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OBSERVATIONS, PLANS AND REQUIREMENTS BRANCH

Quality Evaluation Section

FIFTY-SECOND QUARTERLY REPORT

ON DRIFTING BUOYS

IN THE NORTH ATLANTIC

1st OCTOBER 1999 – 31st DECEMBER 1999

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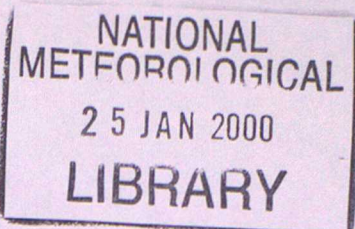
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25th January 2000

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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

69 out of 73 of the buoys reporting, gave a '% of observations with acceptable positions' greater than 95% (69 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	38	45
Good	17	15
Satisfactory	9	8
Poor	3	0
Very poor	4	5
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	9	13	20	22
Good	12	7	9	5
Satisfactory	4	9	2	5
Poor	14	10	0	2
Very Poor	1	0	0	0

The total number of buoy days in the quarter was 5159 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 5110) and the number of 'buoy hours' with at least one observation was 88284 (compared with 88625 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 17.11 (last quarter the figure was 17.34).

3. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 26 buoys reporting pressure at the beginning of the period. 26 buoys were operating at the end of the period. 8 buoys were deployed during the period (44514, 44721, 44722, 44553, 62596, 64547, 65598 and 65600). 9 buoys ceased reporting pressure (44514, 44616, 44624, 44728, 44780, 64693, 64694, 64700 and 65593).

South of 50deg N

There were 29 buoys reporting pressure at the beginning of the period. 28 buoys were reporting at the end of the period. 10 buoys were deployed during the period (44513, 44516, 44517, 44723, 61536, 61537, 62507, 62508, 62509 and 62510). 14 buoys ceased reporting pressure (13504, 41505, 41636, 41637, 41638, 41648, 41649, 41852, 44778, 61501, 61502, 61504, 62506 and 62554).

(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. 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:-

- 41599 - Data from this buoy was occasionally erroneous throughout the period.
- 41852 - Data from this boy was erroneous until it ceased reporting pressure on 09/11/99.
- 44513 - Data from this buoy became erratic towards the end of the period.
- 44514 - Data from this buoy showed a larger than normal scatter, until it ceased reporting pressure on 08/12/99.

- 44517 - Data from this buoy showed an increasing bias, becoming completely erroneous by the end of the period.
- 44723 - Data from this buoy showed a bias of +2.1hPa from when it started reporting (26/11/99) until the end of the period.
- 44778 - Data from this buoy showed bias of -10hPa during November, until it ceased reporting completely on 22/11/99.
- 61537 - Data from this buoy showed a larger than normal scatter throughout.
- 62506 - Data from this buoy became erratic from mid-October until it ceased reporting pressure on 08/12/99.
- 64700 - Data from this buoy was erratic from the beginning of the period until it ceased reporting on 26/10/99.
- 65593 - Data from this buoy developed a bias of around -7hPa during November, and ceased reporting altogether on 22/11/99.
- 65595 - Data from this buoy was occasionally erroneous throughout the period.
- 65598 - Data from this buoy showed an increasing (negative) bias from when it began reporting, on 09/12/99, until the end of the period.

Biases

15 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
41648	0.6	01/10 - 20/10
41853	1.2	01/10 - 31/12
44546	0.6	01/10 - 31/12
44614	-0.7	01/10 - 31/12
44721	-0.8	26/10 - 31/12
44722	-0.6	28/10 - 31/12
44766	-0.8	01/10 - 31/12
61502	-0.7	01/10 - 03/12
62508	-0.8	04/10 - 31/12
64518	-1.0	01/10 - 31/12
64530	-0.6	01/10 - 31/12
64546	-0.7	01/10 - 31/12
64693	-0.7	01/10 - 01/11
65594	-0.7	01/10 - 31/12
65596	-0.6	01/10 - 31/12

Summary of Pressure Performance

Pressure Summary	Last Quarter	This Quarter
Acceptable	46	45
Suspect - RMS	4	13
Suspect - Bias	21	15
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
13405	0.57	1.29	387	41521	0.40	0.90	858
44516	-0.81	1.13	574	44517	12.07	8.63	234
44613	0.63	1.67	2796	44614	-0.68	1.03	2653
44621	-0.35	1.72	2918	44624	0.06	1.15	4683
44625	-0.32	1.09	4706	44626	-0.74	1.34	3628
44628	-0.53	1.06	3053	44630	-0.47	1.18	3361
44721	-0.20	1.22	3195	44728	0.96	0.72	142
44765	-0.12	2.47	1439	44766	-0.33	1.47	3611
44773	0.08	1.14	5644	44777	-0.10	1.01	4581
44780	0.36	0.88	3582	61536	-0.06	0.92	255
61537	-0.88	5.98	510	62508	-0.53	1.17	2013
64529	0.07	1.47	3389	64530	-0.25	1.15	3734
64546	0.02	1.15	4622	64547	-0.33	0.85	919
65593	2.02	3.02	1136	65594	-0.21	1.24	3614
65595	0.02	1.10	4763	65596	1.06	1.64	3220
65598	-0.42	1.08	862	65600	-0.34	0.98	827

Summary

Buoys 44517(12.07), 65593(2.02) and 65596(1.06) all showed significant air temperature bias.

(5) Winds

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

WMO No.	Wind Speed (kt)			Wind Direction (deg)		
	Mean	St. Dev.	No. of Obs	Mean	St. Dev.	No. of Obs
41521	-1.80	2.69	826	-11.17	19.00	793
41648	15.50	0.42	2	-44.75	24.68	2
41649	-0.39	5.19	298	15.91	27.95	249
44607	2.13	5.23	1832	-1.45	25.92	1807
44721	-2.60	4.24	2723	4.33	21.97	2639
44773	-0.99	4.88	4165	-2.21	29.37	3991
44777	-1.29	4.26	3847	2.57	23.56	3675
62506	0.91	3.63	1839	-12.82	27.07	1773
62508	0.05	3.43	2327	-7.12	26.94	2186
62510	1.96	4.41	4.83	-3.07	26.36	1614
65599	-1.35	5.69	2517	3.32	36.12	2131

Summary

Although buoy 41648 showed a significant bias for wind speed throughout its reporting life, figures in the table (are misleading) as they were calculated using only the two reports where wind direction was available.

Buoys 44607(2.13) and 44721(-2.60) both showed a significant **wind speed** bias throughout their reporting lives.

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 = maximum drift speed = 1/4 knot
 t = time between observations.
5. The percentage of elements present is calculated from the total number of observations received.
6. The delay is (Time of Receipt at Bracknell) - (Time of Observation).
7. The mean number of observations per day is calculated from the total number of observations received divided by the number of days in the period. It therefore includes 'quasi-identical' observations, i.e. those made within a few minutes of one another. For this reason the mean number of hours per day with at least one observation and the % of hour periods without an observation has been included, where an 'hour period' is defined as the period from HH-30 to HH+29 minutes.

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

Unflagged data are those data used in model analyses.

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

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

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

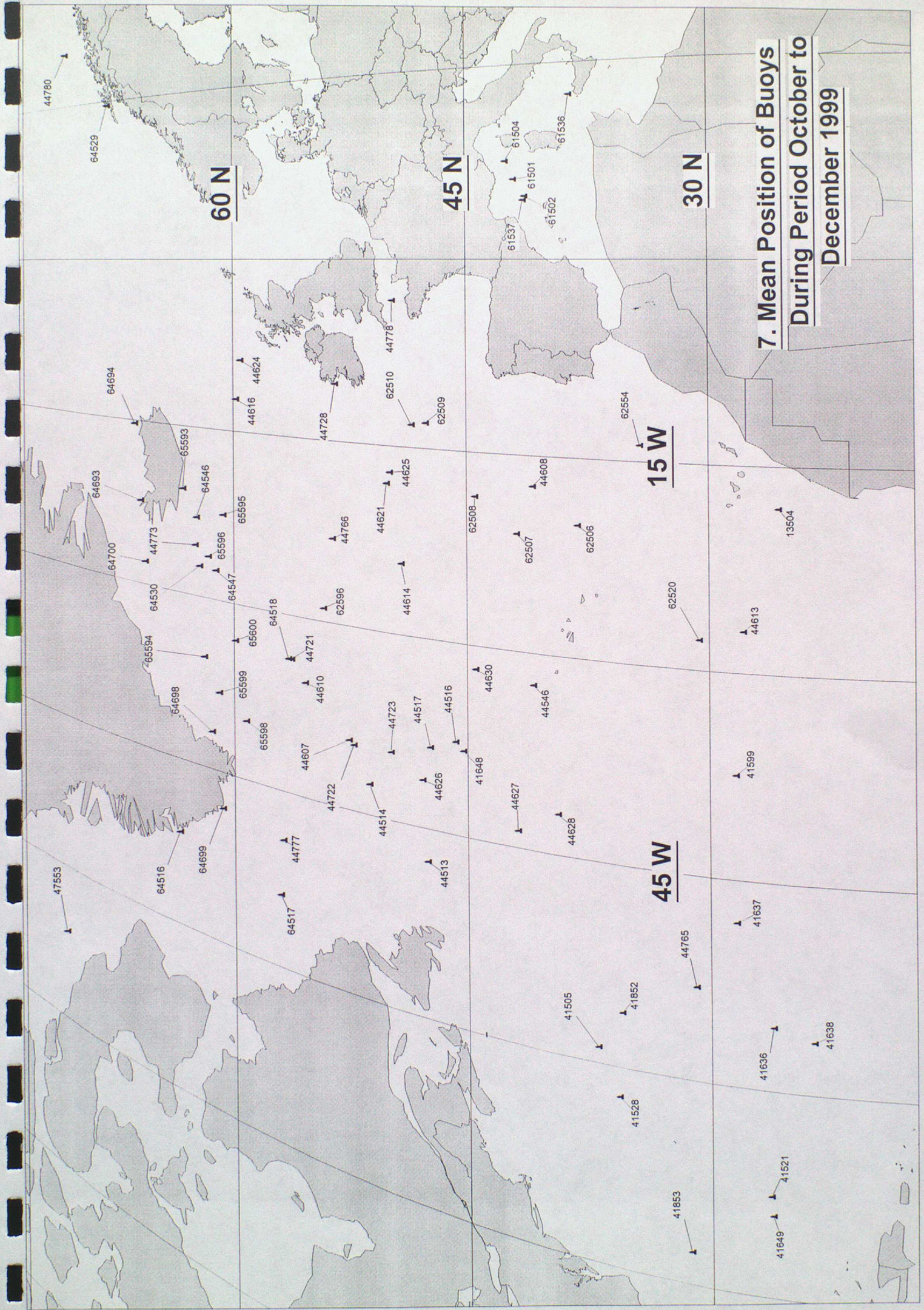
9. The performance categories are defined in the table below.

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

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

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

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



7. Mean Position of Buoys
During Period October to
December 1999

Annex A - TABLE OF STATISTICS

WMO No./Country	13504	41505	41521
Argos Id No.			
Period Within Area	01/10 - 20/11	01/10 - 18/12	01/10 - 31/12
Mean Latitude	25.7	37.0	26.4
Mean Longitude	-18.0	-58.8	-67.6
No. of Obs Received	467	823	907
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	97.4	98.9	96.5
P. Tendency	0.0	0.0	0.0
Air Temperature	95.3	0.0	96.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	93.9/ 96.3
Sea-Surface Temp.	97.0	98.5	96.9
Median delay (min)	122	35	32
Number of days	51	79	92
Mean No. of obs/day	9.2	10.4	9.9
No. of Hours with obs	414	785	852
Mean no. of hours/day with obs	8.1	9.9	9.3
% of hour periods without an ob	65.9	58.3	61.4
Mean (Ob-Bg)	0.0	0.1	0.1
RMS (Ob-Bg) unflagged data	0.7	1.1	0.8
Mean (Ob-Bg)	0.0	0.1	0.0
RMS (Ob-Bg) all data	0.7	1.1	3.6
Revised RMS (Ob-Bg)	0.7	1.1	0.8
% of data flagged	3	6	7
Operating at end of period	NO	NO	YES
Performance Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Acceptable	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	41528	41599	41636
Argos Id No.			
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 27/10
Mean Latitude	35.7	28.4	26.2
Mean Longitude	-62.2	-37.4	-55.4
No. of Obs Received	975	3281	409
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	99.2	91.3	92.2
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.2	61.0	53.5
Median delay (min)	36	277	309
Number of days	92	92	27
Mean No. of obs/day	10.6	35.7	15.1
No. of Hours with obs	919	1746	326
Mean no. of hours/day with obs	10.0	19.0	12.1
% of hour periods without an ob	58.4	20.9	49.4
Mean (Ob-Bg)	0.1	-0.3	0.5
RMS (Ob-Bg) unflagged data	1.0	0.9	1.2
Mean (Ob-Bg)	0.1	-0.7	0.2
RMS (Ob-Bg) all data	1.0	3.5	3.0
Revised RMS (Ob-Bg)	1.0	2.4	1.2
% of data flagged	7	47	26
Operating at end of period	YES	YES	NO
Performance			
Availability	Poor	Very Good	Acceptable
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Very Poor	Very Poor
Comments			

Annex A - cont'd

WMO No./Country	41637	41638	41648
Argos Id No.			
Period Within Area	01/10 - 22/12	01/10 - 05/11	01/10 - 20/10
Mean Latitude	28.4	23.7	45.3
Mean Longitude	-48.1	-56.2	-38.3
No. of Obs Received	639	711	209
% of obs with Acceptable Position	100.0	100.0	99.5
% of Present Pressure	89.8	98.9	99.5
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	97.1/ 1.9
Sea-Surface Temp.	54.3	53.2	100.0
Median delay (min)	329	301	80
Number of days	83	36	20
Mean No. of obs/day	7.7	19.8	10.4
No. of Hours with obs	563	545	198
Mean no. of hours/day with obs	6.8	15.1	9.9
% of hour periods without an ob	71.4	35.7	57.8
Mean (Ob-Bg)	0.5	0.4	0.6
RMS (Ob-Bg) unflagged data	0.9	1.2	1.3
Mean (Ob-Bg)	0.2	0.2	0.6
RMS (Ob-Bg) all data	2.6	2.3	1.4
Revised RMS (Ob-Bg)	0.8	1.1	1.4
% of data flagged	15	23	5
Operating at end of period	NO	NO	NO
Performance			
Availability	Poor	Acceptable	Poor
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Poor	Very Poor	Good
Comments			

Annex A - cont'd

WMO No./Country	41649	41852	41853
Argos Id No.			
Period Within Area	01/10 - 05/11	01/10 - 31/12	01/10 - 31/12
Mean Latitude	26.3	35.5	31.3
Mean Longitude	-69.0	-55.9	-72.6
No. of Obs Received	331	900	1220
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.1	43.0	95.9
P. Tendency	0.0	13.1	36.9
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	97.9/ 97.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.8	98.3	78.3
Median delay (min)	74	76	70
Number of days	36	92	92
Mean No. of obs/day	9.2	9.8	13.3
No. of Hours with obs	317	816	967
Mean no. of hours/day with obs	8.8	8.9	10.5
% of hour periods without an ob	62.8	62.9	56.2
Mean (Ob-Bg)	0.2	-0.2	1.2
RMS (Ob-Bg)	1.0	2.0	1.6
unflagged data			
Mean (Ob-Bg)	0.2	-25.1	1.2
RMS (Ob-Bg)	1.0	27.2	1.6
all data			
Revised RMS (Ob-Bg)	1.0	21.3	1.6
% of data flagged	4	97	19
Operating at end of period	NO	YES	YES
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Acceptable	Suspect	Suspect
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44513/US	44514/US	44516
Argos Id No.	26237	26235	
Period Within Area	02/11 - 31/12	02/11 - 31/12	16/12 - 31/12
Mean Latitude	47.6	51.3	45.8
Mean Longitude	-47.6	-42.5	-37.7
No. of Obs Received	713	643	676
% of obs with Acceptable Position	100.0	99.8	100.0
% of Present			
Pressure	99.3	54.9	95.6
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	95.3
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.3	98.3	98.2
Median delay (min)	39	44	164
Number of days	60	60	16
Mean No. of obs/day	11.9	10.7	42.3
No. of Hours with obs	662	596	377
Mean no. of hours/day with obs	11.0	9.9	23.6
% of hour periods without an ob	53.3	57.9	-0.3
Mean (Ob-Bg)	1.2	1.2	0.5
RMS (Ob-Bg) unflagged data	2.3	2.6	1.7
Mean (Ob-Bg)	1.9	3.2	0.4
RMS (Ob-Bg) all data	5.5	6.7	1.7
Revised RMS (Ob-Bg)	4.4	6.7	1.7
% of data flagged	20	26	43
Operating at end of period	YES	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	44517/US	44546/F	44607/F
Argos Id No.	26234	14538	6216
Period Within Area	16/12 - 31/12	01/10 - 31/12	01/10 - 31/12
Mean Latitude	47.4	40.9	52.6
Mean Longitude	-38.5	-32.4	-39.3
No. of Obs Received	500	5286	1974
% of obs with Acceptable Position	93.8	100.0	100.0
% of Present Pressure	96.0	99.9	99.2
P. Tendency	0.0	99.5	98.6
Air Temperature	79.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	98.2/ 98.1
Sea-Surface Temp.	98.0	99.8	99.2
Median delay (min)	174	152	94
Number of days	16	92	92
Mean No. of obs/day	31.3	57.5	21.5
No. of Hours with obs	363	2025	1970
Mean no. of hours/day with obs	22.7	22.0	21.4
% of hour periods without an ob	3.2	8.3	10.7
Mean (Ob-Bg)	1.3	0.6	0.0
RMS (Ob-Bg) unflagged data	3.1	1.5	1.8
Mean (Ob-Bg)	6.8	0.6	0.2
RMS (Ob-Bg) all data	10.4	1.5	2.5
Revised RMS (Ob-Bg)	9.0	1.5	2.2
% of data flagged	63	65	2
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Very Good	Acceptable
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Acceptable	Acceptable	Good
Comments			

Annex A - cont'd

WMO No./Country	44608/F	44610/F	44613/UK
Argos Id No.	14540	12734	28467
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 31/12
Mean Latitude	40.9	55.4	27.9
Mean Longitude	-17.3	-35.4	-27.0
No. of Obs Received	5039	5430	3023
% of obs with Acceptable Position	100.0	100.0	90.4
% of Present			
Pressure	99.7	99.8	97.3
P. Tendency	99.3	99.4	93.9
Air Temperature	0.0	0.0	97.1
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.5	99.5	0.0
Median delay (min)	152	143	32
Number of days	92	92	92
Mean No. of obs/day	54.8	59.0	32.9
No. of Hours with obs	2027	2044	1526
Mean no. of hours/day with obs	22.0	22.2	16.6
% of hour periods without an ob	8.2	7.3	30.8
Mean (Ob-Bg)	-0.1	0.0	0.0
RMS (Ob-Bg) unflagged data	1.0	1.7	0.8
Mean (Ob-Bg)	-0.1	0.0	-0.7
RMS (Ob-Bg) all data	1.0	2.3	7.5
Revised RMS (Ob-Bg)	1.0	2.0	1.5
% of data flagged	62	66	58
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Acceptable	Acceptable	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44614/UK	44616/UK	44621/UK
Argos Id No.	12375	38468	12372
Period Within Area	01/10 - 31/12	01/10 - 16/12	01/10 - 31/12
Mean Latitude	49.2	59.9	50.1
Mean Longitude	-24.3	-12.2	-18.0
No. of Obs Received	2991	3648	3136
% of obs with Acceptable Position	99.0	99.8	99.8
% of Present Pressure	92.5	96.4	97.3
P. Tendency	41.1	93.4	92.3
Air Temperature	92.4	0.0	96.9
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	71.2	0.1	97.9
Median delay (min)	19	22	19
Number of days	92	77	92
Mean No. of obs/day	32.5	47.4	34.1
No. of Hours with obs	1396	1504	1402
Mean no. of hours/day with obs	15.2	19.5	15.2
% of hour periods without an ob	36.6	17.9	36.3
Mean (Ob-Bg)	-0.7	0.0	-0.5
RMS (Ob-Bg) unflagged data	1.7	1.6	1.5
Mean (Ob-Bg)	-0.6	-0.1	-1.5
RMS (Ob-Bg) all data	2.6	3.4	10.8
Revised RMS (Ob-Bg)	1.9	1.7	1.5
% of data flagged	62	66	63
Operating at end of period	YES	NO	YES
Performance			
Availability	Good	Very Good	Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44624/UK	44625/UK	44626/UK
Argos Id No.	28470	12283	12294
Period Within Area	01/10 - 22/12	01/10 - 31/12	01/10 - 31/12
Mean Latitude	59.6	49.9	47.9
Mean Longitude	-8.8	-17.1	-41.2
No. of Obs Received	5044	5114	3819
% of obs with Acceptable Position	99.3	99.7	99.7
% of Present Pressure	97.5	95.1	98.0
P. Tendency	94.7	91.5	95.7
Air Temperature	97.1	95.4	97.7
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.1	96.5	98.2
Median delay (min)	22	24	20
Number of days	83	92	92
Mean No. of obs/day	60.8	55.6	41.5
No. of Hours with obs	1595	1875	1688
Mean no. of hours/day with obs	19.2	20.4	18.3
% of hour periods without an ob	19.3	15.1	23.4
Mean (Ob-Bg)	-0.3	-0.1	-0.3
RMS (Ob-Bg) unflagged data	1.7	1.4	1.5
Mean (Ob-Bg)	-0.4	-0.3	-0.6
RMS (Ob-Bg) all data	5.0	5.4	5.2
Revised RMS (Ob-Bg)	1.6	1.5	1.5
% of data flagged	74	70	63
Operating at end of period	NO	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	44627/UK	44628UK	44630/UK
Argos Id No.	12285	12287	12376
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 31/12
Mean Latitude	41.9	39.4	44.5
Mean Longitude	-43.7	-41.9	-31.8
No. of Obs Received	3482	3239	3533
% of obs with Acceptable Position	98.9	99.1	99.7
% of Present Pressure	98.1	97.7	98.0
P. Tendency	95.8	94.5	95.5
Air Temperature	0.0	97.1	97.8
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	98.4	98.1	0.0
Median delay (min)	20	21	21
Number of days	92	92	92
Mean No. of obs/day	37.8	35.2	38.4
No. of Hours with obs	1639	1608	1600
Mean no. of hours/day with obs	17.8	17.5	17.4
% of hour periods without an ob	25.6	27.1	27.4
Mean (Ob-Bg)	0.0	0.3	-0.3
RMS (Ob-Bg) unflagged data	1.3	1.2	1.3
Mean (Ob-Bg)	-0.1	0.1	-0.6
RMS (Ob-Bg) all data	4.3	4.8	5.9
Revised RMS (Ob-Bg)	1.5	1.3	1.4
% of data flagged	61	59	62
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	44722/UK	44723/NL
Argos Id No.	28475	28476	16392
Period Within Area	26/10 - 31/12	28/10 - 31/12	26/11 - 31/12
Mean Latitude	56.3	52.3	49.9
Mean Longitude	-33.7	-39.6	-39.5
No. of Obs Received	3675	3196	726
% of obs with Acceptable Position	99.8	99.7	100.0
% of Present			
Pressure	96.1	97.6	99.7
P. Tendency	92.2	94.6	98.6
Air Temperature	89.4	0.0	0.0
Wind Speed/Dir	77.7/ 77.7	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	96.5	97.6	99.3
Median delay (min)	21	21	104
Number of days	67	65	36
Mean No. of obs/day	54.9	49.2	20.2
No. of Hours with obs	1286	1246	726
Mean no. of hours/day with obs	19.2	19.2	20.2
% of hour periods without an ob	19.4	19.6	15.3
Mean (Ob-Bg)	-0.8	-0.6	0.1
RMS (Ob-Bg) unflagged data	1.8	1.8	1.9
Mean (Ob-Bg)	-1.1	-0.9	0.3
RMS (Ob-Bg) all data	6.1	5.0	2.5
Revised RMS (Ob-Bg)	1.9	2.0	2.1
% of data flagged	71	68	2
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Acceptable
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Very Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44728/UK	44765/UK	44766/UK
Argos Id No.	12375	28466	28465
Period Within Area	01/10 - 06/10	01/10 - 31/12	01/10 - 31/12
Mean Latitude	53.4	30.9	53.6
Mean Longitude	-10.3	-53.1	-23.0
No. of Obs Received	154	1546	3850
% of obs with Acceptable Position	100.0	79.3	99.2
% of Present			
Pressure	90.3	97.3	97.5
P. Tendency	89.6	94.0	93.5
Air Temperature	93.5	97.0	97.3
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	92.2	0.0	76.5
Median delay (min)	19.5	18	19
Number of days	6	92	92
Mean No. of obs/day	25.7	16.8	41.8
No. of Hours with obs	82	1075	1549
Mean no. of hours/day with obs	13.7	11.7	16.8
% of hour periods without an ob	36.4	51.2	29.7
Mean (Ob-Bg)	0.5	0.0	-0.8
RMS (Ob-Bg) unflagged data	1.6	1.0	1.8
Mean (Ob-Bg)	0.4	-0.7	-1.0
RMS (Ob-Bg) all data	1.5	7.2	6.3
Revised RMS (Ob-Bg)	1.5	1.5	1.9
% of data flagged	53	38	67
Operating at end of period	NO	YES	YES
Performance			
Availability	Good	Acceptable	Very Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44773/UK	44777/UK	44778/UK
Argos Id No.	12415	12377	28473
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 22/11
Mean Latitude	62.7	56.9	49.7
Mean Longitude	-25.5	-49.2	-3.3
No. of Obs Received	6466	5311	1051
% of obs with Acceptable Position	99.9	99.8	97.1
% of Present Pressure	95.8	96.5	97.4
P. Tendency	92.6	92.7	92.2
Air Temperature	90.6	89.4	0.0
Wind Speed/Dir	69.6/ 77.8	76.6/ 76.2	0.0/ 0.0
Sea-Surface Temp.	96.3	96.7	0.0
Median delay (min)	21	20	20
Number of days	92	92	53
Mean No. of obs/day	70.3	57.7	19.8
No. of Hours with obs	1882	1832	667
Mean no. of hours/day with obs	20.5	19.9	12.6
% of hour periods without an ob	14.6	17.0	46.9
Mean (Ob-Bg)	-0.5	-0.4	-0.1
RMS (Ob-Bg) unflagged data	1.7	1.8	1.0
Mean (Ob-Bg)	-0.7	-0.8	-1.6
RMS (Ob-Bg) all data	5.5	5.8	4.1
Revised RMS (Ob-Bg)	1.7	2.0	3.9
% of data flagged	76	72	60
Operating at end of period	YES	YES	NO
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	44780/UK	47553	61501
Argos Id No.	27642		
Period Within Area	01/10 - 29/11	29/10 - 31/12	01/10 - 11/12
Mean Latitude	71.8	71.9	42.0
Mean Longitude	20.2	-66.5	6.1
No. of Obs Received	3973	1561	2688
% of obs with Acceptable Position	99.9	97.7	100.0
% of Present			
Pressure	96.4	99.9	79.8
P. Tendency	93.5	0.0	0.0
Air Temperature	96.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	97.0	0.0	80.5
Median delay (min)	27	15	23
Number of days	60	64	72
Mean No. of obs/day	66.2	24.4	37.3
No. of Hours with obs	1180	929	1136
Mean no. of hours/day with obs	19.7	14.5	15.8
% of hour periods without an ob	17.8	39.0	33.6
Mean (Ob-Bg)	-0.2	-0.3	-0.5
RMS (Ob-Bg) unflagged data	1.5	1.4	1.2
Mean (Ob-Bg)	-0.3	-0.4	-0.5
RMS (Ob-Bg) all data	4.4	1.4	1.2
Revised RMS (Ob-Bg)	1.5	1.4	1.2
% of data flagged	75	52	59
Operating at end of period	NO	YES	NO
Performance			
Availability	Very Good	Acceptable	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	61502	61504	61536
Argos Id No.			
Period Within Area	01/10 - 03/12	01/10 - 13/12	15/12 - 31/12
Mean Latitude	41.3	42.5	38.5
Mean Longitude	4.8	7.5	12.5
No. of Obs Received	2021	2712	396
% of obs with Acceptable Position	100.0	100.0	93.2
% of Present			
Pressure	89.5	79.8	88.9
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	90.7
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	90.4	80.6	93.9
Median delay (min)	22	23	283
Number of days	64	74	17
Mean No. of obs/day	31.6	36.6	23.3
No. of Hours with obs	979	1180	324
Mean no. of hours/day with obs	15.3	15.9	19.1
% of hour periods without an ob	36.0	32.7	18.4
Mean (Ob-Bg)	-0.7	-0.2	0.5
RMS (Ob-Bg) unflagged data	1.2	1.1	1.8
Mean (Ob-Bg)	-0.7	-0.2	0.5
RMS (Ob-Bg) all data	1.2	1.1	1.8
Revised RMS (Ob-Bg)	1.2	1.1	1.8
% of data flagged	55	58	15
Operating at end of period	NO	NO	YES
Performance			
Availability	Good	Very Good	Acceptable
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Poor
Comments			

Annex A - cont'd

WMO No./Country	61537	62506/F	62507/F
Argos Id No.		12733	10111
Period Within Area	13/12 - 31/12	01/10 - 31/12	05/10 - 31/12
Mean Latitude	41.4	38.1	41.9
Mean Longitude	4.5	-20.0	-21.0
No. of Obs Received	769	1967	2996
% of obs with Acceptable Position	100.0	100.0	98.9
% of Present			
Pressure	93.5	74.7	97.0
P. Tendency	0.0	74.4	91.3
Air Temperature	82.1	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	98.2/ 98.2	0.0/ 0.0
Sea-Surface Temp.	92.8	99.3	97.0
Median delay (min)	137	124	21
Number of days	19	92	88
Mean No. of obs/day	40.5	21.4	34.0
No. of Hours with obs	415	1965	1441
Mean no. of hours/day with obs	21.8	21.4	16.4
% of hour periods without an ob	5.7	11.0	31.4
Mean (Ob-Bg)	-0.5	-0.2	-0.2
RMS (Ob-Bg) unflagged data	2.2	2.6	1.1
Mean (Ob-Bg)	-32.2	-0.6	-0.3
RMS (Ob-Bg) all data	60.6	3.4	3.4
Revised RMS (Ob-Bg)	8.8	3.4	1.1
% of data flagged	91	11	60
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Acceptable	Good
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Acceptable	Acceptable	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62508/F	62509/F	62510/F
Argos Id No.	5822	14537	12732
Period Within Area	04/10 - 31/12	04/10 - 31/12	04/10 - 31/12
Mean Latitude	44.5	47.6	48.5
Mean Longitude	-18.4	-13.0	-13.2
No. of Obs Received	2942	3750	1819
% of obs with Acceptable Position	99.3	100.0	100.0
% of Present Pressure	94.9	99.6	99.2
P. Tendency	87.8	99.0	98.2
Air Temperature	70.7	0.0	0.0
Wind Speed/Dir	84.7/ 84.1	0.0/ 0.0	97.5/ 97.4
Sea-Surface Temp.	96.4	99.3	98.6
Median delay (min)	21	119	107
Number of days	89	89	89
Mean No. of obs/day	33.1	42.1	20.4
No. of Hours with obs	1455	1935	1816
Mean no. of hours/day with obs	16.3	21.7	20.4
% of hour periods without an ob	31.8	9.4	14.9
Mean (Ob-Bg)	-0.8	-0.1	-0.2
RMS (Ob-Bg) unflagged data	1.8	1.3	1.4
Mean (Ob-Bg)	-1.2	0.0	-0.1
RMS (Ob-Bg) all data	5.3	2.1	1.8
Revised RMS (Ob-Bg)	1.8	1.5	1.7
% of data flagged	59	51	1
Operating at end of period	YES	YES	YES
Performance Availability	Good	Very Good	Acceptable
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	62520/F	62554/F	62596/NL
Argos Id No.	14431	14430	16391
Period Within Area	01/10 - 31/12	01/10 - 31/12	26/11 - 31/12
Mean Latitude	30.6	34.2	54.2
Mean Longitude	-27.8	-13.8	-28.9
No. of Obs Received	2916	1563	743
% of obs with Acceptable Position	95.5	96.0	100.0
% of Present Pressure	97.3	96.5	99.3
P. Tendency	90.4	83.2	98.4
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.	96.9	96.3	99.1
Median delay (min)	24	20	97
Number of days	92	92	36
Mean No. of obs/day	31.7	17.0	20.6
No. of Hours with obs	1586	796	741
Mean no. of hours/day with obs	17.2	8.7	20.6
% of hour periods without an ob	28.2	63.8	13.6
Mean (Ob-Bg)	-0.2	0.3	0.3
RMS (Ob-Bg) unflagged data	0.8	0.8	1.9
Mean (Ob-Bg)	-0.5	-4.7	0.6
RMS (Ob-Bg) all data	3.7	19.7	2.7
Revised RMS (Ob-Bg)	0.8	1.0	2.1
% of data flagged	56	61	2
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64516/F	64517/F	64518/F
Argos Id No.	14176	14178	14180
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 31/12
Mean Latitude	63.8	57.1	56.5
Mean Longitude	-51.7	-53.9	-33.7
No. of Obs Received	4115	3851	3901
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.9	99.7	99.7
P. Tendency	99.6	99.3	99.2
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.	99.8	99.4	99.6
Median delay (min)	73	86	91
Number of days	92	92	92
Mean No. of obs/day	44.7	41.9	42.4
No. of Hours with obs	2159	2093	2108
Mean no. of hours/day with obs	23.5	22.8	22.9
% of hour periods without an ob	2.2	5.2	4.5
Mean (Ob-Bg)	-0.3	-0.4	-1.0
RMS (Ob-Bg) unflagged data	1.8	1.8	1.9
Mean (Ob-Bg)	-0.3	-0.4	-0.6
RMS (Ob-Bg) all data	2.0	1.9	4.1
Revised RMS (Ob-Bg)	1.8	1.9	3.0
% of data flagged	49	47	49
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64529/D	64530/D	64546/N
Argos Id No.	6669	4272	3675
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 31/12
Mean Latitude	68.7	62.4	62.6
Mean Longitude	14.6	-27.3	-23.0
No. of Obs Received	4004	4294	4931
% of obs with Acceptable Position	96.6	98.4	99.7
% of Present Pressure	90.9	89.9	97.1
P. Tendency	72.1	66.8	72.5
Air Temperature	89.2	90.1	96.7
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	75.4	76.1	76.4
Median delay (min)	21	20	19
Number of days	92	92	92
Mean No. of obs/day	43.5	46.7	53.6
No. of Hours with obs	1728	1655	1710
Mean no. of hours/day with obs	18.8	18.0	18.6
% of hour periods without an ob	21.7	24.8	22.4
Mean (Ob-Bg)	-0.5	-0.6	-0.7
RMS (Ob-Bg) unflagged data	1.5	1.8	1.9
Mean (Ob-Bg)	-0.7	-0.8	-0.8
RMS (Ob-Bg) all data	3.8	3.8	3.2
Revised RMS (Ob-Bg)	1.5	1.9	1.9
% of data flagged	66	69	72
Operating at end of period	YES	YES	YES
Performance Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Suspect	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	64547	64693/IC	64694/IC
Argos Id No.		15100	15108
Period Within Area	09/12 - 31/12	01/10 - 01/11	01/10 - 08/11
Mean Latitude	61.3	66.4	66.8
Mean Longitude	-27.4	-22.3	-15.3
No. of Obs Received	1070	429	690
% of obs with Acceptable Position	99.7	100.0	100.0
% of Present Pressure	90.0	100.0	99.7
P. Tendency	65.0	100.0	99.0
Air Temperature	88.8	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	73.7	2.6	98.4
Median delay (min)	19	113	95
Number of days	23	32	39
Mean No. of obs/day	46.5	13.4	17.7
No. of Hours with obs	400	374	581
Mean no. of hours/day with obs	17.4	11.7	14.9
% of hour periods without an ob	26.6	50.5	36.8
Mean (Ob-Bg)	-0.3	-0.7	-0.4
RMS (Ob-Bg) unflagged data	2.2	1.8	1.9
Mean (Ob-Bg)	-0.6	-0.7	-0.3
RMS (Ob-Bg) all data	2.5	1.8	2.2
Revised RMS (Ob-Bg)	2.2	1.8	2.1
% of data flagged	70	15	19
Operating at end of period	YES	NO	NO
Performance			
Availability	Very Good	Poor	Acceptable
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	64698/IC	64699/IC	64700/IC
Argos Id No.	29867	29868	29870
Period Within Area	01/10 - 31/12	01/10 - 31/12	01/10 - 26/10
Mean Latitude	61.6	60.9	66.1
Mean Longitude	-41.7	-48.2	-27.9
No. of Obs Received	2772	2825	751
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.5	99.6	99.9
P. Tendency	99.1	99.3	97.1
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	99.5	99.2
Median delay (min)	58	55	74
Number of days	92	92	26
Mean No. of obs/day	30.1	30.7	28.9
No. of Hours with obs	1983	2008	550
Mean no. of hours/day with obs	21.6	21.8	21.2
% of hour periods without an ob	10.1	9.1	10.6
Mean (Ob-Bg)	-0.4	-0.4	0.8
RMS (Ob-Bg) unflagged data	1.7	1.6	2.2
Mean (Ob-Bg)	-0.4	-0.5	2.0
RMS (Ob-Bg) all data	1.8	1.9	5.6
Revised RMS (Ob-Bg)	1.8	1.9	3.1
% of data flagged	29	29	34
Operating at end of period	YES	YES	NO
Performance			
Availability	Good	Good	Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	65593/NL	65594/D	65595/NL
Argos Id No.	4228	2295	4229
Period Within Area	01/10 - 22/11	01/10 - 31/12	01/10 - 31/12
Mean Latitude	63.5	62.1	60.8
Mean Longitude	-20.6	-35.3	-22.4
No. of Obs Received	1282	4145	5138
% of obs with Acceptable Position	99.7	98.3	99.8
% of Present Pressure	95.0	90.2	96.2
P. Tendency	91.3	86.1	93.4
Air Temperature	94.3	90.2	96.3
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	78.0	75.3	75.2
Median delay (min)	19	19	18
Number of days	53	92	92
Mean No. of obs/day	24.2	45.1	55.8
No. of Hours with obs	784	1641	1691
Mean no. of hours/day with obs	14.8	17.8	18.4
% of hour periods without an ob	37.4	25.5	23.3
Mean (Ob-Bg)	-1.7	-0.7	-0.9
RMS (Ob-Bg) unflagged data	3.0	2.0	1.9
Mean (Ob-Bg)	-2.1	-0.8	-0.3
RMS (Ob-Bg) all data	5.1	3.4	5.8
Revised RMS (Ob-Bg)	3.5	2.2	3.1
% of data flagged	54	68	74
Operating at end of period	NO	YES	YES
Performance			
Availability	Acceptable	Very Good	Very Good
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	65596/IR	65598	65599/UK
Argos Id No.	3038		28477
Period Within Area	01/10 - 31/12	09/12 - 31/12	01/10 - 31/12
Mean Latitude	61.8	59.3	61.1
Mean Longitude	-26.3	-39.9	-38.1
No. of Obs Received	3513	977	6266
% of obs with Acceptable Position	99.5	99.4	99.7
% of Present Pressure	94.4	90.5	96.4
P. Tendency	91.5	62.7	92.8
Air Temperature	94.6	88.5	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	44.2/ 44.1
Sea-Surface Temp.	78.3	75.0	97.3
Median delay (min)	18	19	21
Number of days	92	23	92
Mean No. of obs/day	38.2	42.5	68.1
No. of Hours with obs	1655	357	1894
Mean no. of hours/day with obs	18.0	15.5	20.6
% of hour periods without an ob	24.9	34.1	14.1
Mean (Ob-Bg)	-0.6	-0.8	-0.4
RMS (Ob-Bg) unflagged data	1.8	2.2	1.9
Mean (Ob-Bg)	-0.6	-1.5	-0.7
RMS (Ob-Bg) all data	1.8	6.0	5.9
Revised RMS (Ob-Bg)	1.8	5.1	2.0
% of data flagged	61	71	75
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Suspect	Suspect	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

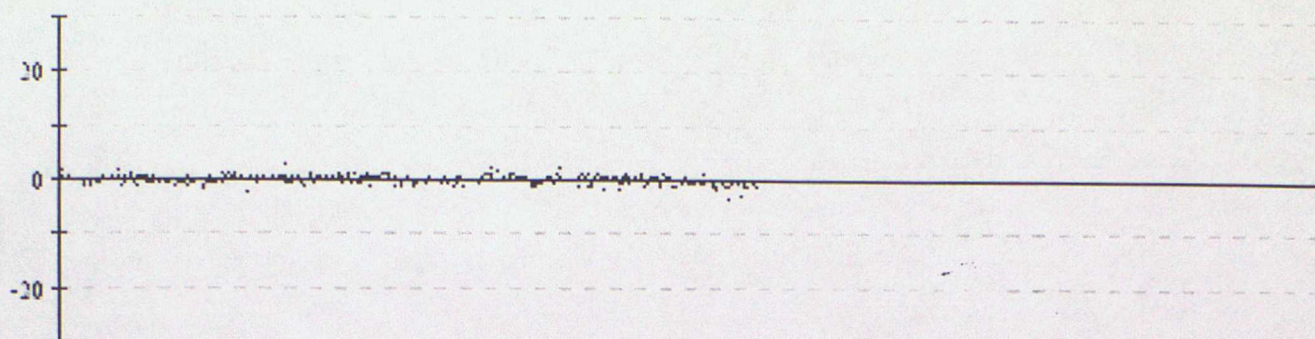
Annex A - cont'd

WMO No./Country	65600		
Argos Id No.			
Period Within Area	13/12 - 31/12		
Mean Latitude	60.0		
Mean Longitude	-33.2		
No. of Obs Received	863		
% of obs with Acceptable Position	100.0		
% of Present Pressure	96.8		
P. Tendency	93.7		
Air Temperature	96.5		
Wind Speed/Dir	0.0/ 0.0		
Sea-Surface Temp.	69.5		
Median delay (min)	20		
Number of days	19		
Mean No. of obs/day	45.4		
No. of Hours with obs	345		
Mean no. of hours/day with obs	18.2		
% of hour periods without an ob	22.1		
Mean (Ob-Bg)	-0.5		
RMS (Ob-Bg) unflagged data	2.1		
Mean (Ob-Bg)	-0.7		
RMS (Ob-Bg) all data	4.5		
Revised RMS (Ob-Bg)	2.0		
% of data flagged	67		
Operating at end of period	YES		
Performance Availability	Very Good		
Pressure Quality	Acceptable		
Timeliness	Very Good		
Comments			

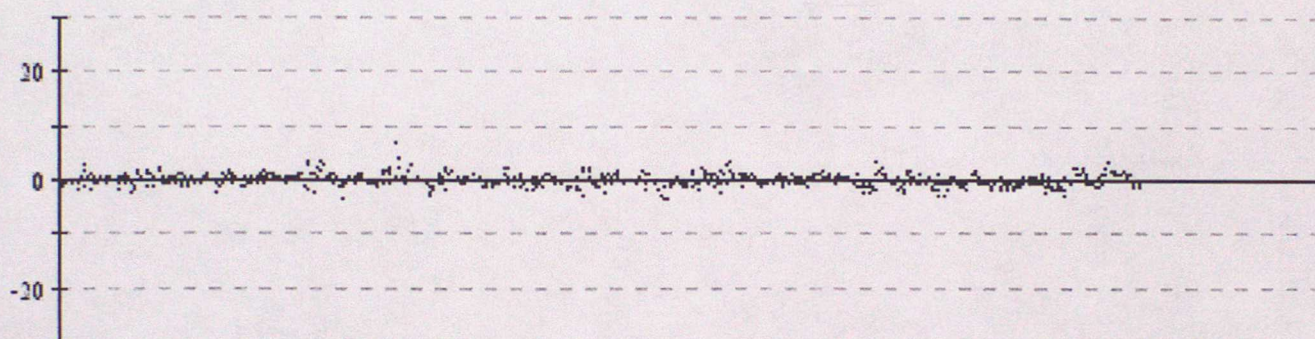
ANNEX B - TIME SERIES PLOTS OF PRESSURE

Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

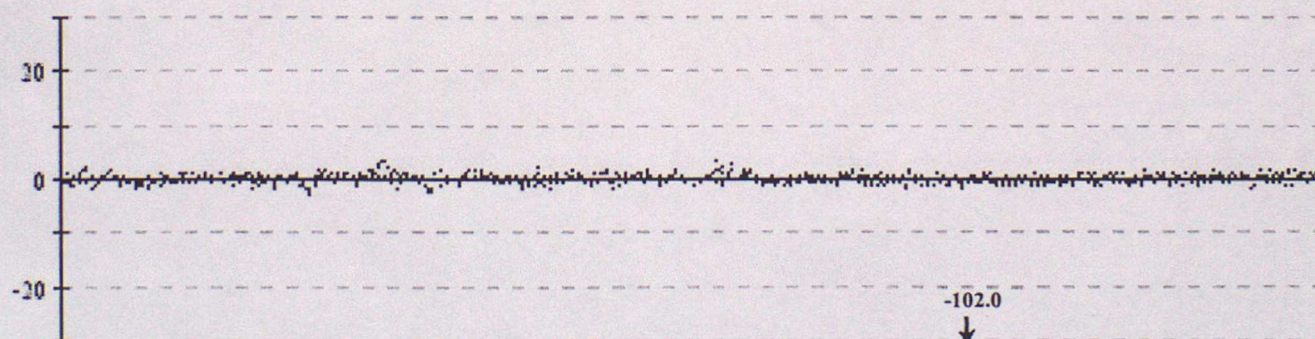
13504 Pressure



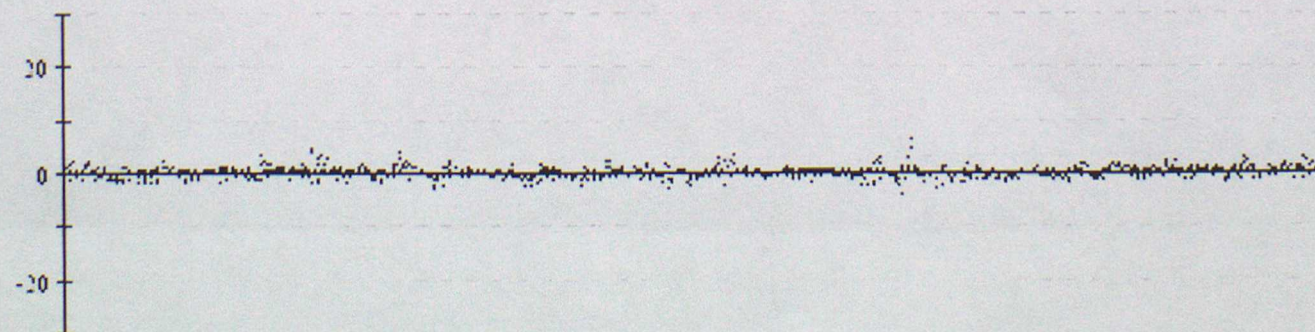
41505 Pressure



41521 Pressure

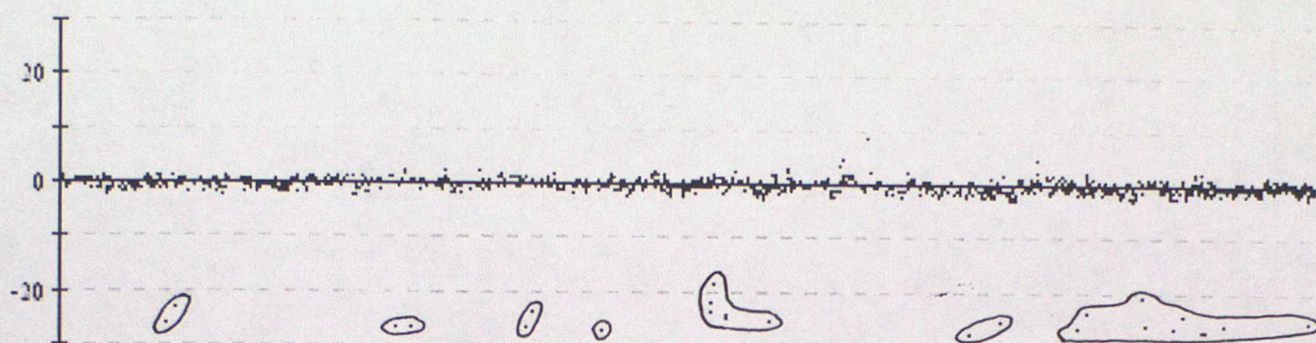


41528 Pressure

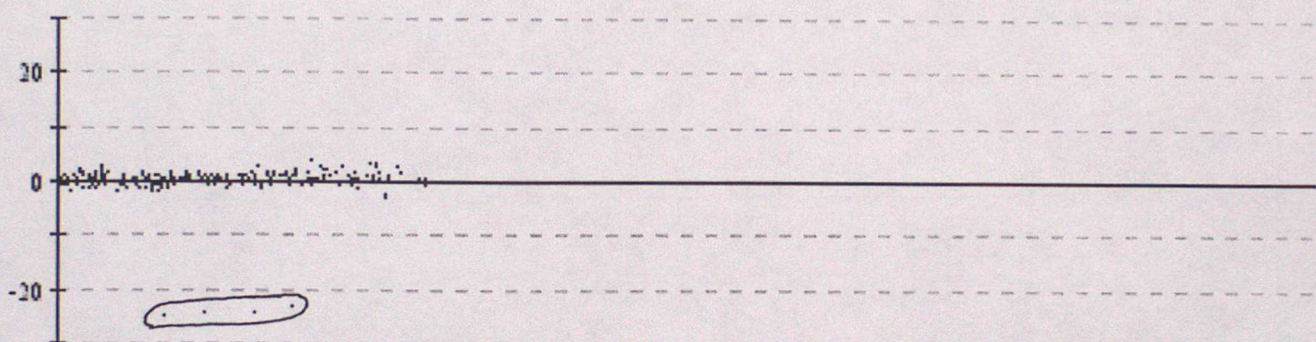


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

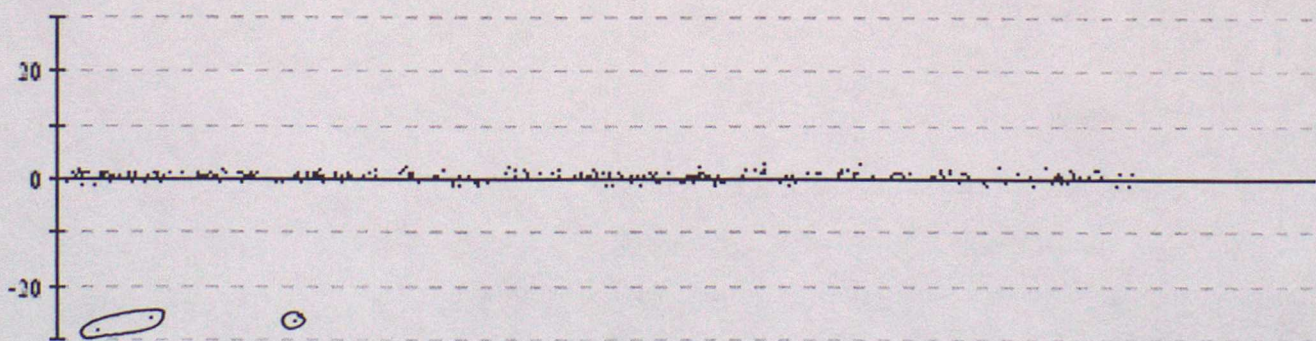
41599 Pressure



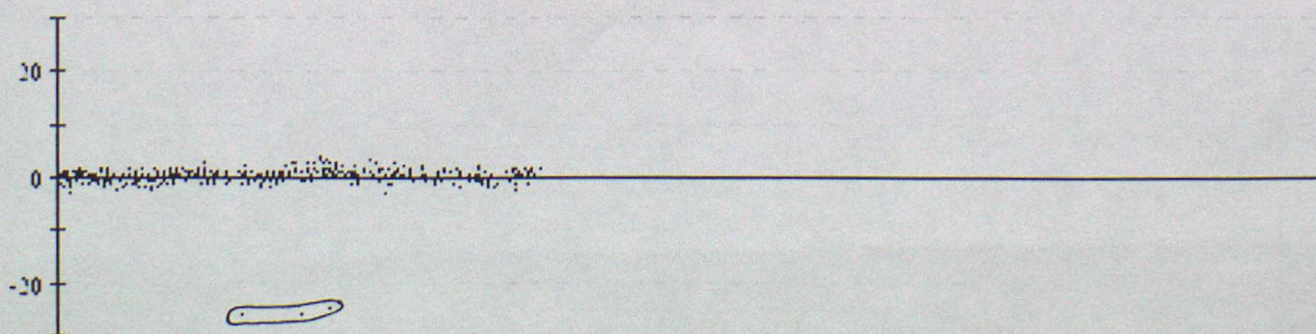
41636 Pressure



41637 Pressure

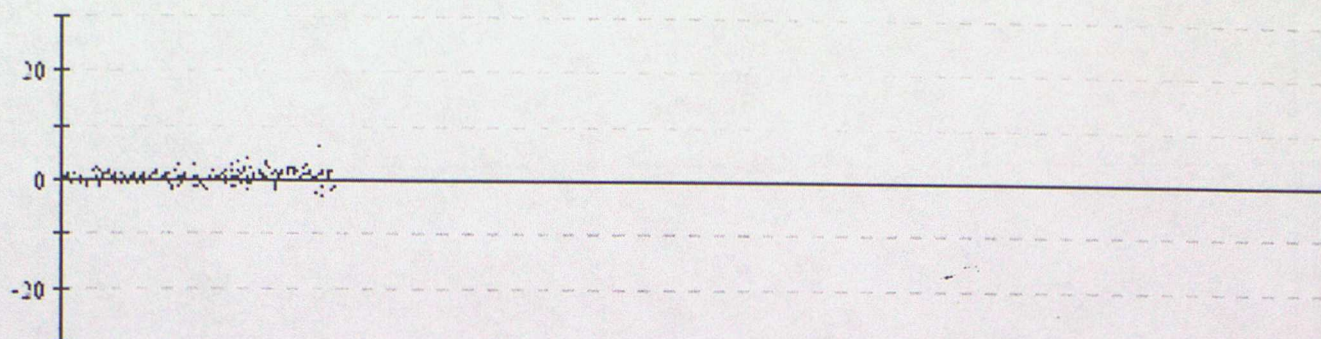


41638 Pressure

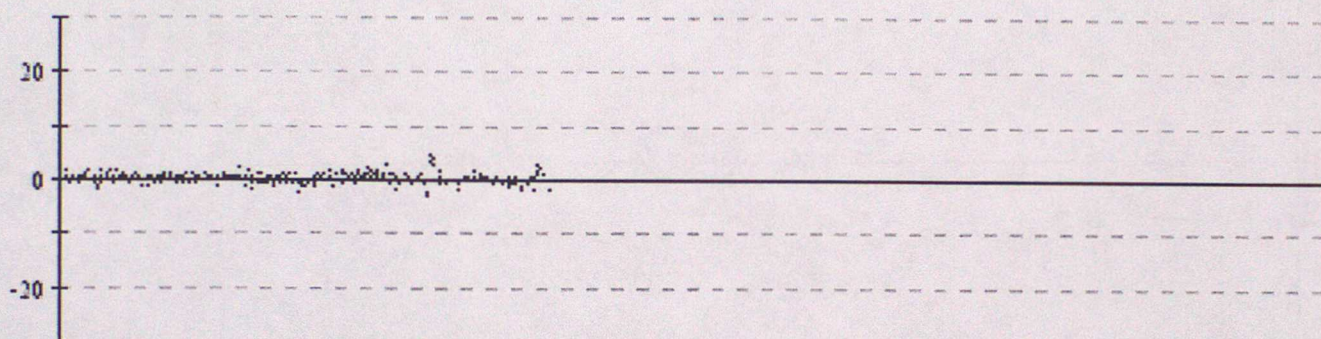


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

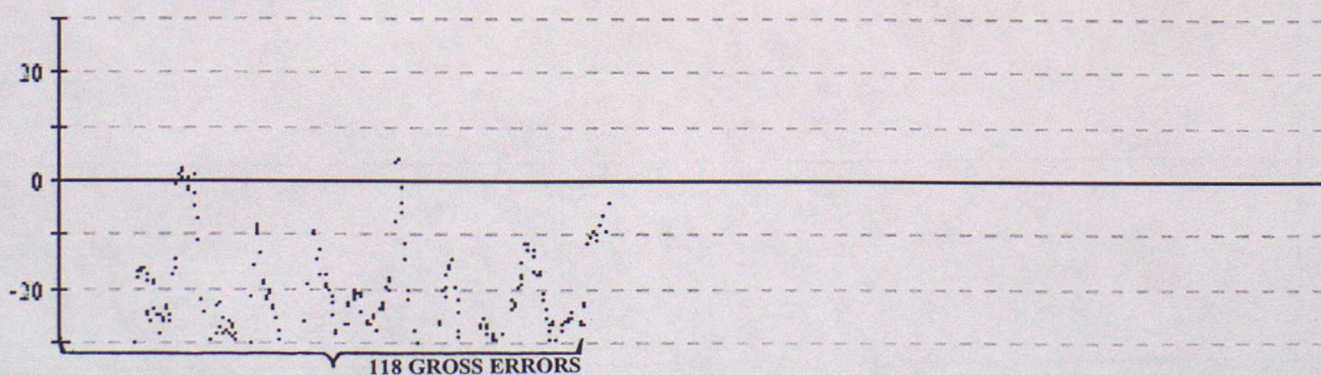
41648 Pressure



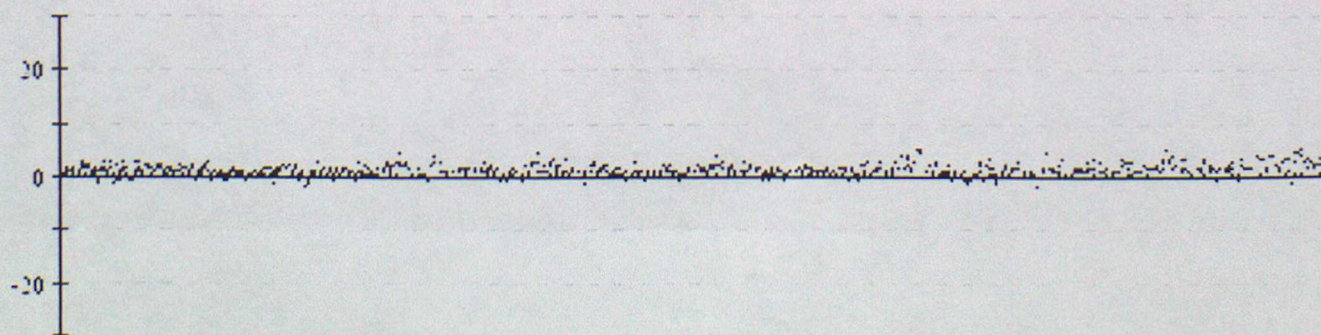
41649 Pressure



41852 Pressure

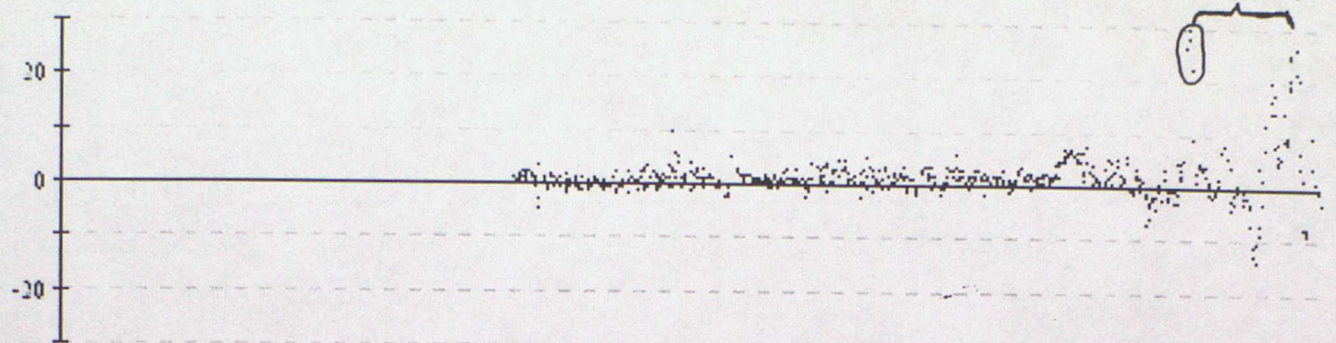


41853 Pressure

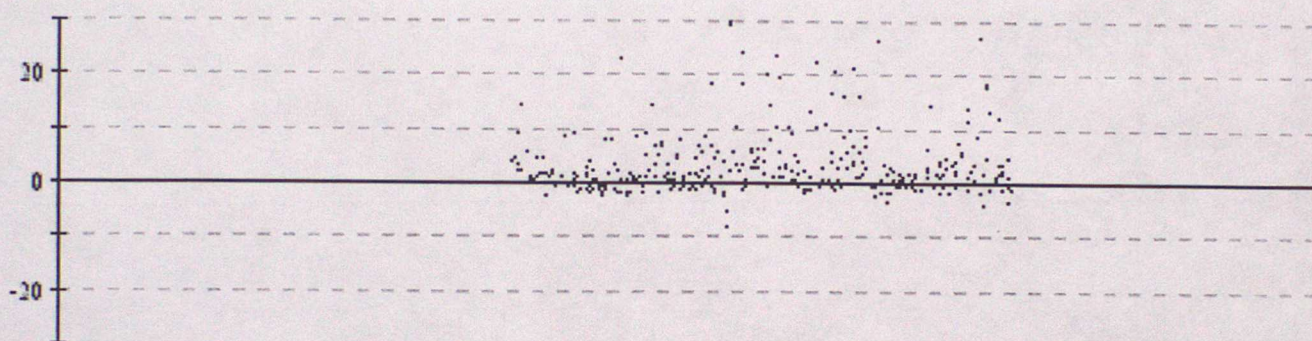


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

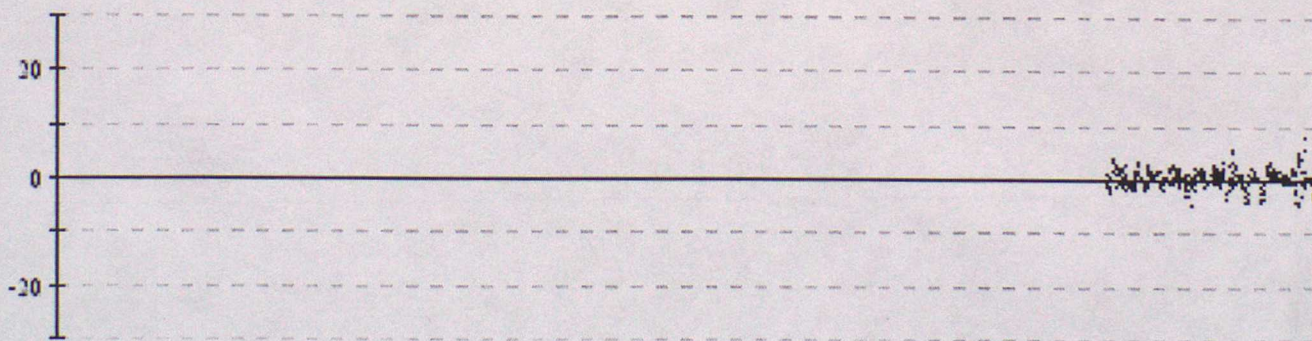
44513 Pressure



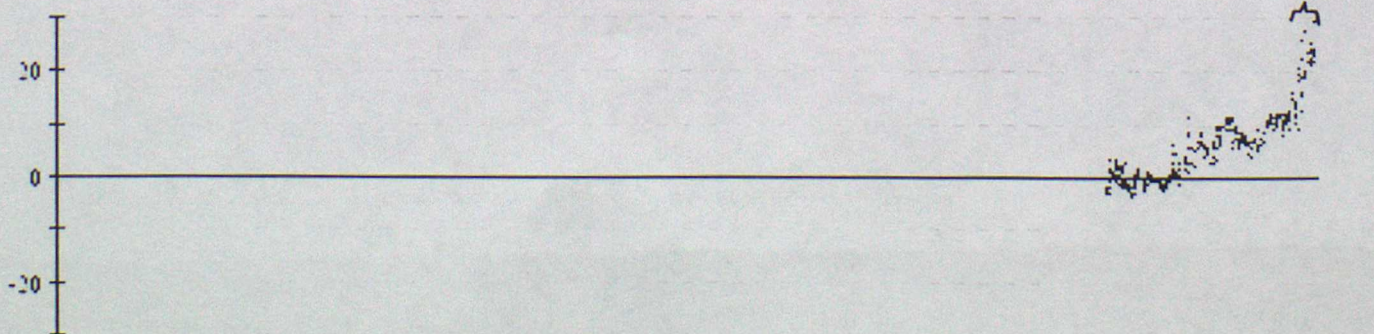
44514 Pressure



44516 Pressure

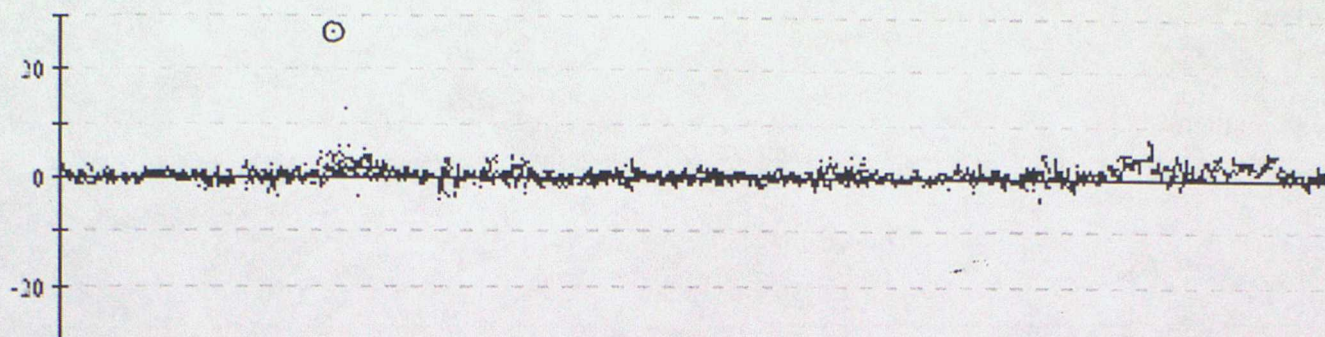


44517 Pressure

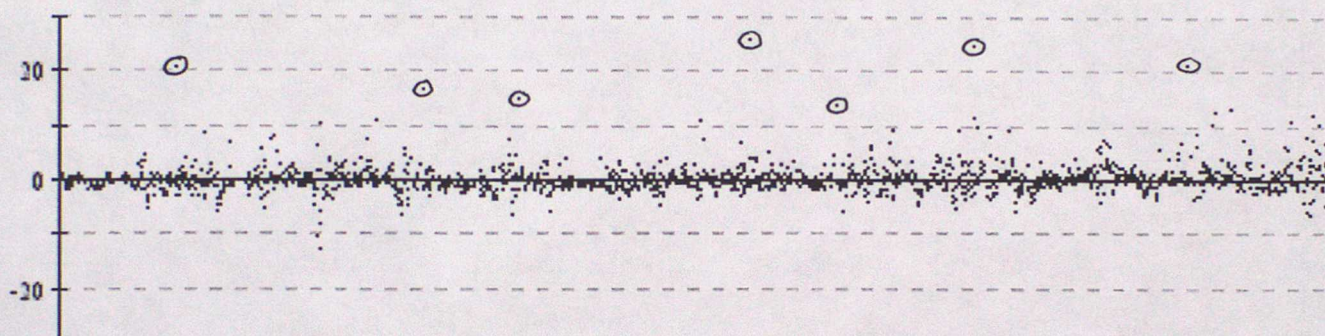


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

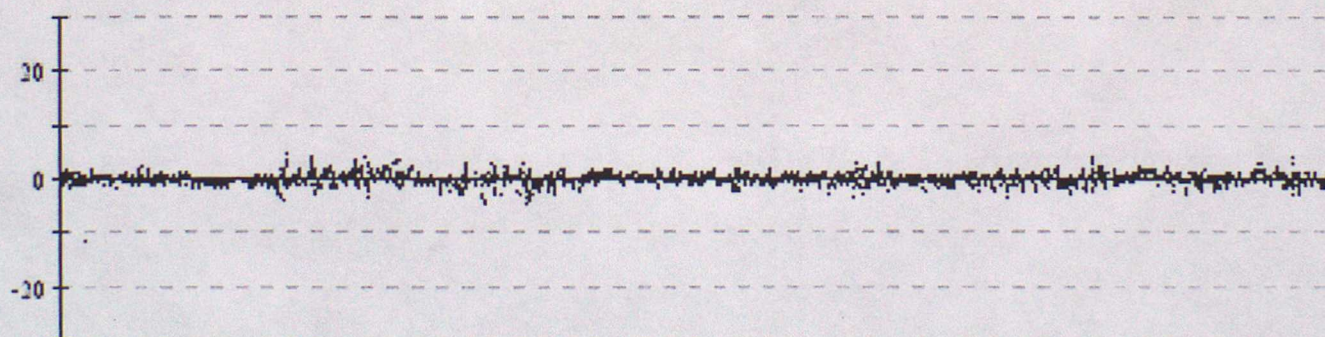
44546 Pressure



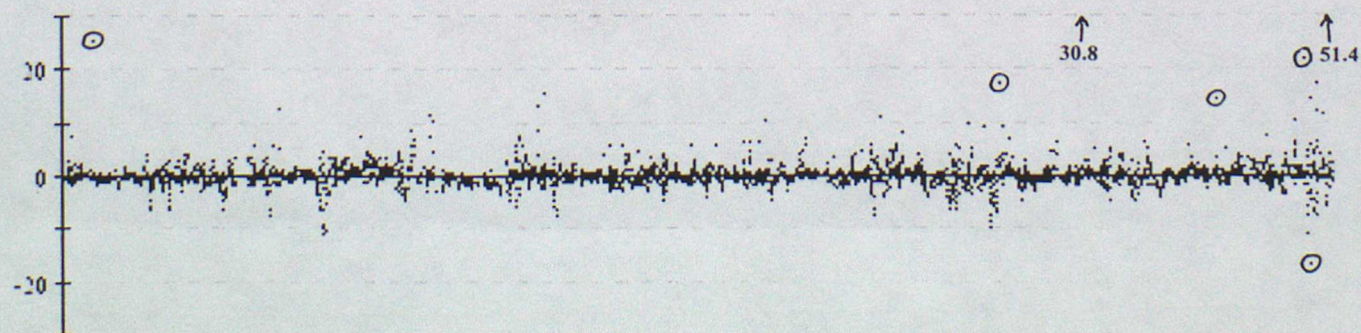
44607 Pressure



44608 Pressure

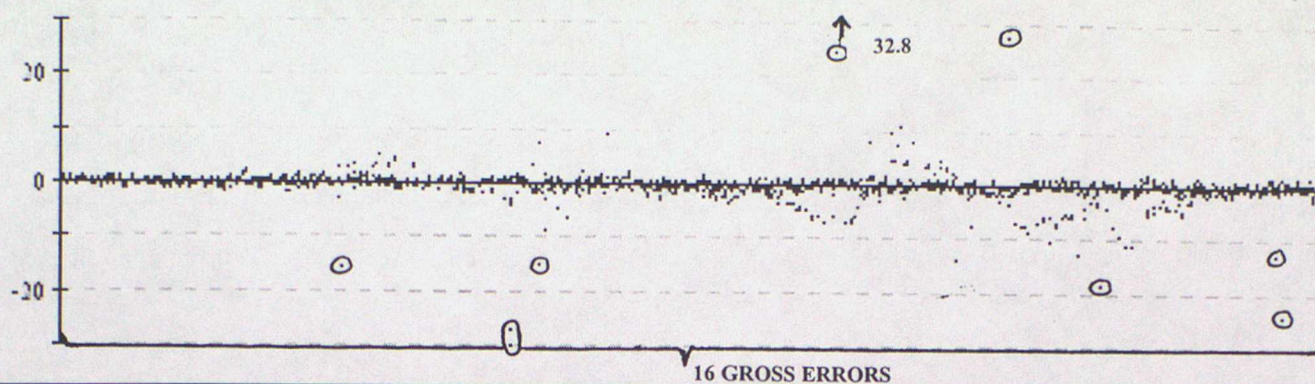


44610 Pressure

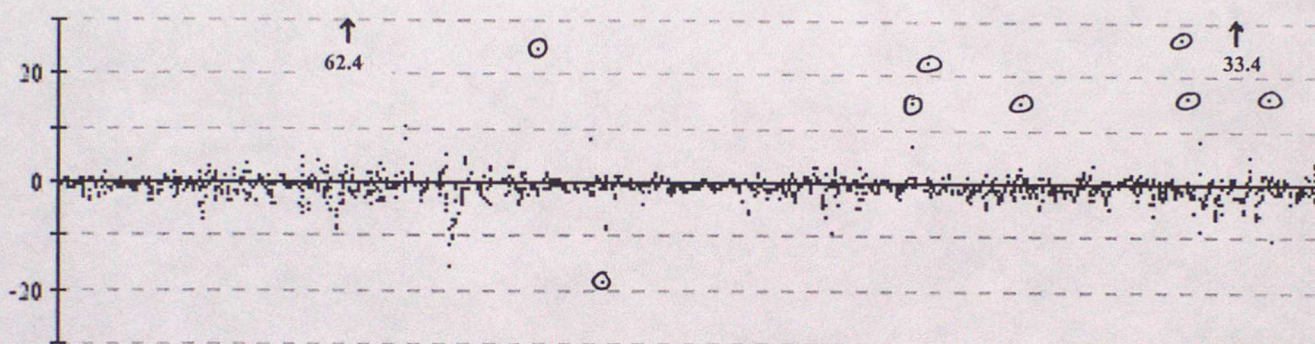


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

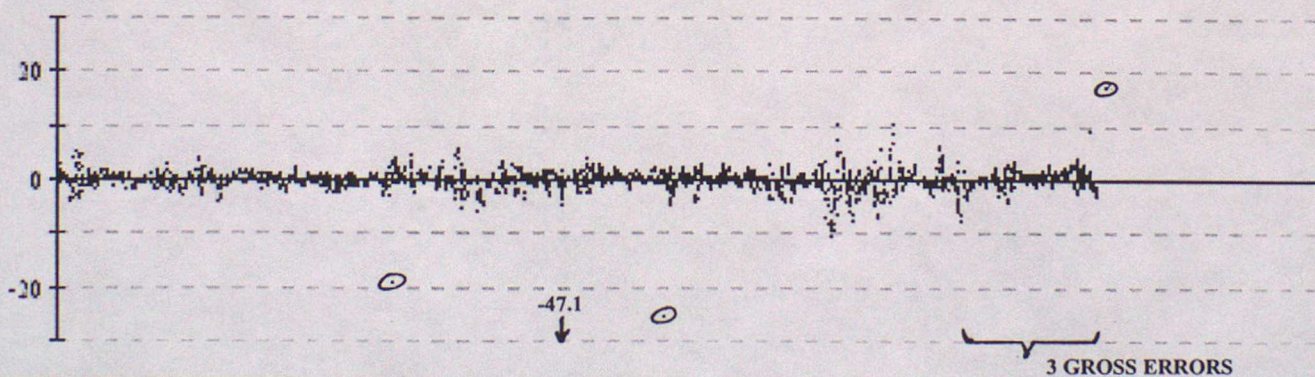
44613 Pressure



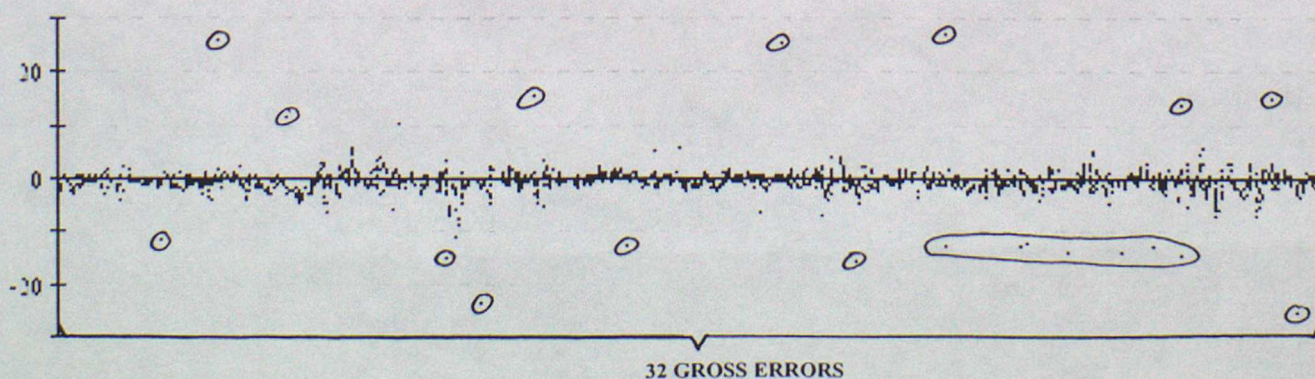
44614 Pressure



44616 Pressure

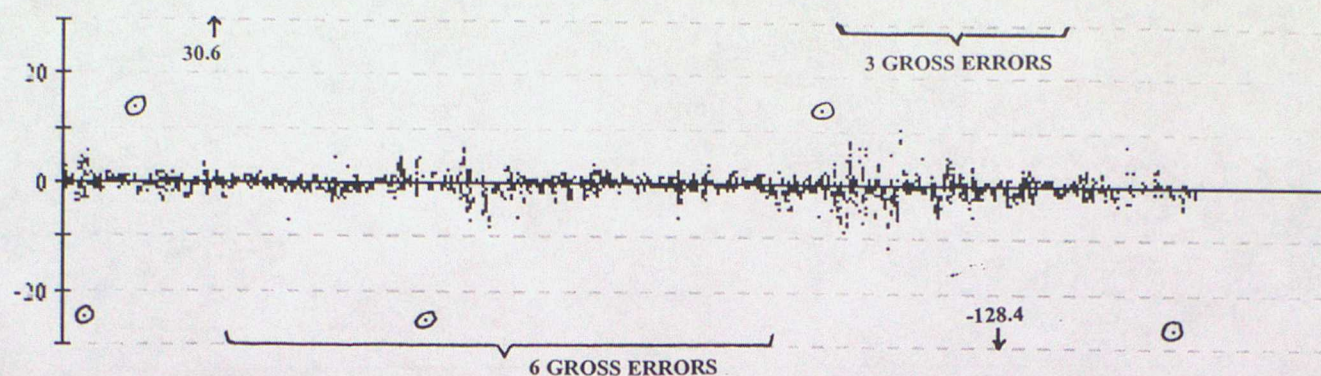


44621 Pressure

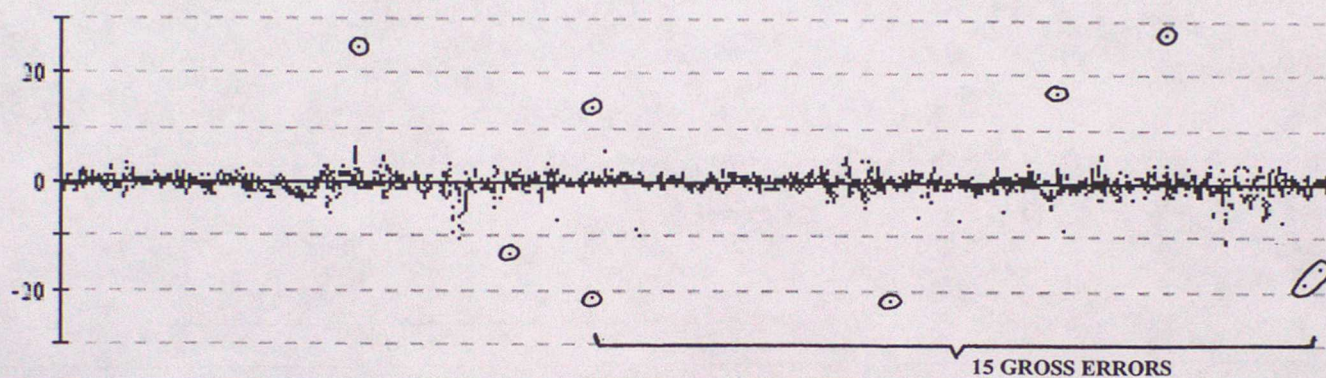


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

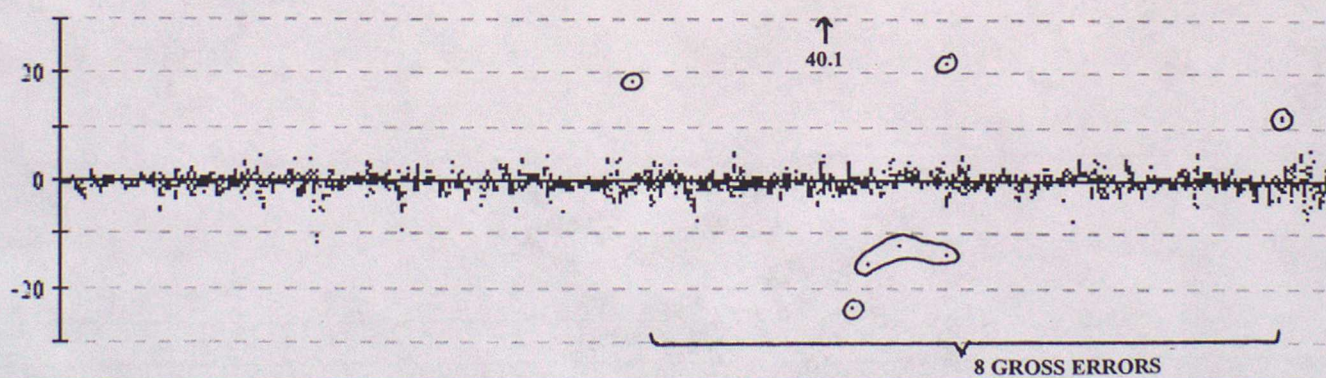
44624 Pressure



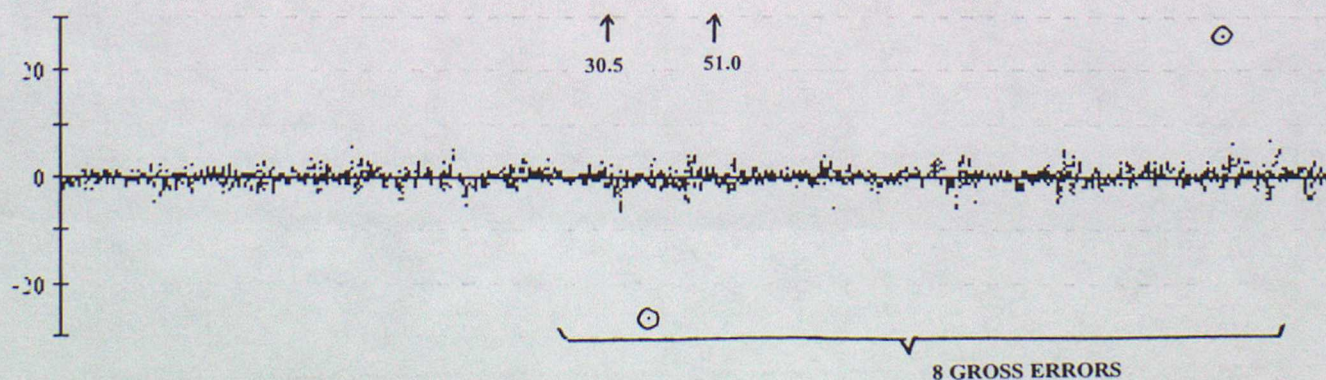
44625 Pressure



44626 Pressure

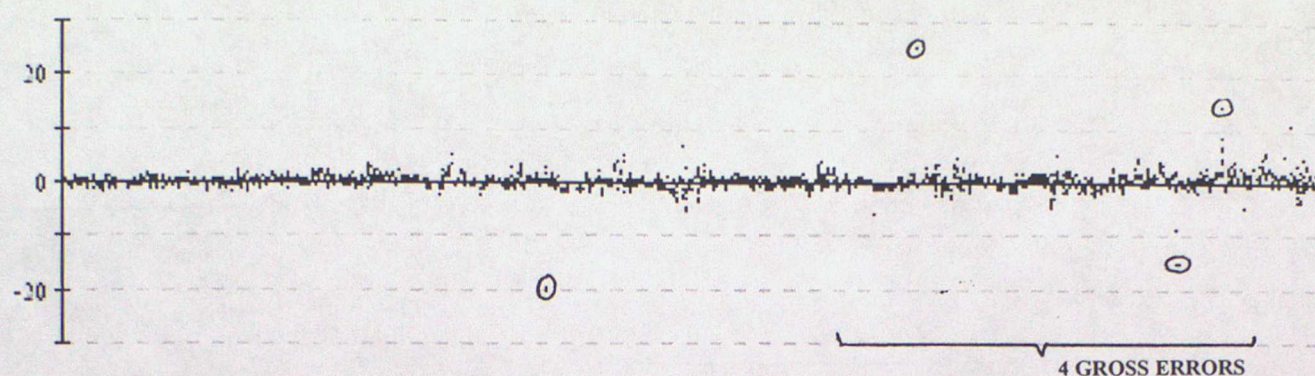


44627 Pressure

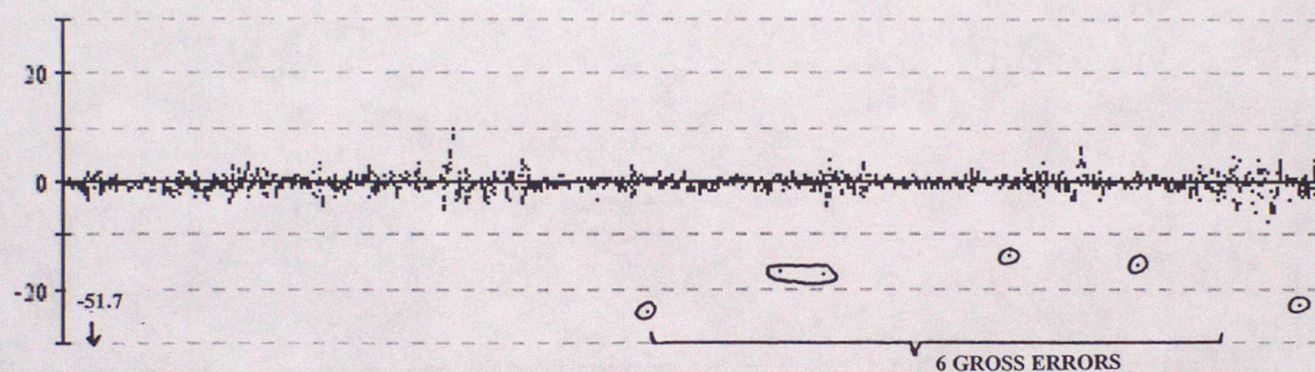


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

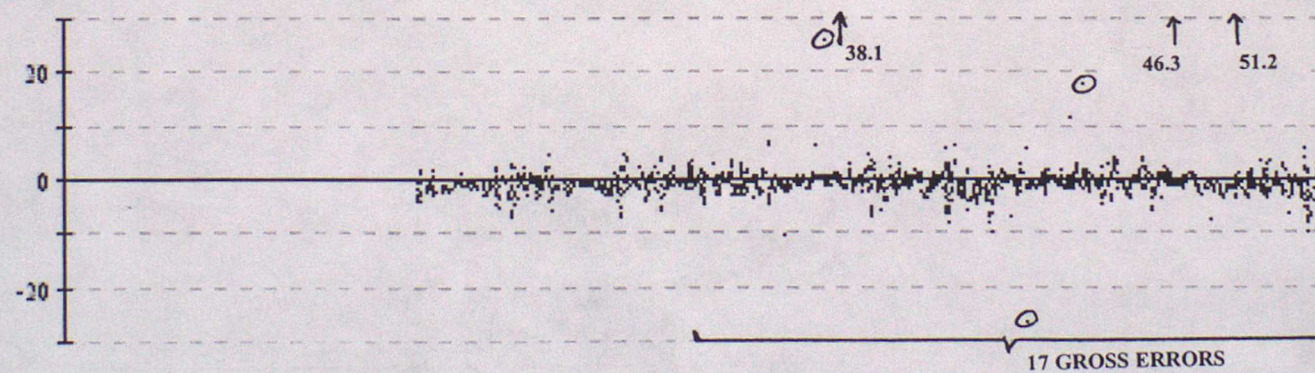
44628 Pressure



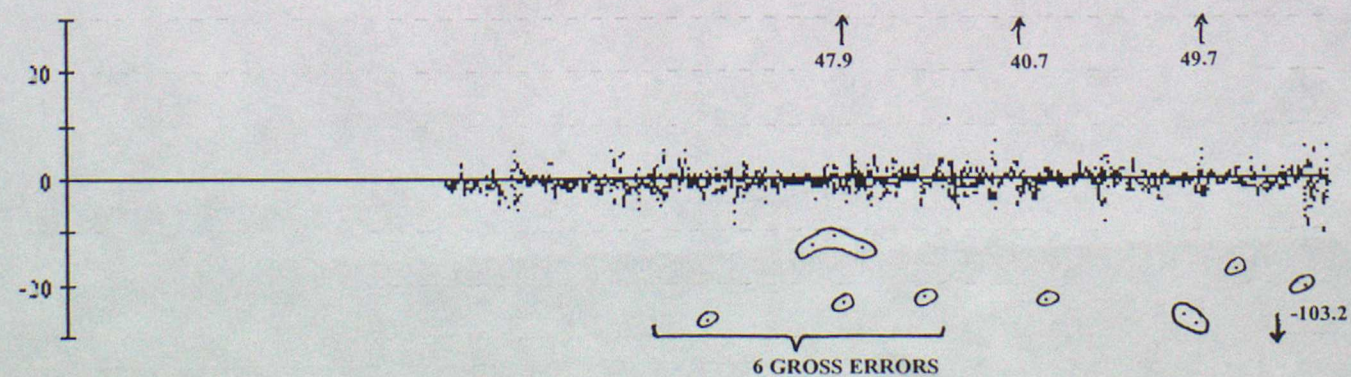
44630 Pressure



44721 Pressure

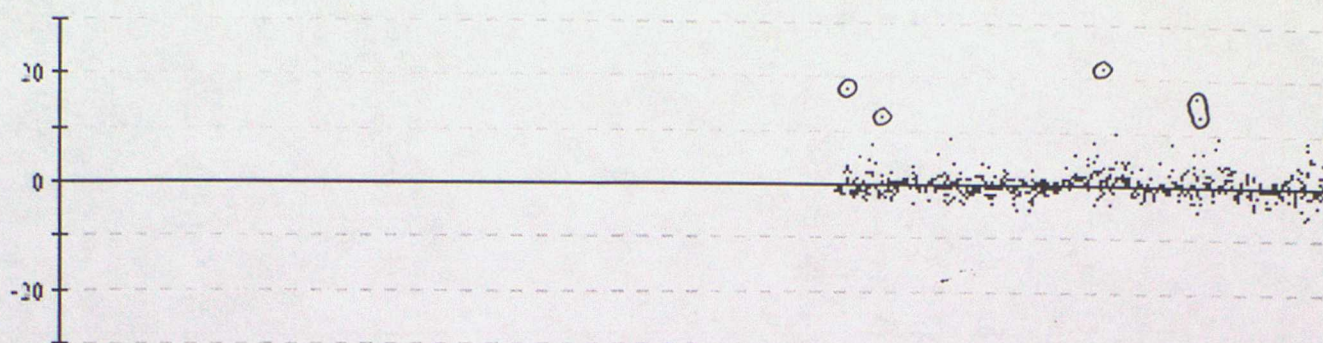


44722 Pressure

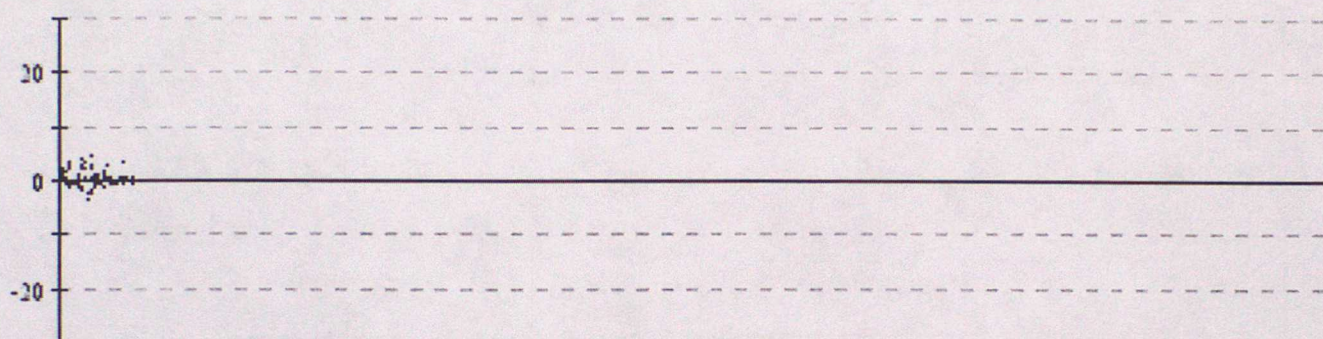


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

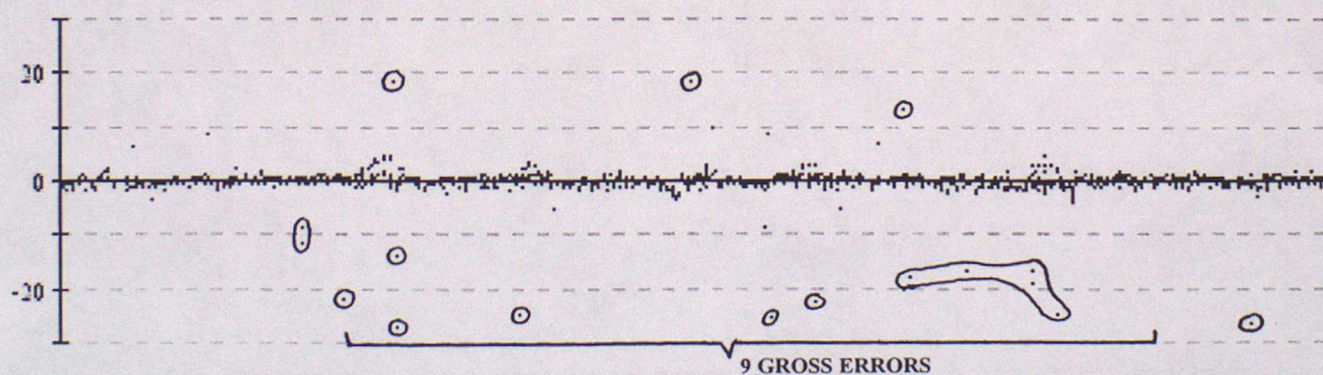
44723 Pressure



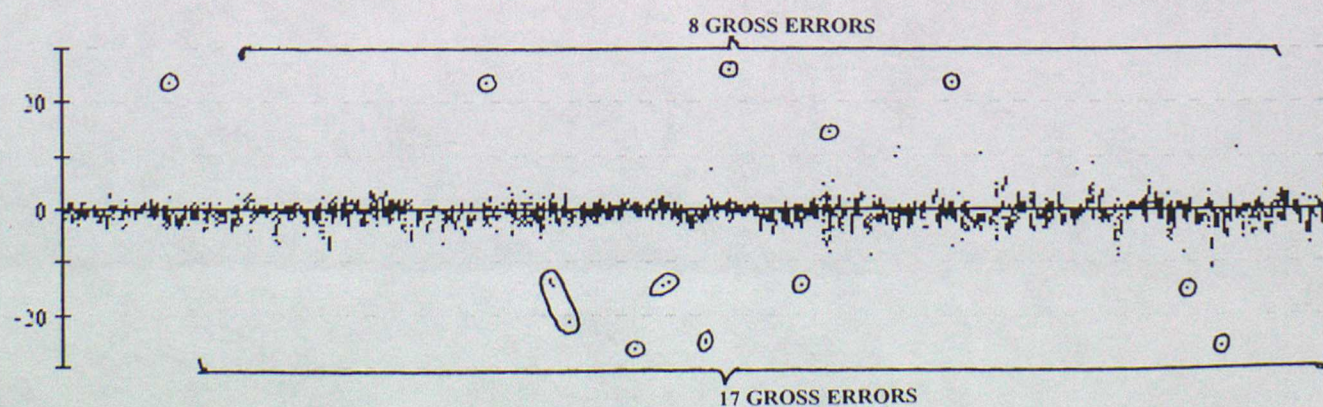
44728 Pressure



44765 Pressure

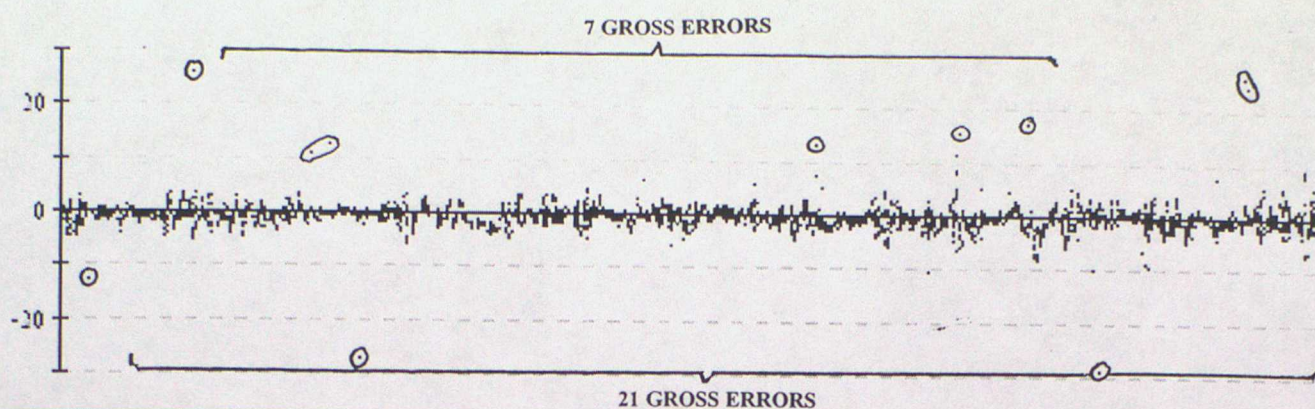


44766 Pressure

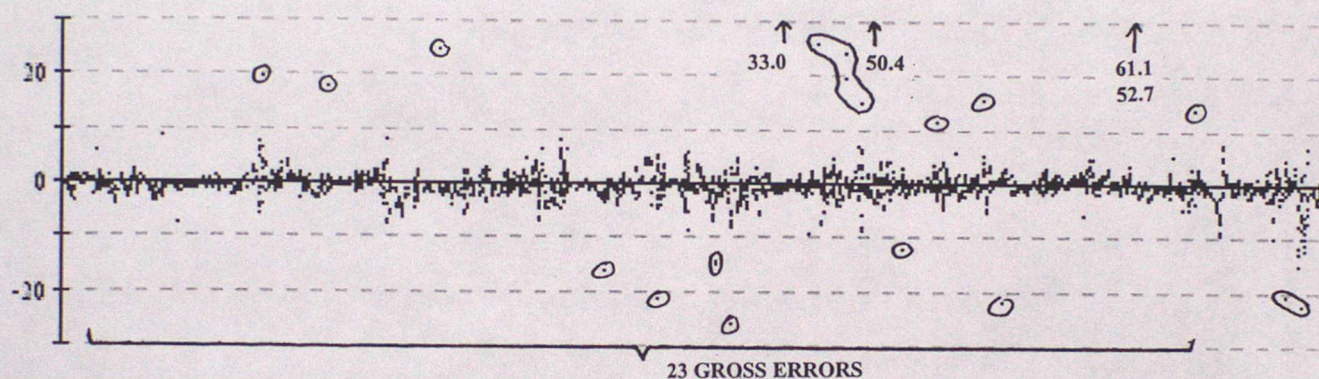


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

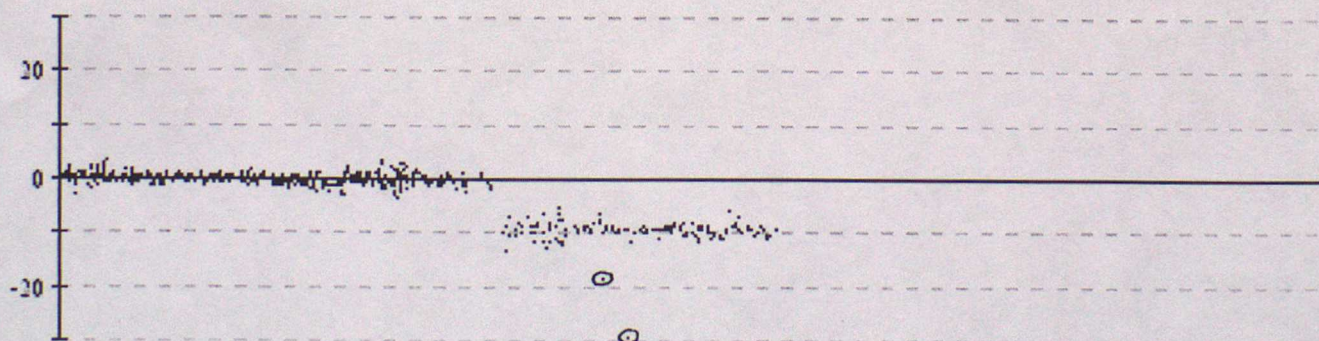
44773 Pressure



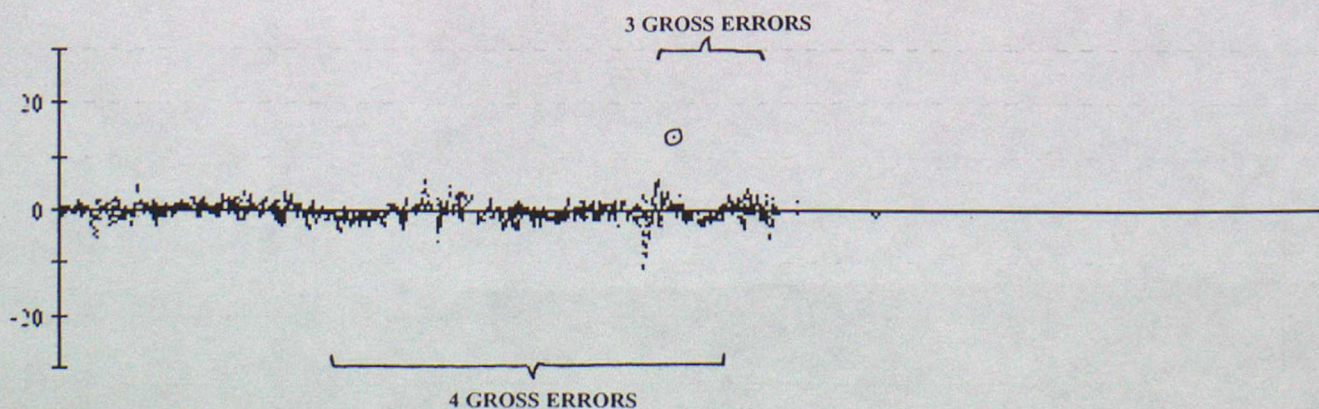
44777 Pressure



44778 Pressure

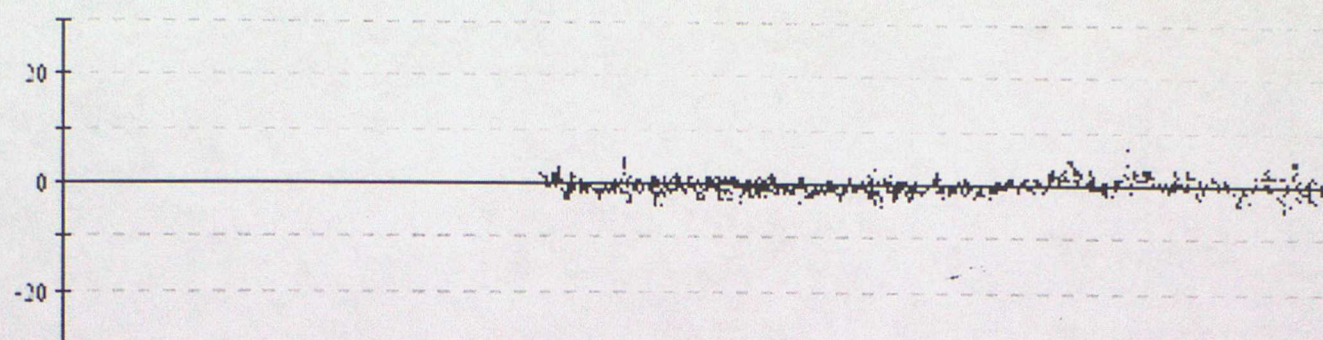


44780 Pressure

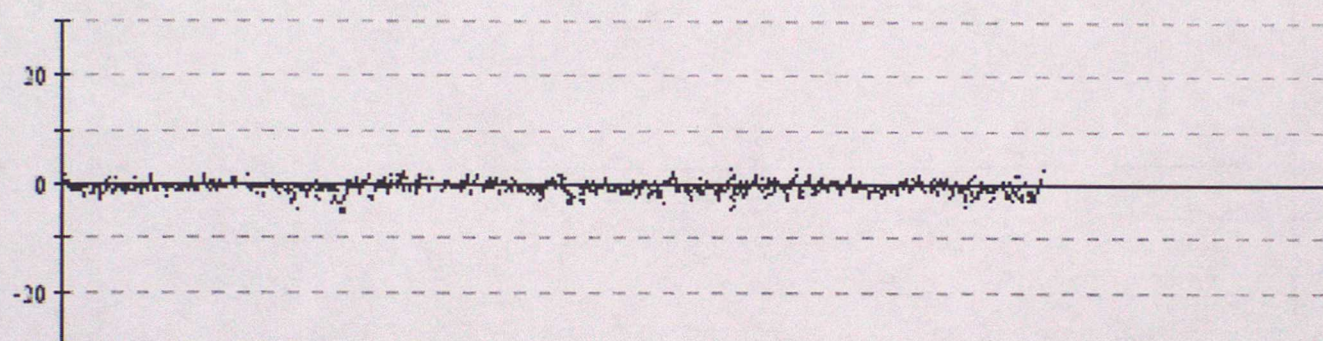


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

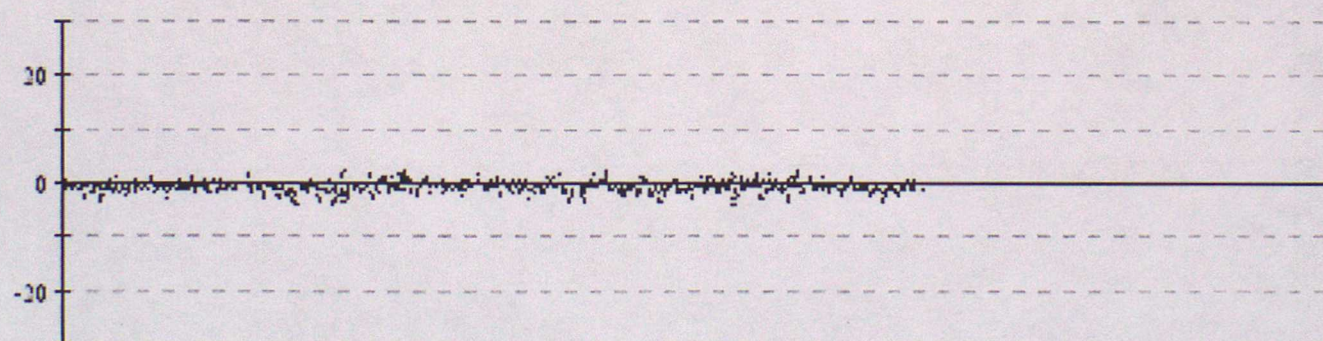
47553 Pressure



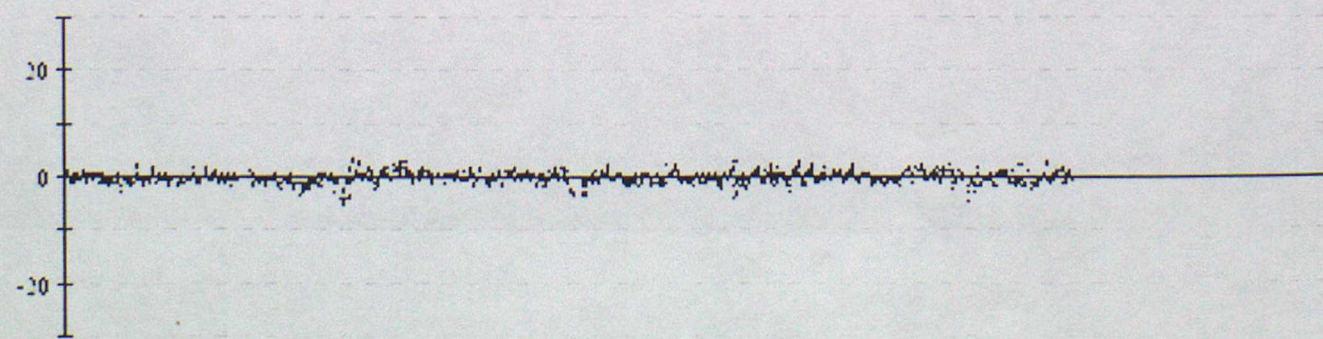
61501 Pressure



61502 Pressure

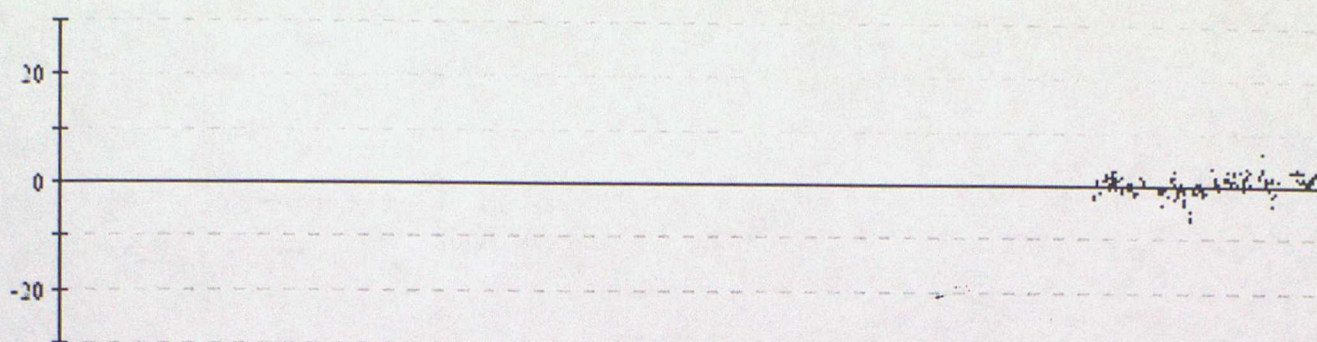


61504 Pressure

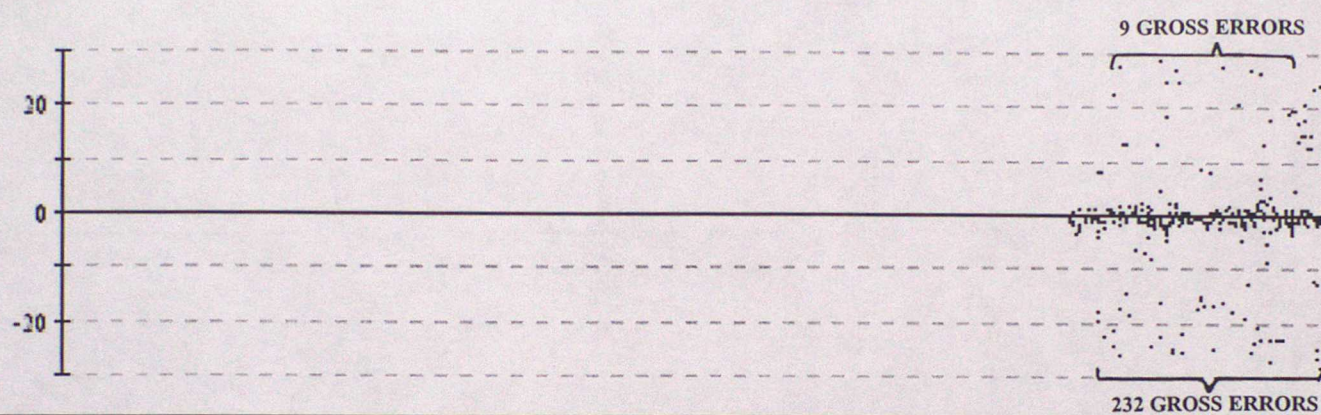


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

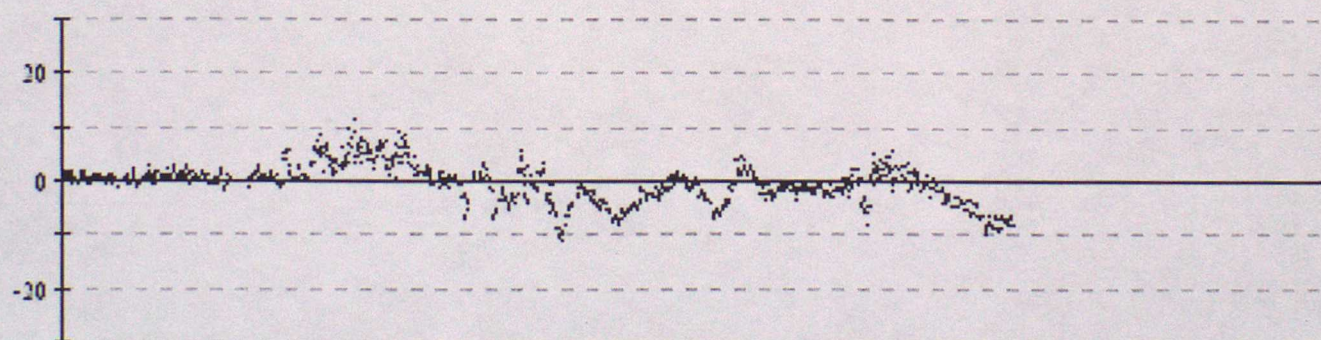
61536 Pressure



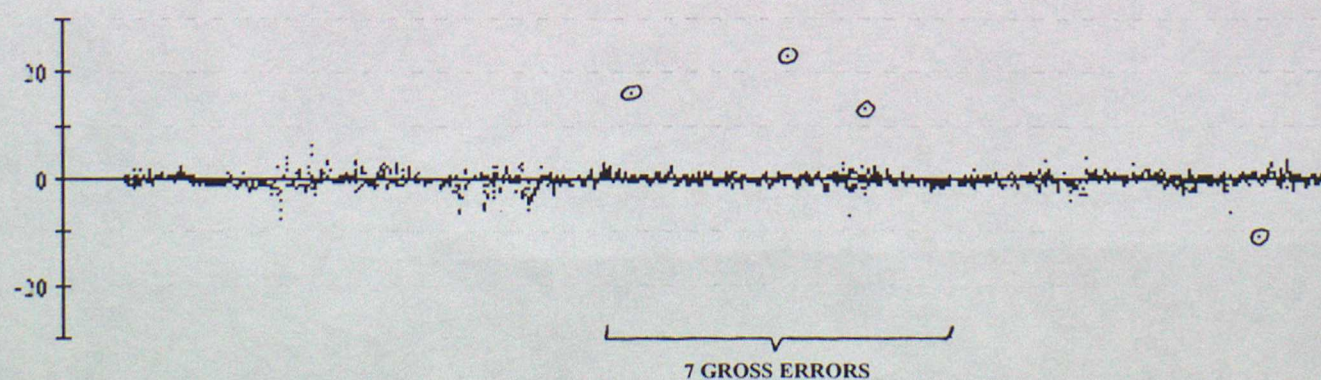
61537 Pressure



62506 Pressure

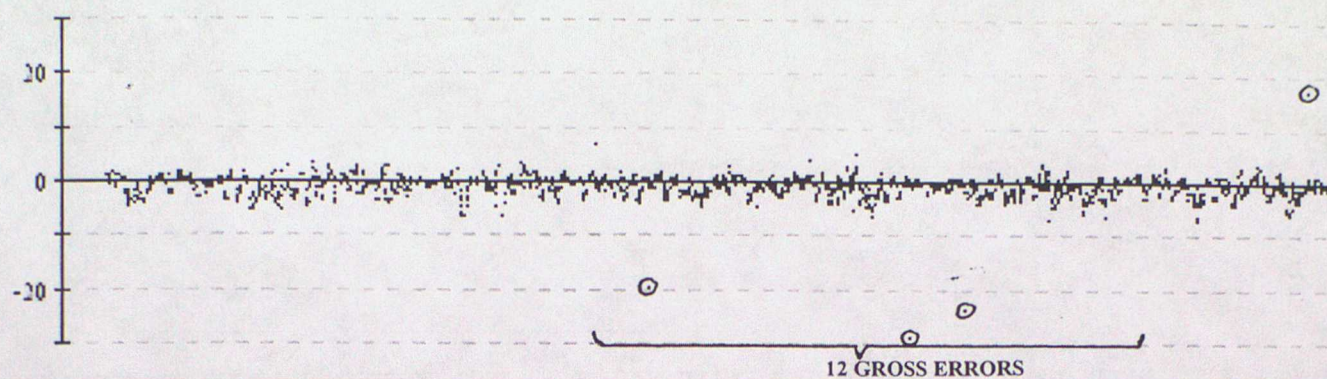


62507 Pressure

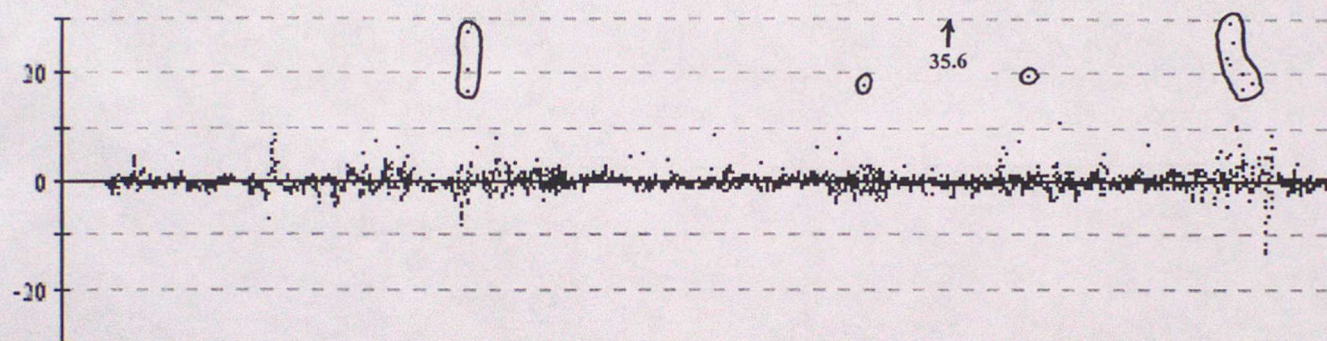


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

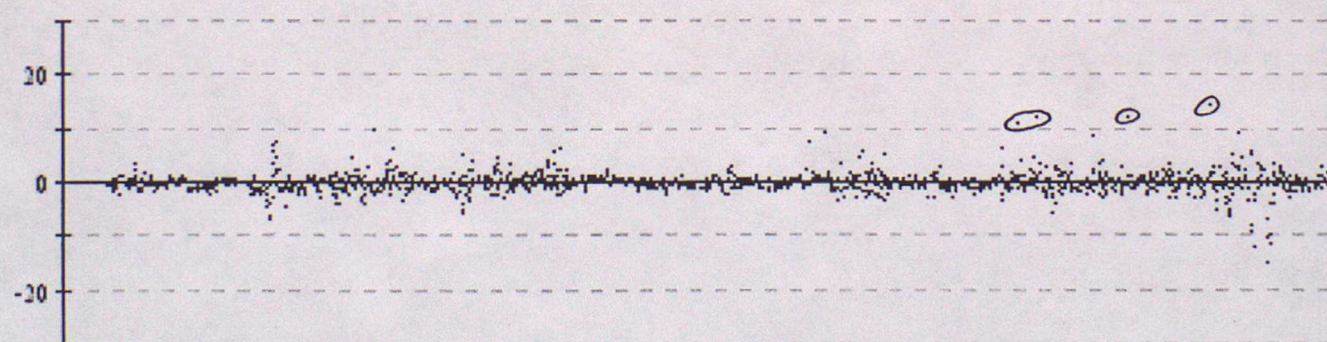
62508 Pressure



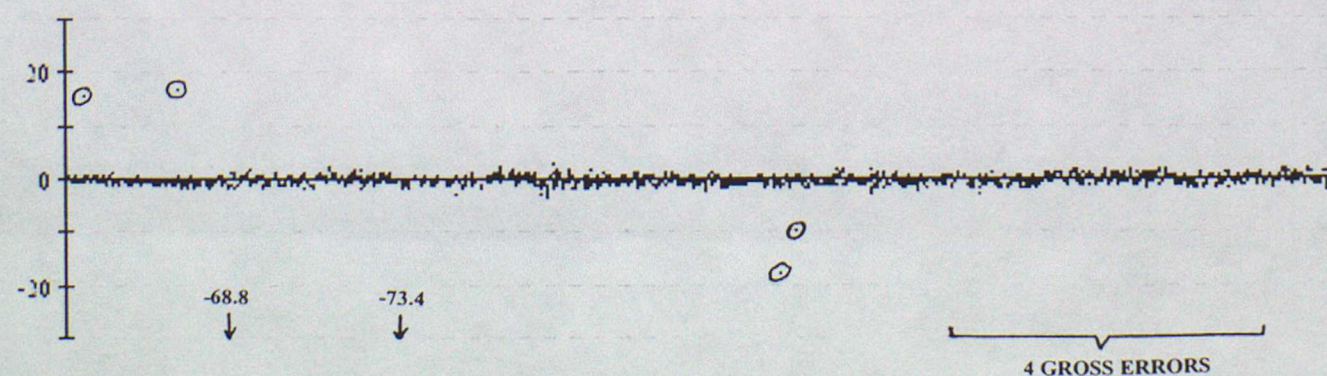
62509 Pressure



62510 Pressure

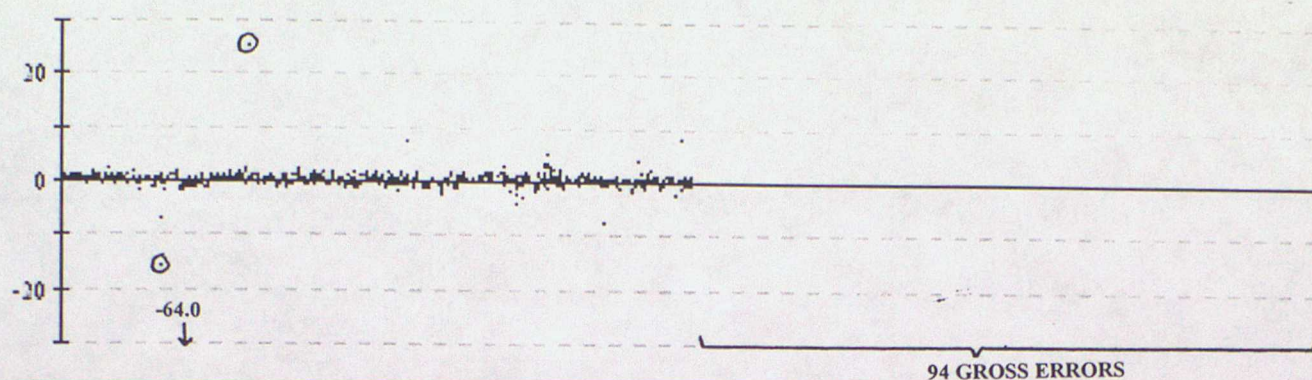


62520 Pressure

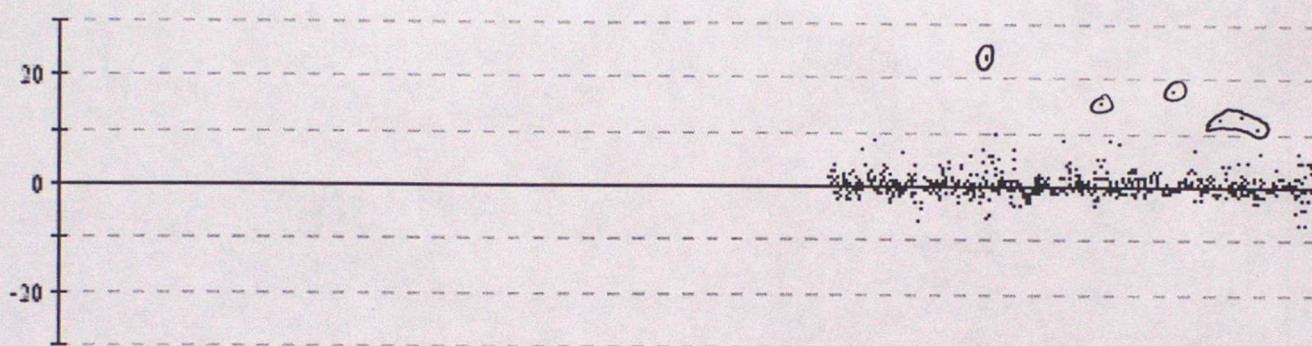


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

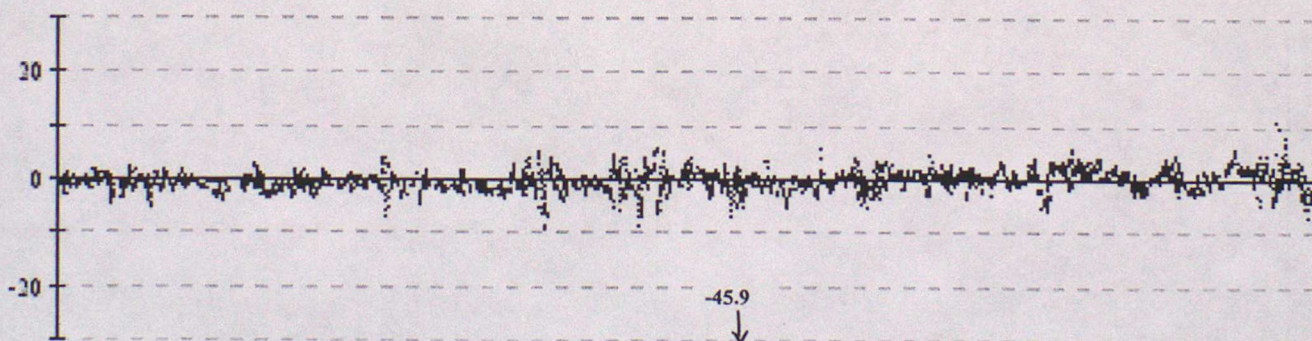
62554 Pressure



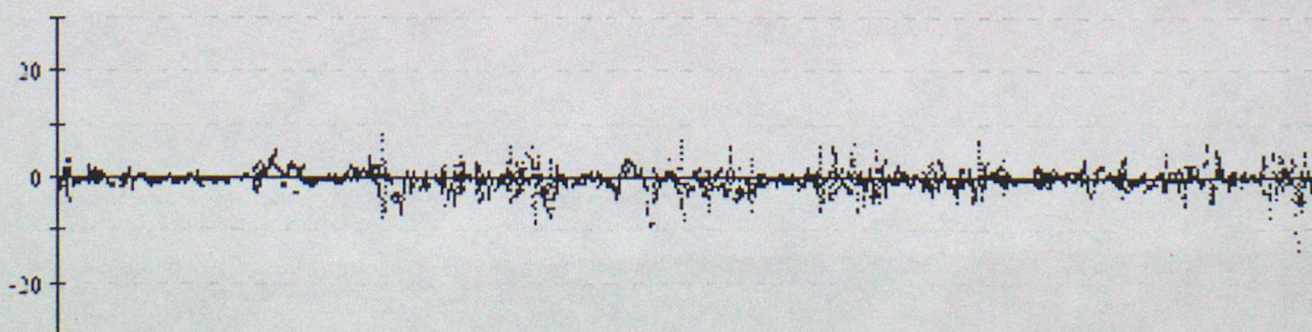
62596 Pressure



64516 Pressure

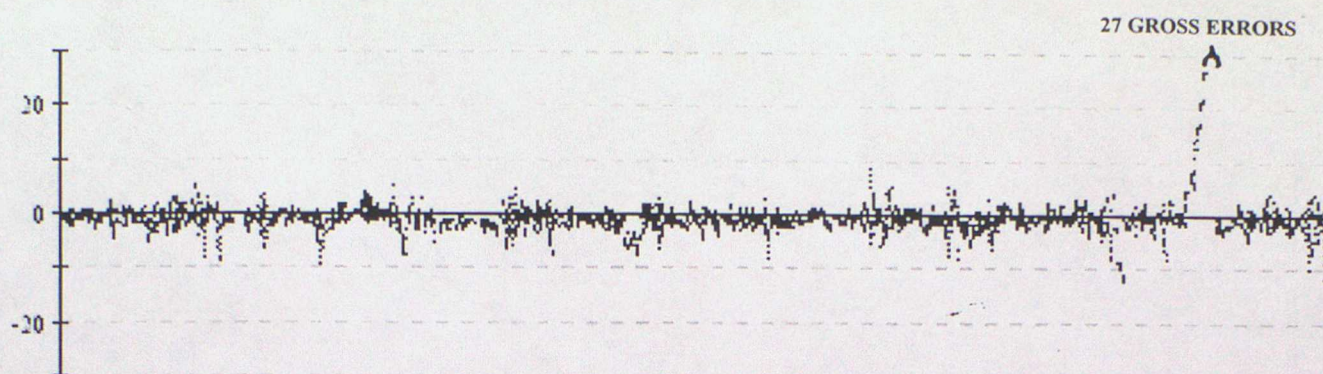


64517 Pressure

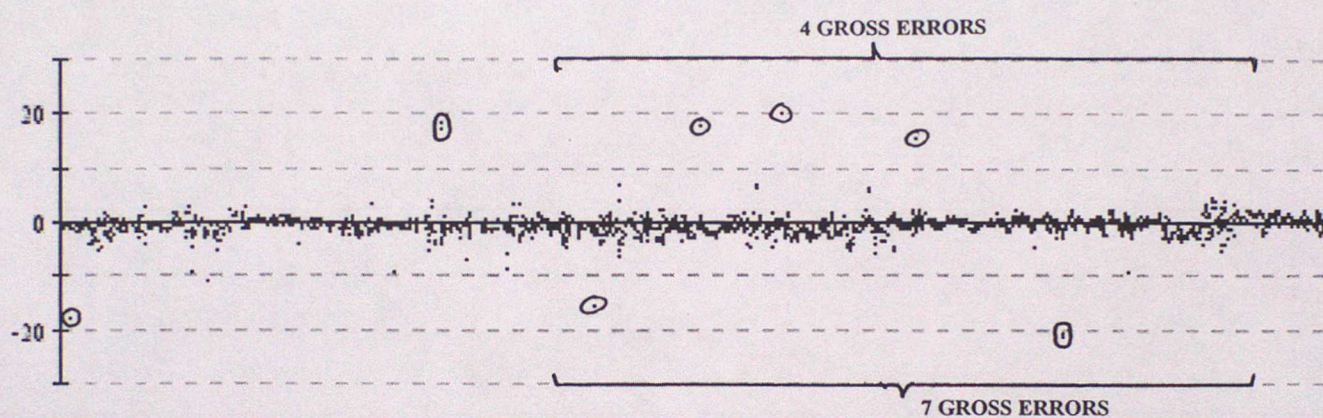


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

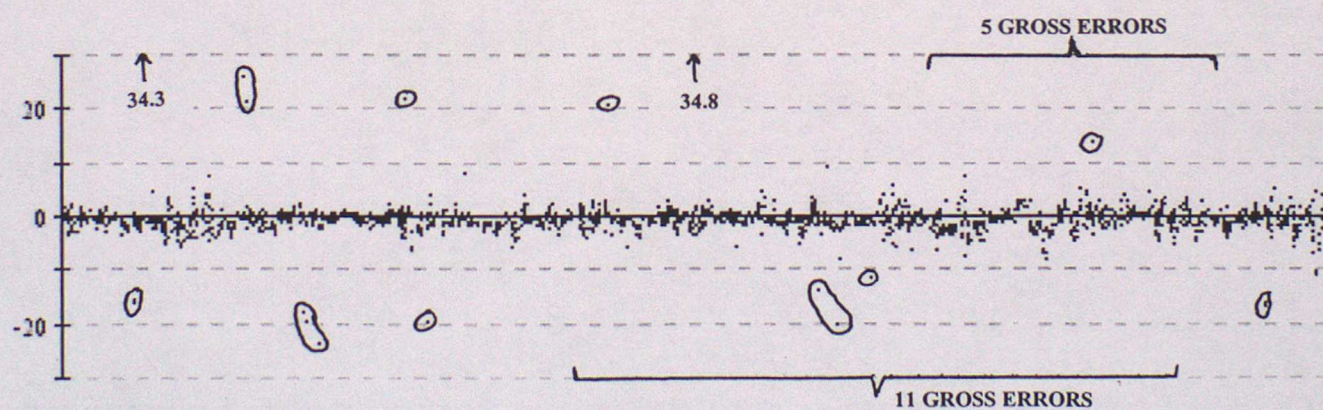
64518 Pressure



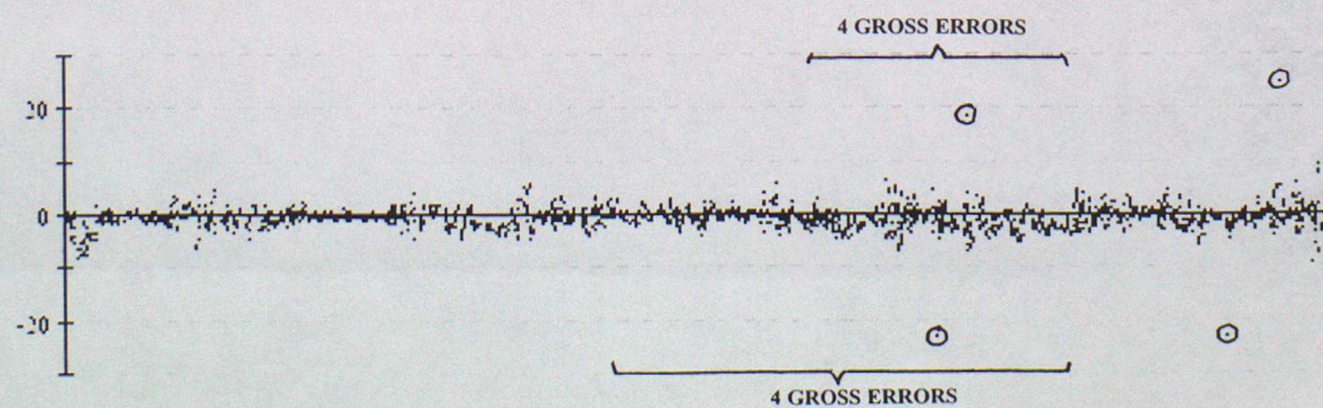
64529 Pressure



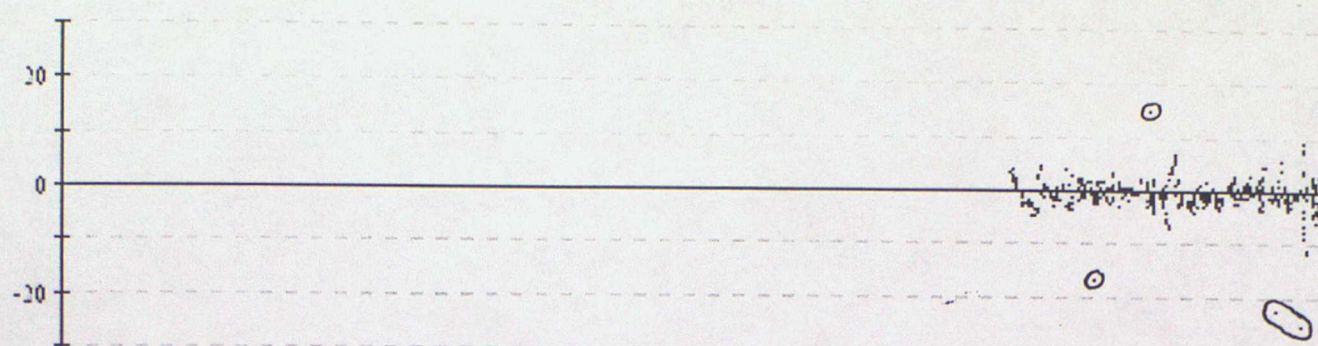
64530 Pressure



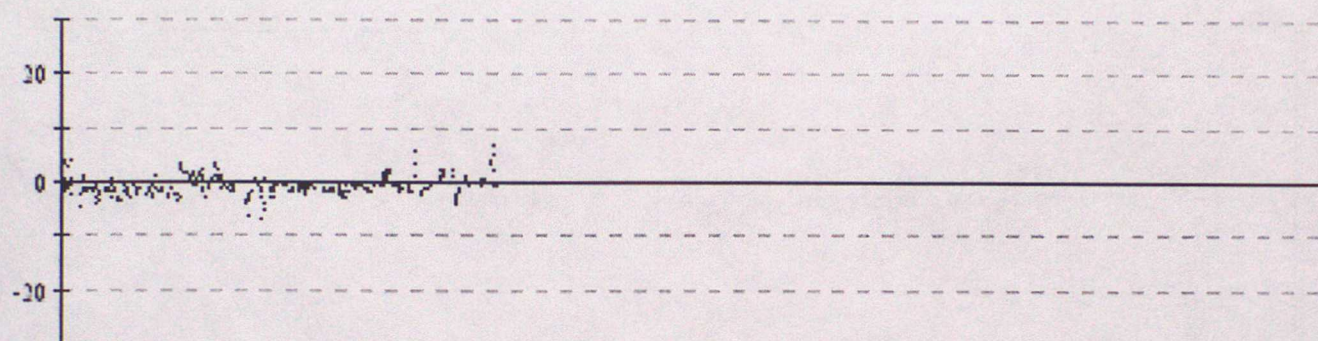
64546 Pressure



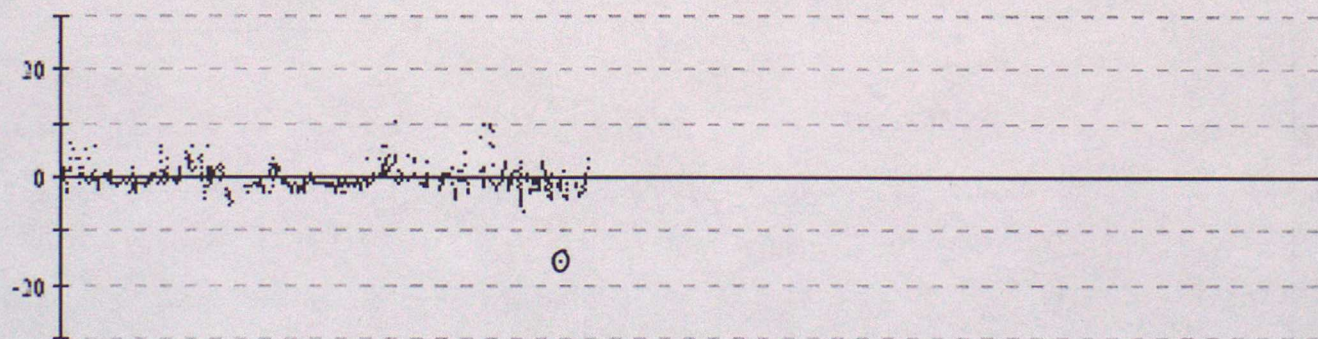
64547 Pressure



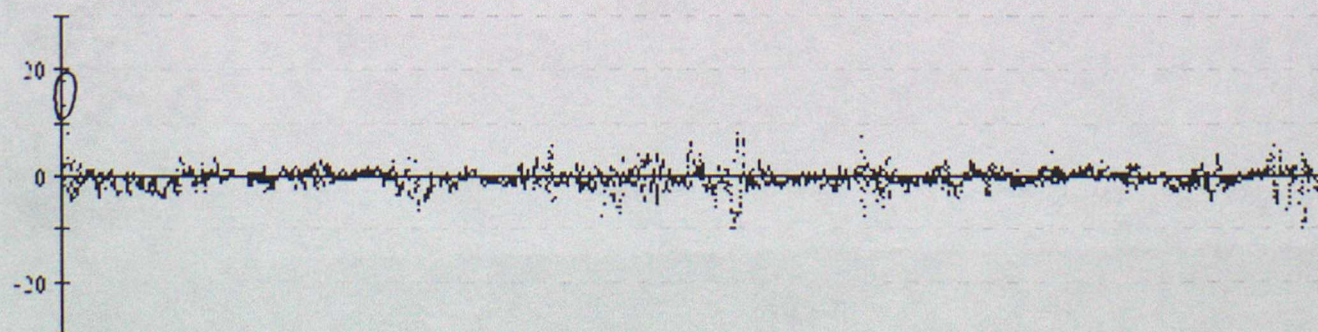
64693 Pressure



64694 Pressure

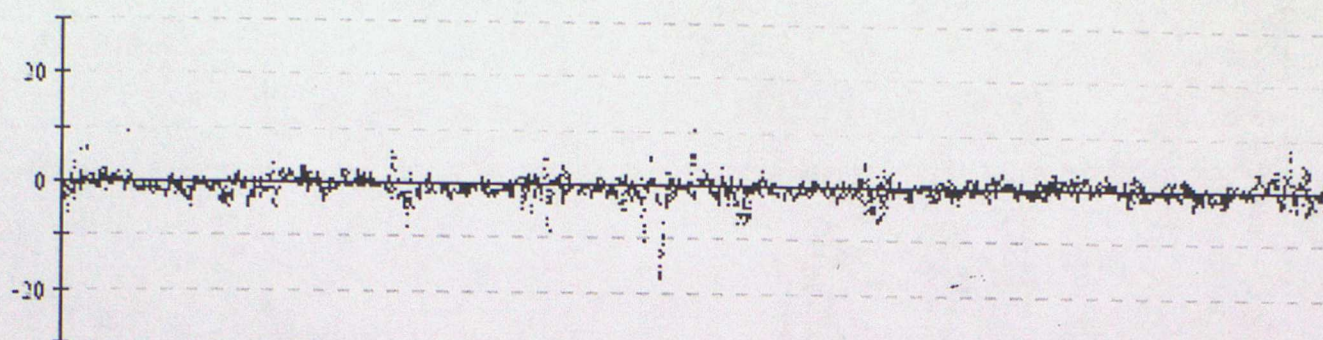


64698 Pressure



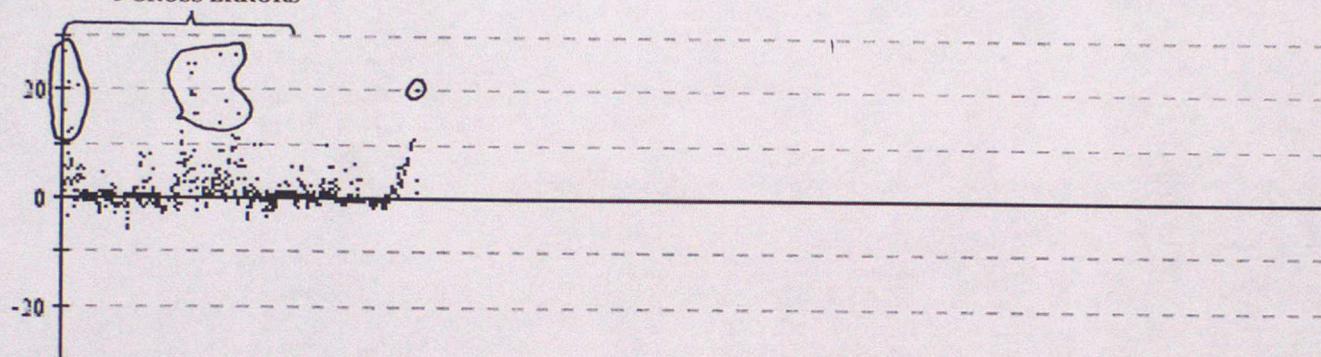
Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

64699 Pressure

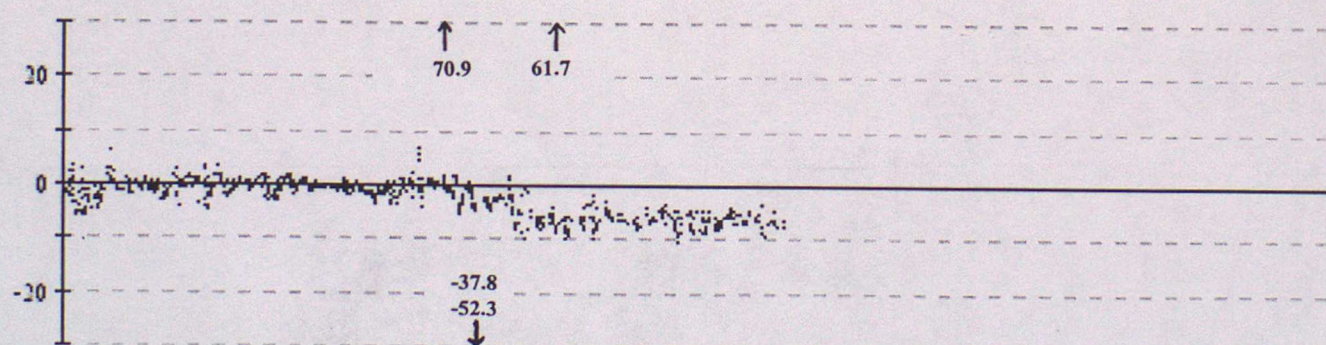


64700 Pressure

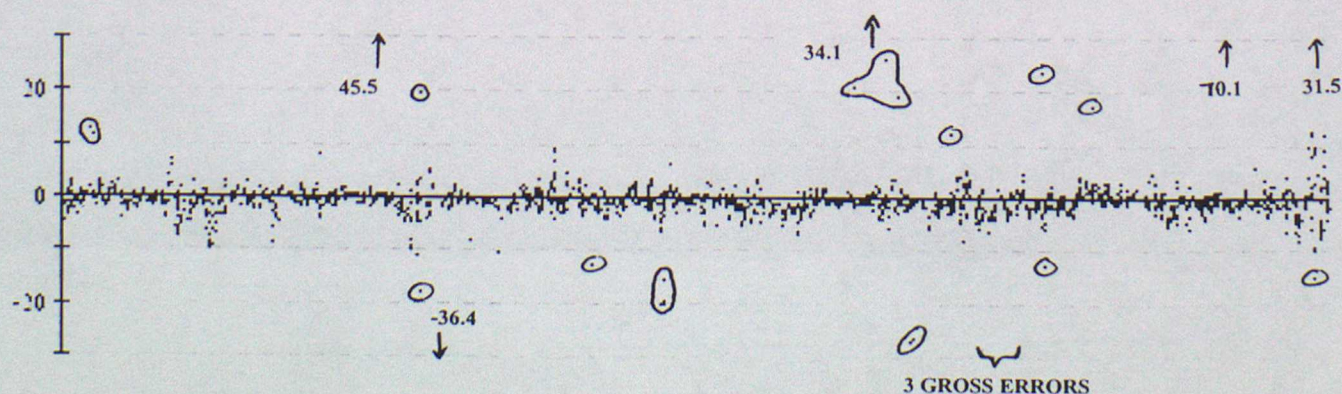
5 GROSS ERRORS



65593 Pressure

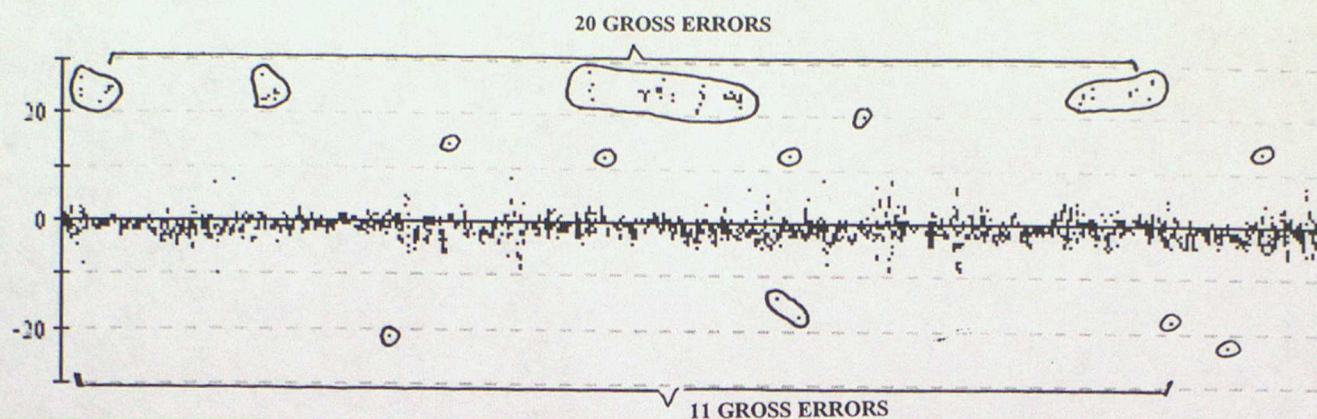


65594 Pressure

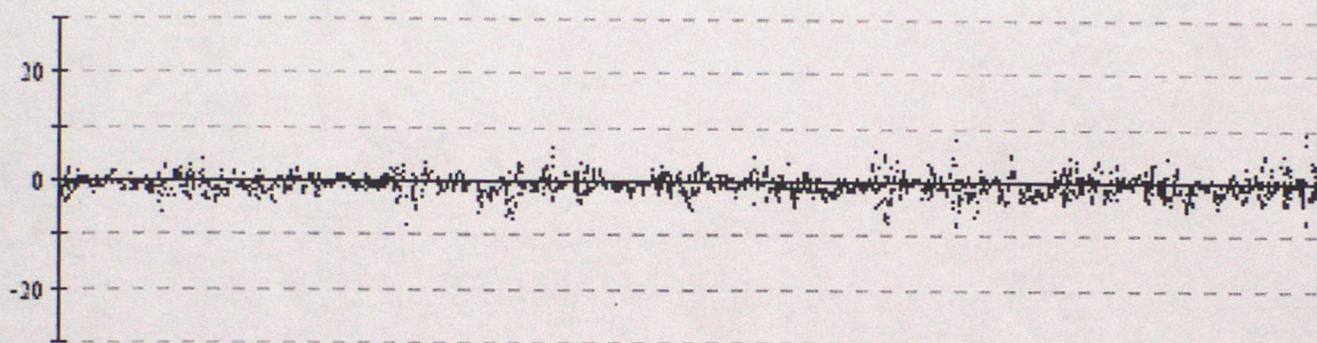


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

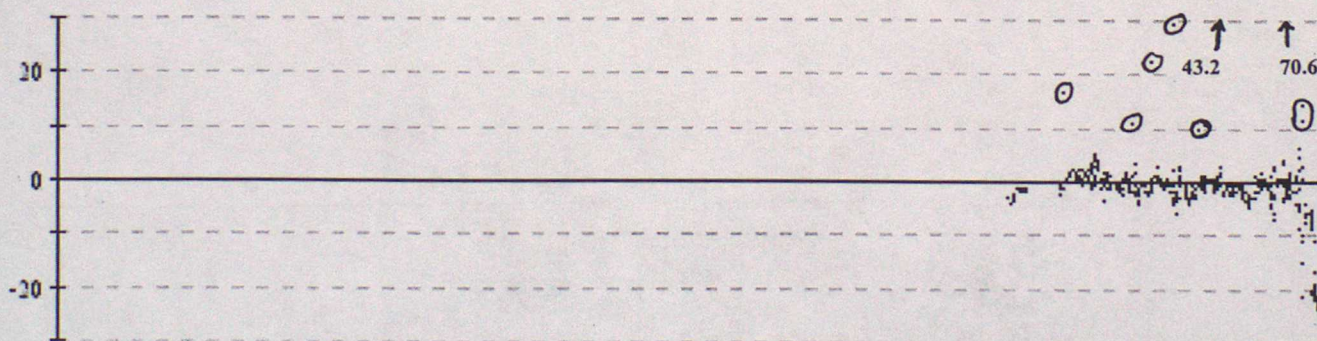
65595 Pressure



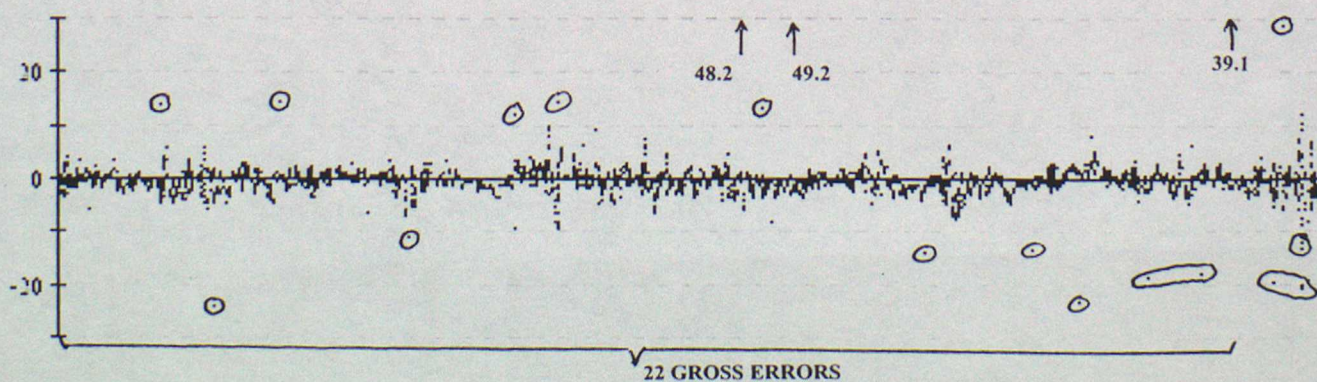
65596 Pressure



65598 Pressure

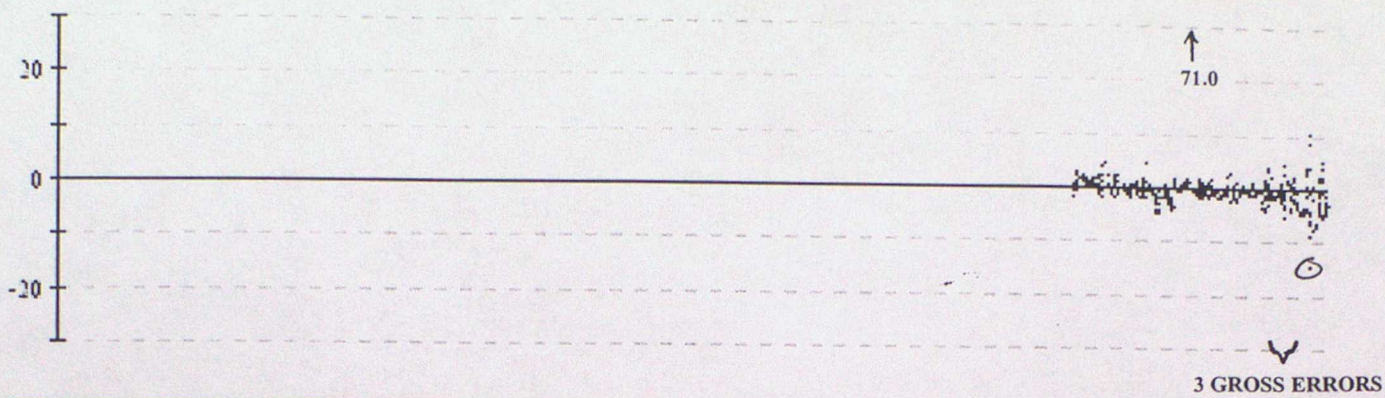


65599 Pressure



Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

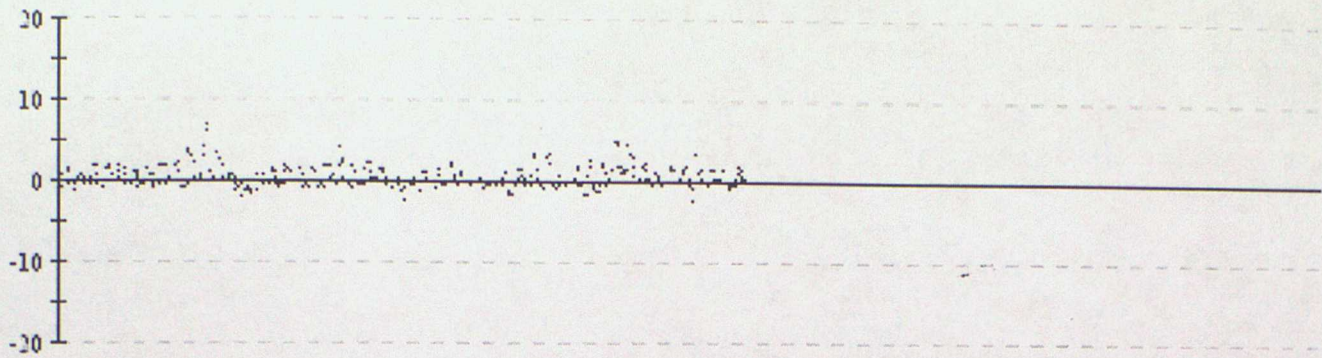
65600 Pressure



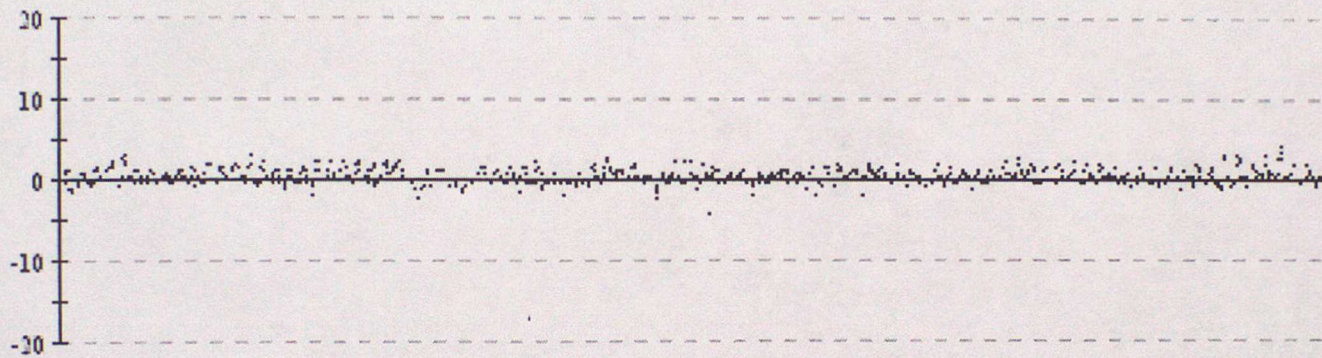
ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

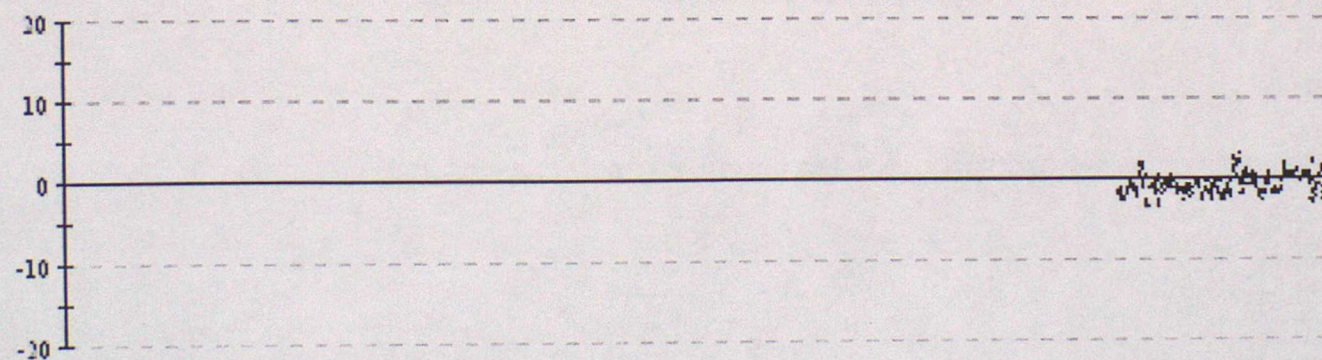
13504 Air Temperature



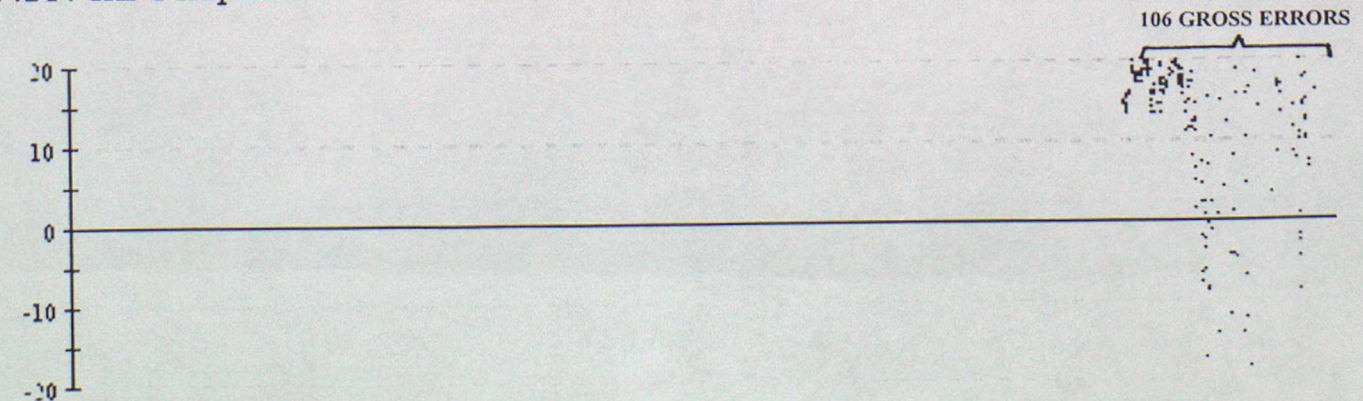
41521 Air Temperature



44516 Air Temperature

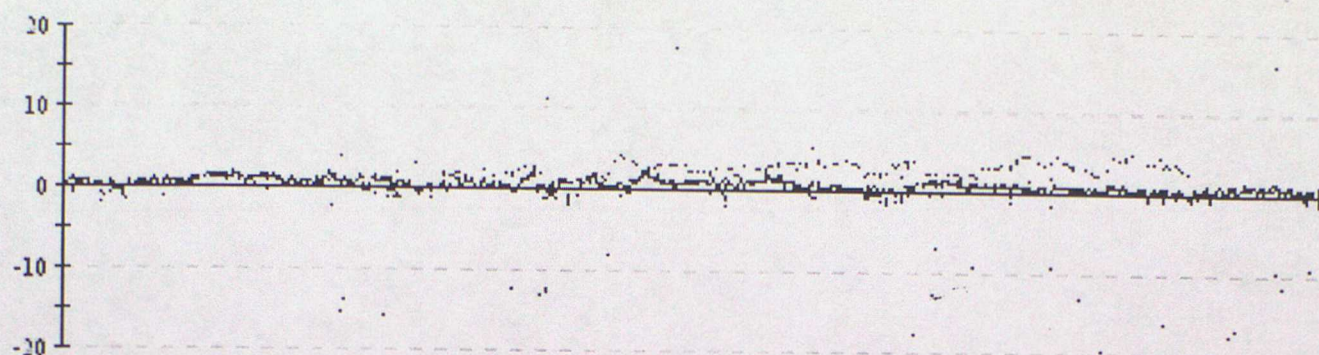


44517 Air Temperature

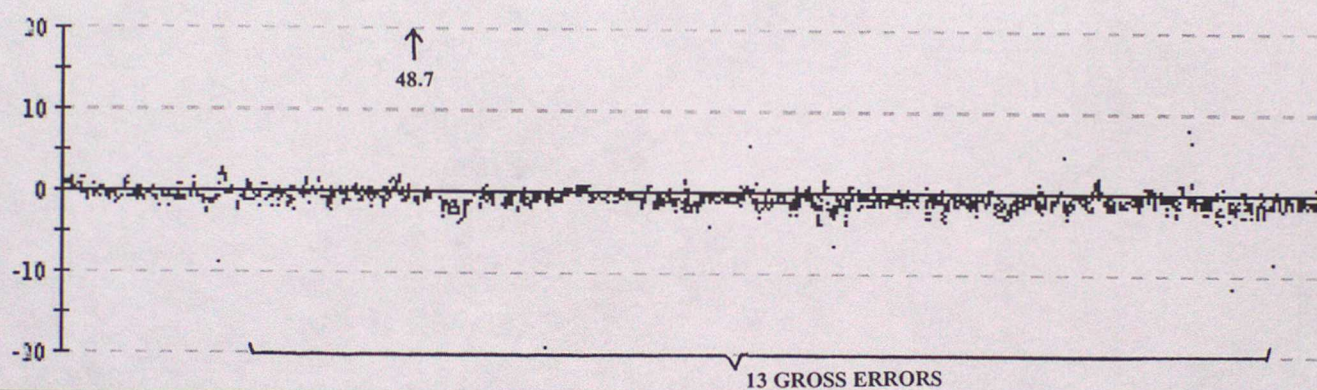


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

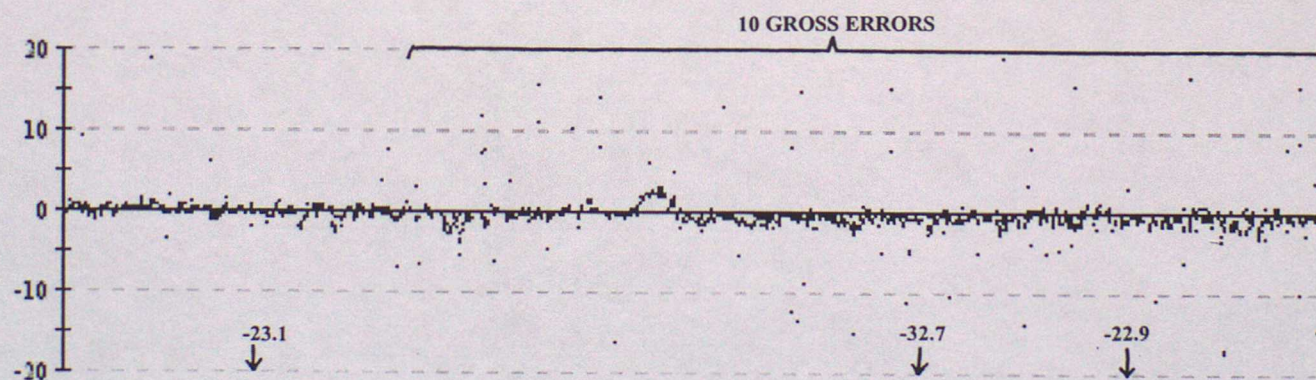
44613 Air Temperature



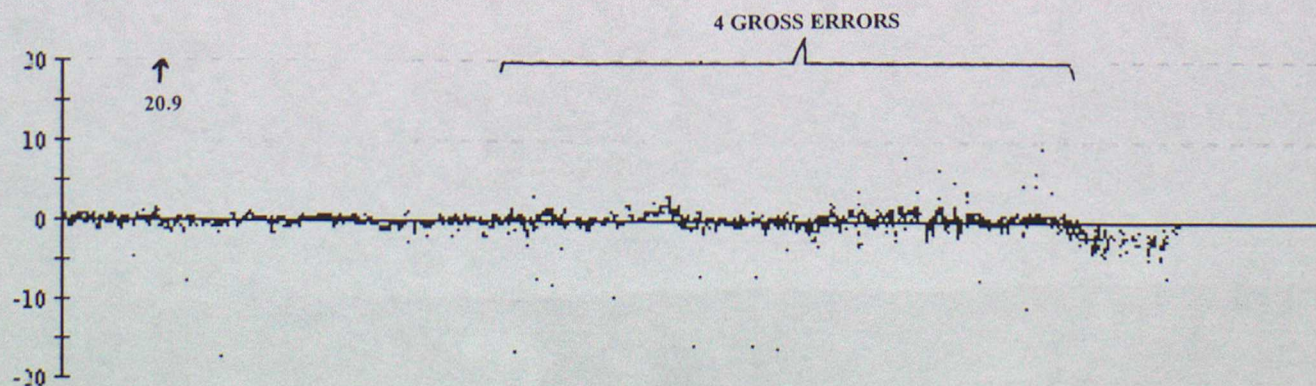
44614 Air Temperature



44621 Air Temperature

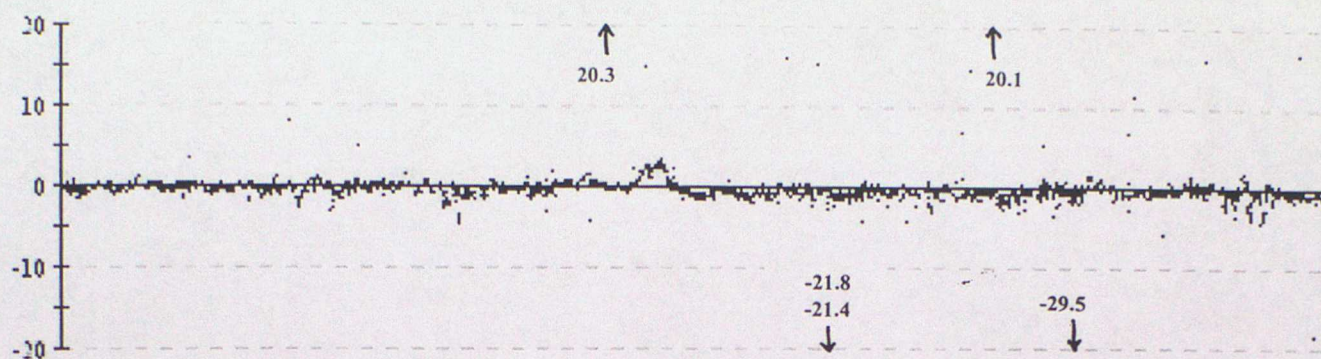


44624 Air Temperature

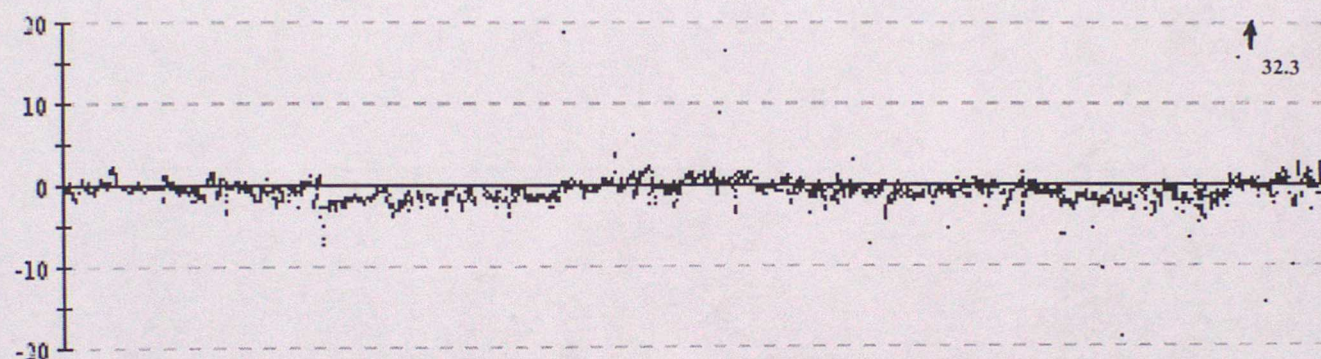


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

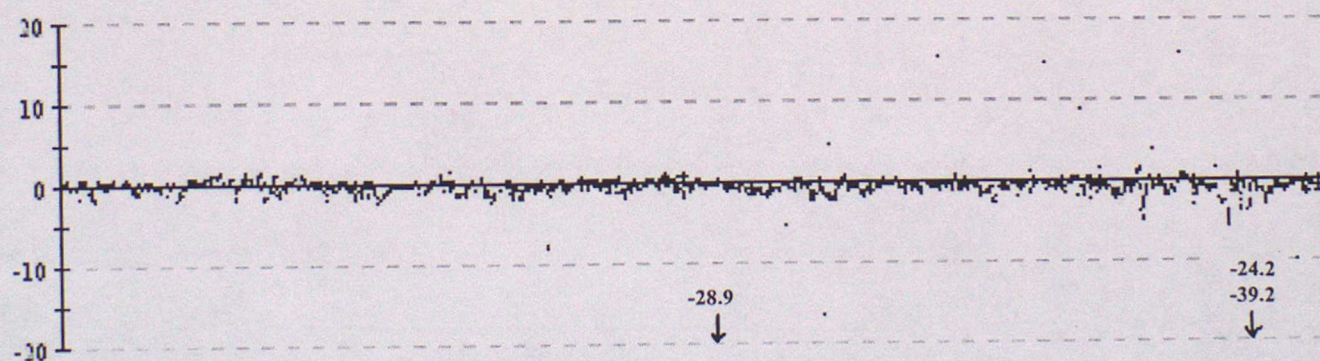
44625 Air Temperature



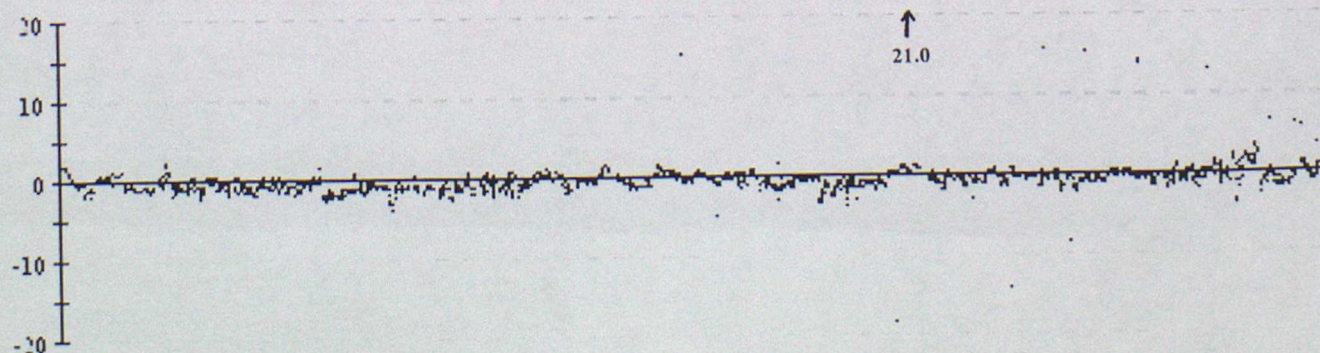
44626 Air Temperature



44628 Air Temperature

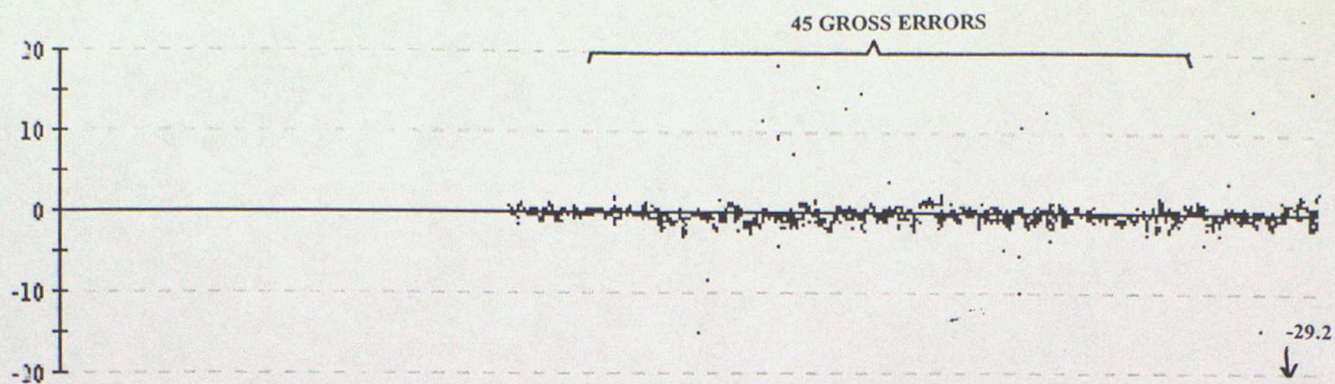


44630 Air Temperature

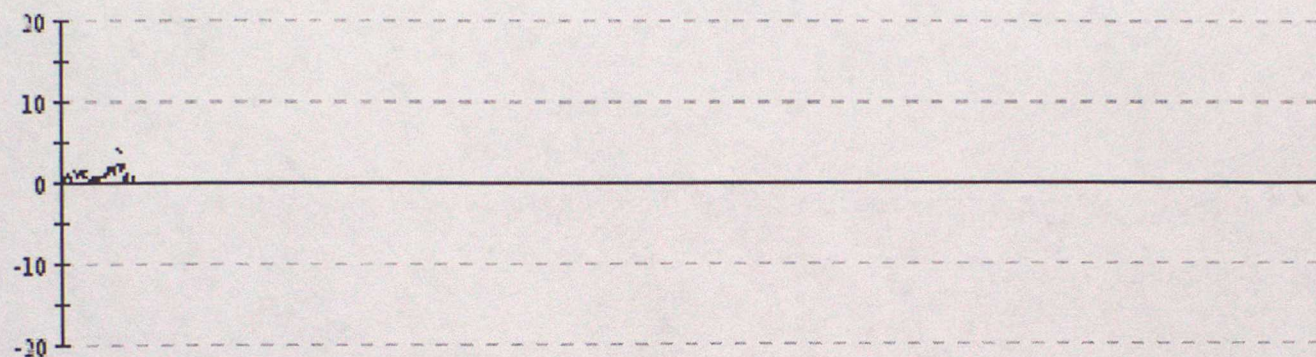


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

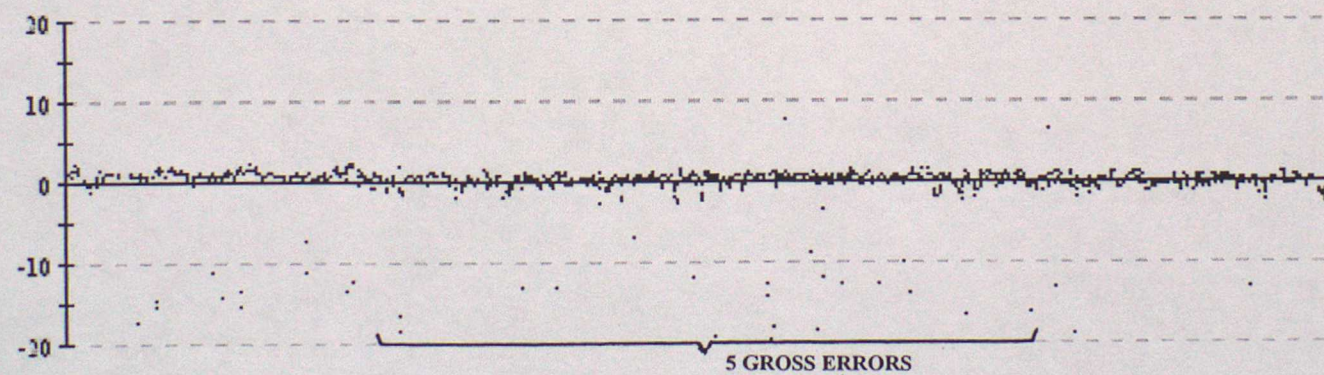
44721 Air Temperature



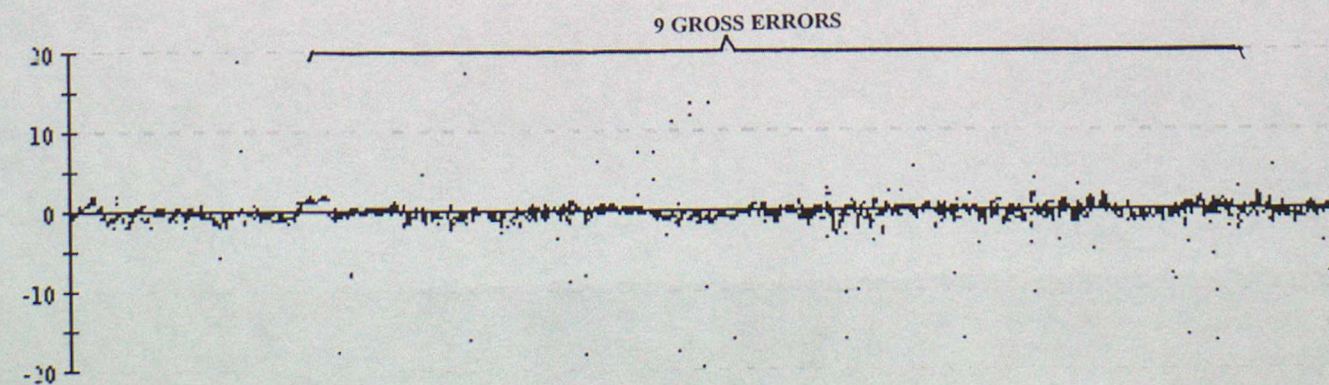
44728 Air Temperature



44765 Air Temperature

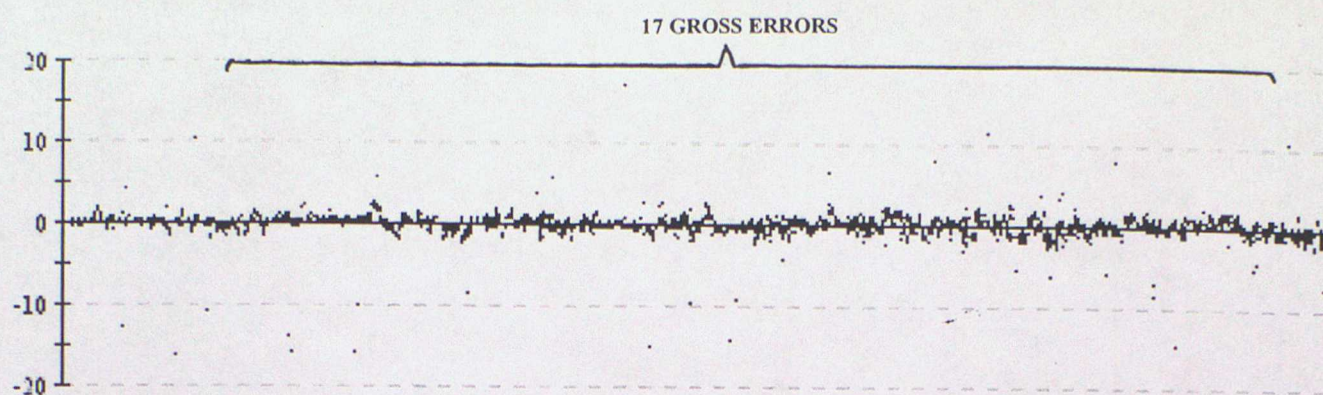


44766 Air Temperature

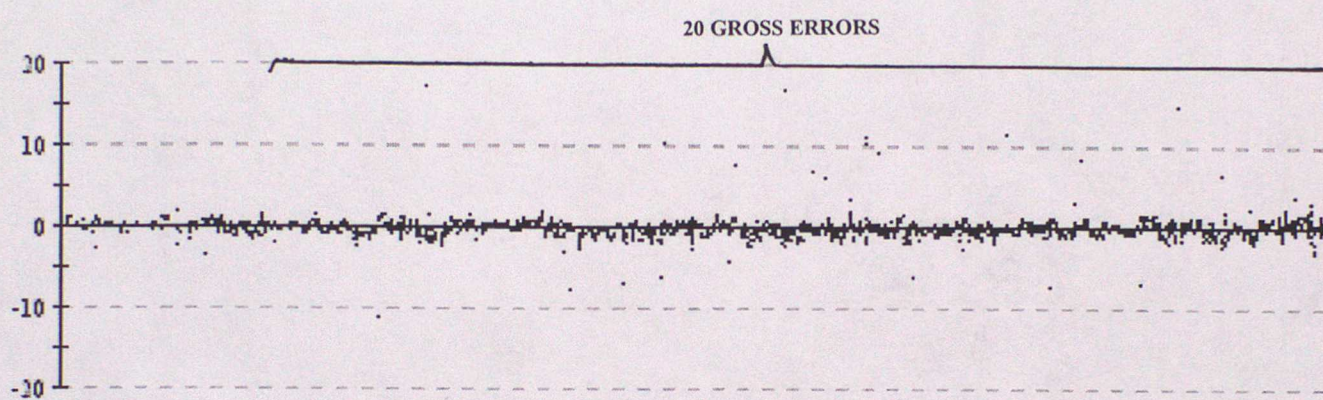


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

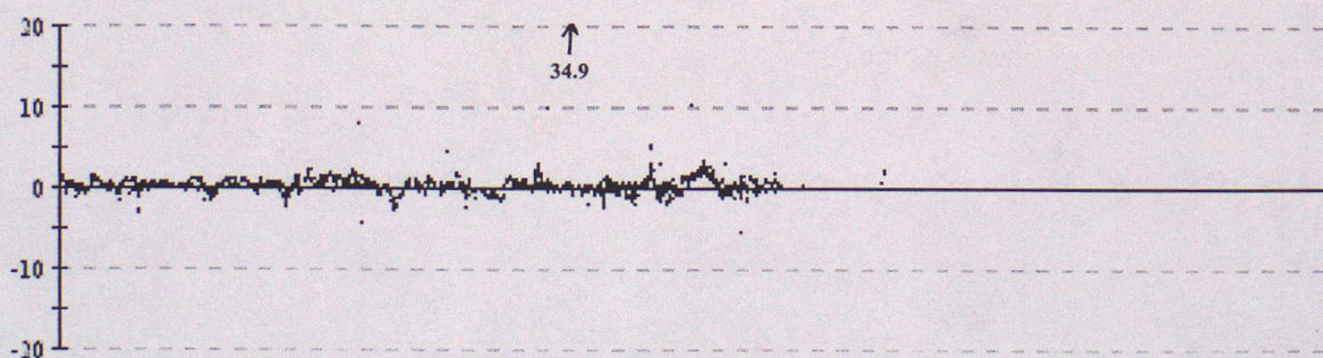
44773 Air Temperature



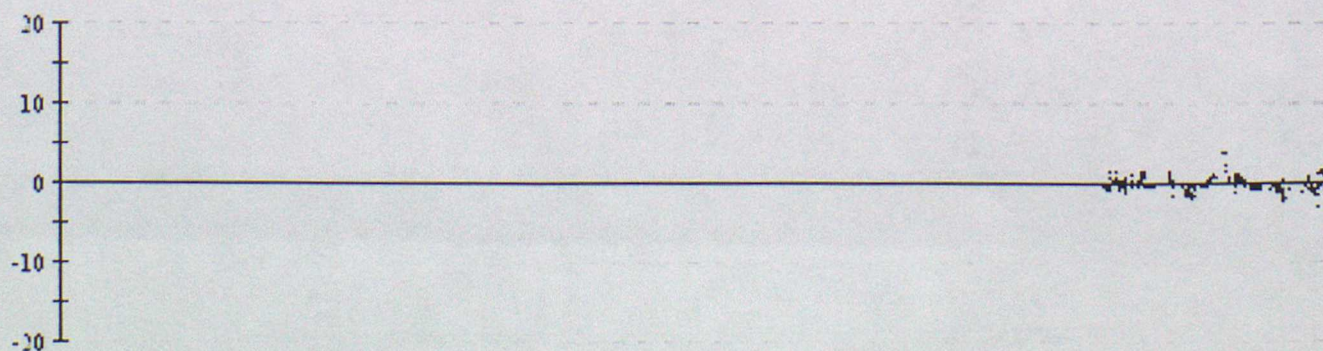
44777 Air Temperature



44780 Air Temperature

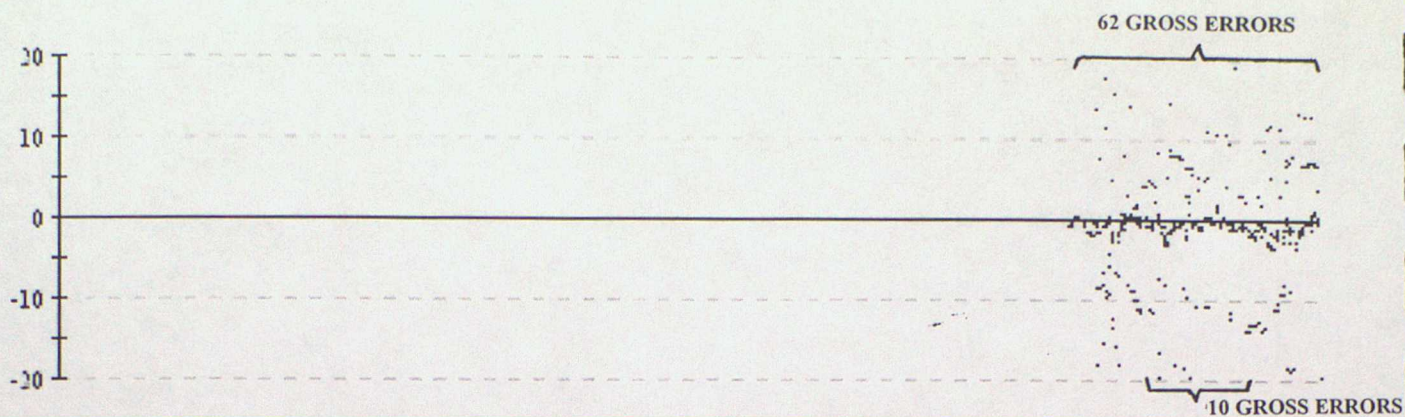


61536 Air Temperature

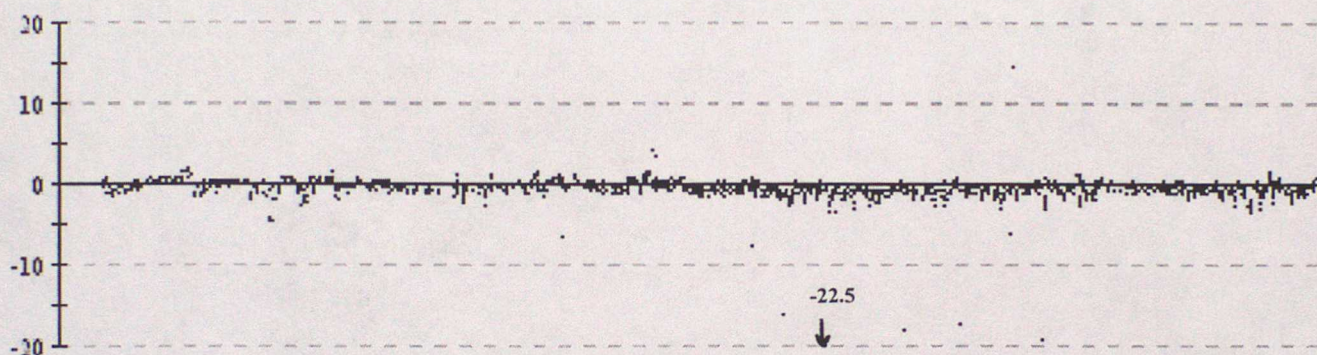


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

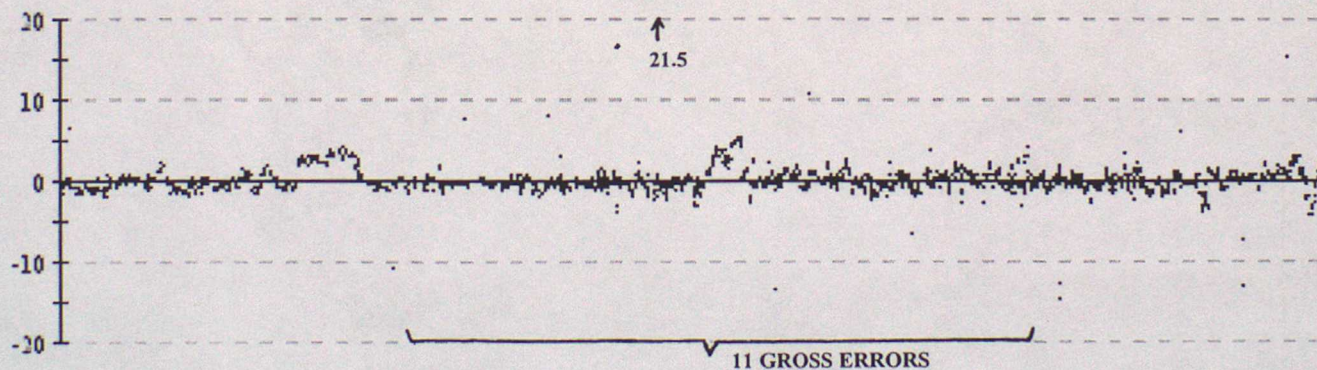
61537 Air Temperature



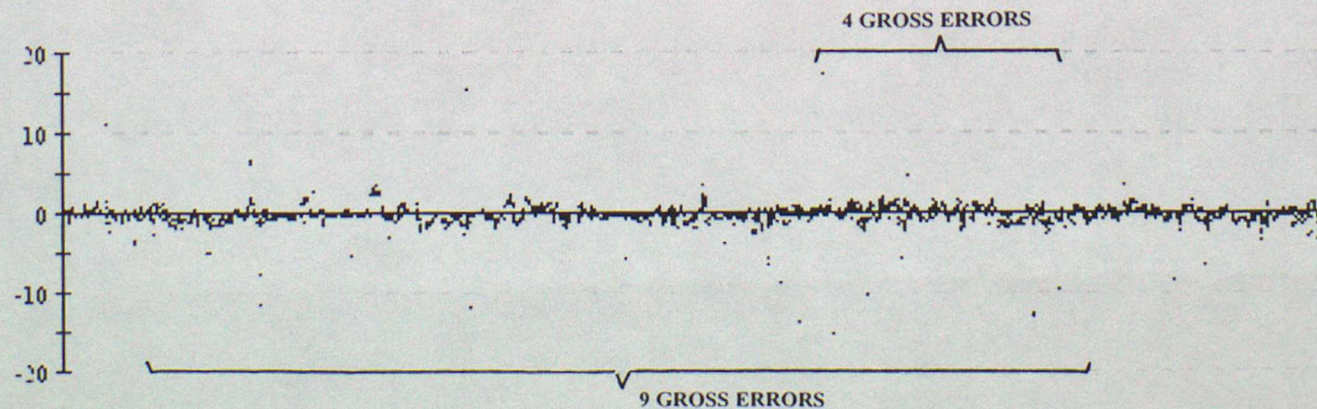
62508 Air Temperature



64529 Air Temperature

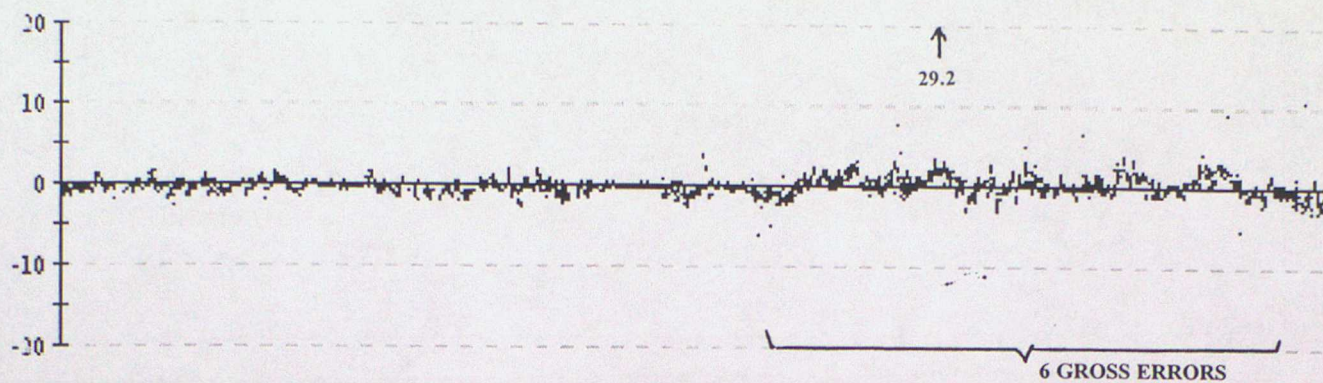


64530 Air Temperature

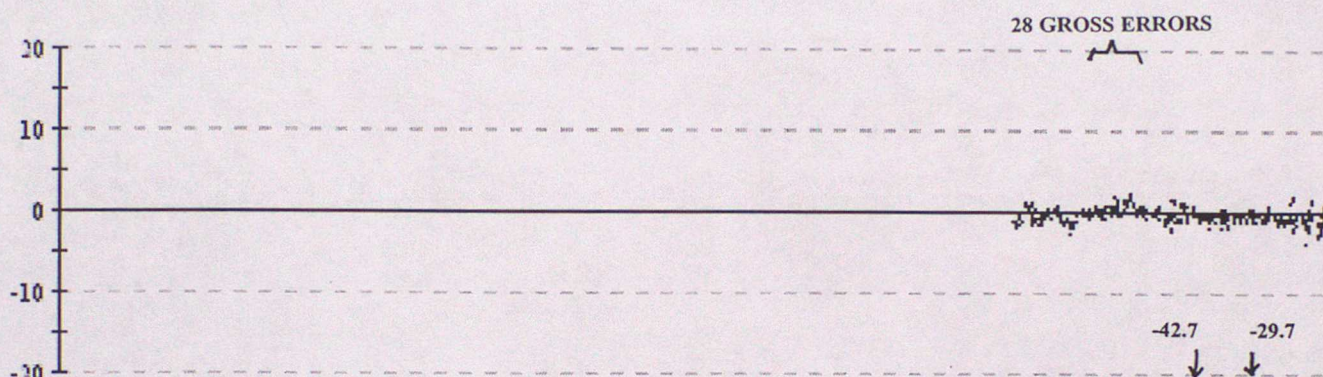


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

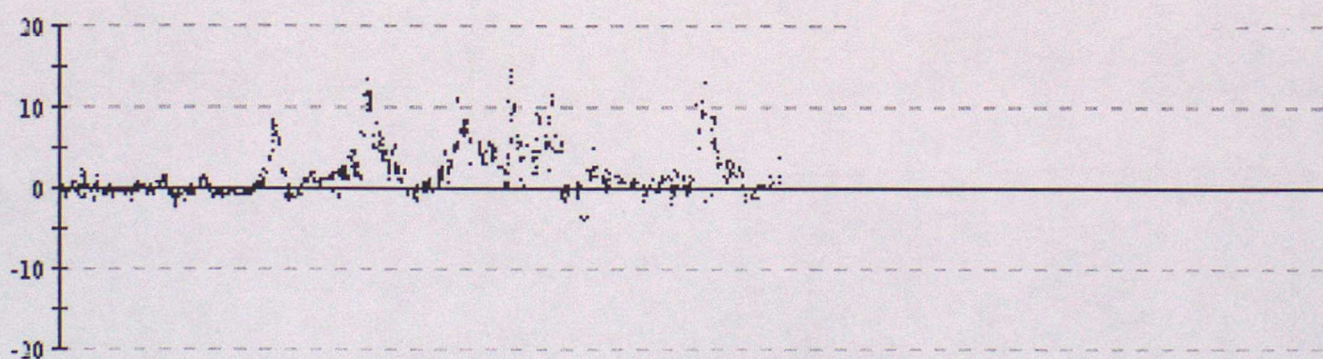
64546 Air Temperature



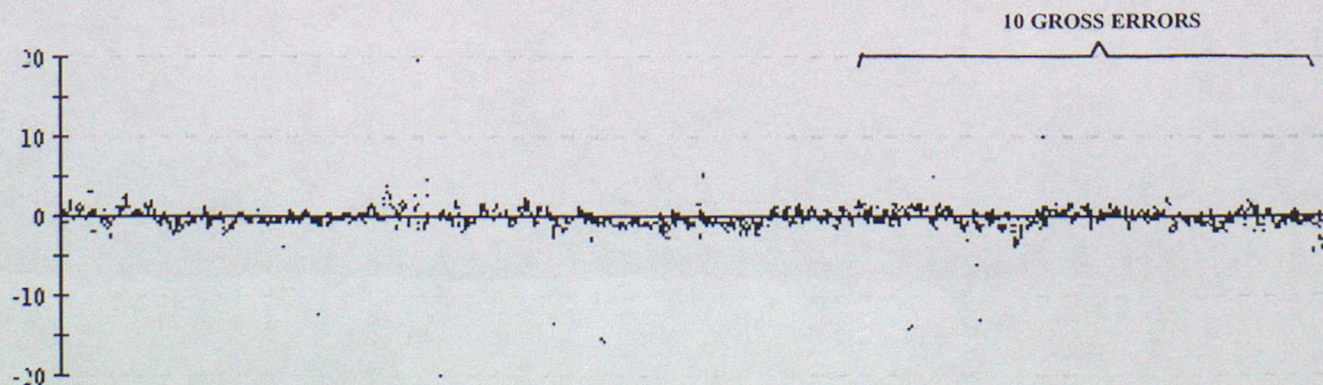
64547 Air Temperature



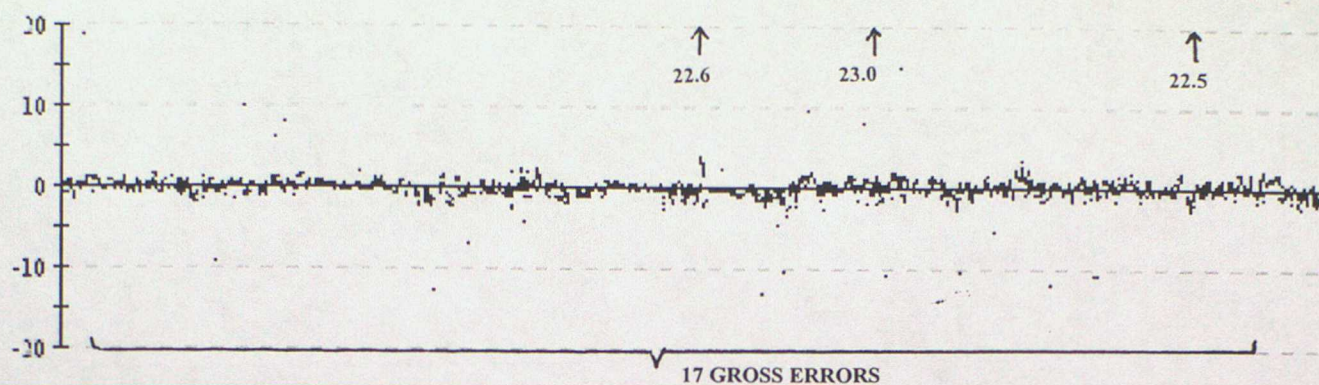
65593 Air Temperature



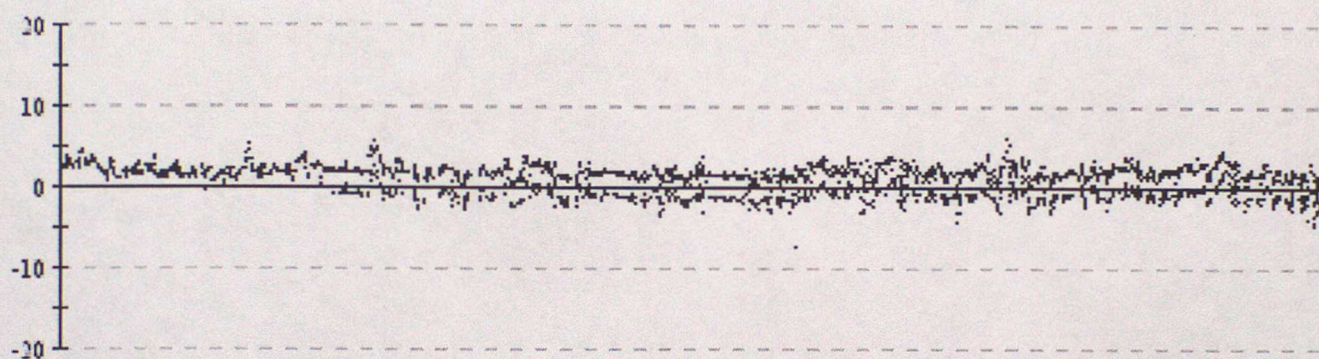
65594 Air Temperature



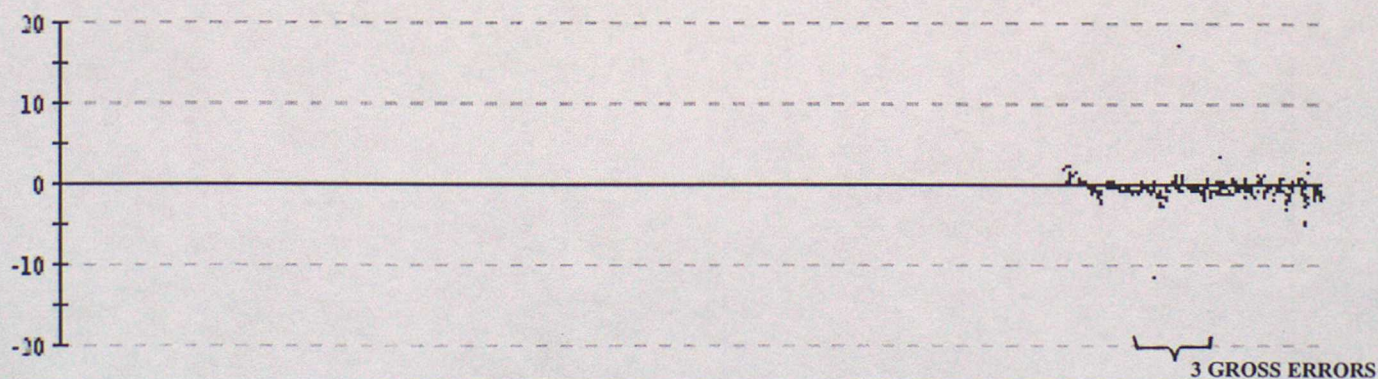
65595 Air Temperature



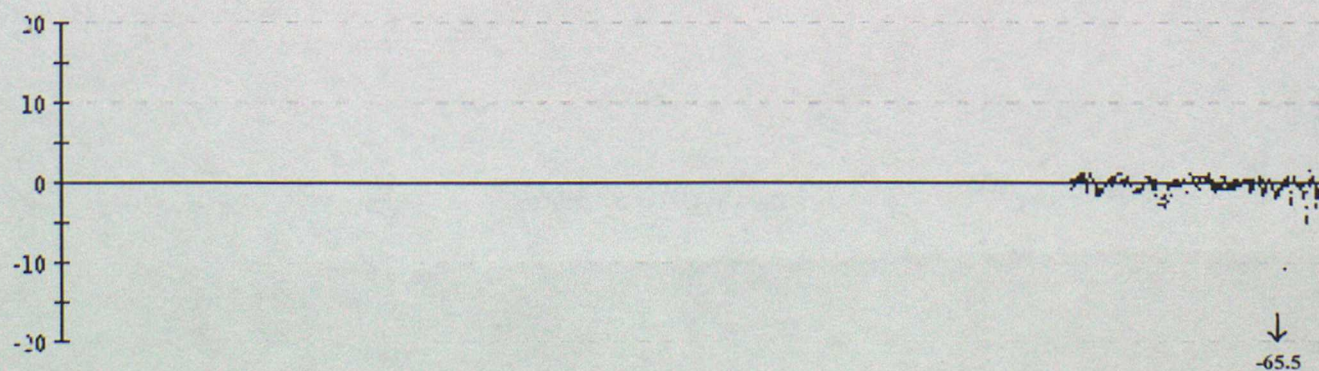
65596 Air Temperature



65598 Air Temperature



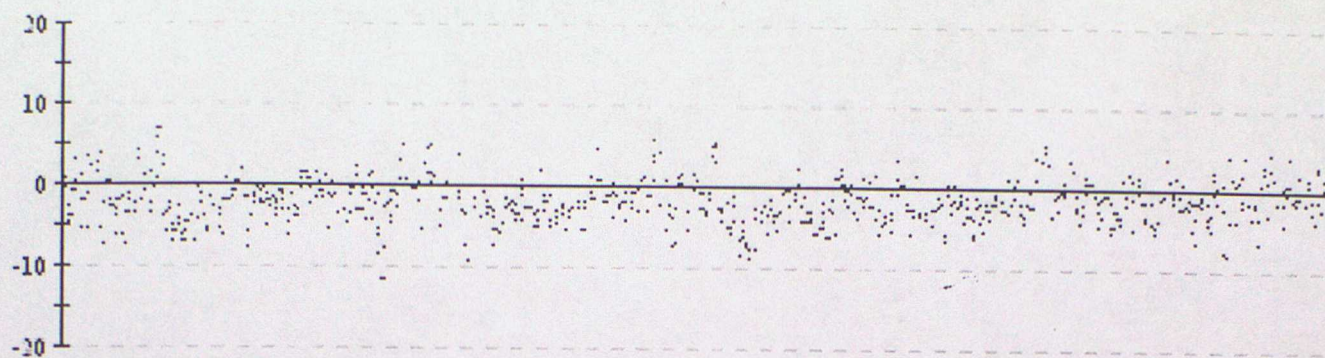
65600 Air Temperature



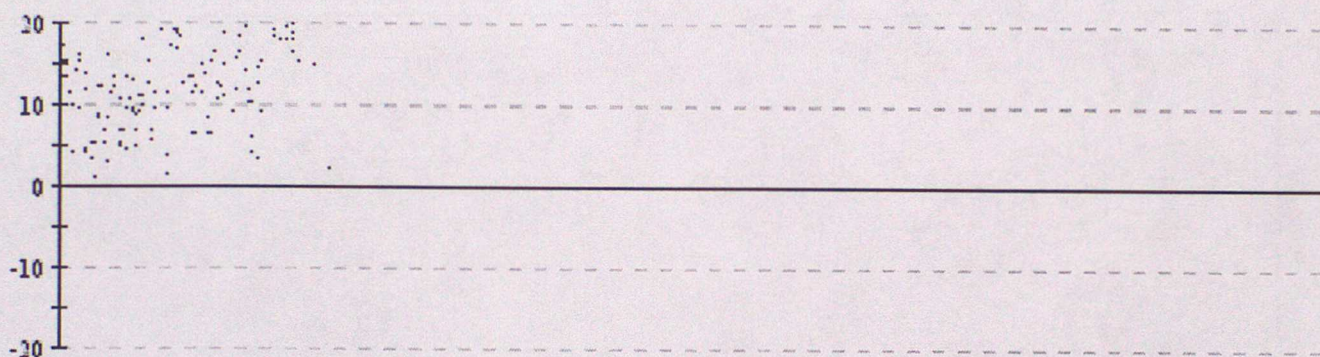
ANNEX D - TIME SERIES PLOTS OF WIND SPEED

Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

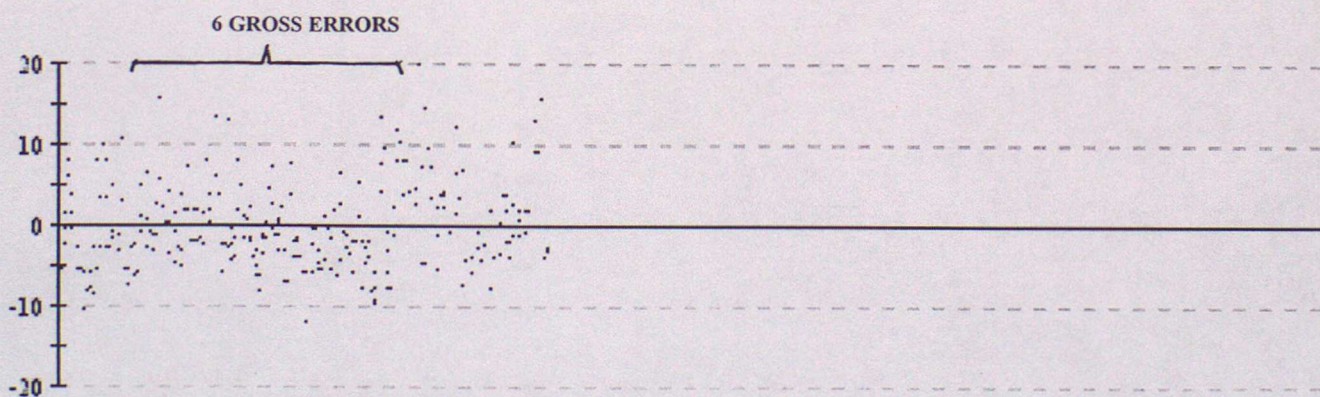
41521 Wind speed



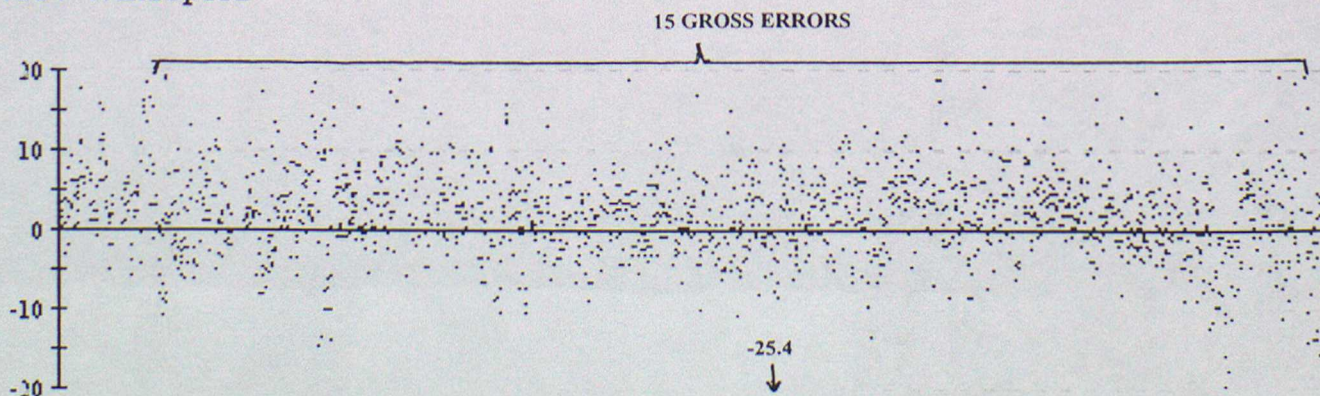
41648 Wind speed



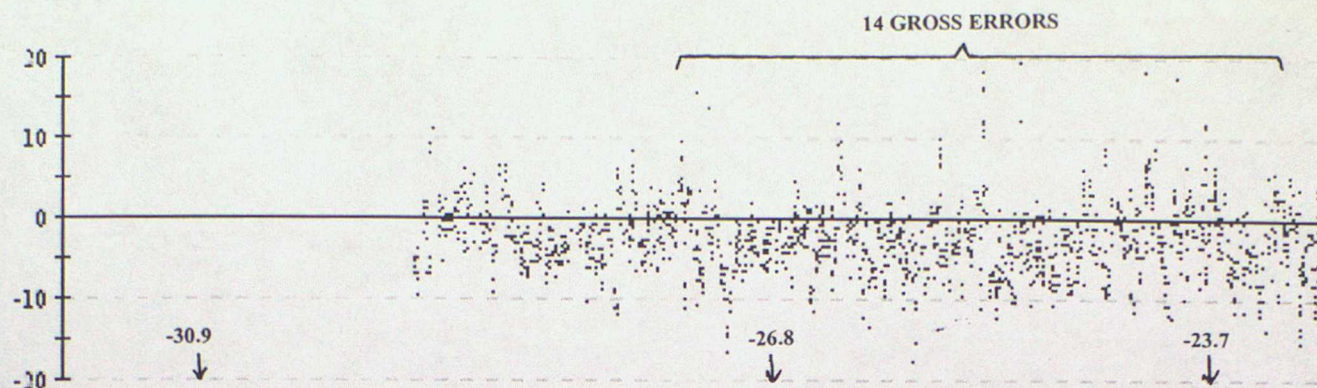
41649 Wind speed



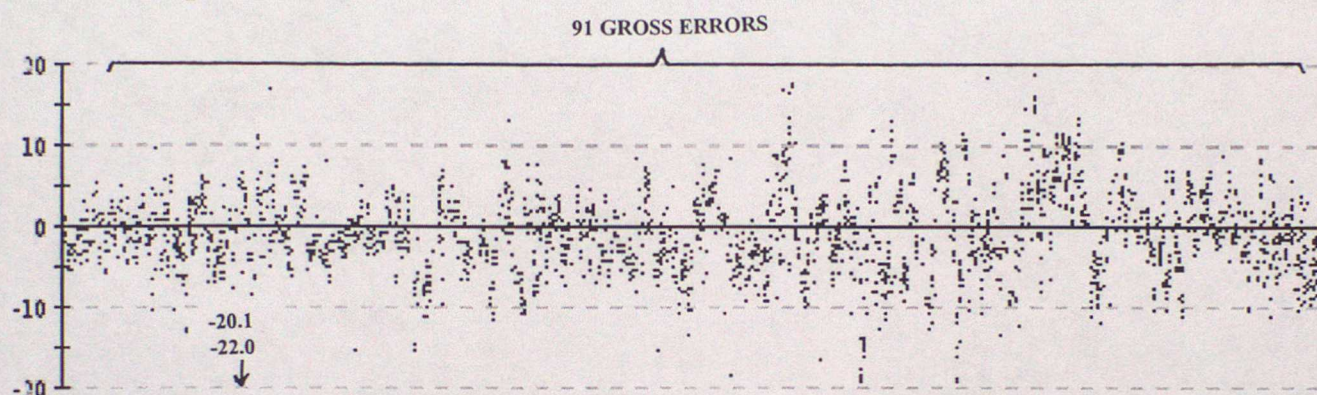
44607 Wind speed



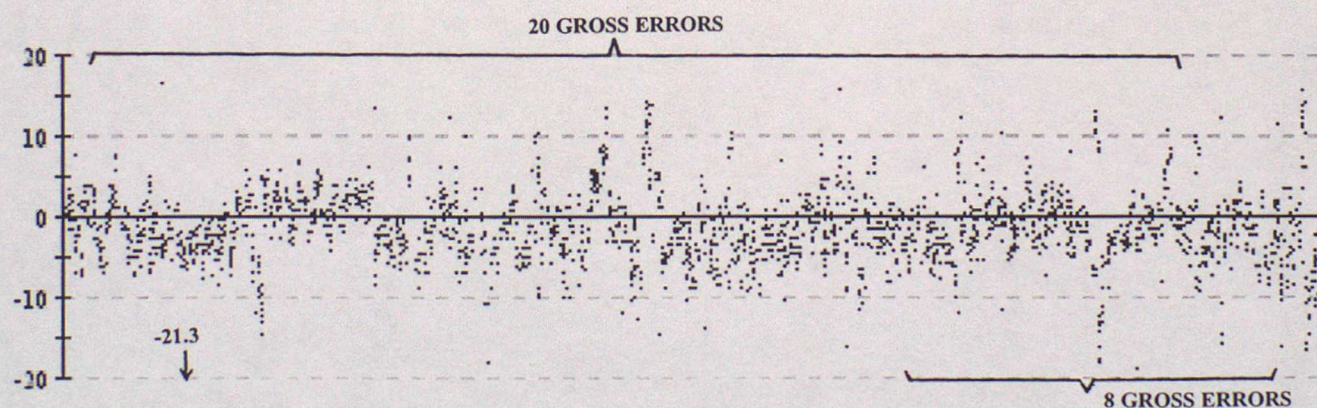
44721 Wind speed



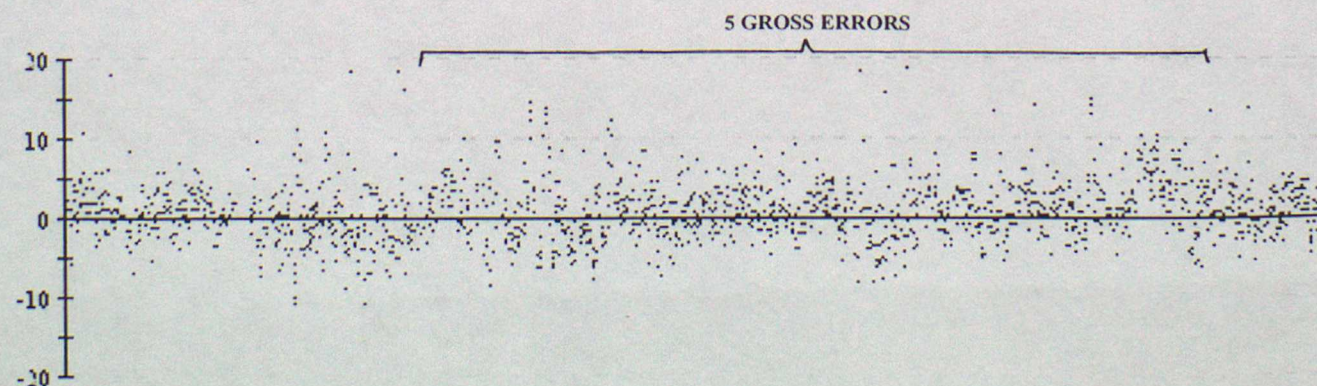
44773 Wind speed



44777 Wind speed

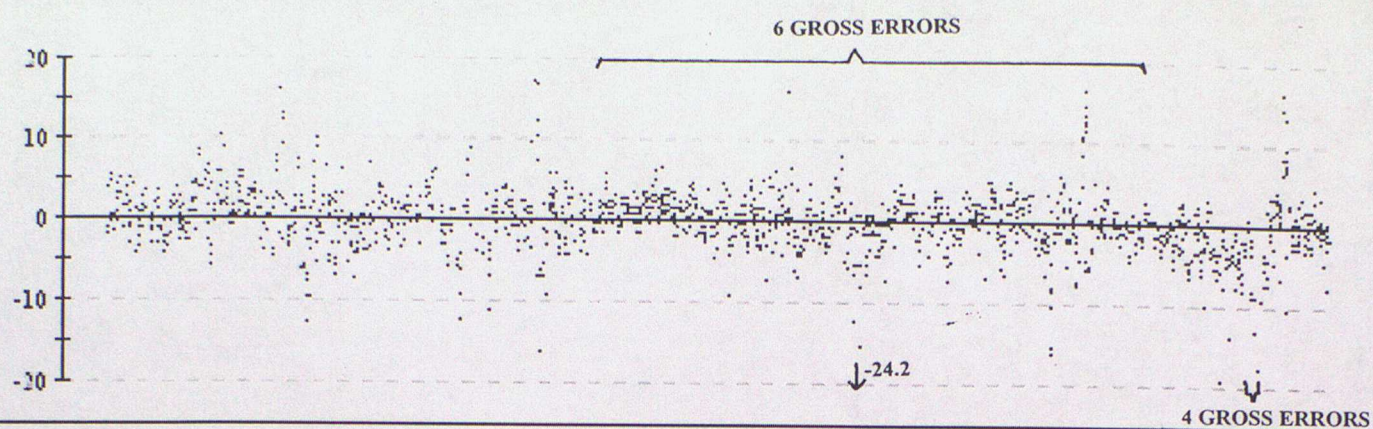


62506 Wind speed

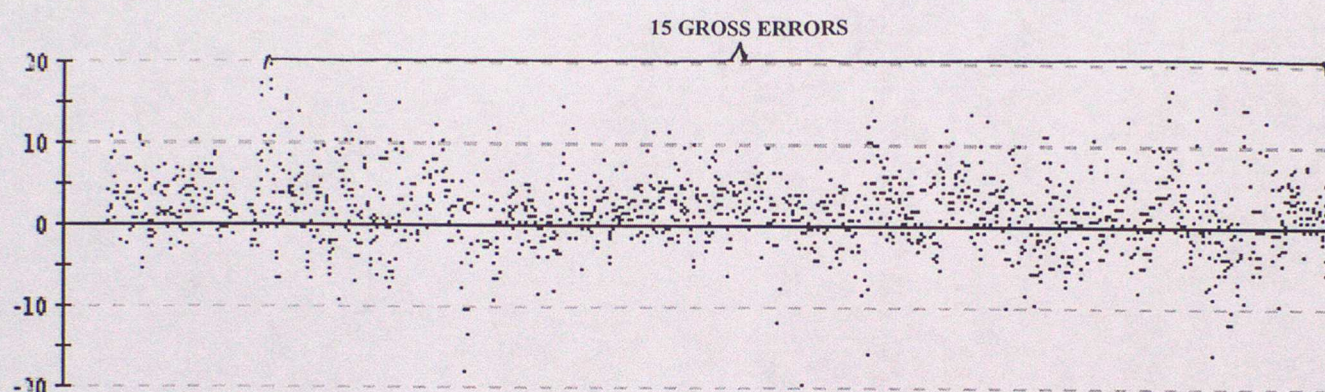


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

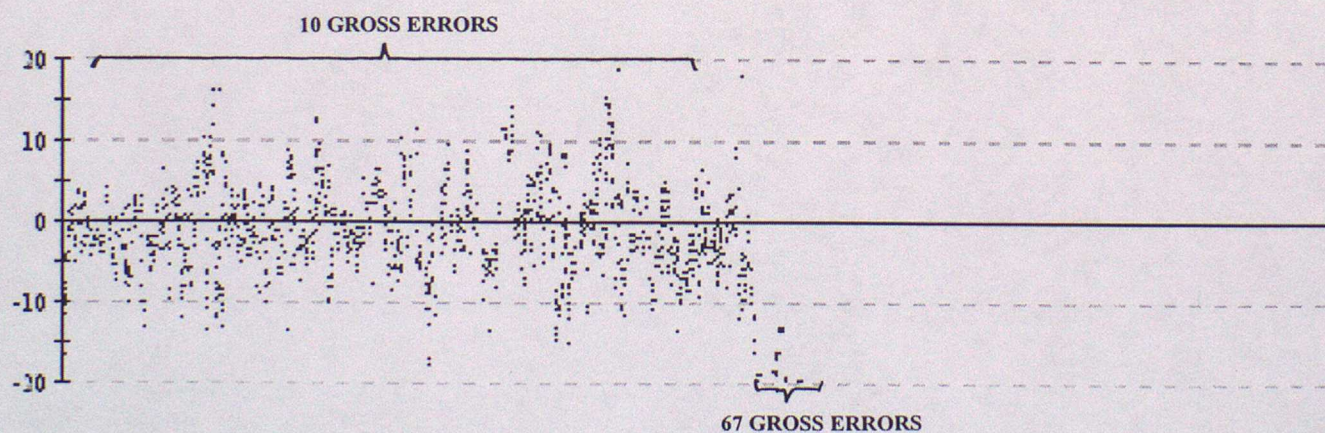
62508 Wind speed



62510 Wind speed



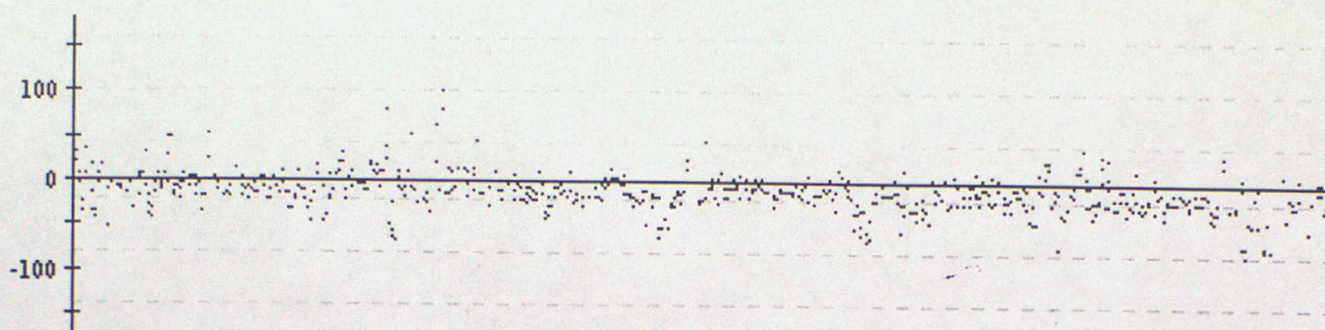
65599 Wind speed



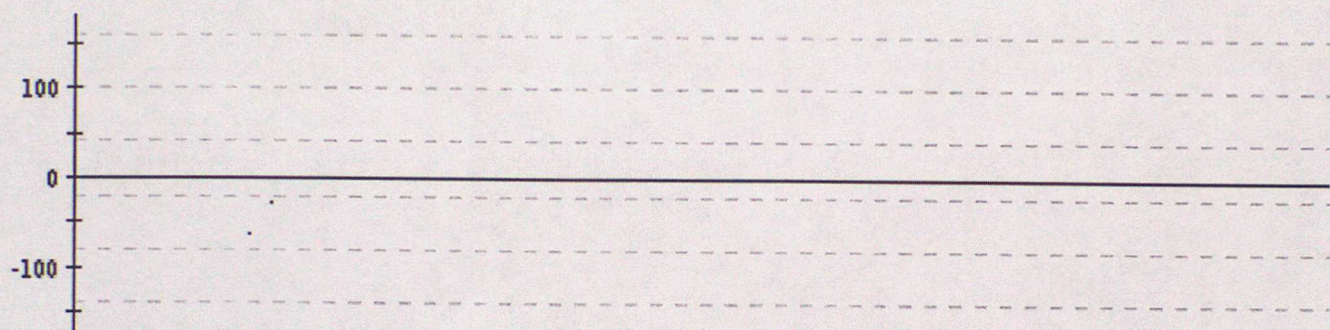
ANNEX E - TIME SERIES PLOTS OF WIND DIRECTION

Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

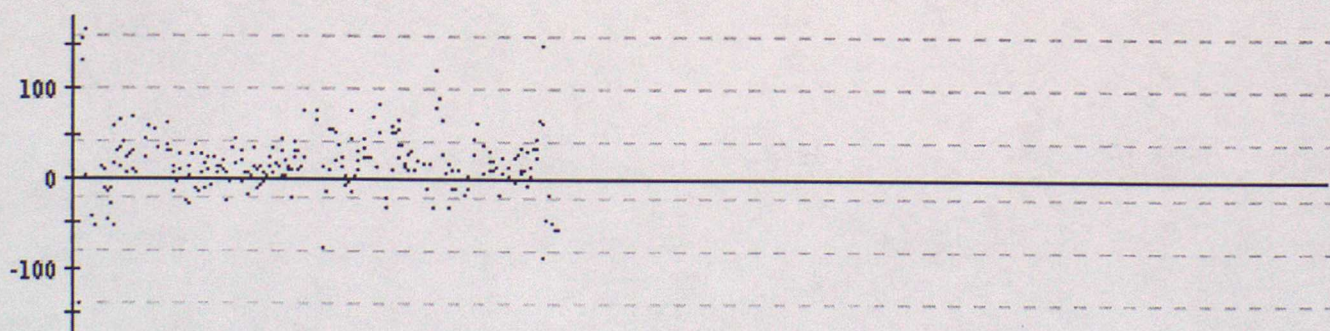
41521 Wind direction



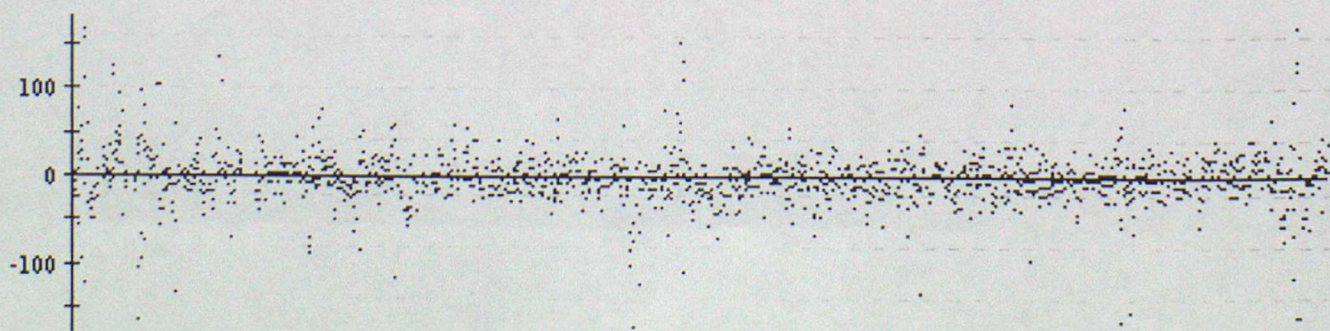
41648 Wind direction



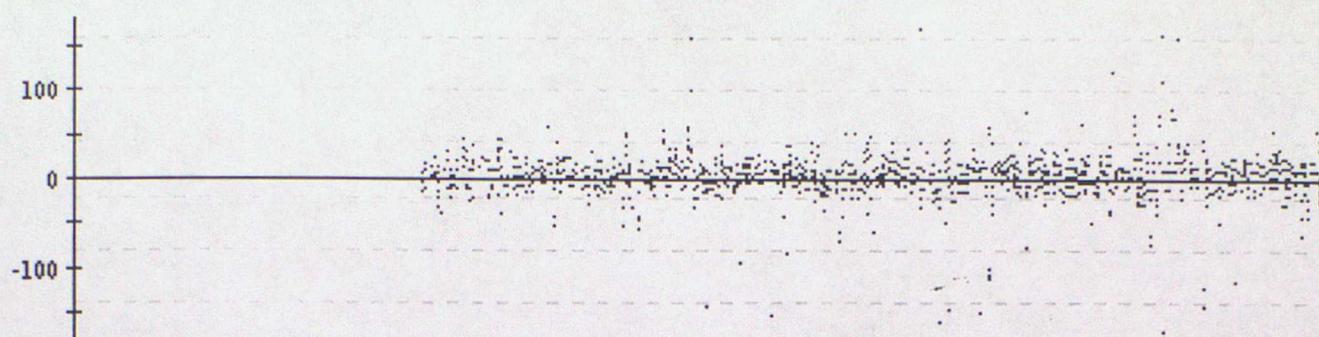
41649 Wind direction



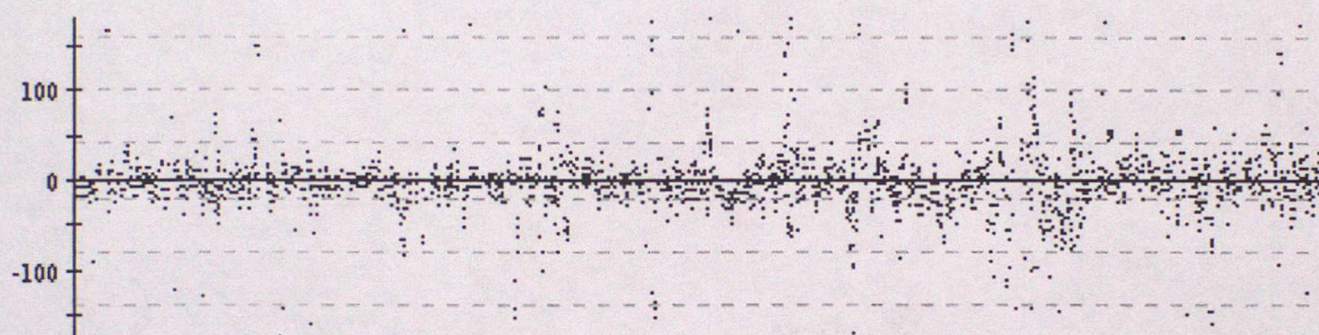
44607 Wind direction



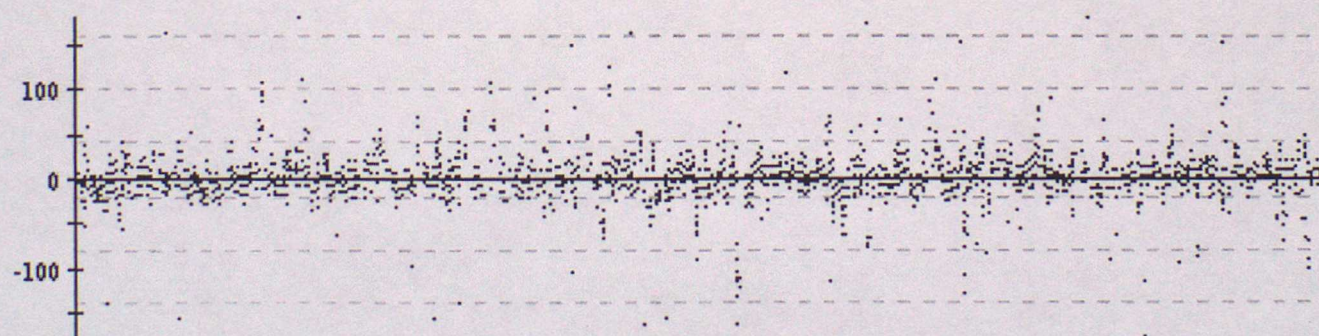
44721 Wind direction



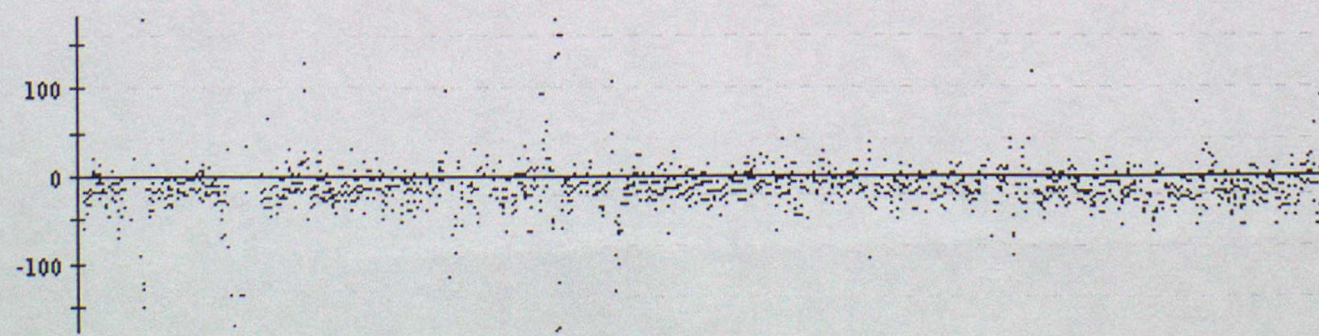
44773 Wind direction



44777 Wind direction

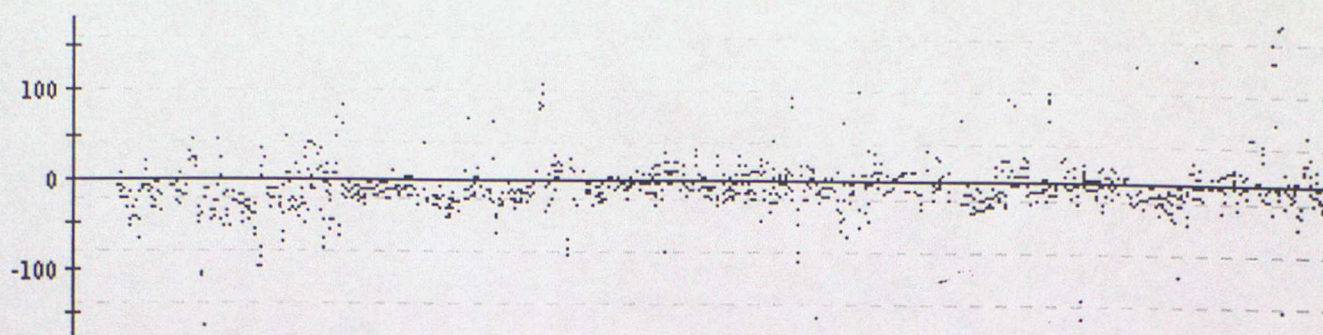


62506 Wind direction

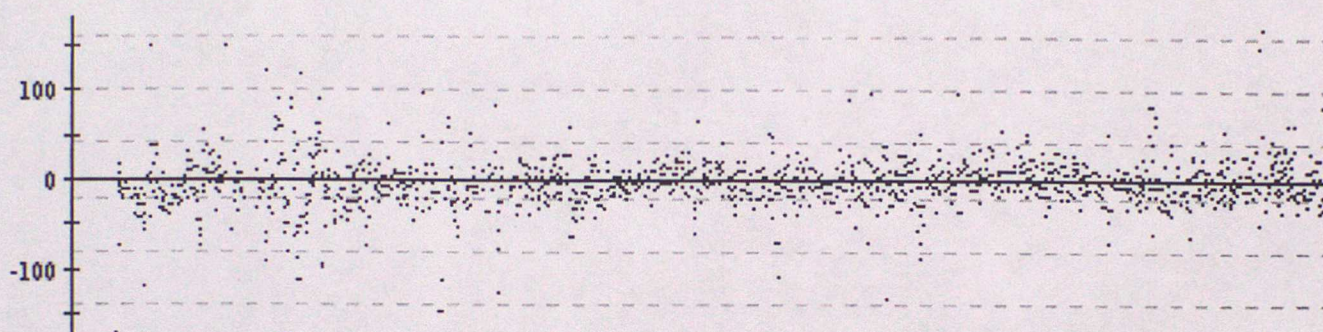


Data from 00z on 01/10/1999 to 23z on 31/12/1999 (OBS - Background field)

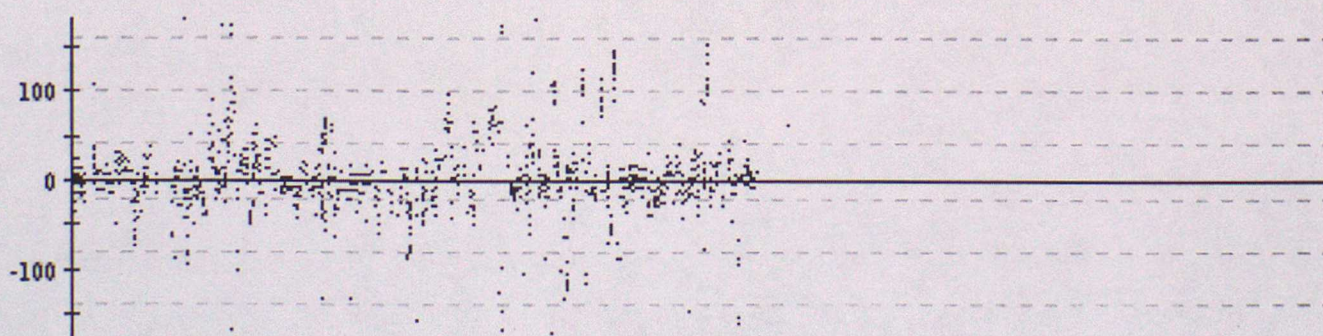
62508 Wind direction



62510 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	
13504			*		*			*	01/10 - 20/11
41505			*					*	01/10 - 18/12
41521			*		*	*	*	*	01/10 - 31/12
41528			*					*	01/10 - 31/12
41599			*					*	01/10 - 31/12
41636			*					*	01/10 - 27/10
41637			*					*	01/10 - 22/12
41638			*					*	01/10 - 05/11
41648			*			*	*	*	01/10 - 20/10
41649			*			*	*	*	01/10 - 05/11
41852			*	*				*	01/10 - 31/12 *
41853			*	*				*	01/10 - 31/12
44513	26237	US	*					*	02/11 - 31/12
44514	26235	US	*					*	02/11 - 31/12 *
44516			*		*			*	16/12 - 31/12
44517	26234	US	*		*			*	16/12 - 31/12
44546	14538	F	*	*				*	01/10 - 31/12
44607	6216	F	*	*		*	*	*	01/10 - 31/12
44608	14540	F	*	*				*	01/10 - 31/12
44610	12734	F	*	*				*	01/10 - 31/12
44613	28467	UK	*	*	*				01/10 - 31/12
44614	12375	UK	*	*	*			*	01/10 - 31/12
44616	38468	UK	*	*				*	01/10 - 16/12
44621	12372	UK	*	*	*			*	01/10 - 31/12
44624	28470	UK	*	*	*			*	01/10 - 22/12
44625	12283	UK	*	*	*			*	01/10 - 31/12
44626	12284	UK	*	*	*			*	01/10 - 31/12
44627	12285	UK	*	*				*	01/10 - 31/12
44628	12287	UK	*	*	*			*	01/10 - 31/12
44630	12376	UK	*	*	*				01/10 - 31/12
44721	28475	UK	*	*	*	*	*	*	26/10 - 31/12
44722	28476	UK	*	*				*	28/10 - 31/12
44723	16392	NL	*	*				*	26/11 - 31/12
44728	12375	UK	*	*	*			*	01/10 - 06/10
44765	28466	UK	*	*	*				01/10 - 31/12
44766	28465	UK	*	*	*			*	01/10 - 31/12

ANNEX F - CONT'd

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
44773	12415	UK	*	*	*	*	*	*	01/10 - 31/12
44777	12377	UK	*	*	*	*	*	*	01/10 - 31/12
44778	28473	UK	*	*					01/10 - 22/11
44780	27642	UK	*	*	*			*	01/10 - 29/11
47553			*					*	29/10 - 31/12
61501			*					*	01/10 - 11/12
61502			*					*	01/10 - 03/12
61504			*					*	01/10 - 13/12
61536			*		*			*	15/12 - 31/12
61537			*		*			*	13/12 - 31/12
62506	12733	F	*	*		*	*	*	01/10 - 31/12 *
62507	10111	F	*	*				*	05/10 - 31/12
62508	5822	F	*	*	*	*	*	*	04/10 - 31/12
62509	14537	F	*	*				*	04/10 - 31/12
62510	12732	F	*	*		*	*	*	04/10 - 31/12
62520	14431	F	*	*				*	01/10 - 31/12
62554	14430	F	*	*				*	01/10 - 31/12 *
62596	16391	NL	*	*				*	26/11 - 31/12
64516	14176	F	*	*				*	01/10 - 31/12
64517	14178	F	*	*				*	01/10 - 31/12
64518	14180	F	*	*				*	01/10 - 31/12
64529	6669	D	*	*	*			*	01/10 - 31/12
64530	4272	D	*	*	*			*	01/10 - 31/12
64546	3675	N	*	*	*			*	01/10 - 31/12
64547			*	*	*			*	09/12 - 31/12
64693	15100	IC	*	*				*	01/10 - 01/11
64694	15108	IC	*	*				*	01/10 - 08/11
64698	29867	IC	*	*				*	01/10 - 31/12
64699	29868	IC	*	*				*	01/10 - 31/12
64700	29870	IC	*	*				*	01/10 - 26/10
65593	4228	NL	*	*	*			*	01/10 - 22/11
65594	2295	D	*	*	*			*	01/10 - 31/12
65595	4229	NL	*	*	*			*	01/10 - 31/12
65596	3038	IR	*	*	*			*	01/10 - 31/12
65598			*	*	*			*	09/12 - 31/12
65599	28477	UK	*	*		*	*	*	01/10 - 31/12
65600			*	*	*			*	13/12 - 31/12

* - These buoys ceased reporting pressure during the period, but continued to report other elements.

