ABSOLUTE AND RELATIVE GRAVITY MEASUREMENTS IN NUUK (GREENLAND) IN JULY 2005

Final Report

January 14, 2006

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Foreword

This report contains the results of absolute and relative gravity measurements carried out in Nuuk (Greenland) in July 2005.

The absolute gravimeter FG5#216 from the European Center for Geodynamics and Seismology was operated by Olivier Francis and Gilbert Klein from the University of Luxembourg. René Forsberg was present and provided assistance and logistic support during the measurements. The relative gravity measurements were carried out with the spring gravimeter Scintrex CG5#008 by the same team.

During this campaign, we measured the gravity site previously occupied by the Hannover group in 1988 with a absolute gravimeter Jilag. In addition to the absolute gravity measurements, the vertical and horizontal gravity gradients were measured at the absolute gravity site. We also took part of the gravity survey of a network in and around Nuuk simultaneously with René Forsberg. He was operating a LaCoste-Romberg gravimeter.

1. Absolute Gravity measurements

The absolute gravity observations were performed in the basement of the City Hall building in Nuuk. A sketch of the room is displayed in Figure 1.

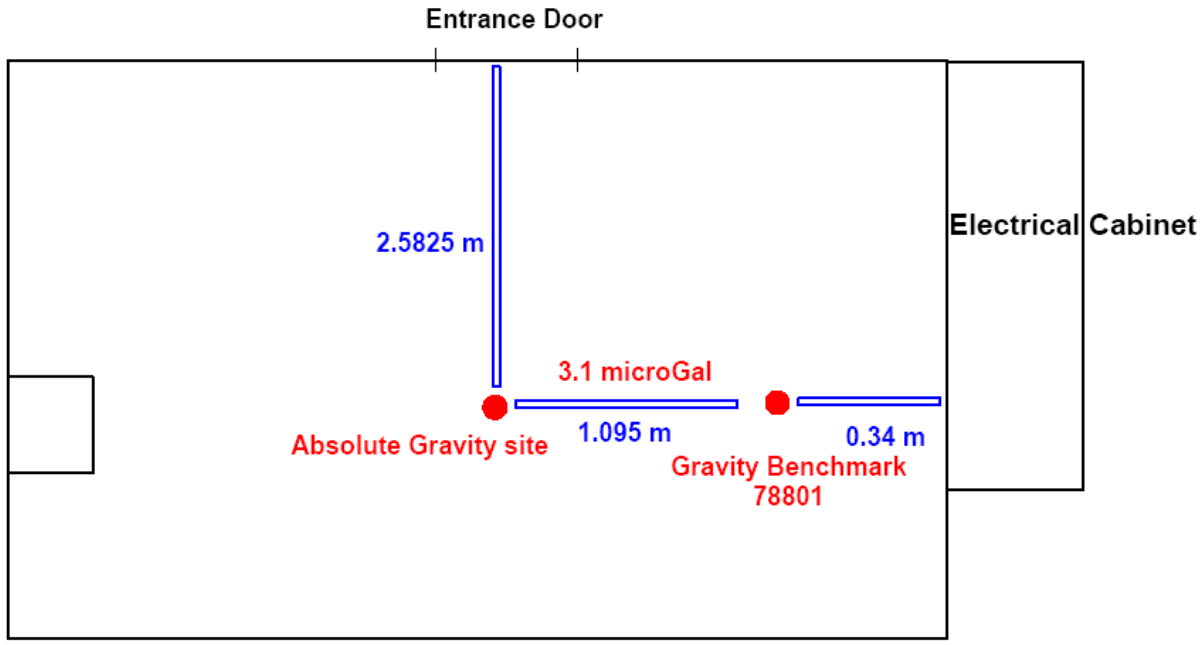


Figure 1. Sketch of the absolute gravity site in the Nuuk City Hall basement.

A picture of the set-up of the absolute gravimeter FG5#216 on the site is shown in Figure 2. The gravimeter could not be installed directly above the gravity benchmark 78801 because it is to close to the electrical cabinet.

Figure 2. The FG5#216 from the ECGS at the absolute gravity station of Nuuk. The gravity benchmark 78801 is visible on the left side of the FG5. Due its proximity to the electrical cabinet, it was not possible to set-up the FG5 on top of it.

1.1 Data processing

Raw data from the absolute gravimeters consist of vectors of time and position of the falling object during the drops. To obtain the gravity value, a linear equation representing the equation of motion is fit to the raw data including the gravity gradient which has been measured with relative meters.

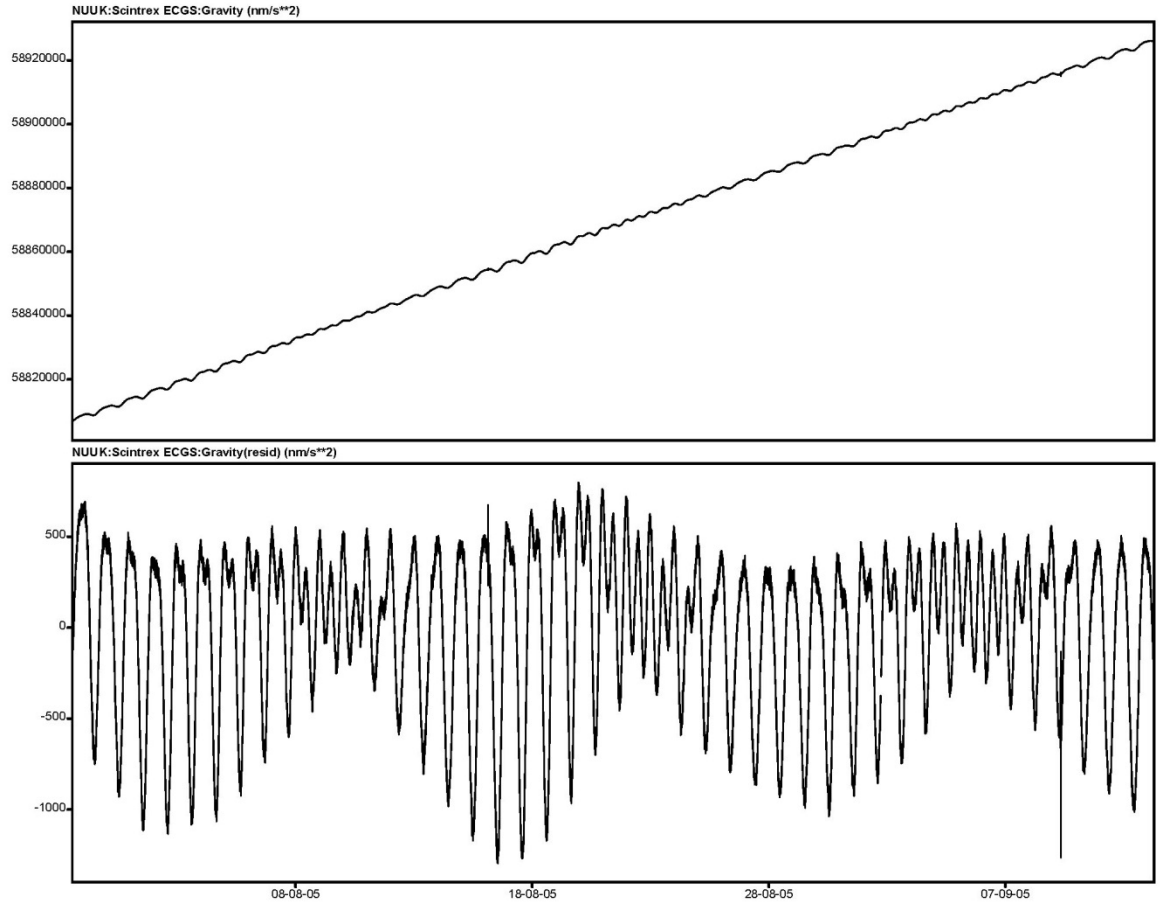
The data processing follows the protocol adopted during absolute gravimeters comparisons at the BIPM in Sèvres (Francis and van Dam, 2003). Geophysical corrections are applied to the raw gravity data: Earth tides using observed tidal parameters, atmospheric pressure effect using a constant admittance, and the polar motion effect using pole positions from IERS.
The g-soft version 4.0 software from Micro-g Solutions Inc. was used for the processing. All the text outputs as well as some figures are compiled in the annexes of this report for future reference.

1.2 Vertical and Horizontal Gravity Gradient

The vertical gravity gradient was measured with a Scintrex. This gradient is needed to linearize the equation of motion but also to transfer the measured absolute gravity value from the reference height around 1.3 m to the floor. We measured a linear vertical gravity gradient of –2.844 ± 0.008 microGal/cm. In addition, we measured the gravity difference between the site where the absolute measurements where taken and the gravity benchmark. Its value is 3.1 ± 0.5 microGal as measured with the spring gravimeter. It was impossible to set up the FG5 directly on top of the gravity benchmark 78801 because it has been set to close from the electrical panel.

1.3 Tidal corrections

At coastal stations, it is very difficult to model the ocean loading tides due to the proximity of the ocean. We decided to use observed tidal parameters instead of using models for the body and oceanic loading tides. For that purpose, we left the spring gravimeter Scintrex in the Asiaq (Greenland Survey) building in Nuuk to record the gravity tides. At this stage, we analyzed 45 days of data (Figures 3) to extract the observed tidal parameters (Table 1). These have been used for processing the FG5 observations. At the time of this report, the Scintrex is still recording the gravity tides in Nuuk. The recording will be stopped once at least 6 months of observations will be acquired.

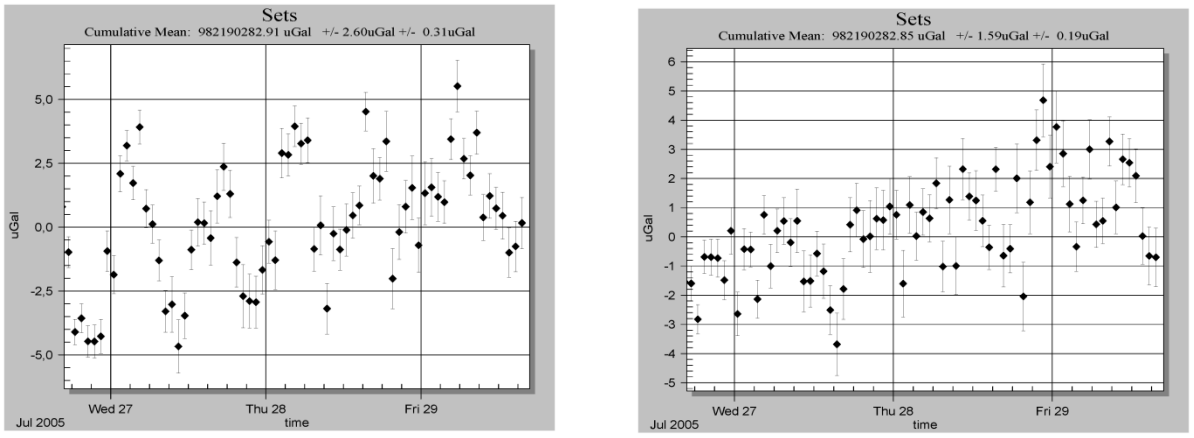


Figures 3. 45 days of data from the spring gravimeter Scintrex CG5#008 in Nuuk in the Asiaq (Greenland Survey) building. The top figure shows the raw minute data. The bottom one shows the same data after removing a 3th degree polynomial.

Table 1. Observed tidal parameters (delta factor and phase alpha) for Nuuk from the tidal analysis of 45 days of record with a spring gravimeter Scintrex CG5. The gravimeter was installed in the Asiaq (Greenland Survey) building in Nuuk. For the DC, long-periods, M_3 and M_4 tides, the theoretical values have been used.

Wave	from (cpd)	To (cpd)	Amplitude Factor	Phase Lead (degree)
DC	0.000000	0.002427	1.000000	0.0000
Long Periods	0.002428	0.249951	1.160000	0.0000
Q_1	0.721500	0.906315	1.14200	0.6752
O_1	0.921941	0.940487	1.14731	1.9975
M_1	0.958085	0.974188	1.20880	0.8682
K_1	0.989049	1.011099	1.16353	2.5375
J_1	1.013689	1.044800	1.11780	1.8413
OO_1	1.064841	1.216397	1.19575	8.6894
$2N_2$	1.719381	1.872142	1.73756	12.2685
N_2	1.888387	1.906462	1.92222	4.4720
M_2	1.923766	1.942754	1.76567	-3.1064
L_2	1.958233	1.976926	1.46056	0.2222
S_2	1.991787	2.182843	1.53663	-13.7255
M_3	2.753244	3.081254	1.07338	0.0000
M_4	3.791964	3.937897	1.03900	0.0000

In Figures 4, one can see the improvement in the absolute gravity data processing by using the observed tidal parameters.



Figures 4. Comparison of the set values using the modelled tides on the left side and the observed tidal parameters on the right side. With the observed parameters most of the tidal signal has been removed. We also observe a decrease of the set standard deviation from 2.60 to 1.59 microGal. Moreover we clearly see a slope in the gravity values during the duration of the observation of about 1 microGal/day.

1.4 Results of the absolute gravity measurements

The FG5#216 was set-up on Tuesday 26th of July until Friday 29th of July 2005. A total of 72 sets of 100 drops were taken with a rate of 1 set per hour.

Site	Gravity value /microgal	Standard Deviation /microgal
City Hall - Absolute site @ 1.3 m	982 190 282.85	1.59
City Hall – Absolute site @ the floor	982 190 652.57	1.90
City Hall – Gravity Benchmark 78801	982 190 649.47	1.96

2. Relative measurements

Gravity ties were measured between different sites (Figures 5) belonging to the local gravity network with our Scintrex CG5. The sites were selected by René Forsberg.

City Hall - Bench Mark (78801)
City Hall-Absolute site

City Hall-Flag (78802)

Airport (78206)

Harbour (78104)

Figures 5. Sites of the relative network measured in Nuuk.

The results of the gravity ties are given in Table 2.

Table 2. Relative ties in Nuuk.

Site	Code	gravity difference/ microGal	RMS microGal
City Hall - Bench Mark	**78801**	**0**	
City Hall-Absolute site		**3.1**	**0.5**
City Hall-Flag	**78802**	**-181.7**	**0.8**
Airport	**78206**	**-18102.8**	**0.8**
Harbour	**78104**	**1251.2**	**1.0**

Reference

Francis O., van Dam T.M., Processing of the Absolute data of the ICAG01, Cahiers du Centre Européen de Géodynamique et de Séismologie, vol.22, 45-48, 2003. https://doi.org/10.5281/zenodo.7890604

ANNEXES

STATION: NUUK			
City:	NUUK	Country:	Greenland
Location:	City Hall	Particularity:	
Situation:	Basement	Remarks:	
Date:	26-29 July 2005		
Code number:	Close to 78801		
Latitude:	64.17667 degrees		
Longitude:	-51.73550 degrees		
Elevation:	23.10 m		
Gradient:	-2.844 μgal/cm		
Reference height:	0. 1285 m + 1.1640 m = 1.299m		
Meter:	FG5		
S/N:	216		

Tidal corrections using observed tidal parameters

Polar motion correction			**Air pressure correction**	
X-coordinate	-0.0080	arc seconds	Nominal air pressure:	1010.48 mbar
Y-coordinate	0.4200	arc seconds	Barometric admittance factor:	0.3 μgal/mbar

Gravity

Set gravity mean:	**982 190 282.85**	Microgal
Set std. dev.:	1.59	microgal
Mean std. dev.:	8.05	microgal
Number of sets:	72	
Number of drops per set:	100	
Drop interval:	10 seconds	
Set interval:	60 minutes	
Nominal/datum height:	1.30 m	

Author: O. Francis — European Center for Geodynamics and Seismology

Date: November 25, 2005

Project file

Micro-g Solutions g Processing Report
File Created: 11/25/05, 14:05:37

Project Name: nu2005072628
g Acquisition Version: 1.0823
g Processing Version: 4.0416

Company/Institution: ECGS
Operator: Olivier Francis

Station Data
Name: NUUK
Site Code: City Hall Basement
Lat: 64.17667 Long: -51.73550 Elev: 23.10 m
Reference Height: 12.85 cm
Datum Height: 130.00 cm
Gradient: -2.844 uGal/cm
Nominal Air Pressure: 1010.48 mBar
Barometric Admittance Factor: 0.30
Polar Motion Coord: -0.0080 " 0.4200 "
Earth Tide (ETGTAB) Selected
Potential Filename: C:\Program Files\Micro-g Solutions Inc\gWavefiles\Etcpot.dat
Delta Factor Filename: F:\ABSOLU\DATA\2005\NUUK\nuuk.ini
Delta Factors

Start	Stop	Amplitude	Phase	Term
0.000000	0.002427	1.000000	0.0000	DC
0.002428	0.249951	1.160000	0.0000	Long
0.721500	0.906315	1.142	0.6752	Q1
0.921941	0.940487	1.14731	1.9975	O1
0.958085	0.974188	1.2088	0.8682	M1
0.989049	1.011099	1.16353	2.5375	K1
1.013689	1.0448	1.1178	1.8413	J1
1.064841	1.216397	1.19575	8.6894	OO1
1.719381	1.872142	1.73756	12.2685	2N2
1.888387	1.906462	1.92222	4.472	N2
1.923766	1.942754	1.76567	-3.1064	M2
1.958233	1.976926	1.46056	0.2222	L2
1.991787	2.182843	1.53663	-13.7255	S2
2.753244	3.081254	1.07338	0.0000	M3
3.791964	3.937897	1.03900	0.0000	M4

Instrument Data
Meter Type: FG5
Meter S/N: 216
Factory Height: 116.40 cm
Rubidium Frequency: 10000000.01020 Hz
Laser: WEO100 (187)
ID: 632.99117754 nm (0.51 V)
IE: 632.99119473 nm (0.15 V)
IF: 632.99121259 nm (-0.25 V)
IG: 632.99123023 nm (-0.71 V)
IH: 632.99136890 nm (-1.68 V)
II: 632.99139822 nm (-1.64 V)
IJ: 632.99142704 nm (-1.65 V)

Modulation Frequency: 8333.420 Hz

Processing Results
Date: 07/28/05
Time: 04:01:35
DOY: 209
Year: 2005
Gravity: 982190282.85 uGal
Set Scatter: 1.59 uGal
Measurement Precision: 0.19 uGal
Total Uncertainty: 0.19 uGal
Number of Sets Collected: 72
Number of Sets Processed: 72
Set #s Processed:
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72
Number of Sets NOT Processed: 0
Set #s NOT Processed:
Number of Drops/Set: 100
Total Drops Accepted: 7167
Total Drops Rejected: 33
Total Fringes Acquired: 700
Fringe Start: 20
Processed Fringes: 600
GuideCard Multiplex: 4
GuideCard Scale Factor: 250

Gravity Corrections
Earth Tide (ETGTAB): -41.19 uGal
Polar Motion: -4.88 uGal
Barometric Pressure: -2.20 uGal
Datum Height: -2.13 uGal
Reference Xo: -0.00 uGal

Uncertainties
Earth Tide Factor: 0.000
Average Earth Tide Uncertainty: 0.00 uGal
Ocean Load Factor: 0.00
Average Ocean Load Uncertainty: 0.00 uGal
Barometric: 0.00 uGal
Polar Motion: 0.00 uGal
Laser: 0.00 uGal
Clock: 0.00 uGal
System Type: 0.00 uGal
Tidal Swell: 0.00 uGal
Water Table: 0.00 uGal
Unmodeled: 0.00 uGal
System Setup: 0.00 uGal
Gradient: 0.00 uGal (0.00 uGal/cm)

Comments:

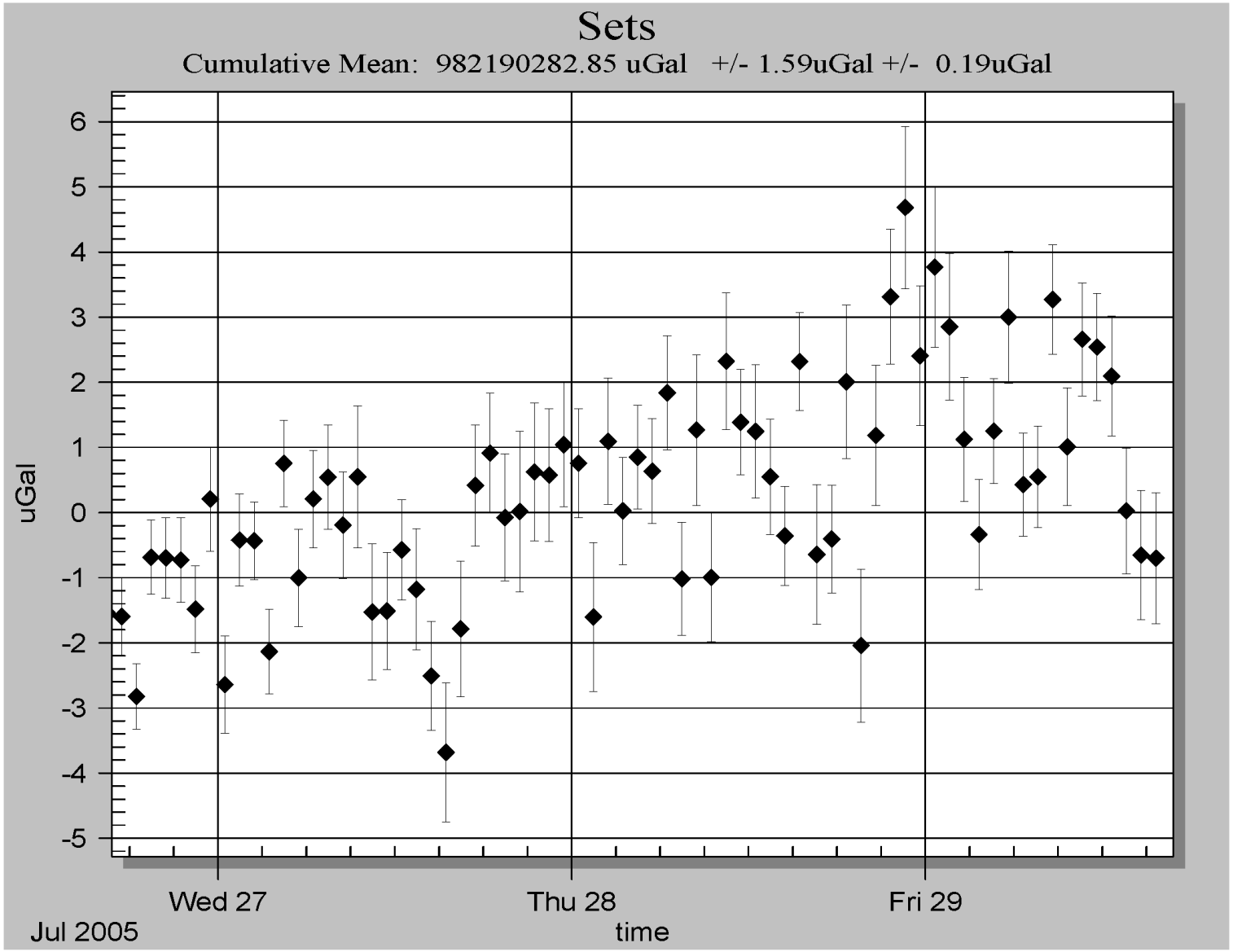
Files Merged:
nu20050726.FG5
nu20050728.FG5

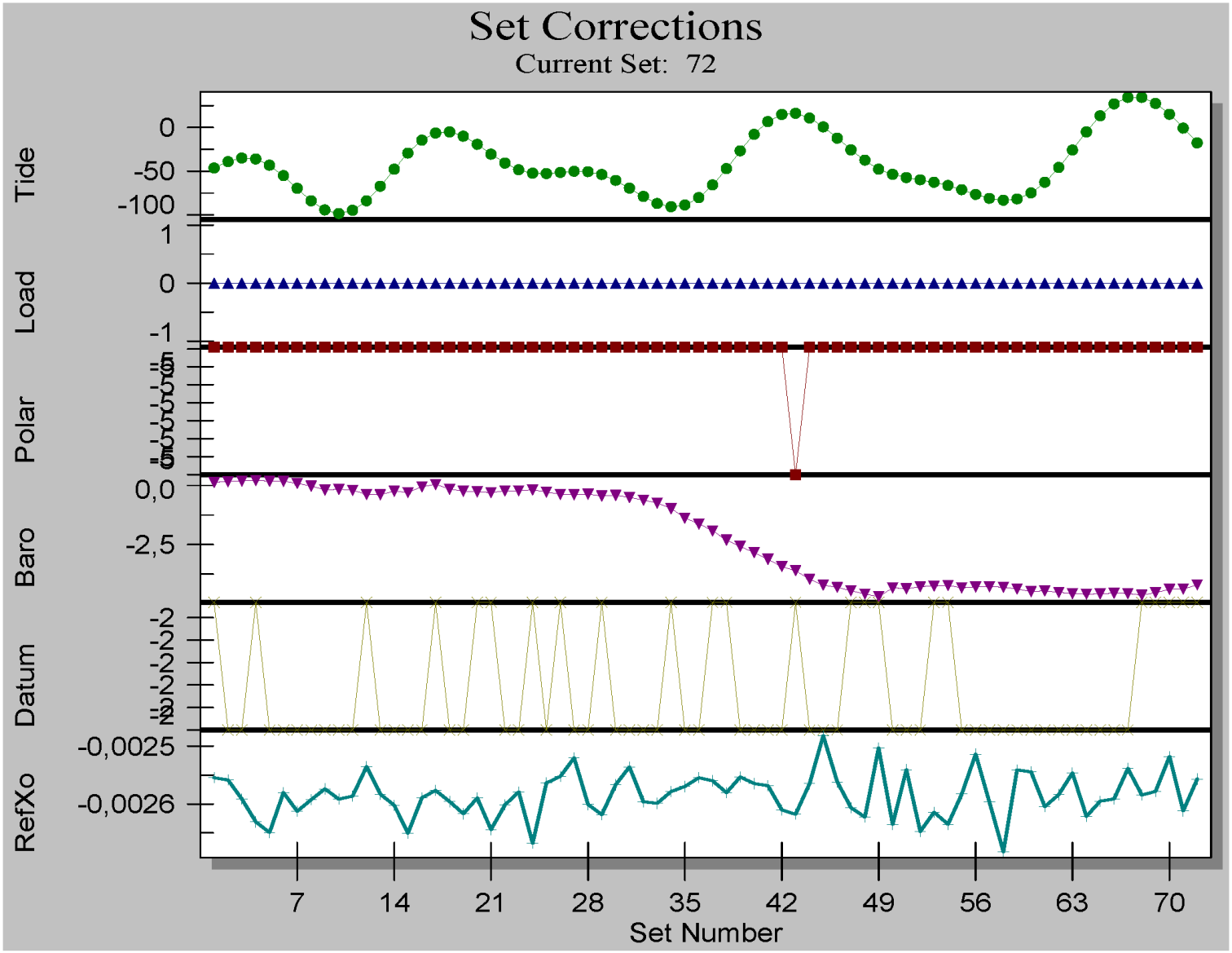
Set File

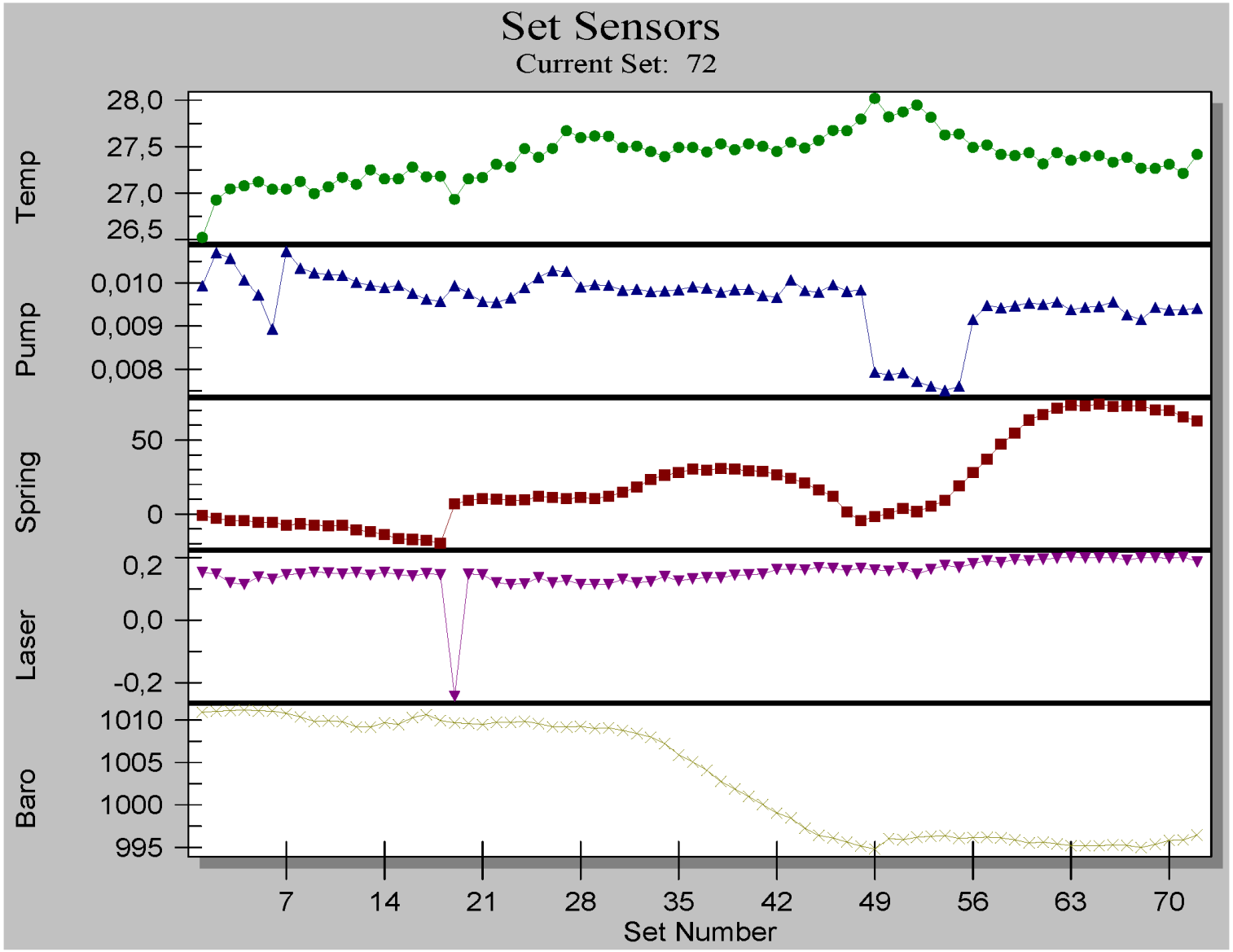
Source Data Filename: nu2005072628
g Acquisition Version: 1.0823
g Processing Version: 4.0416

Set	Time	DOY	Year	Gravity	Sigma	Error	Uncert	Tide	Load	Baro	Polar	Datum	Refxo	Temp	Pres	Accept	Reject	
1	16:28:15	207	2005	982190281.309	7.049	0.708	0.708		-46.431	0.000	0.135	-4.875	-2.133	-0.003	26.522	1010.930	99	1
2	17:28:15	207	2005	982190281.252	5.998	0.600	0.600		-39.046	0.000	0.168	-4.875	-2.133	-0.003	26.925	1011.039	100	0
3	18:28:15	207	2005	982190280.023	5.022	0.502	0.502		-34.980	0.000	0.190	-4.875	-2.133	-0.003	27.044	1011.113	100	0
4	19:28:13	207	2005	982190282.162	5.664	0.569	0.569		-36.159	0.000	0.214	-4.875	-2.133	-0.003	27.077	1011.191	99	1
5	20:28:15	207	2005	982190282.154	6.187	0.619	0.619		-43.187	0.000	0.183	-4.875	-2.133	-0.003	27.121	1011.090	100	0
6	21:28:15	207	2005	982190282.118	6.485	0.649	0.649		-55.132	0.000	0.178	-4.875	-2.133	-0.003	27.040	1011.070	100	0
7	22:28:15	207	2005	982190281.365	6.682	0.668	0.668		-69.726	0.000	0.088	-4.875	-2.133	-0.003	27.043	1010.771	100	0
8	23:28:15	207	2005	982190283.056	7.984	0.798	0.798		-83.856	0.000	-0.029	-4.875	-2.133	-0.003	27.124	1010.381	100	0
9	00:28:15	208	2005	982190280.208	7.485	0.748	0.748		-94.287	0.000	-0.195	-4.875	-2.133	-0.003	26.994	1009.827	100	0
10	01:28:15	208	2005	982190282.425	7.086	0.709	0.709		-98.407	0.000	-0.165	-4.875	-2.133	-0.003	27.067	1009.929	100	0
11	02:28:15	208	2005	982190282.414	5.977	0.598	0.598		-94.855	0.000	-0.201	-4.875	-2.133	-0.003	27.169	1009.807	100	0
12	03:28:13	208	2005	982190280.715	6.366	0.650	0.650		-83.864	0.000	-0.384	-4.875	-2.133	-0.003	27.094	1009.199	96	4
13	04:28:15	208	2005	982190283.601	6.620	0.662	0.662		-67.203	0.000	-0.390	-4.875	-2.133	-0.003	27.251	1009.177	100	0
14	05:28:15	208	2005	982190281.846	7.496	0.750	0.750		-47.855	0.000	-0.242	-4.875	-2.133	-0.003	27.154	1009.671	100	0
15	06:28:15	208	2005	982190283.059	7.477	0.748	0.748		-29.292	0.000	-0.302	-4.875	-2.133	-0.003	27.153	1009.471	100	0
16	07:28:15	208	2005	982190283.390	8.024	0.802	0.802		-14.721	0.000	-0.056	-4.875	-2.133	-0.003	27.279	1010.292	100	0
17	08:28:12	208	2005	982190282.656	8.139	0.818	0.818		-6.384	0.000	0.046	-4.875	-2.133	-0.003	27.176	1010.632	99	1
18	09:28:15	208	2005	982190283.397	10.888	1.089	1.089		-5.077	0.000	-0.156	-4.875	-2.133	-0.003	27.182	1009.958	100	0
19	10:28:15	208	2005	982190281.323	10.442	1.044	1.044		-10.099	0.000	-0.242	-4.875	-2.133	-0.003	26.933	1009.672	100	0
20	11:28:17	208	2005	982190281.337	8.969	0.901	0.901		-19.496	0.000	-0.267	-4.875	-2.133	-0.003	27.152	1009.589	99	1
21	12:28:12	208	2005	982190282.275	7.696	0.773	0.773		-30.614	0.000	-0.302	-4.875	-2.133	-0.003	27.168	1009.471	99	1
22	13:28:15	208	2005	982190281.668	9.299	0.930	0.930		-40.901	0.000	-0.224	-4.875	-2.133	-0.003	27.310	1009.733	100	0
23	14:28:15	208	2005	982190280.340	8.341	0.834	0.834		-48.394	0.000	-0.225	-4.875	-2.133	-0.003	27.279	1009.728	100	0
24	15:28:16	208	2005	982190279.166	10.615	1.067	1.067		-52.266	0.000	-0.186	-4.875	-2.133	-0.003	27.478	1009.860	99	1
25	16:28:15	208	2005	982190281.065	10.417	1.042	1.042		-52.874	0.000	-0.274	-4.875	-2.133	-0.003	27.385	1009.564	100	0
26	17:28:17	208	2005	982190283.264	9.226	0.927	0.927		-51.562	0.000	-0.378	-4.875	-2.133	-0.003	27.482	1009.218	99	1
27	18:28:15	208	2005	982190283.760	9.221	0.922	0.922		-50.195	0.000	-0.391	-4.875	-2.133	-0.003	27.670	1009.174	100	0
28	19:28:15	208	2005	982190282.773	9.727	0.973	0.973		-50.583	0.000	-0.369	-4.875	-2.133	-0.003	27.597	1009.249	100	0
29	20:28:19	208	2005	982190282.865	12.286	1.235	1.235		-53.948	0.000	-0.443	-4.875	-2.133	-0.003	27.613	1009.001	99	1
30	21:28:15	208	2005	982190283.472	10.604	1.060	1.060		-60.524	0.000	-0.418	-4.875	-2.133	-0.003	27.612	1009.086	100	0
31	22:28:15	208	2005	982190283.421	10.174	1.017	1.017		-69.485	0.000	-0.506	-4.875	-2.133	-0.003	27.490	1008.790	100	0
32	23:28:15	208	2005	982190283.889	9.515	0.952	0.952		-79.049	0.000	-0.620	-4.875	-2.133	-0.003	27.506	1008.412	100	0
33	00:28:15	209	2005	982190283.606	8.393	0.839	0.839		-86.898	0.000	-0.746	-4.875	-2.133	-0.003	27.447	1007.992	100	0

34	01:28:14	209	2005	982190281.246	11.303	1.142	1.142	-90.716	0.000	-0.977	-4.875	-2.133	-0.003	27.393	1007.222	98	2
35	02:28:15	209	2005	982190283.943	9.690	0.969	0.969	-88.747	0.000	-1.379	-4.875	-2.133	-0.003	27.491	1005.883	100	0
36	03:28:15	209	2005	982190282.872	8.269	0.827	0.827	-80.261	0.000	-1.627	-4.875	-2.133	-0.003	27.491	1005.055	100	0
37	04:28:11	209	2005	982190283.699	7.929	0.797	0.797	-65.811	0.000	-1.926	-4.875	-2.133	-0.003	27.442	1004.058	99	1
38	05:28:19	209	2005	982190283.484	8.010	0.805	0.805	-47.068	0.000	-2.307	-4.875	-2.133	-0.003	27.531	1002.788	99	1
39	06:28:15	209	2005	982190284.687	8.772	0.877	0.877	-26.834	0.000	-2.573	-4.875	-2.133	-0.003	27.466	1001.902	100	0
40	07:28:15	209	2005	982190281.831	8.650	0.865	0.865	-8.053	0.000	-2.842	-4.875	-2.133	-0.003	27.531	1001.006	100	0
41	08:28:15	209	2005	982190284.117	11.560	1.156	1.156	6.460	0.000	-3.120	-4.875	-2.133	-0.003	27.503	1000.078	100	0
42	09:28:15	209	2005	982190281.853	9.893	0.989	0.989	14.734	0.000	-3.429	-4.875	-2.133	-0.003	27.448	999.047	100	0
43	10:28:29	209	2005	982190285.172	10.205	1.053	1.053	15.980	0.000	-3.598	-4.875	-2.133	-0.003	27.546	998.485	94	6
44	11:28:15	209	2005	982190284.237	8.096	0.810	0.810	10.723	0.000	-3.965	-4.875	-2.133	-0.003	27.485	997.261	100	0
45	12:28:15	209	2005	982190284.094	10.247	1.025	1.025	0.520	0.000	-4.218	-4.875	-2.133	-0.002	27.567	996.418	100	0
46	13:28:15	209	2005	982190283.399	8.869	0.887	0.887	-12.394	0.000	-4.311	-4.875	-2.133	-0.003	27.675	996.108	100	0
47	14:28:13	209	2005	982190282.491	7.563	0.760	0.760	-25.687	0.000	-4.453	-4.875	-2.133	-0.003	27.671	995.634	99	1
48	15:28:16	209	2005	982190285.169	7.491	0.753	0.753	-37.468	0.000	-4.597	-4.875	-2.133	-0.003	27.797	995.155	99	1
49	16:38:20	209	2005	982190282.206	10.639	1.069	1.069	-47.818	0.000	-4.698	-4.875	-2.133	-0.003	28.018	994.817	99	1
50	17:38:15	209	2005	982190282.442	8.304	0.830	0.830	-53.593	0.000	-4.333	-4.875	-2.133	-0.003	27.820	996.033	100	0
51	18:38:15	209	2005	982190284.853	11.775	1.178	1.178	-57.230	0.000	-4.371	-4.875	-2.133	-0.003	27.873	995.908	100	0
52	19:38:15	209	2005	982190280.804	11.753	1.175	1.175	-59.850	0.000	-4.282	-4.875	-2.133	-0.003	27.948	996.204	100	0
53	20:38:20	209	2005	982190284.033	10.700	1.075	1.075	-62.622	0.000	-4.255	-4.875	-2.133	-0.003	27.816	996.295	99	1
54	21:38:10	209	2005	982190286.161	10.311	1.036	1.036	-66.327	0.000	-4.226	-4.875	-2.133	-0.003	27.625	996.391	99	1
55	22:38:15	209	2005	982190287.531	12.463	1.246	1.246	-71.154	0.000	-4.328	-4.875	-2.133	-0.003	27.636	996.051	100	0
56	23:38:15	209	2005	982190285.253	10.701	1.070	1.070	-76.489	0.000	-4.300	-4.875	-2.133	-0.003	27.491	996.145	100	0
57	00:38:15	210	2005	982190286.619	12.332	1.233	1.233	-81.097	0.000	-4.283	-4.875	-2.133	-0.003	27.518	996.202	100	0
58	01:38:15	210	2005	982190285.700	11.278	1.128	1.128	-83.356	0.000	-4.307	-4.875	-2.133	-0.003	27.415	996.122	100	0
59	02:38:15	210	2005	982190283.972	9.559	0.956	0.956	-81.672	0.000	-4.380	-4.875	-2.133	-0.003	27.403	995.879	100	0
60	03:38:15	210	2005	982190282.510	8.423	0.842	0.842	-74.899	0.000	-4.487	-4.875	-2.133	-0.003	27.435	995.521	100	0
61	04:38:15	210	2005	982190284.098	8.037	0.804	0.804	-62.710	0.000	-4.462	-4.875	-2.133	-0.003	27.315	995.605	100	0
62	05:38:15	210	2005	982190285.851	10.145	1.014	1.014	-45.792	0.000	-4.520	-4.875	-2.133	-0.003	27.434	995.410	100	0
63	06:38:15	210	2005	982190283.278	7.933	0.793	0.793	-25.830	0.000	-4.578	-4.875	-2.133	-0.003	27.352	995.218	100	0
64	07:38:15	210	2005	982190283.396	7.769	0.777	0.777	-5.259	0.000	-4.595	-4.875	-2.133	-0.003	27.394	995.161	100	0
65	08:38:15	210	2005	982190286.118	8.412	0.841	0.841	13.176	0.000	-4.589	-4.875	-2.133	-0.003	27.404	995.183	100	0
66	09:38:15	210	2005	982190283.857	9.014	0.901	0.901	26.940	0.000	-4.554	-4.875	-2.133	-0.003	27.332	995.298	100	0
67	10:38:15	210	2005	982190285.509	8.664	0.866	0.866	34.203	0.000	-4.571	-4.875	-2.133	-0.003	27.384	995.242	100	0
68	11:38:14	210	2005	982190285.388	8.193	0.823	0.823	34.187	0.000	-4.645	-4.875	-2.133	-0.003	27.269	994.996	99	1
69	12:38:13	210	2005	982190284.943	9.145	0.919	0.919	27.283	0.000	-4.533	-4.875	-2.133	-0.003	27.264	995.367	99	1
70	13:38:11	210	2005	982190282.873	9.607	0.966	0.966	14.908	0.000	-4.394	-4.875	-2.133	-0.003	27.310	995.832	99	1
71	14:38:22	210	2005	982190282.195	9.814	0.991	0.991	-0.888	0.000	-4.381	-4.875	-2.133	-0.003	27.212	995.875	98	2
72	15:38:13	210	2005	982190282.147	10.027	1.008	1.008	-17.625	0.000	-4.203	-4.875	-2.133	-0.003	27.415	996.467	99	1


Sets
Cumulative Mean: 982190282.85 uGal +/- 1.59uGal +/- 0.19uGal
uGal
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
Wed 27
Thu 28
Fri 29
Jul 2005
time


Set Corrections
Current Set: 72
Tide
0
-50
-100
Load
1
0
-1
Polar
Baro
0,0
-2,5
Datum
RefXo
-0,0025
-0,0026
7
14
21
28
35
42
49
56
63
70
Set Number


Set Sensors
Current Set: 72
Temp
28,0
27,5
27,0
26,5
Pump
0,010
0,009
0,008
Spring
50
0
Laser
0,2
0,0
-0,2
Baro
1010
1005
1000
995
7
14
21
28
35
42
49
56
63
70
Set Number