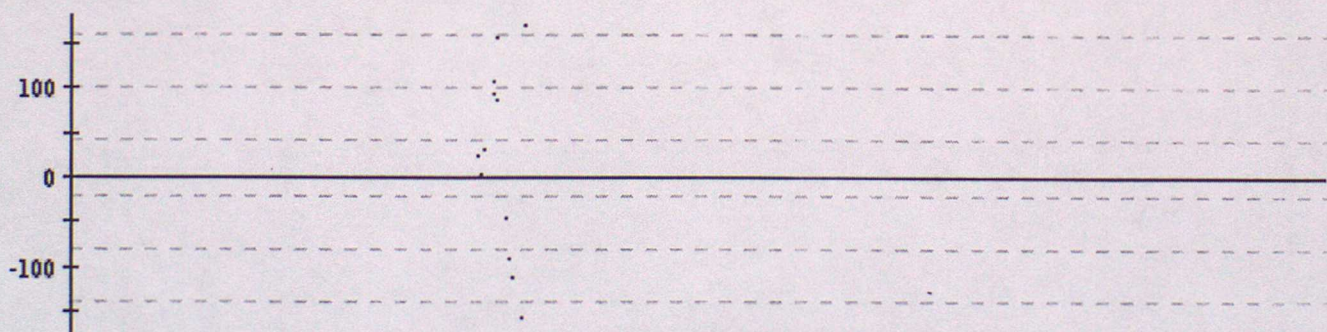
44773 Wind direction



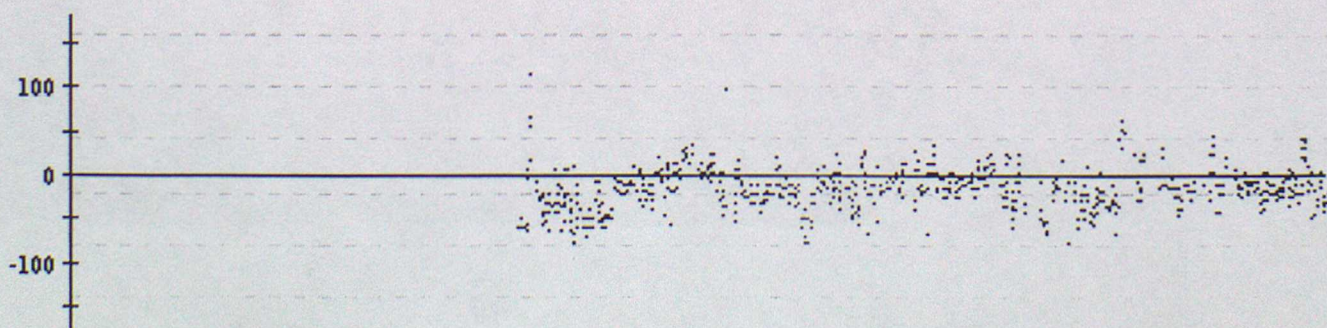
44777 Wind direction



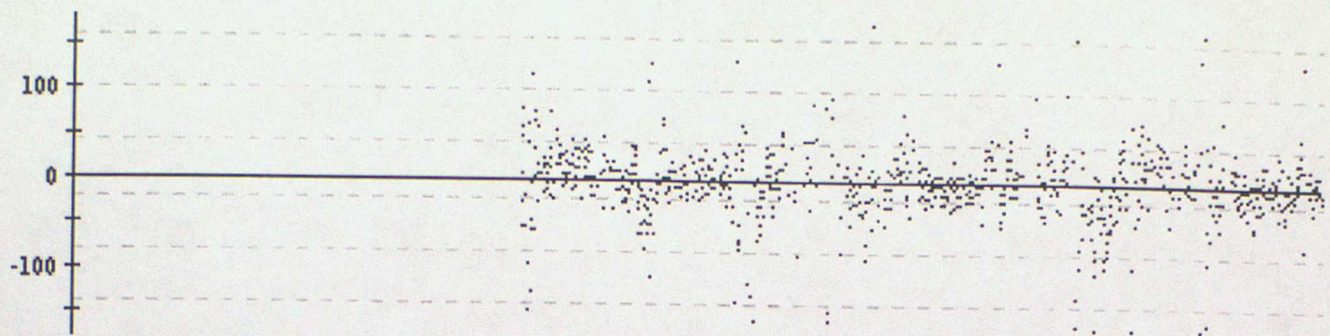
46510 Wind direction



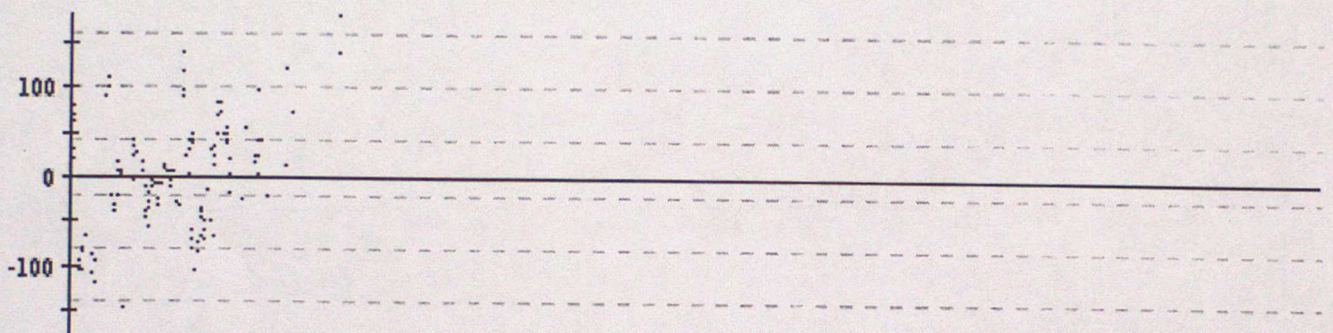
62505 Wind direction



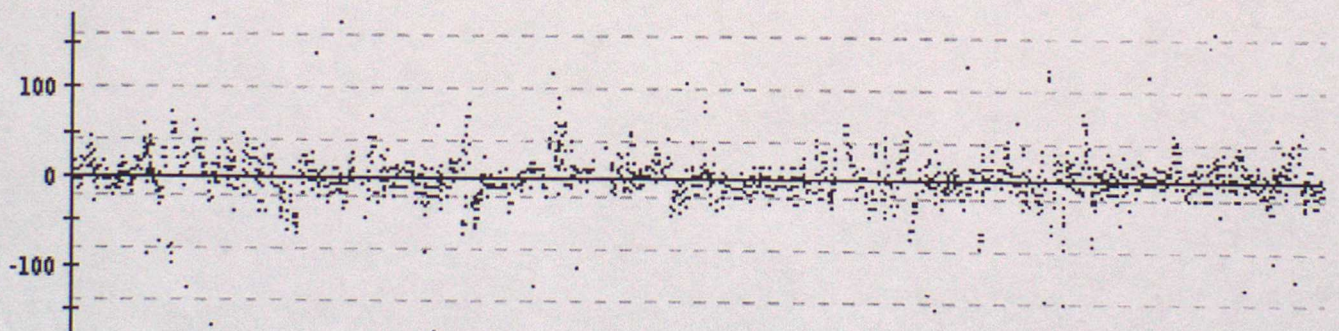
62506 Wind direction



62517 Wind direction



65599 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	
41502			*				*	*	01/04 - 30/06
41503			*				*	*	01/04 - 05/05
41504			*		*	*	*	*	01/04 - 30/06
41505			*					*	01/04 - 30/06
41521			*		*	*	*	*	01/04 - 30/06
41528			*					*	01/04 - 30/06
41598			*					*	01/04 - 30/06
41599			*					*	01/04 - 30/06
41629			*		*	*	*		01/04 - 10/06
41636			*			*	*	*	01/04 - 30/06
41637			*			*	*	*	01/04 - 30/06
41638			*			*	*	*	01/04 - 30/06
44513	26237	US	*		*			*	01/04 - 30/06
44514	26235	US	*		*			*	01/04 - 30/06
44515	26236	US	*		*			*	01/04 - 30/06
44516			*		*			*	01/04 - 19/04
44517	26234	US	*		*			*	01/04 - 30/06
44546	14538	F	*	*				*	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
44613	28467	UK	*	*	*				01/04 - 30/06
44616	38468	UK	*	*	*			*	01/04 - 30/06
44621	12372	UK	*	*	*			*	01/04 - 30/06
44624	28470	UK	*	*	*			*	01/04 - 30/06
44728	12375	UK	*	*	*			*	01/04 - 30/06
44742	28471	UK	*	*	*			*	01/04 - 30/06
44760	28469	UK	*	*	*			*	01/04 - 09/06
44762	12594	UK	*	*		*	*	*	01/04 - 28/05
44764	28464	UK	*	*	*			*	01/04 - 30/06
44765	28466	UK	*	*	*			*	01/04 - 30/06
44766	28465	UK	*	*	*			*	01/04 - 30/06
44768	26746	UK	*	*				*	01/04 - 09/06
44773	12415	UK	*	*	*	*	*	*	20/05 - 30/06
44777	12377	UK	*	*	*	*	*	*	20/05 - 30/06
44778	28473	UK	*	*				*	01/04 - 30/06

ANNEX F - CONT'd

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
44780	27642	UK	*	*	*			*	01/04 - 30/06
44901			*	*					01/04 - 28/05
46510			*		*	*	*	*	30/04 - 04/05
61525			*		*			*	01/04 - 17/06
61526			*		*			*	01/04 - 24/04
61527			*		*			*	01/04 - 21/06
62505	5790	F	*	*	*	*	*	*	03/05 - 30/06
62506	12733	F	*	*		*	*	*	03/05 - 30/06
62512	12730	F	*					*	01/04 - 23/05
62515	6569	F	*	*				*	01/04 - 27/04
62517	5823	F	*	*	*	*	*	*	01/04 - 28/04
62519	6570	F	*	*					01/04 - 17/05
62520	14431	F	*	*				*	01/04 - 30/06
62554	14430	F	*	*				*	01/04 - 30/06
62675			*		*			*	01/04 - 23/06
64516	14176	F	*	*				*	01/04 - 30/06
64517	14178	F	*	*				*	01/04 - 30/06
64518	14180	F	*	*				*	01/04 - 30/06
64519			*	*				*	01/04 - 21/05
64529	6669	D	*	*	*			*	01/04 - 30/06
64691			*	*				*	15/05 - 21/06
64692	15088	IC	*	*				*	16/06 - 30/06
64693	15100	IC	*	*				*	16/06 - 30/06
64694	15108	IC	*	*				*	14/06 - 30/06
64695			*	*				*	20/04 - 30/06
64696	15124	IC	*	*				*	10/05 - 30/06
64697	15128	IC	*	*				*	10/05 - 30/06
64698	29867	IC	*	*				*	11/06 - 30/06
64699	29868	IC	*	*				*	16/06 - 30/06
64700	29870	IC	*	*				*	16/06 - 30/06
65581	2294	D	*	*	*			*	01/04 - 27/04
65591	26748	UK	*	*	*				01/04 - 07/04
65592	4270	D	*	*	*			*	01/04 - 08/06
65593	4228	NL	*	*	*			*	01/04 - 30/06
65594	2295	D	*	*	*			*	01/04 - 30/06
65595	4229	NL	*	*	*			*	01/04 - 30/06
65599	28477	UK	*	*		*	*	*	01/04 - 30/06

