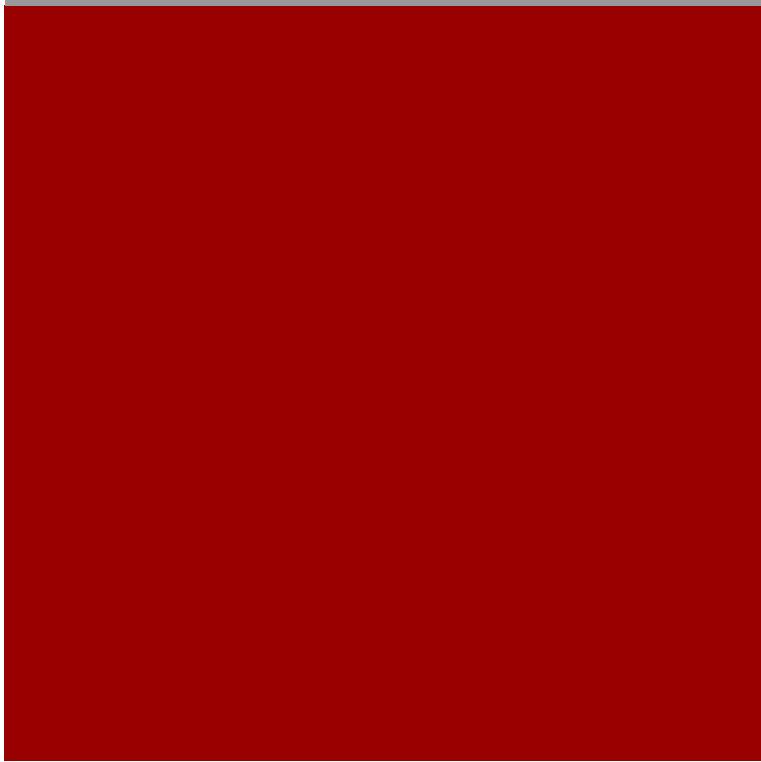


Absolute gravity measurements in Denmark and Greenland



J. Emil Nielsen, Gabriel Strykowski, Rene Forsberg
Technical report - Ver.1.2
November, 2017



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National Space Institute

Technical report - Ver.1.2, Kgs. Lyngby, November, 2017

Technical report by DTU Space - National Space Institute, Technical University of Denmark.

Absolute gravity measurements conducted in Denmark and Greenland, covering the period from 2003 up to 2017.

<http://www.space.dtu.dk>

Version history

Version 1.0 - 2016/January

First version of the document.

Version 1.1 - 2016/October

Added new measurements at ILUL, KAGA and GODH in Greenland and FYNH, HJKR and ESBG in Denmark. A point description for the new GODH site is also included.

Version 1.2 - 2017/November

The laser frequencies and the rubidium clock were calibrated at BKG in Frankfurt. This was done in May 18-19th. These new calibration values can be found in Table A. A measurement at Bad Homburg showed that it was, after the calibration, at the expected value within the uncertainties. The new frequencies have been used to correct all measurements up to this date.

In Denmark the A10 has this year measured at Helsingør (HELS), Gedser (GEDS), Vestvolden (VVOL) and Havnebyen (HVBY). A new point has been established on Anholt (ANHT).

Swedish measurement at DTU Space (DTUS) and Tejn (TEJN) with their upgraded FG5X-233 from Lantmäteriet.

In Greenland the A10 has been on the East coast, where the gravity network has been expanded with new points. One existing point has also been remeasured, Daneborg (DANE). The new points are: Constable Pynt (CNPT), Vestfjord glacier - GNET (VFDG), Daugaard Jensen glacier - GNET (DGJG), Mestersvig - GNET (MSVG), Mestersvig (MSVT), Hamberg glacier - GNET (HMBG), Daneborg (DNBG) and Scorsbysund (SCBY). The fieldwork were done along with maintenance of the GNET GNSS stations.

Introduction

This report gives an overview of all absolute gravity measurements made in Denmark and Greenland in the period from 2003-2017. This period covers the measurements done with different FG5s and A10s.

The first absolute measurements in Denmark were done with the Italian IMGC rise-fall instrument in 1978. In 1986 to 1988 the German JILA-3 instrument occupied sites in Denmark and Greenland. These measurements are not included in this report, see Andersen and Forsberg (1996). The sites at Kellyville (KELY) and Kulusuk (KULU) in Greenland have also been measured by NOAA/NGS in 1995 and 1996.

Later, with the first measurement in 2003, different FG5s have occupied different sites in Denmark and Greenland, see Strykowski et al. (2006) and Timmen et al. (2008).

In Greenland have some absolute measurements been made by Olivier Francis from the University of Luxembourg, see Francis (2006), Francis (2015b) and Francis (2015a). A few scientific publications have been made on absolute gravity data in Greenland, see van Dam et al. (2000) and Nielsen et al. (2013).



Figure 1: The A10-019 at the Thule GNET GNSS antenna (THU3) in 2009.

The department of Geodynamics at DTU Space acquired in 2008 an absolute gravimeter, model A10 serial number 019, from Micro-g LaCoste. This instrument was acquired with the purpose of expanding and maintaining the gravity networks in Denmark and Greenland, and to establish time series at selected sites for geodynamic studies. The times series are established through repeated measurements at different time intervals. In Denmark this is done on regular intervals whereas in Greenland it is done in a ad hoc manner e.g. by using flight opportunities of other campaigns.

With the A10-019 the number of absolute gravity sites have steadily increased in Denmark and Greenland. Therefore, is it time for a report where interested can find the information on these sites.

The A10 absolute gravimeter determines the gravity by the principle of free fall using a laser and an atomic clock for positioning the falling object. By design the laser wavelength and the atomic clock frequency can drift and needs to be calibrated at regular intervals. The results of the instrument calibrations over time can be found in Appendix A.

The measured gravity, in between calibrations, can be corrected for the instrument drift by assuming a linear change over time. The values in this report have been corrected for these drifts and the estimated drifts are presented in Table 1.

Date (from/to)		Drift [$\mu\text{Gal/day}$]
2008 JUL 11	-	-0.0280 ^a
2009 MAY 04	-	-0.0393
2010 MAR 12	-	-0.0215
2010 AUG 31	-	-0.0215 ^b
2011 SEP 19	-	-0.0109
2012 JUL 24	-	-0.0229
2013 MAR 23	-	-0.0051
2017 MAY 19	-	-0.0051 ^c

Table 1: The laser drift in the period from June 2008 to May 2017.

^a This value is estimated from the AG measurements at the site in the Rockefeller building, Copenhagen.

^b This value is a continuation of the drift in the period from March 12, 2010 to September 19, 2011.

^c This value is used until next calibration has taken place.



Figure 2: The A10-019 at the permanent GNSS site at Ferring (FERG).

The appendixes in this report contains the following:

- A: A10-019 Calibrations, pp. 4.
- B: Danish sites - map, pp. 5.
- C: Danish point descriptions, pp. 6.
- D: Greenlandic sites - map, pp. 93.
- E: Greenlandic point descriptions, pp. 94.

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A A10-019 Calibrations

Date	Mode	Frequency [MHz]		Wavelength [nm]		Rubidium clock frequency [Hz]	Instrument height [m]	Comment
2008 JUL 11	Red	473 611 824.919	± 0.029	632.9919192	± 0.0	10 000 000	0.700	
	Blue	473 612 579.544	± 0.113	632.9909106	$\pm 2.0e^{-7}$			
	Center	473 612 202.232						
2009 MAY 04	Red	473 611 843.738	± 0.115	632.9918940	$\pm 2.0e^{-7}$	10 000 000	0.718	New laser tube
	Blue	473 612 575.095	± 0.085	632.9909166	$\pm 1.0e^{-7}$			
	Center	473 612 209.417						
2010 MAR 12	Red	473 611 845.967	± 0.168	632.9918910	$\pm 2.0e^{-7}$	10 000 000	0.718	New laser tube
	Blue	473 612 561.181	± 0.346	632.9909351	$\pm 5.0e^{-7}$			
	Center	473 612 203.574						
2010 AUG 31	Red	473 611 843.232		632.9918947		0.718	Calibration at BKG	
	Blue	473 612 560.394		632.9909362				
	Center	473 612 201.813						
2011 SEP 19	Red	473 611 836.052	± 0.395	632.9919043	$\pm 2.0e^{-7}$	10 000 000	0.718	New laser tube
	Blue	473 612 573.495	± 0.343	632.9909187	$\pm 2.0e^{-7}$			
	Center	473 612 204.774						
2012 JUL 24	Red	473 611 879.609	± 0.117	632.9918461	$\pm 2.0e^{-7}$	10 000 000	0.718	
	Blue	473 612 526.724	± 0.092	632.9909812	$\pm 1.0e^{-7}$			
	Center	473 612 203.167						
2013 MAR 14	Red	473 611 848.238	± 0.521	632.9918880	$\pm 7.0e^{-7}$	10 000 000	0.718	
	Blue	473 612 565.109	± 0.396	632.9909299	$\pm 5.3e^{-7}$			
	Center	473 612 206.674						
2017 MAY 19	Red	473 611 872.413	± 0.750	632.9918557	$\pm 4.0e^{-7}$	9 999 999.9974	0.718	Calibration at BKG
	Blue	473 612 533.533	± 0.999	632.9909721	$\pm 3.0e^{-7}$			
	Center	473 612 202.973						

Table 2: The A10-019 calibrations in the period from 2008 to 2017.

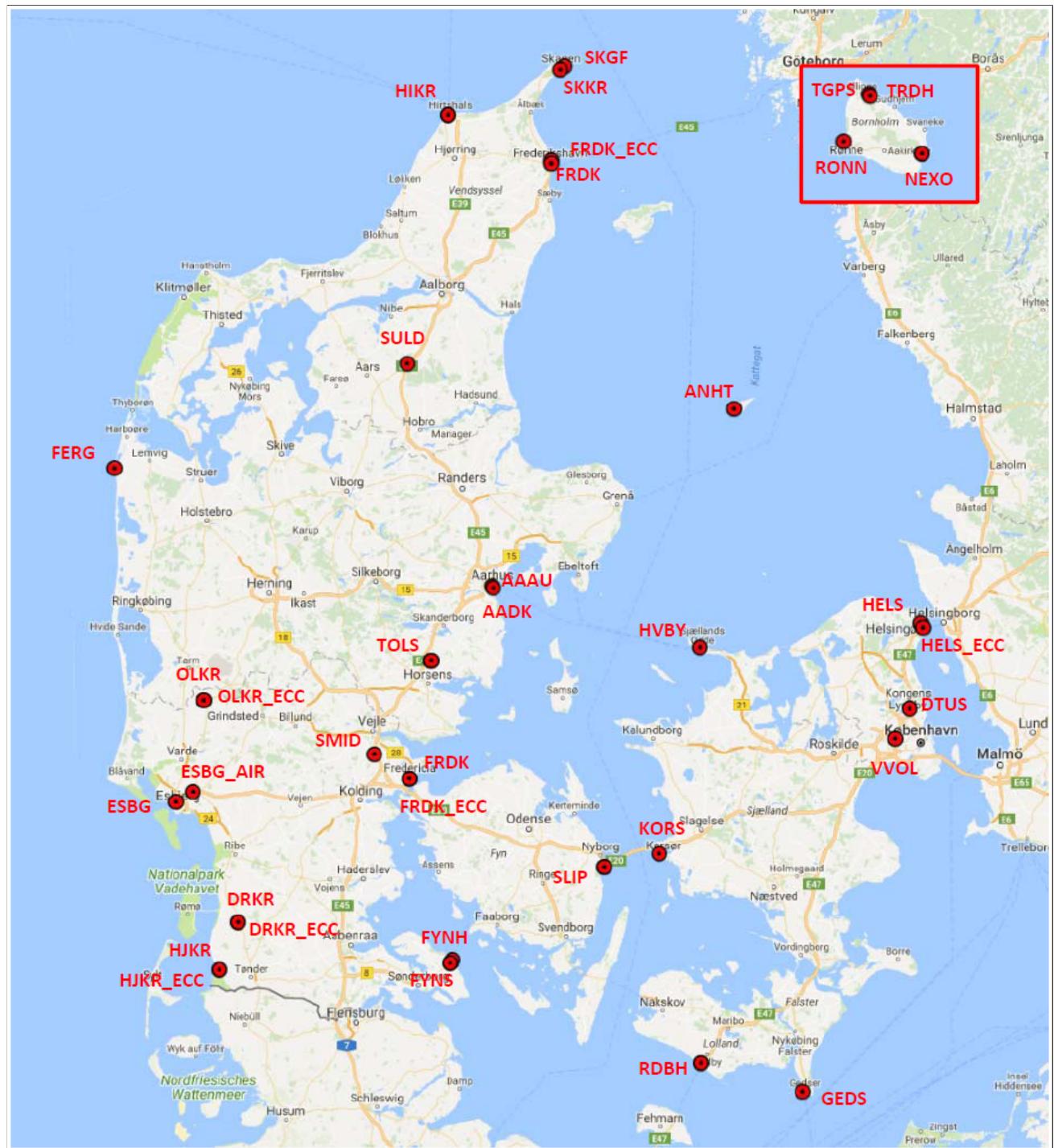
B Danish sites - map

Figure 3: Location of absolute gravity sites in Denmark.

C Danish point descriptions

On the following pages are the point descriptions of the absolute points in Denmark. They are arranged as presented in the table below.

Location	Code	Lat. [°]	Long. [°]	Elev. [m]	dg/dz [$\mu\text{Gal}/\text{m}$]
Anholt	ANHT	56.70349	11.54428	10.00	-301.0
DTU Space	DTUS	55.78323	12.51599	61.41	-286.1
Døstrup	DRKR	55.11492	8.799250	3.00	-288.9
Døstrup	DRKR_ECC	55.11492	8.799250	3.00	-302.1
Esbjerg (GNSS)	ESBG	55.49355	8.456750	14.89	-310.0
Esbjerg Airport	ESBG_AIR	55.52216	8.547880	69.44	-305.9
Ferring (GNSS)	FERG	56.52302	8.118230	23.07	-322.0
Fredericia	FRDK	55.56454	9.752920	11.00	-307.5
Fredericia	FRDK_ECC	55.56488	9.753520	11.00	-293.0
Frederikshavn	FRHV	57.44077	10.53810	22.00	-224.2
Frederikshavn	FRHV_ECC	57.45047	10.53459	11.00	-293.6
Fynshav	FYNS	54.98566	9.977020	11.00	-295.4
Fynshav	FYNH_ECC	54.98601	9.976920	11.00	-319.5
Fynshav (GNSS)	FYNH	54.99365	9.986240	2.17	-316.3
Gedser (GNSS)	GEDS	54.57443	11.92289	2.20	-310.7
Havneby (GNSS)	HVBY	55.97188	11.35535	21.35	-300.1
Helsingør	HELS	56.04528	12.57972	31.97	-265.0
Helsingør	HELS_ECC	56.03323	12.58963	30.26	-304.5
Hirtshals	HIKR	57.58730	9.962990	20.00	-223.4
Hirtshals	HIKR_ECC	57.58730	9.962990	20.00	-323.7
Højer	HJKR	54.96460	8.699020	2.00	-293.9
Højer	HJKR_ECC	54.96460	8.699020	2.00	-306.3
Korsør	KORS	55.33019	11.13629	0.00	-304.3
Nexø	NEXO	55.06081	15.13239	2.75	-304.5
Nexø	NEXO_ECC	55.06061	15.13217	0.00	-289.8
Rødbyhavn	RDBH	54.66547	11.35975	0.00	-234.7
Rødbyhavn	RDBH_ECC	54.66667	11.36175	0.00	-308.2
Rønne	RONN	55.09910	14.69772	12.00	-302.1
Skagen	SKKR	57.72140	10.58505	27.00	-304.3
Skagen	SKGF	57.72912	10.60663	1.00	-317.1
Slipshavn	SLIP	55.28742	10.82622	0.00	-312.4
Slipshavn	SLIP_ECC	55.28799	10.82637	0.00	-309.0
Smidstrup (GNSS)	SMID	55.64078	9.559270	79.11	-322.0
Suldrup (GNSS)	SULD	56.84166	9.742140	76.82	-319.4
Tejn (GNSS)	TGPS	55.24843	14.83934	3.32	-283.6
Tejn	TRDH	55.24380	14.84730	15.00	-266.0
Tolstrup	TOLS	55.92993	9.868920	41.71	-305.2
Tolstrup	TOLS_ECC	55.92993	9.868920	41.71	-305.2
Vestvolden	VVOL	55.68766	12.43530	24.00	-283.0
Ølgod	OLKR	55.80915	8.608830	43.08	-296.4
Ølgod	OLKR_ECC	55.80915	8.608830	43.08	-310.8
Aarhus Cathedral	AADK	56.15679	10.21138	5.60	-284.7
Aarhus University	AAUN	56.16336	10.20934	15.00	-277.0

Absolute gravity point description.

Location/Code:	Anholt kirke / ANHT		
Lat:	56.70349	Long:	11.54428

g [μGal] @ 0m:	981 660 968 +/- 12	dg/dh [μGal/m]:	-301.0
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Description:
Point at the entrance to Anholt church. Point established in November 2017.
Point is unmarked.





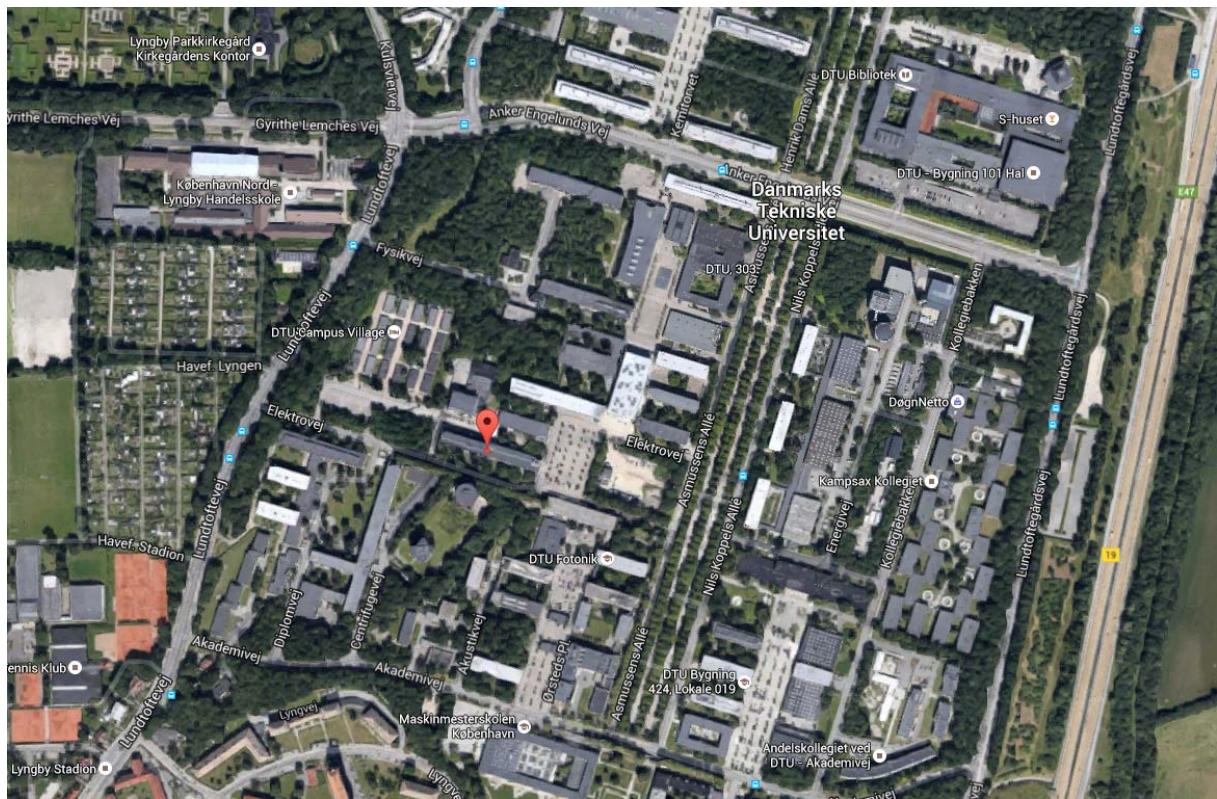
Absolute gravity point description.

Location/Code:	DTU Space – Kgs. Lyngby / DTUS		
Lat:	55.783235	Long:	12.515995

g [μ Gal] @ 0m:	981 545 977 +/- 11	dg/dh [μ Gal/m]:	-286.1
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Description:
Point in the basement of DTU Space building 328 at DTU Campus in Kgs. Lyngby.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Døstrup Church / DRKR		
Lat:	55.11492	Long:	8.79925

g [μGal] @ 0m:	981 532 997 +/- 11	dg/dh [μGal/m]:	-288.9
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Description:
Point in Døstrup Church. First measured in October 2010.
Point is unmarked in the entry doorway to the church.





Absolute gravity point description.

Location/Code:	Døstrup Church / DRKR_Ecc		
Lat:	55.11492	Long:	8.79925

g [μGal] @ 0m:	981 533 000 +/- 11	dg/dh [μGal/m]:	-302.1
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Description:
Eccenter point at Døstrup Church. Established in October 2010 in the door entry the the tower.
Point is unmarked.





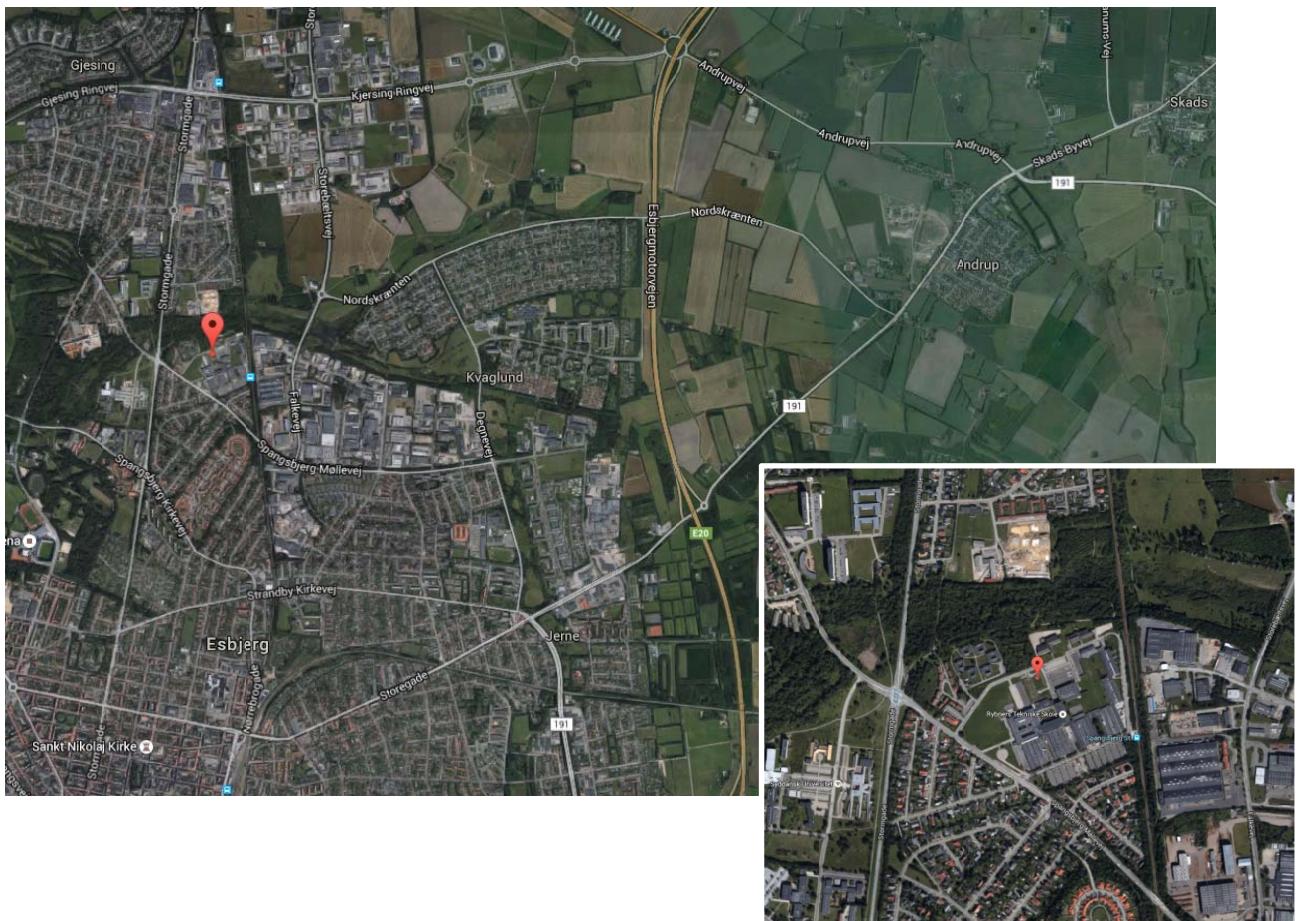
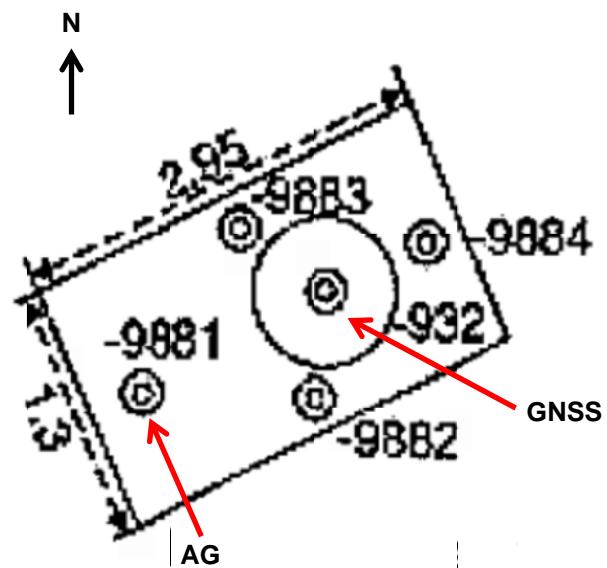
Absolute gravity point description.

Location/Code:	Esbjerg GNSS / ESBG / 135-08-09881		
Lat:	55.49355	Long:	8.45675

g [μ Gal] @ 0m:	981 556 004 +/- 11	dg/dh [μ Gal/m]:	-310.0
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Description:
Point at the permanent GNSS antenna in Esbjerg near the education center, Rybners Tekniske Skole. First time measured with the A10-019 in November 2011.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Esbjerg Airport / ESBG_AIR		
Lat:	55.52216	Long:	8.54788

g [μ Gal] @ 0m:	981 555 482 +/- 15	dg/dh [μ Gal/m]:	-305.9
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Description:
Point outside the office building at Esbjerg Airport. It is placed on a large concrete plate, close to the building next to the road. First time measured with the A10-019 in November 2009.
Point is marked with a bolt.





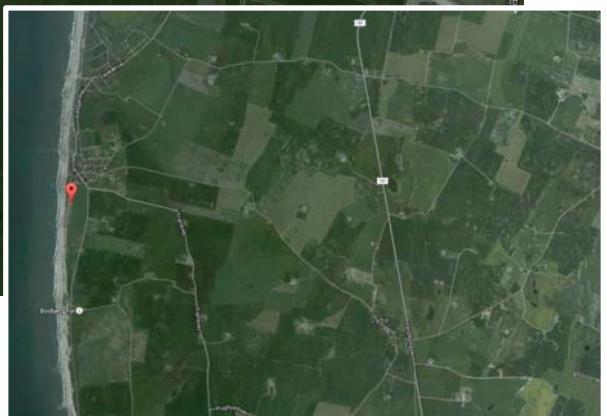
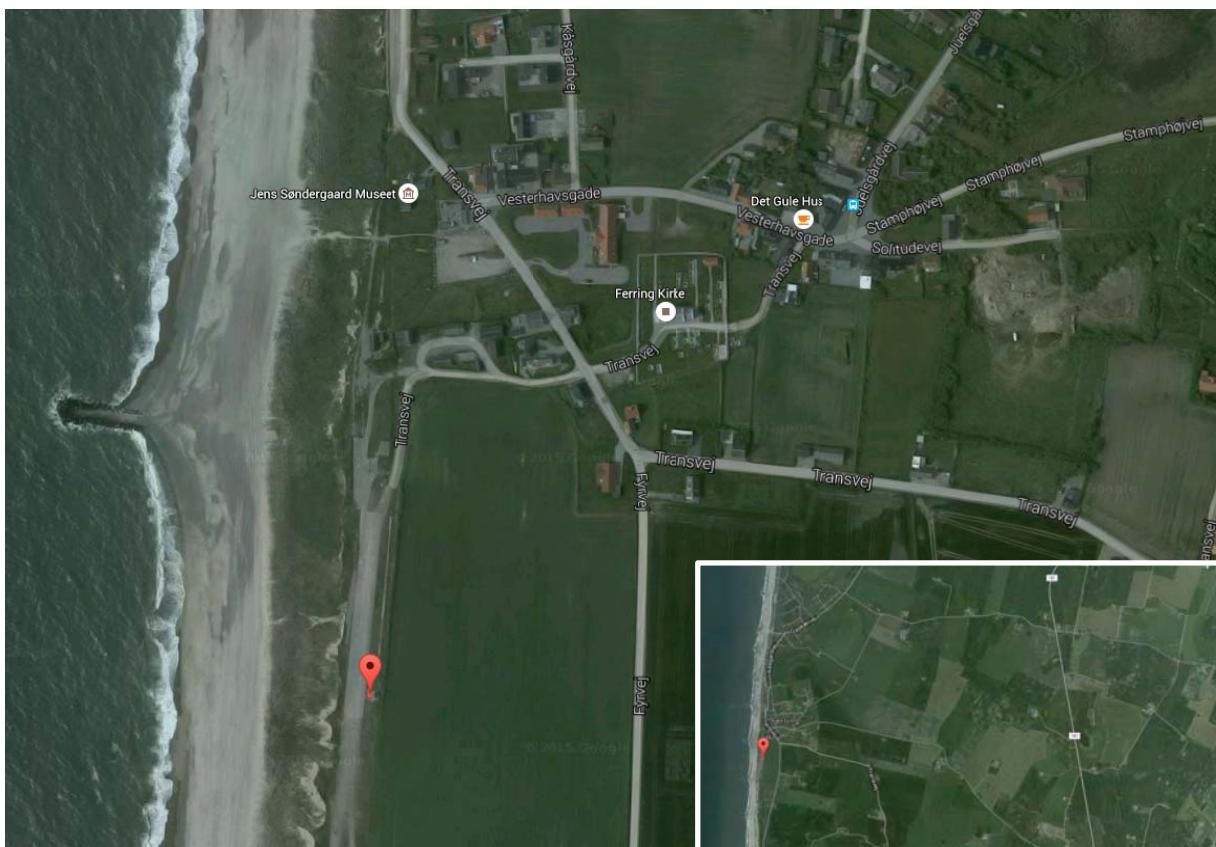
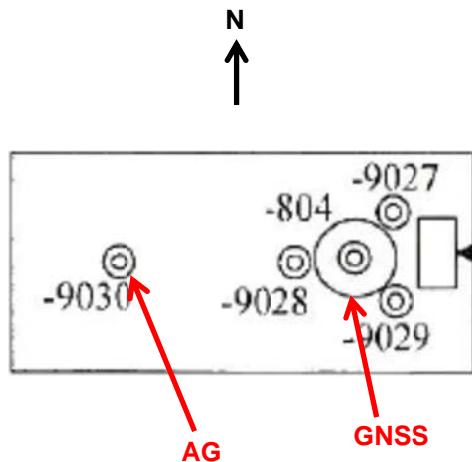
Absolute gravity point description.

Location/Code:	Ferring GNSS / FERG / 125-03-09030		
Lat:	56.52302	Long:	8.11823

g [μ Gal] @ 0m:	981 637 697 +/- 11	dg/dh [μ Gal/m]:	-322.0
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Description:
Point at the permanent GNSS site near Ferring. First measured in 2010.
Point is marked with a bolt.





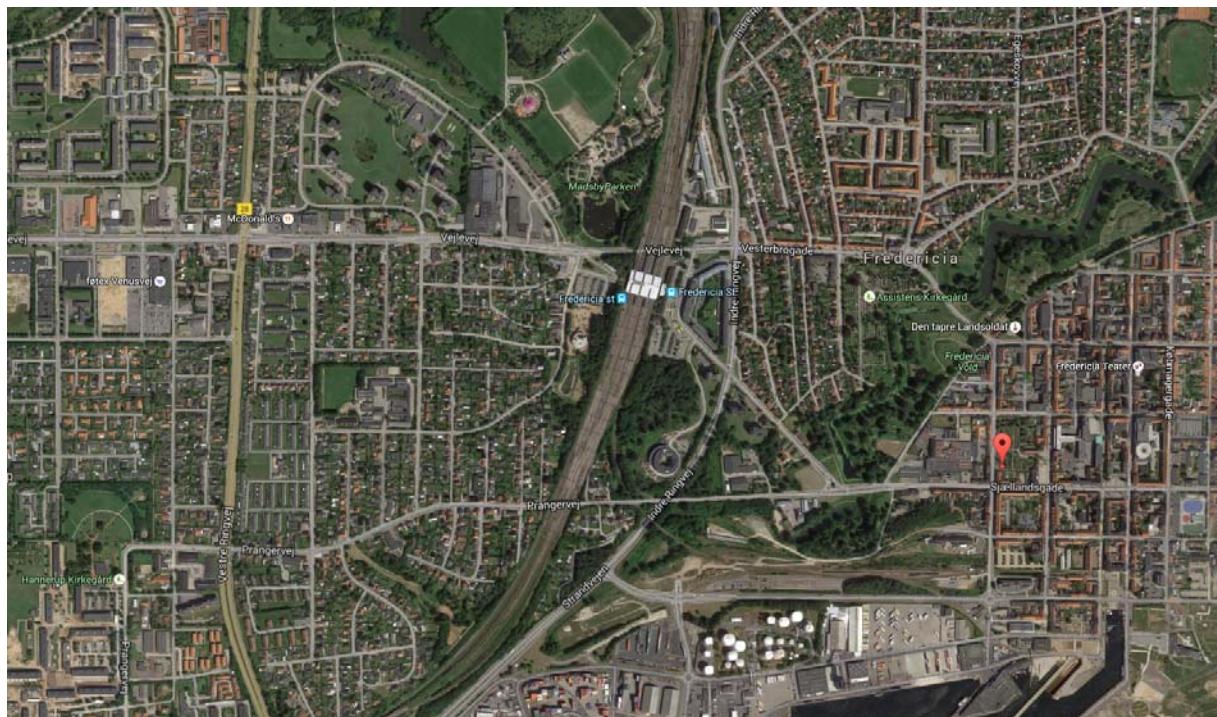
Absolute gravity point description.

Location/Code:	Fredericia / FRDK		
Lat:	55.56454	Long:	9.75292

g [μ Gal] @ 0m:	981 564 267 +/- 11	dg/dh [μ Gal/m]:	-307.5
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Description:
Point near Sct. Michealils Church, in the garage belong to the cemetery workers. Point established in 2010.
Point is marked with a bolt.



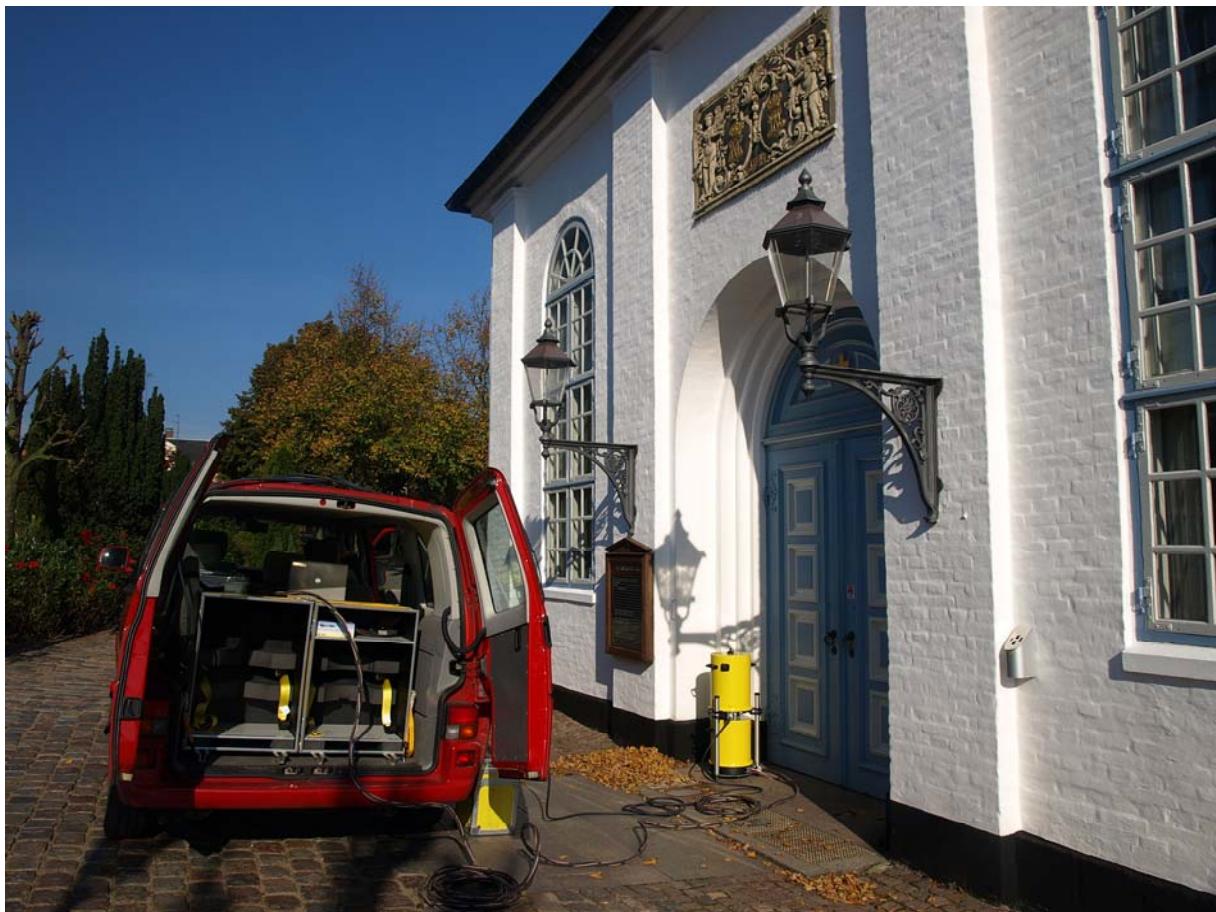


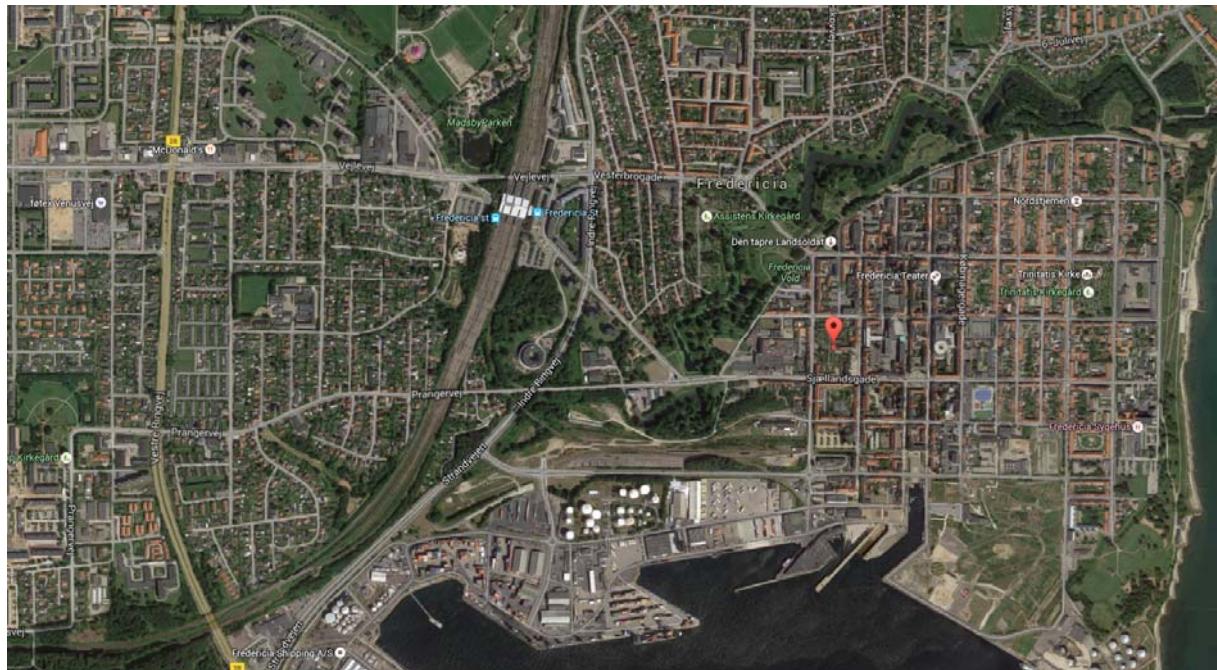
Absolute gravity point description.

Location/Code:	Fredericia Church, Eccenter / FRDK_ECC		
Lat:	55.56488	Long:	9.75352

g [μGal] @ 0m:	981 564 544 +/- 11	dg/dh [μGal/m]:	-293.0
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Description:
Point in doorway of main entrance to Sct. Michealilis Church in Fredericia. First measured in 2010.
Point is unmarked.





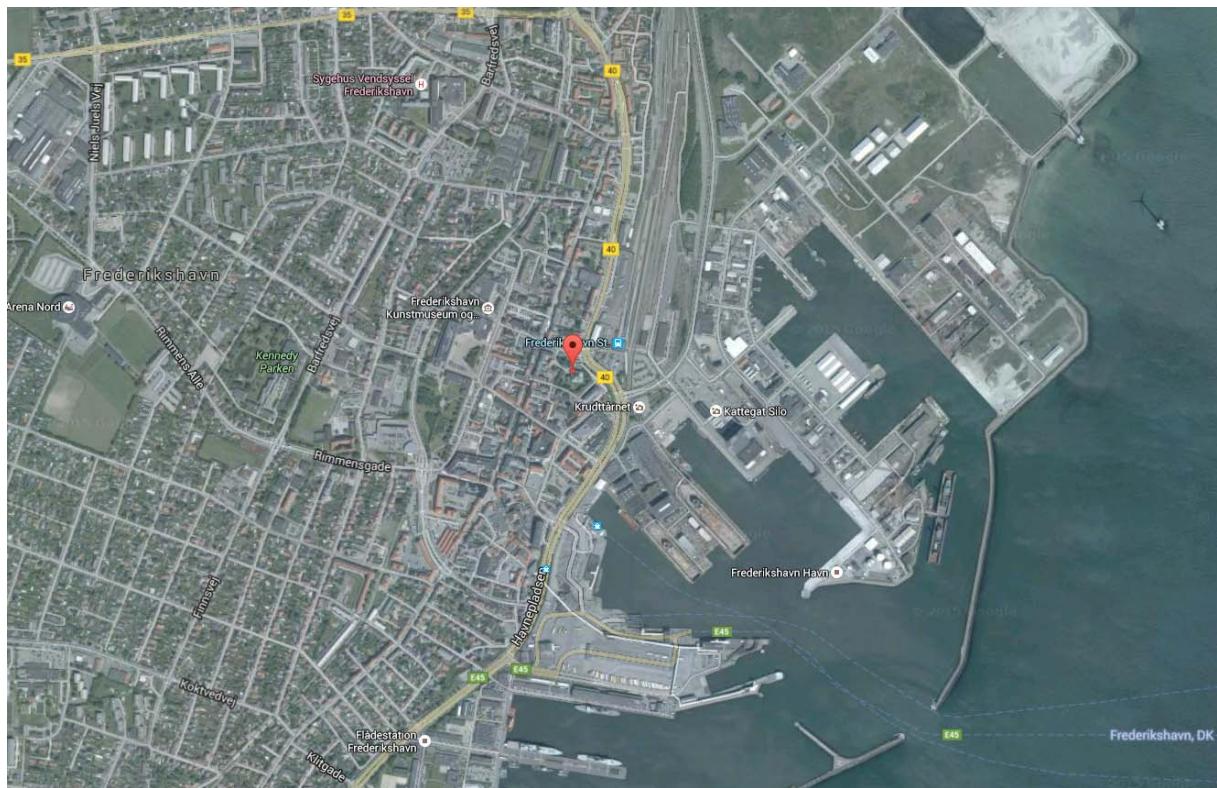
Absolute gravity point description.

Location/Code:	Frederikshavn Church / FRHV		
Lat:	57.44077	Long:	10.53810

g [μ Gal] @ 0m:	981 724 012 +/- 11	dg/dh [μ Gal/m]:	-224.2
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Description:
Point at the main entrance of the Frederikshavn Church. Point established in June 2013.
Point is unmarked.





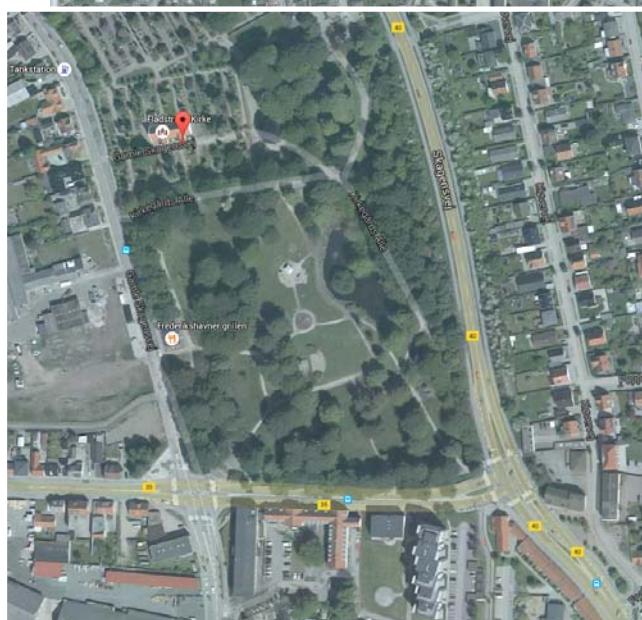
Absolute gravity point description.

Location/Code:	Frederikshavn – Fladestrand Church / FRHV_ECC			
Lat:	57.45047	Long:	10.53459	Height [m] (ortho): 25.00

g [μ Gal] @ 0m:	981 721 990 +/- 11	dg/dh [μ Gal/m]:	-293.6
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Description:
Point on stairs at the south side of Fladestrand Church. Point is eccenter. Established in 2013.
Point is unmarked.





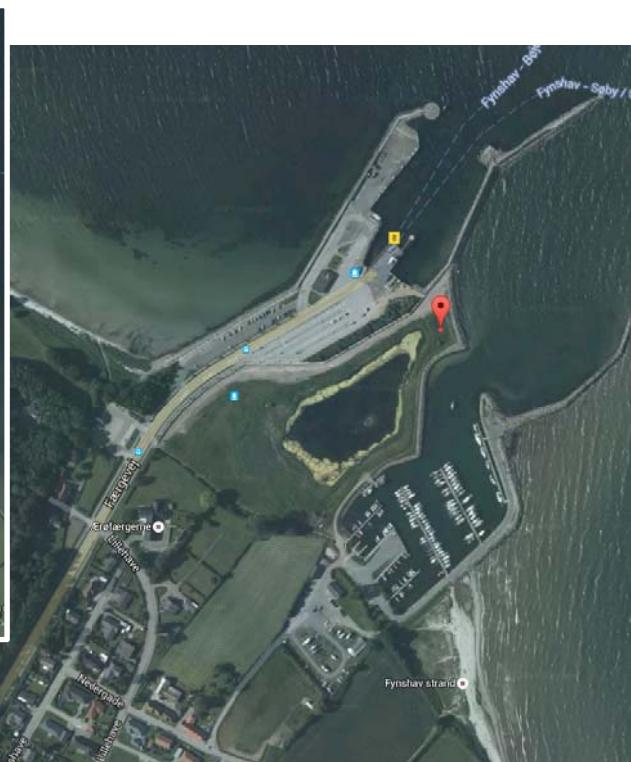
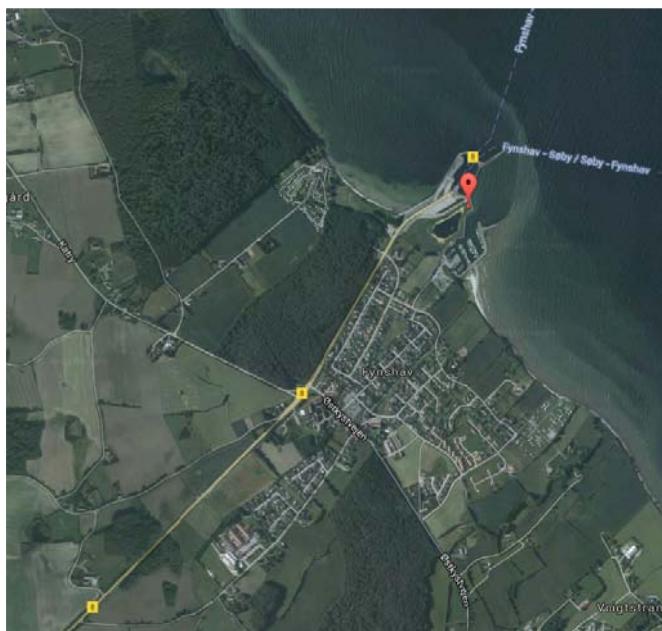
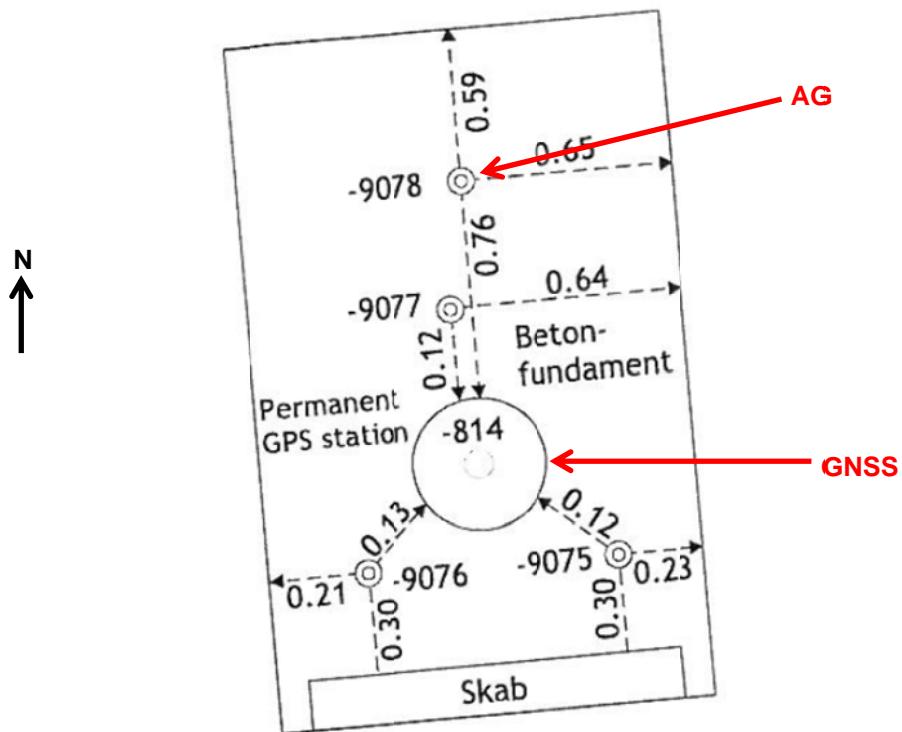
Absolute gravity point description.

Location/Code:	Fynshav GNSS / FYNH / 155-06-09078		
Lat:	54.99365	Long:	9.98624

g [μGal] @ 0m:	981 525 135 +/- 11	dg/dh [μGal/m]:	-316.3
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Description:
Point at the permanent GNSS site in Fynshav. First measured in October 2013.
Point marked with a bolt.





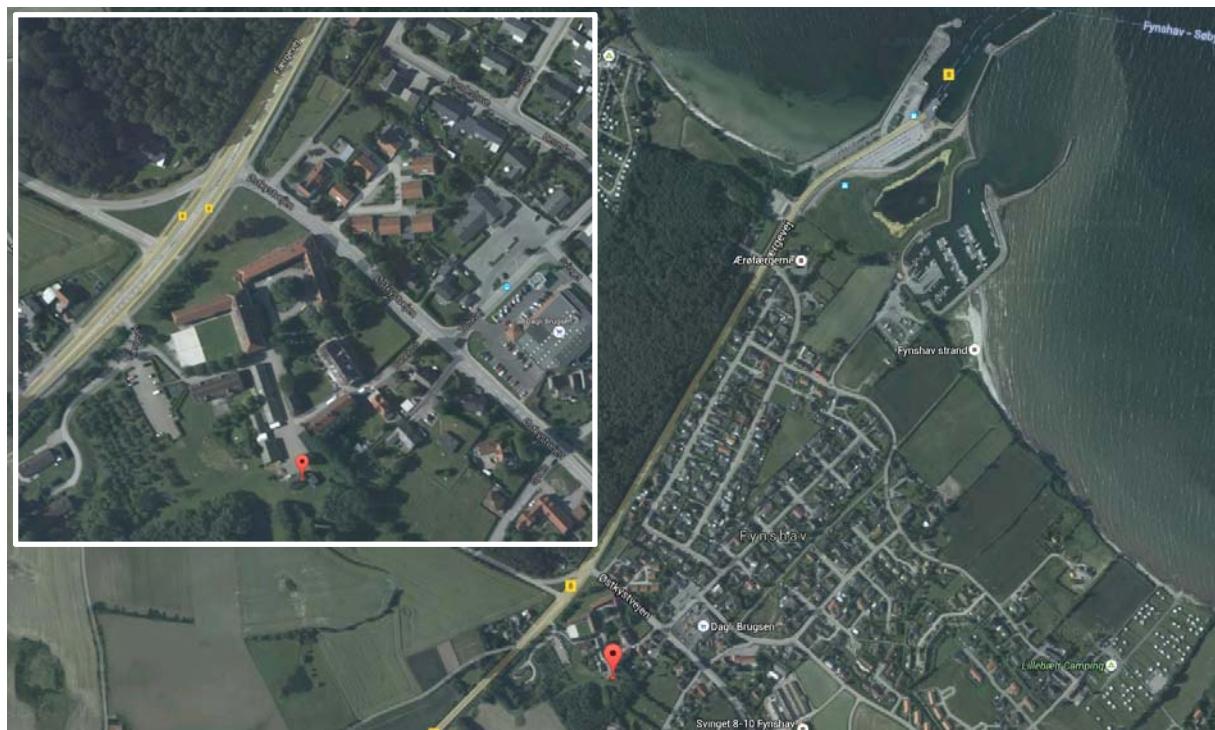
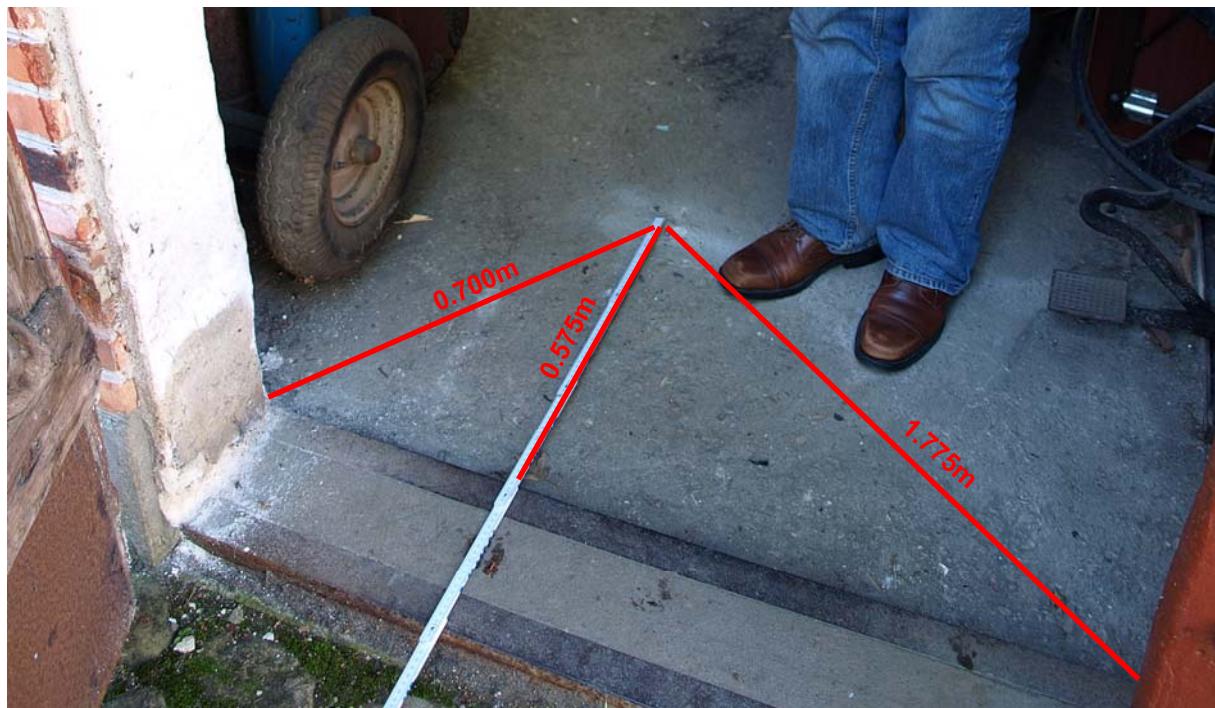
Absolute gravity point description.

Location/Code:	Fynshav Boarding school / FYNS		
Lat:	54.98566	Long:	9.97702

g [μGal] @ 0m:	981 516 992 +/- 11	dg/dh [μGal/m]:	-295.4
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Description:
Point in the old smithy building at the former Fynshav Boarding school. Point established in 2010.
Point is marked with a bolt.





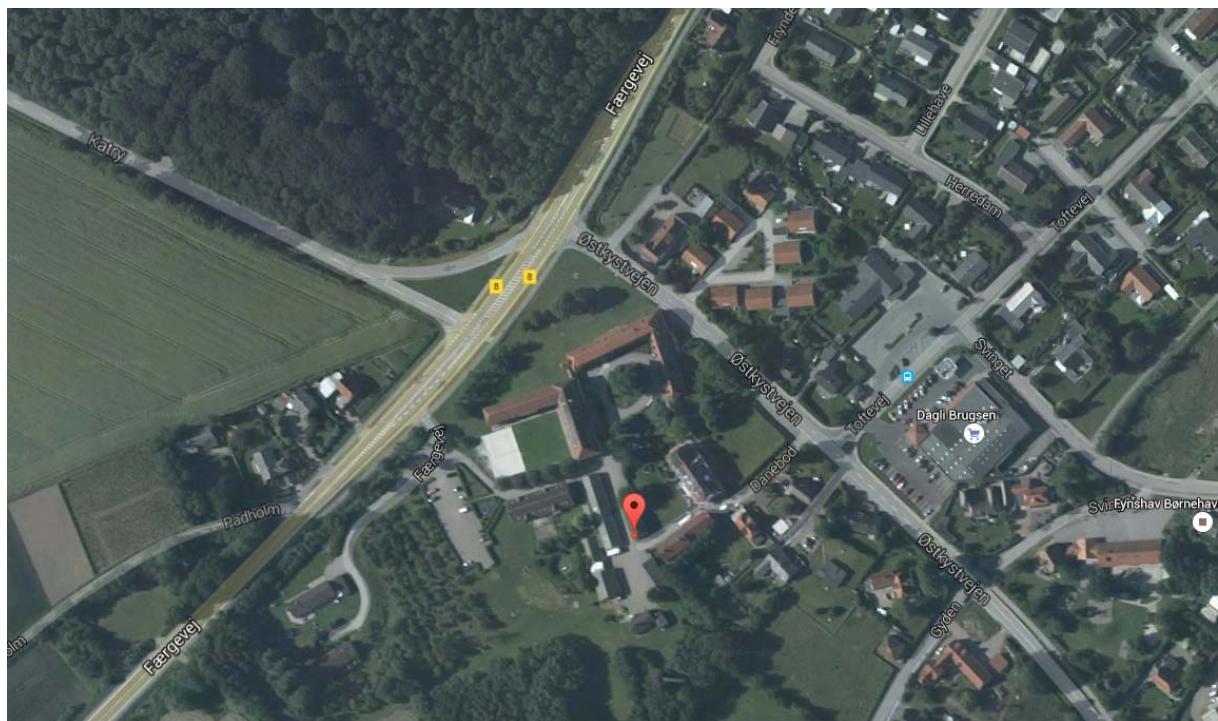
Absolute gravity point description.

Location/Code:	Fynshav Eccenter / FYNS_ECC		
Lat:	54.98601	Long:	9.97692

g [μ Gal] @ 0m:	981 516 794 +/- 11	dg/dh [μ Gal/m]:	-319.5
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Description:
Eccenter point at Fynshav Boarding school. On stairs to wood shop. Established in 2010.
Point is unmarked.





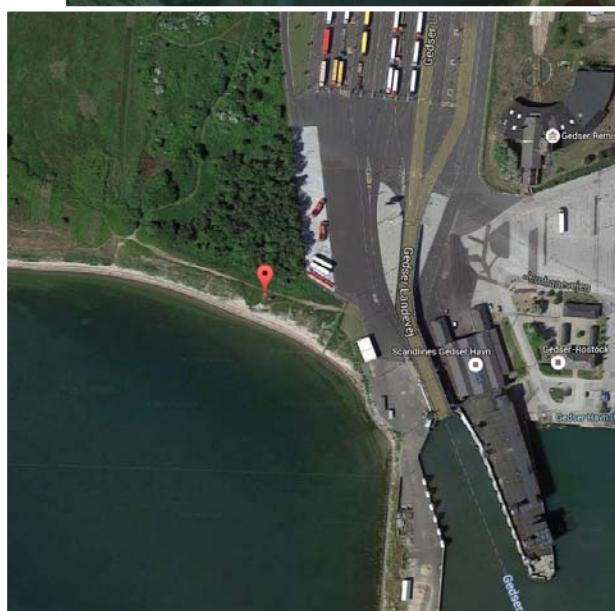
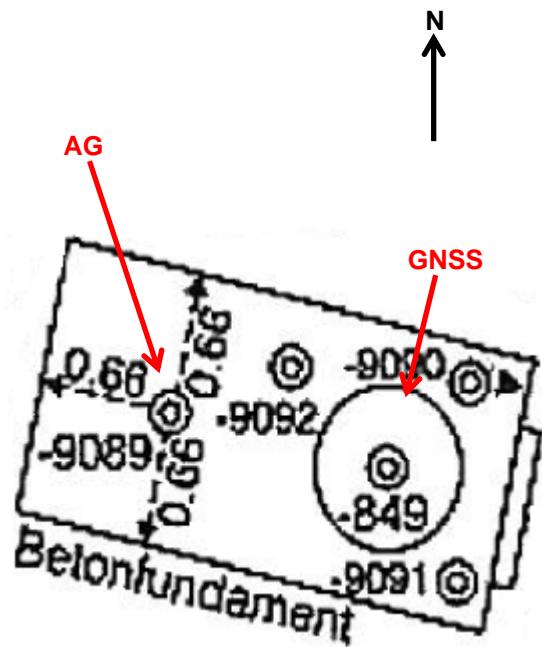
Absolute gravity point description.

Location/Code:	Gedser GNSS / GEDS / 52-03-09089		
Lat:	54.57443	Long:	11.92289

g [μ Gal] @ 0m:	981 471 687 +/- 11	dg/dh [μ Gal/m]:	-310.7
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Description:
Point at the permanent GNSS site in Gedser. First measured with the A10-019 in February 2009.
Point is marked with a bolt.





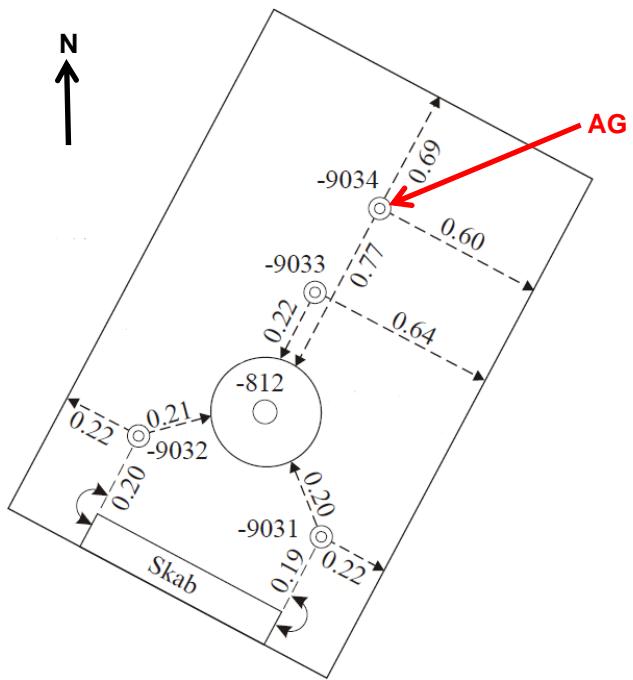
Absolute gravity point description.

Location/Code:	Havnebyen GNSS / HVBY / 16-08-09034		
Lat:	55.97188	Long:	11.35535

g [μ Gal] @ 0m:	981 577 411 +/- 11	dg/dh [μ Gal/m]:	-300.1
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Description:
Point on concrete pillar for the Havnebyen GNSS site. Station number: 16-08-09034
Point is marked with a bolt.



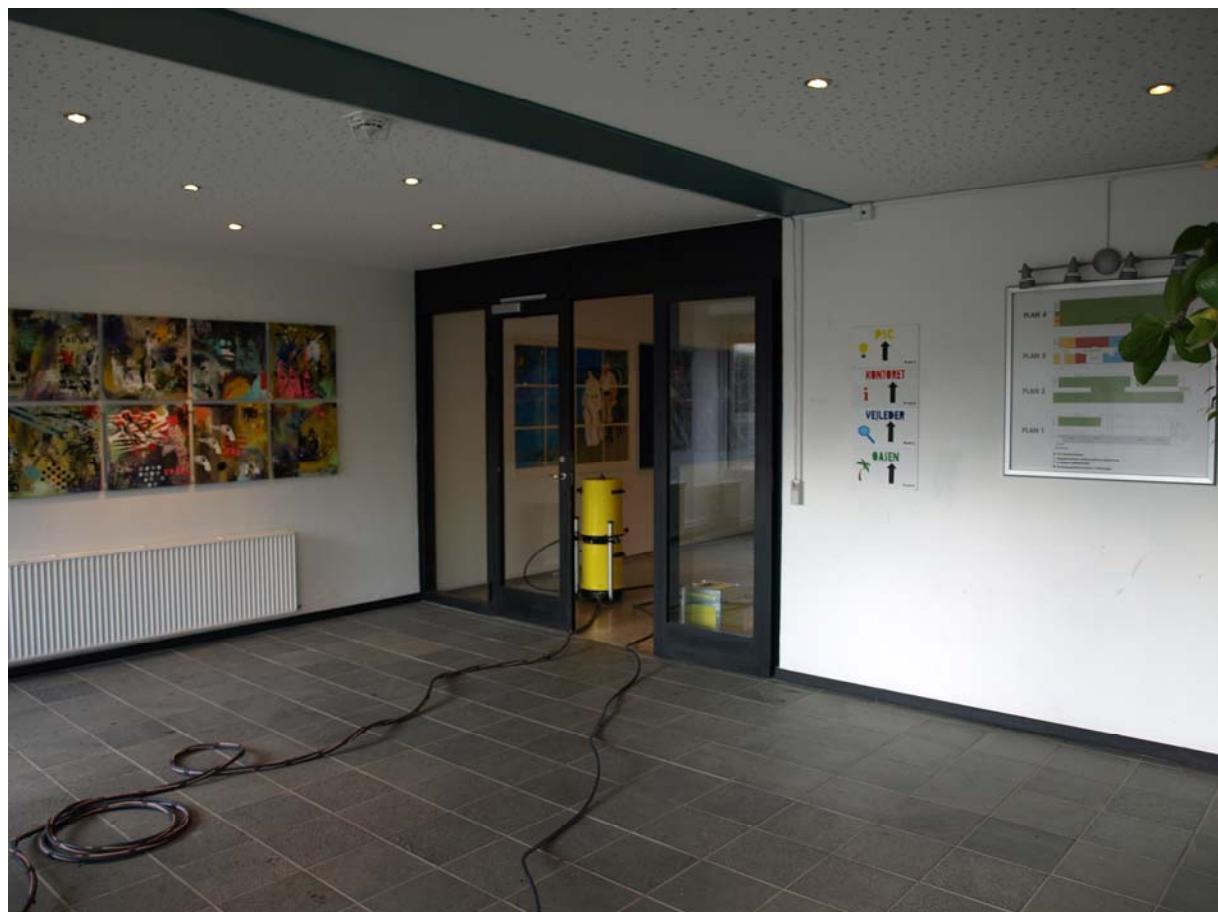


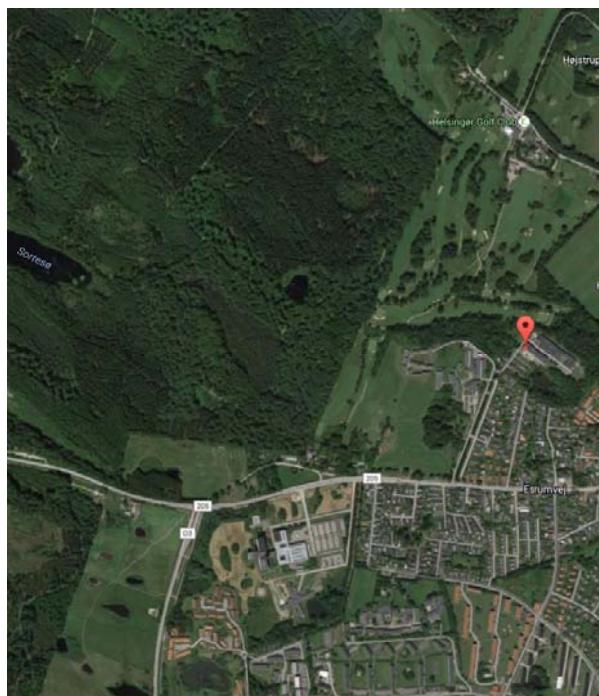
Absolute gravity point description.

Location/Code:	Helsingør / HELS / K-06-09206		
Lat:	56.04495	Long:	12.57884

g [μ Gal] @ 0m:	981 580 390 +/- 11	dg/dh [μ Gal/m]:	-265.0
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Description:
Point at the 10 grade school in Helsingør, Rasmus Knudsensvej 50. First measured in 1986 with JILAg-3 and since in 2003 and 2005 with FG5-220. First measured with A10-019 in 2008.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Helsingør Eccenter / HELS_ECC / K-06-09205		
Lat:	56.03333	Long:	12.58952

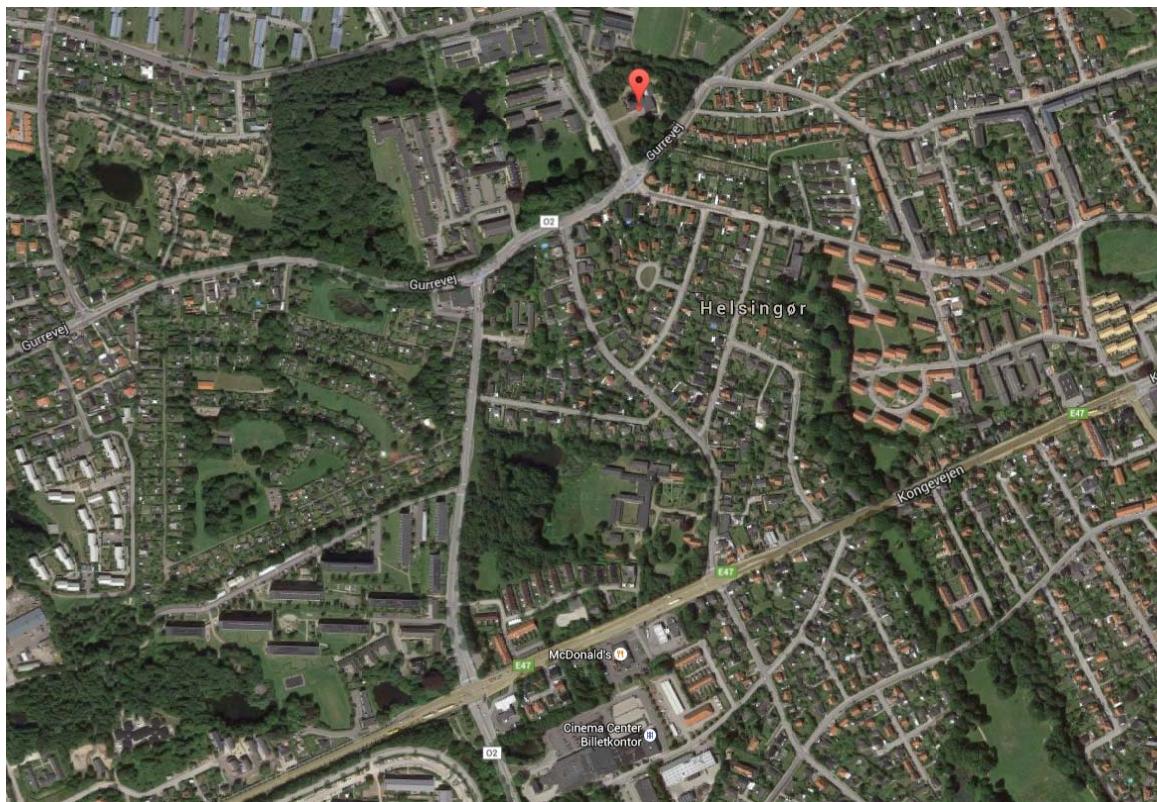
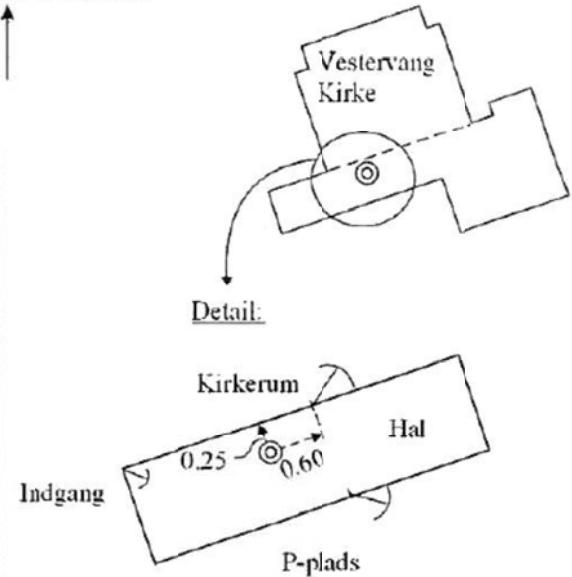
g [μGal] @ 0m:	981 579 098 +/- 11	dg/dh [μGal/m]:	-304.5
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Description:
Eccenter point in Vestervang Church in Helsingør. First measured in 2011 with the A10-020.
Point is unmarked.





N K-06-9205



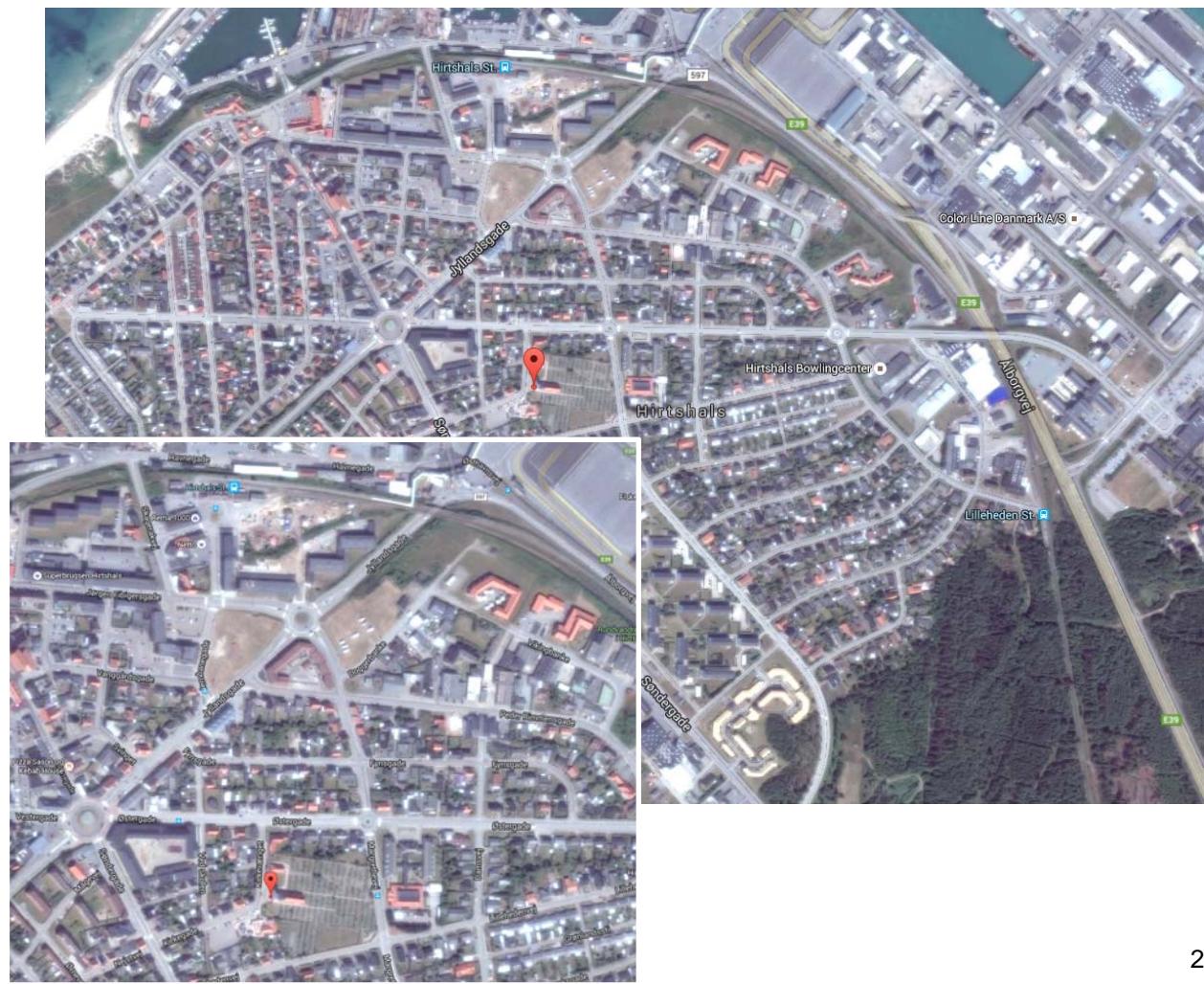
Absolute gravity point description.

Location/Code:	Hirtshals Church / HIKR		
Lat:	57.58730	Long:	9.96299

g [μGal] @ 0m:	981 722 221 +/- 11	dg/dh [μGal/m]:	-223.4
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Description:
Point inside the Porch of Hirtshals Church. First measured in June 2013.
Point is unmarked.





Absolute gravity point description.

Location/Code:	Hirtshals Church Eccenter / HIKR_ECC			
Lat:	57.58730	Long:	9.96299	Height [m] (ortho): 20.00

g [μ Gal] @ 0m:	981 722 312 +/- 11	dg/dh [μ Gal/m]:	-323.7
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Description:
Point on the stairway to Hirtshals Church. First measured in June 2013.
Point is unmarked.





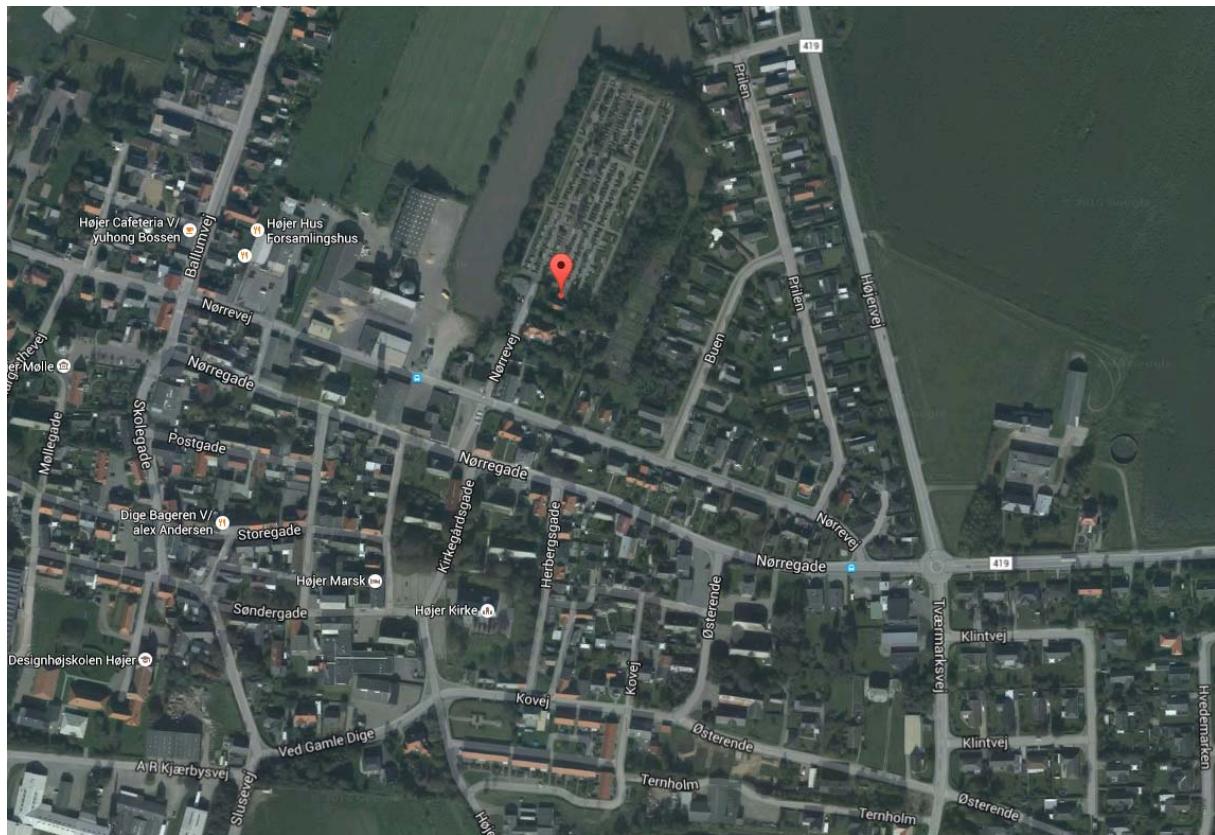
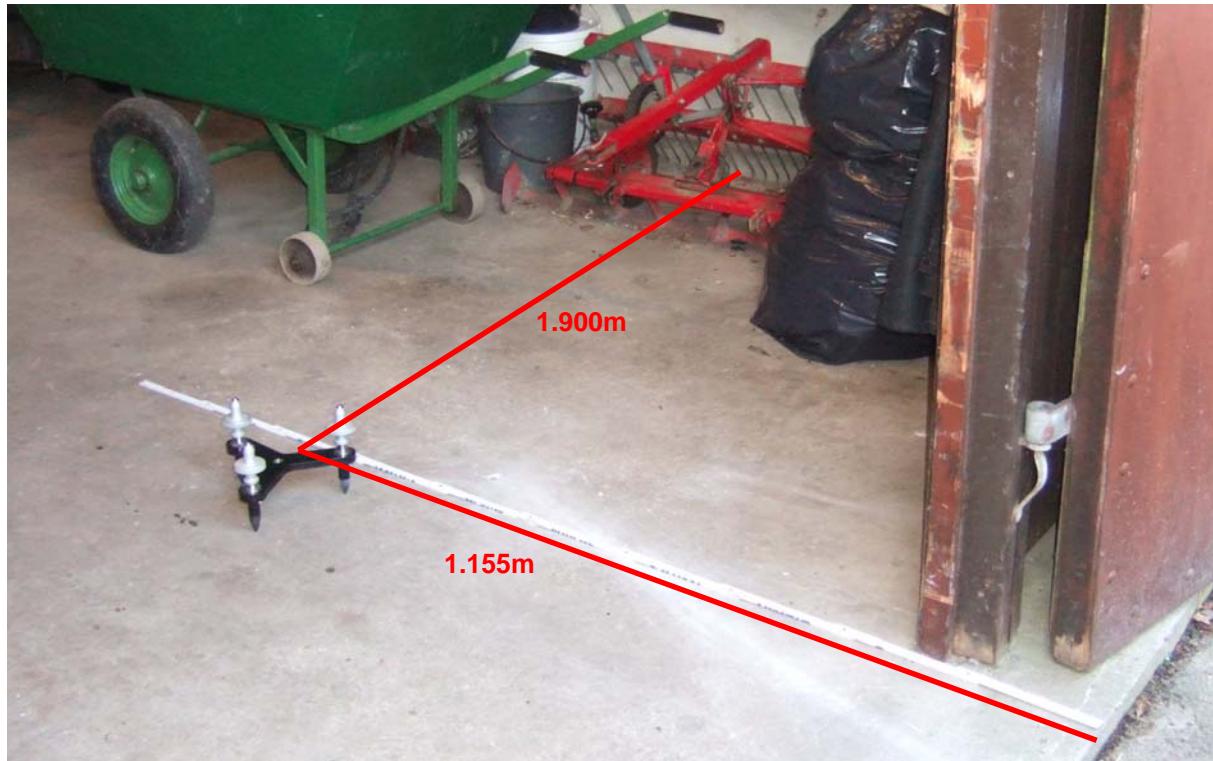
Absolute gravity point description.

Location/Code:	Højer / HJKR		
Lat:	54.96460	Long:	8.69902

g [μGal] @ 0m:	981 509 151 +/- 11	dg/dh [μGal/m]:	-293.9
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Description:
Point the garage of the cemetery worker at Højer cemetery. First measured in October 2011.
Point is marked with a bolt.





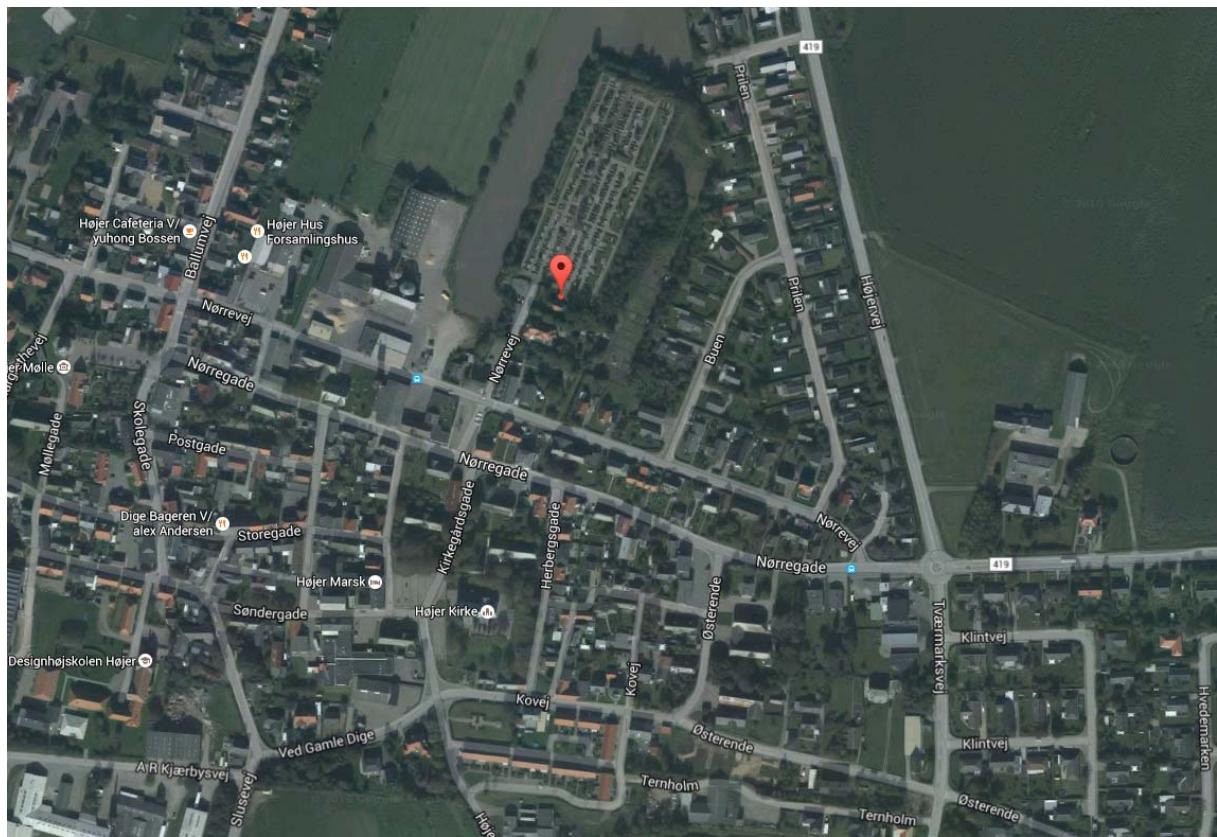
Absolute gravity point description.

Location/Code:	Højer Eccenter / HJKR_ECC		
Lat:	54.96460	Long:	8.69902

g [μ Gal] @ 0m:	981 509 118 +/- 11	dg/dh [μ Gal/m]:	-306.3
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Description:
Point at Højer cemetery at the cemetery workers garage. First measured in October 2010.
Point is unmarked.





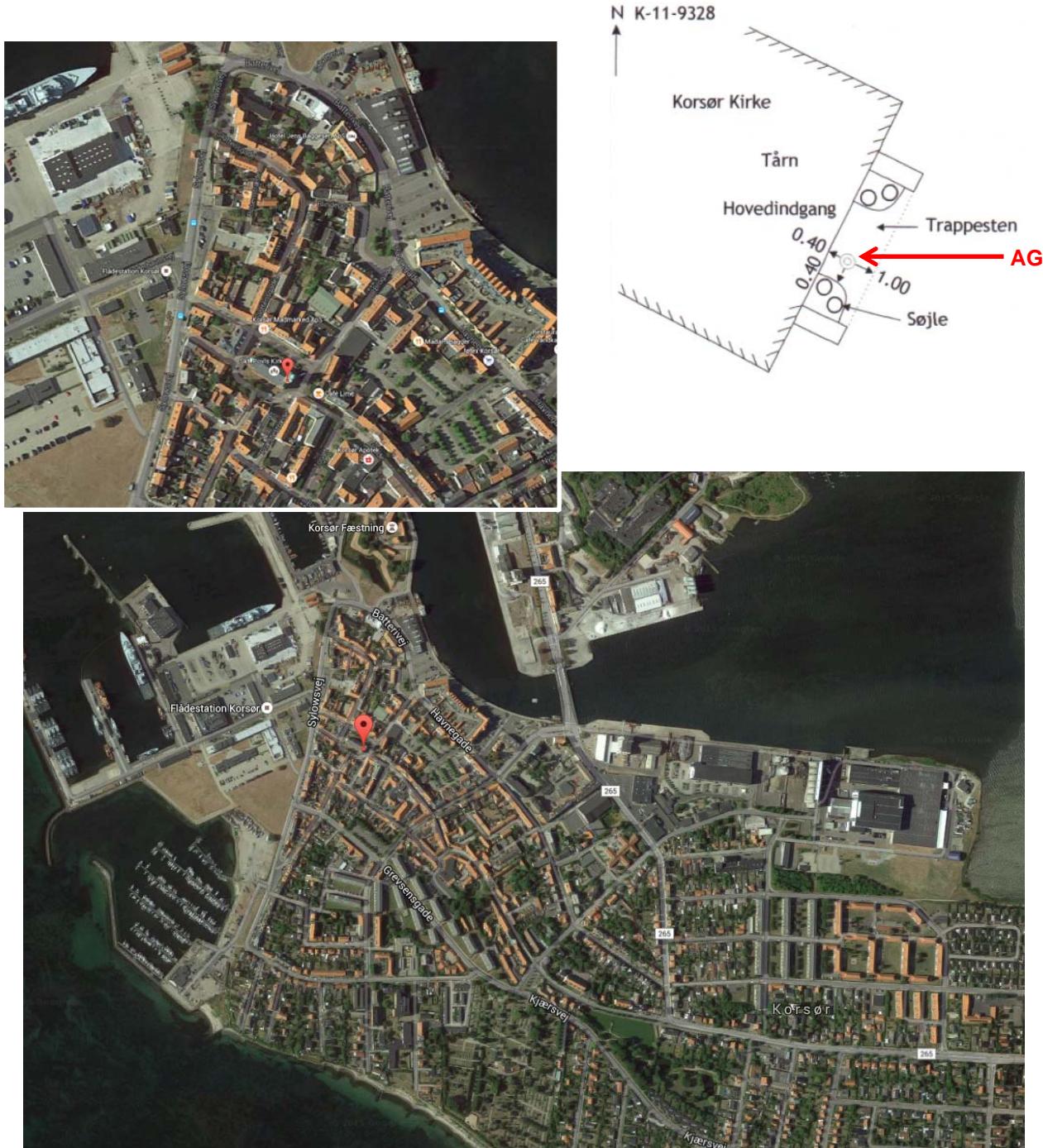
Absolute gravity point description.

Location/Code:	Korsør Church / KORS / K-11-9328		
Lat:	55.33014	Long:	11.13628

g [μ Gal] @ 0m:	981 533 427 +/- 11	dg/dh [μ Gal/m]:	-304.3
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Description:
Point at Korsør Church, at the steps of the main entrance. The right-side door on the picture below. First measured with the A10-020 in November 2011.
Point is unmarked.





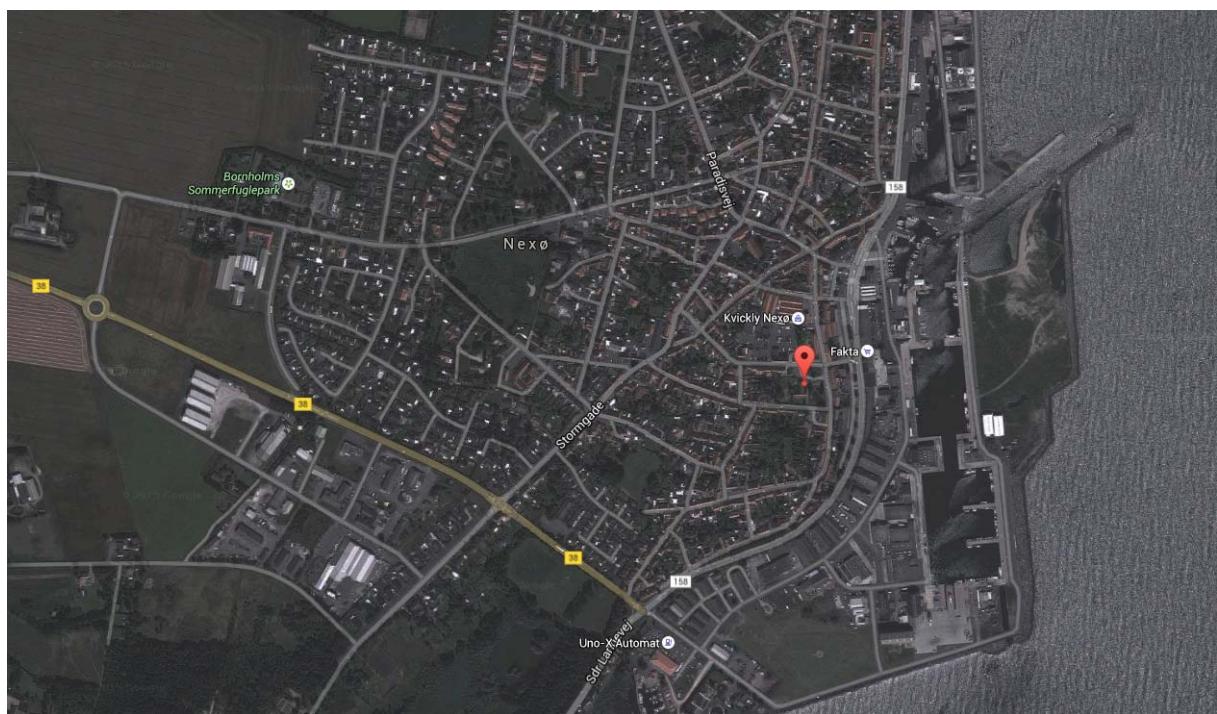
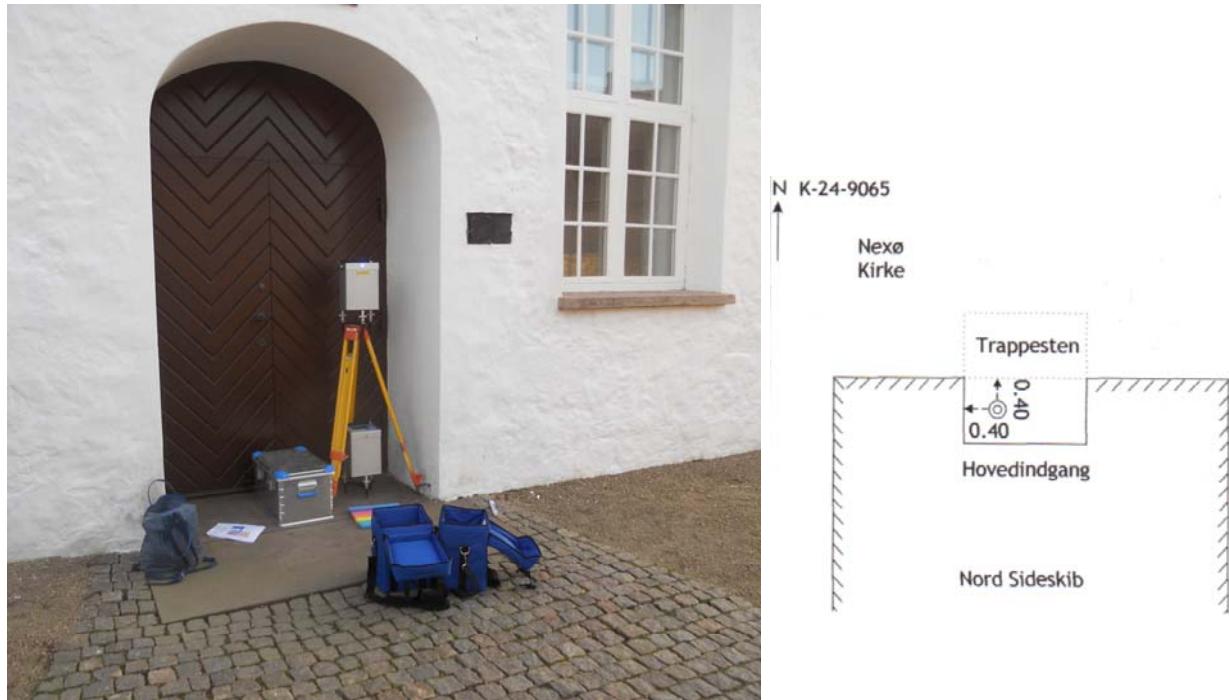
Absolute gravity point description.

Location/Code:	Nexø Church / NEXO / K-24-09065		
Lat:	55.06081	Long:	15.13239

g [μGal] @ 0m:	981 543 243 +/- 11	dg/dh [μGal/m]:	-304.5
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Description:
Point at Nexø Church. At the main entry. First measured in November 2011 with the A10-020.
Point is unmarked.





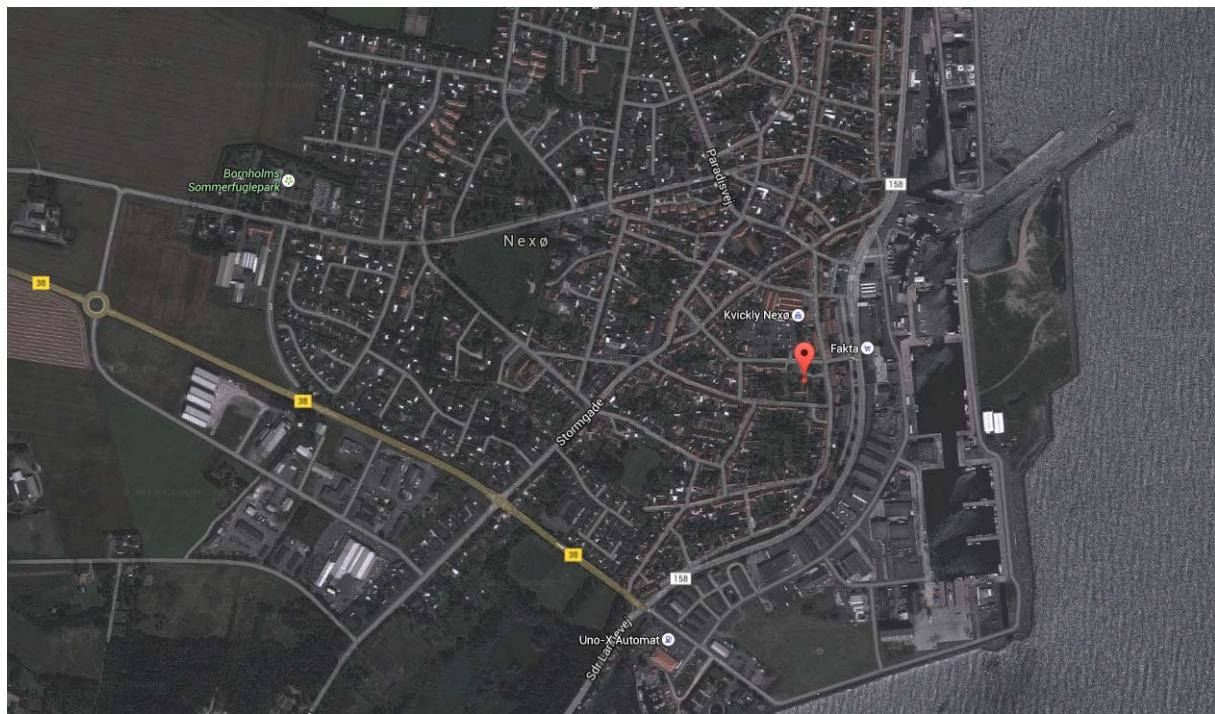
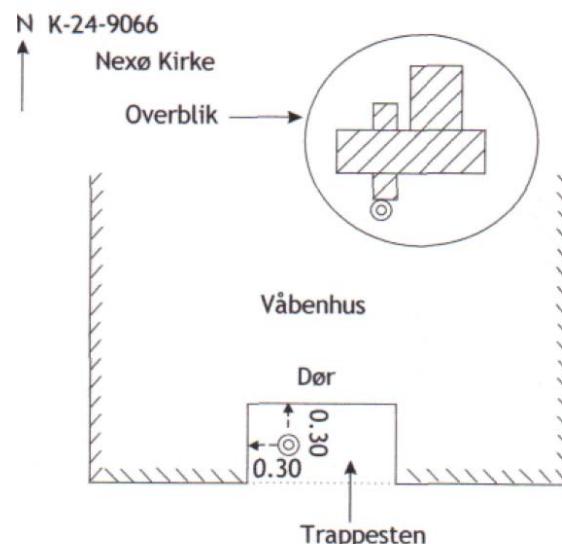
Absolute gravity point description.

Location/Code:	Nexø Church Eccenter / NEXO_ECC / K-24-09066		
Lat:	55.06061	Long:	15.13217

g [μ Gal] @ 0m:	981 543 297 +/- 11	dg/dh [μ Gal/m]:	-289.8
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Description:
Eccenter point at south side of Nexø Church, first measured with the A10-020 in November 2011.
Point is unmarked.





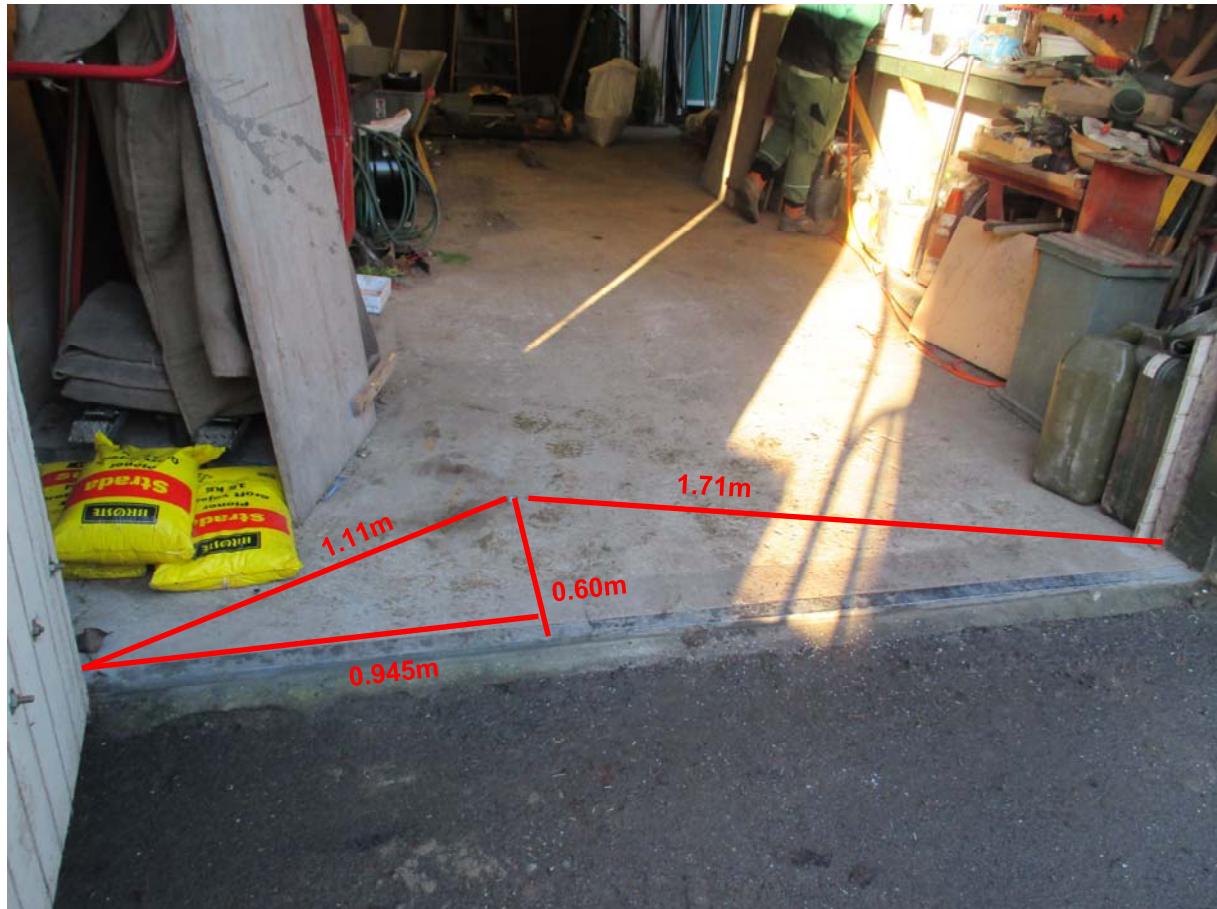
Absolute gravity point description.

Location/Code:	Rødbyhavn Church / RDBH		
Lat:	54.66547	Long:	11.35975

g [μ Gal] @ 0m:	981 480 698 +/- 19	dg/dh [μ Gal/m]:	-234.7
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Description:
Point in cemetery workers garage. First measured in November 2011 with the A10-020. First with the A10-019 in January 2015.
The point is unmarked.





Absolute gravity point description.

Location/Code:	Rødbyhavn Church Eccenter / RDBH_ECC		
Lat:	54.66667	Long:	11.36175

g [μ Gal] @ 0m:	981 481 131 +/- 11	dg/dh [μ Gal/m]:	-308.2
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Description:
Point at the bottom of an outside stair case at Rødbyhavn Church. First measured in November 2011 with A10-020.
Point is unmarked.





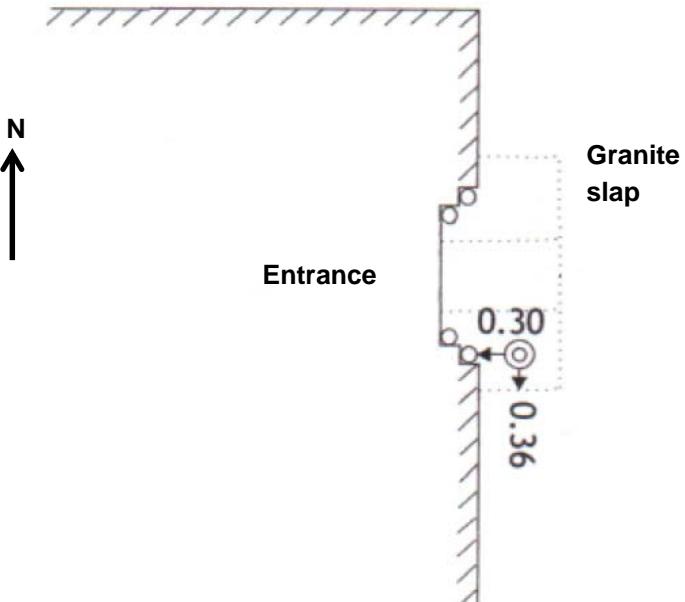
Absolute gravity point description.

Location/Code:	Rønne Church / RONN / K-25-9177		
Lat:	55.09910	Long:	14.69772

g [μ Gal] @ 0m:	981 517 205 +/- 13	dg/dh [μ Gal/m]:	-302.1
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Description:
Point outside Rønne Church, close to entrance on Østergade 20. Gravity station number: 252.
Point is unmarked.





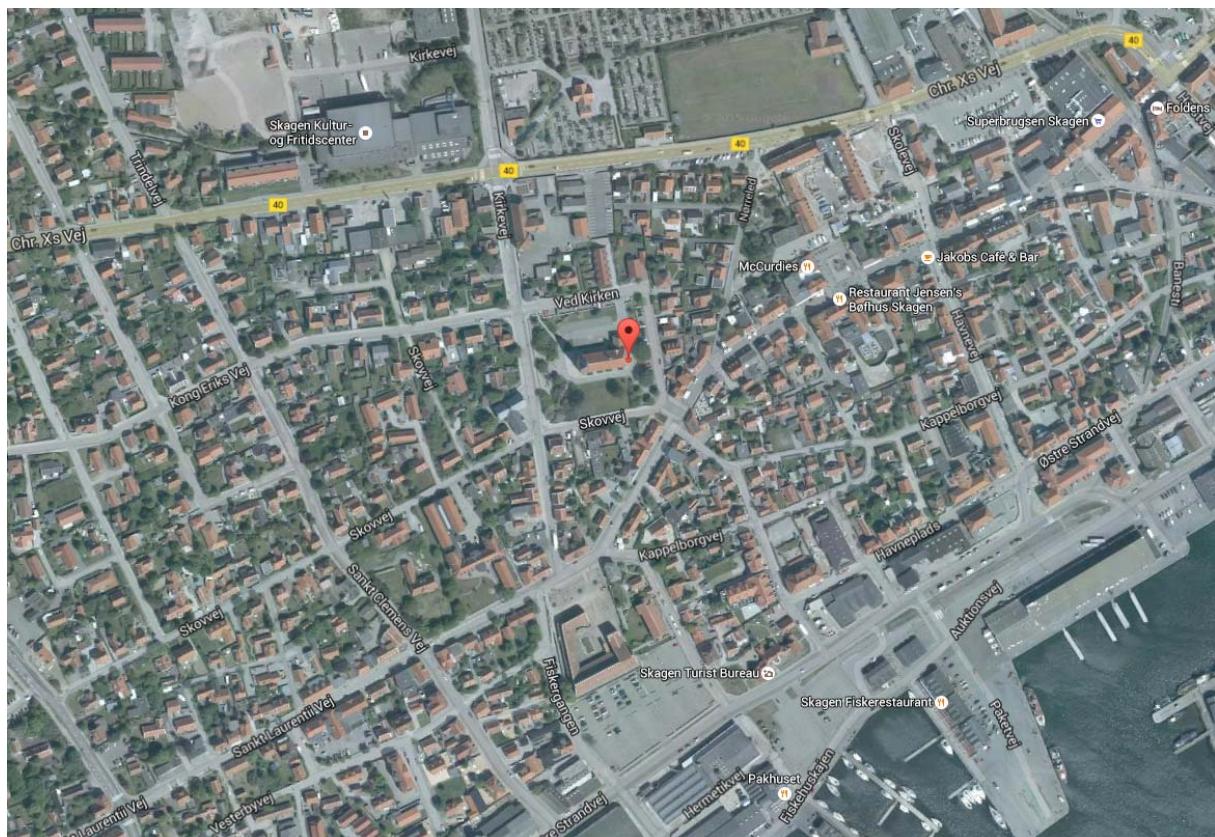
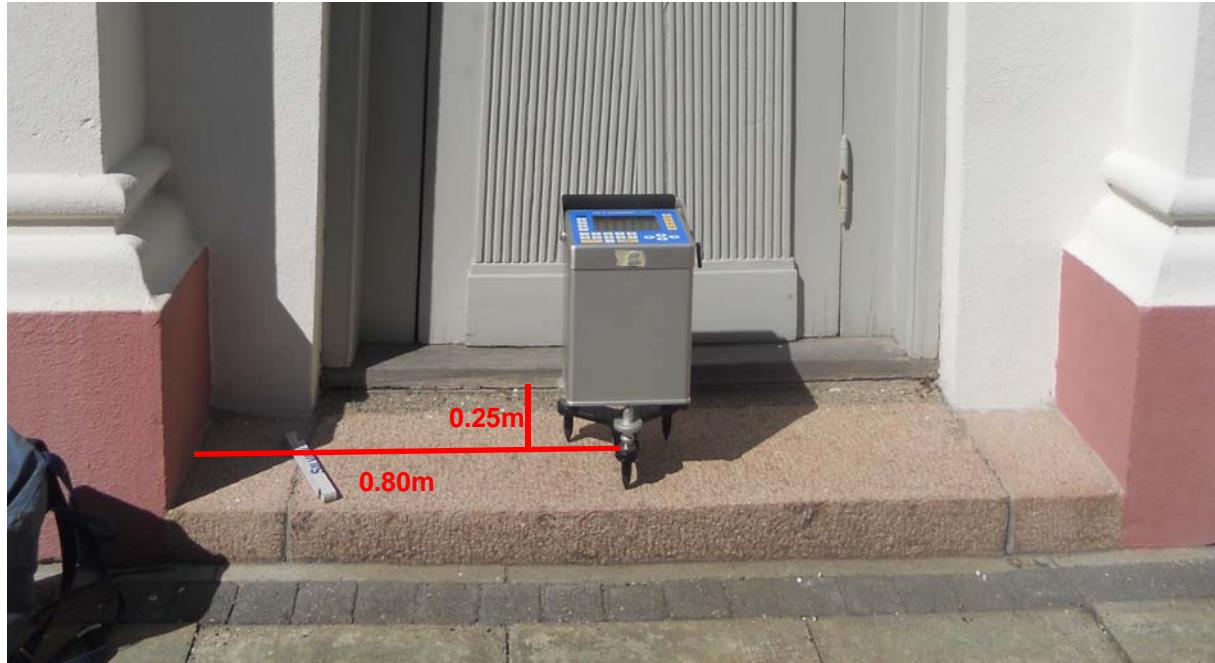
Absolute gravity point description.

Location/Code:	Skagen Church / SKKR		
Lat:	57.72140	Long:	10.58505

g [μ Gal] @ 0m:	981 731 600 +/- 12	dg/dh [μ Gal/m]:	-304.3
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Description:
Point on door step at Skagen Church. First measured in June 2013.
Point is unmarked.



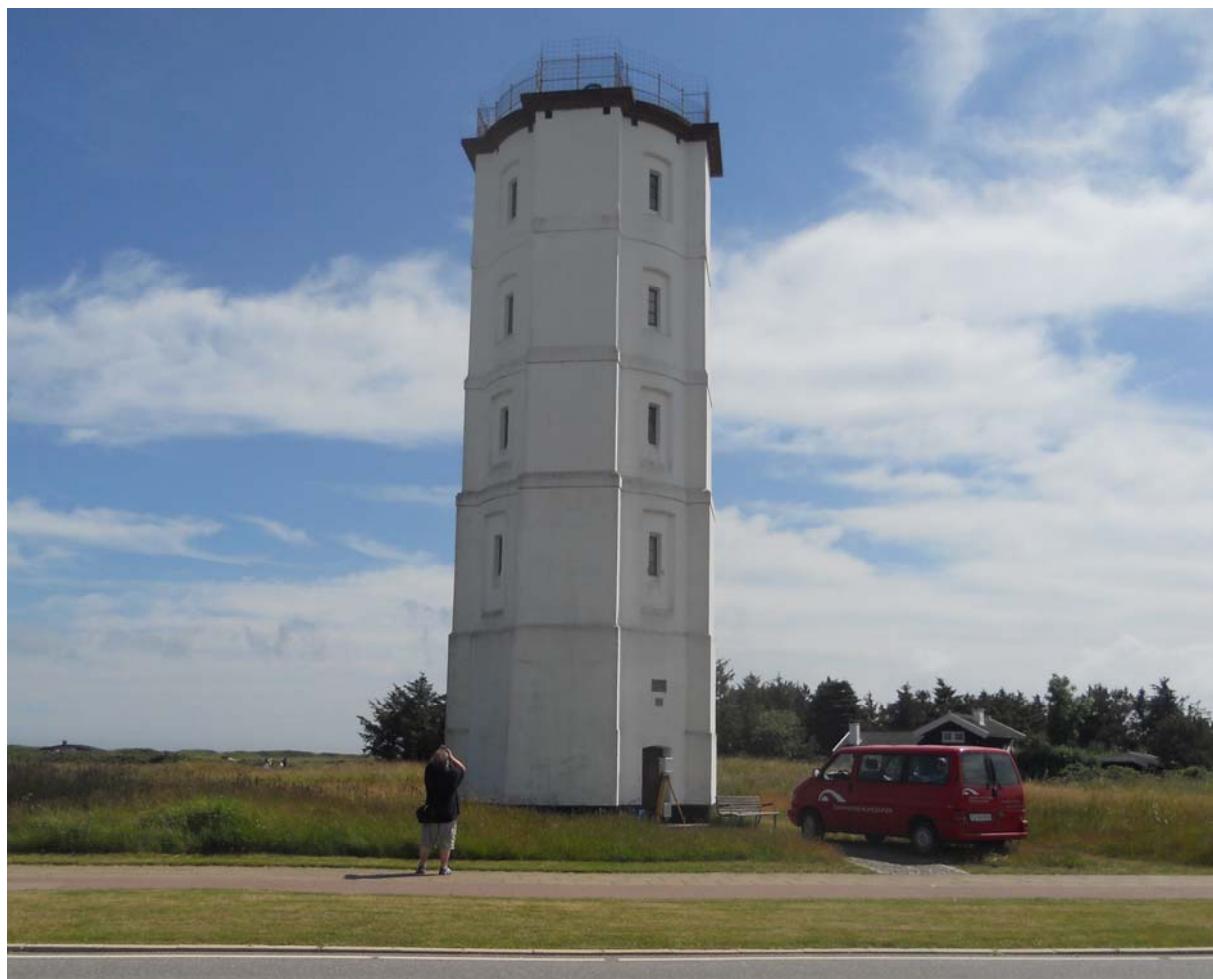


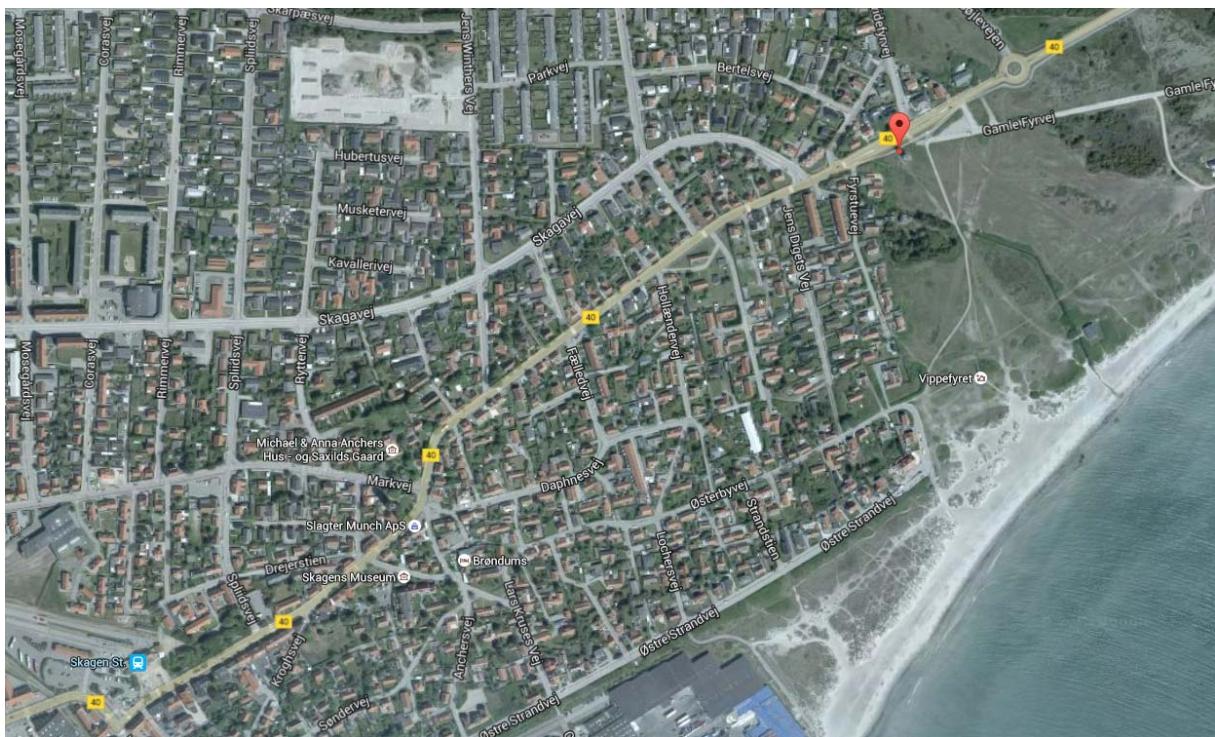
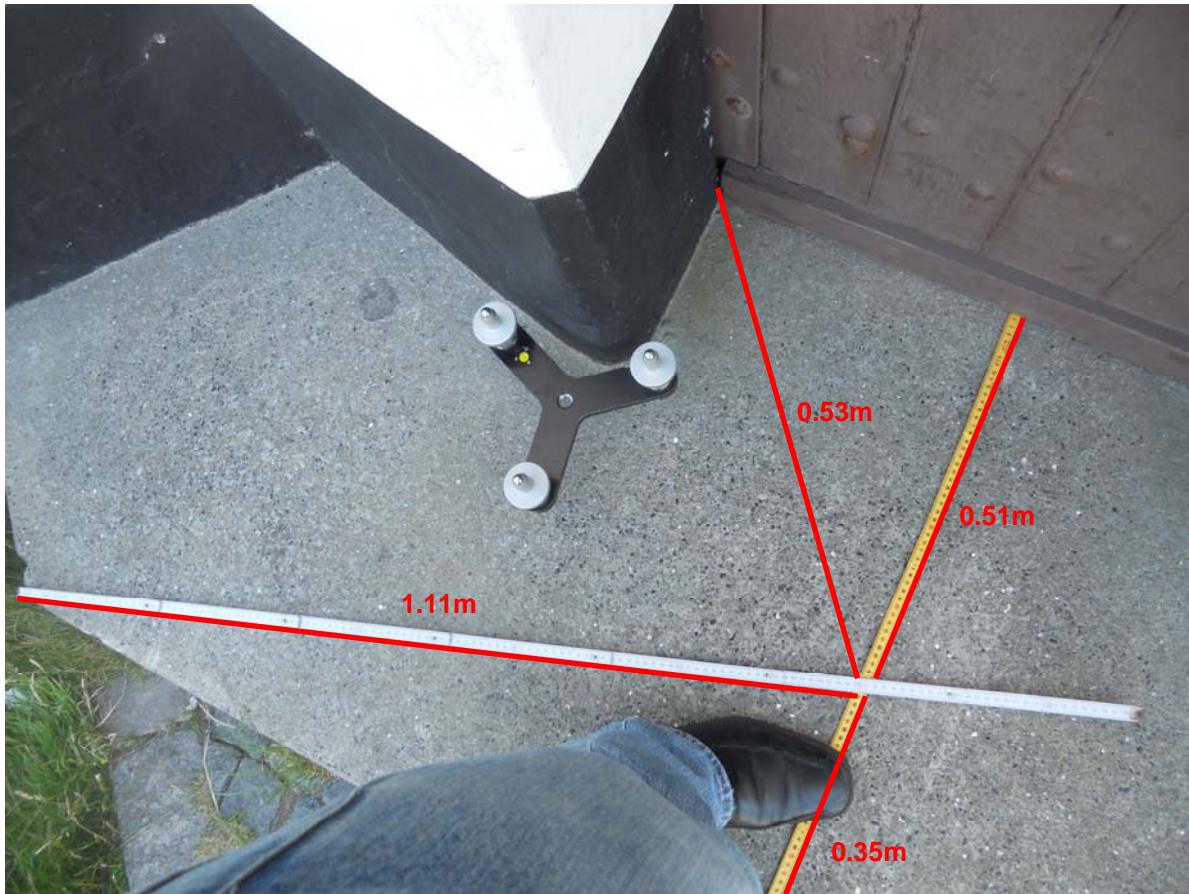
Absolute gravity point description.

Location/Code:	Skagen Eccenter / SKGF		
Lat:	57.72912	Long:	10.60663

g [μ Gal] @ 0m:	981 731 792 +/- 11	dg/dh [μ Gal/m]:	-317.1
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Description:
Point at the entrance to the old lighthouse in Skagen. This is the Eccenter point in Skagen. First measured in June 2013.
The point is unmarked.





Absolute gravity point description.

Location/Code:	Slipshavn / SLIP		
Lat:	55.28742	Long:	10.82622

g [μGal] @ 0m:	981 541 017 +/- 11	dg/dh [μGal/m]:	-312.4
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Description:
Point at Slipshavn Hjemmeværnsskolen, Marinestationen, in the Motor Klasse building. First measured in November 2011 with the A10-020.
Point is unmarked.





Absolute gravity point description.

Location/Code:	Slipshavn Eccenter / SLIP_ECC		
Lat:	55.28799	Long:	10.82637

g [μGal] @ 0m:	981 541 057 +/- 11	dg/dh [μGal/m]:	-309.0
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Description:
Eccenter point at Slipshavn Hjemmeværnsskolen, Marinestationen. On door step, first measured in November 2011 with the A10-020.
Point is unmarked.





Absolute gravity point description.

Location/Code:	Smidstrup GNSS / SMID / 117-05-00811		
Lat:	55.64078	Long:	9.55927

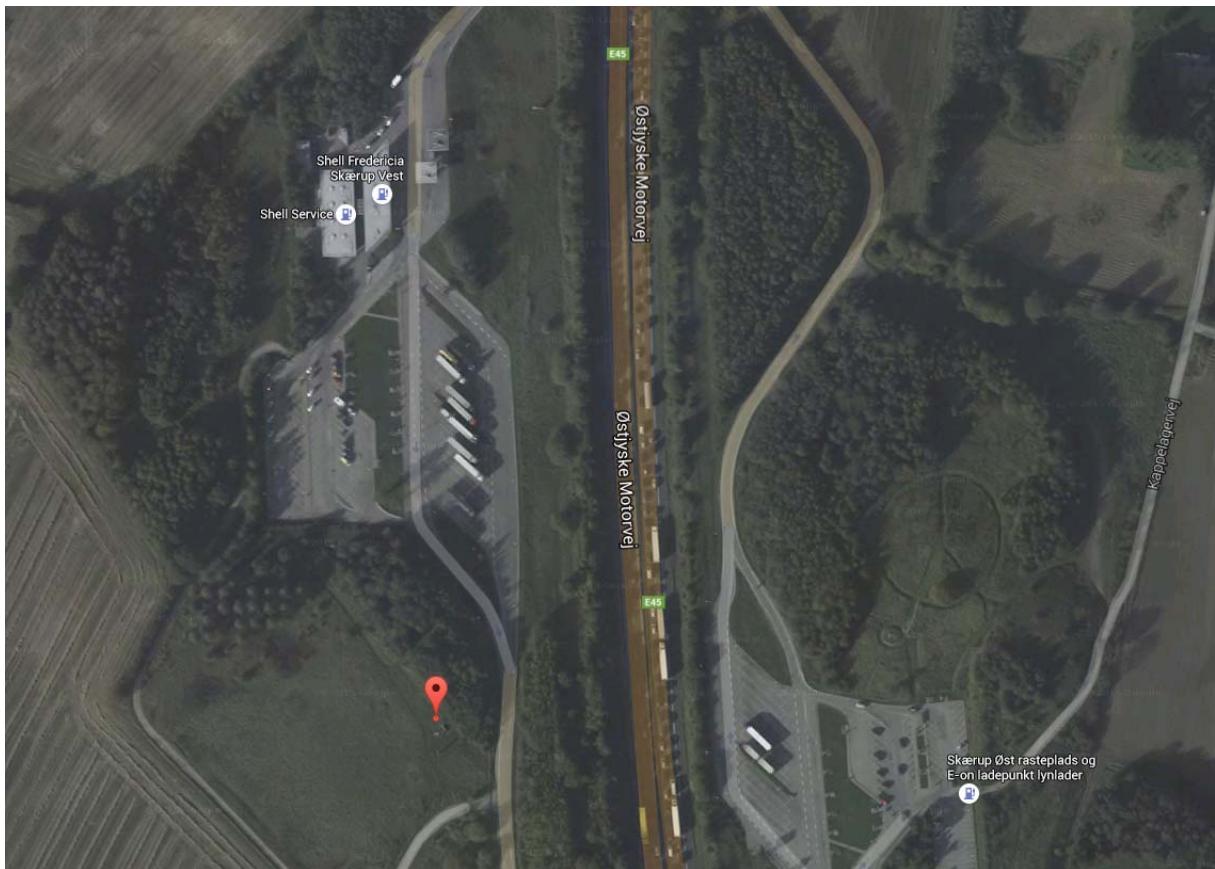
g [μ Gal] @ 0m:	981 557 250 +/- 11	dg/dh [μ Gal/m]:	-322.0
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Description:

Point at Smidstrup GNSS concrete pillar. First measured in June 2005 with the FG5-220. First measured with the A10-019 in July 2010.

Point is marked with a bolt.





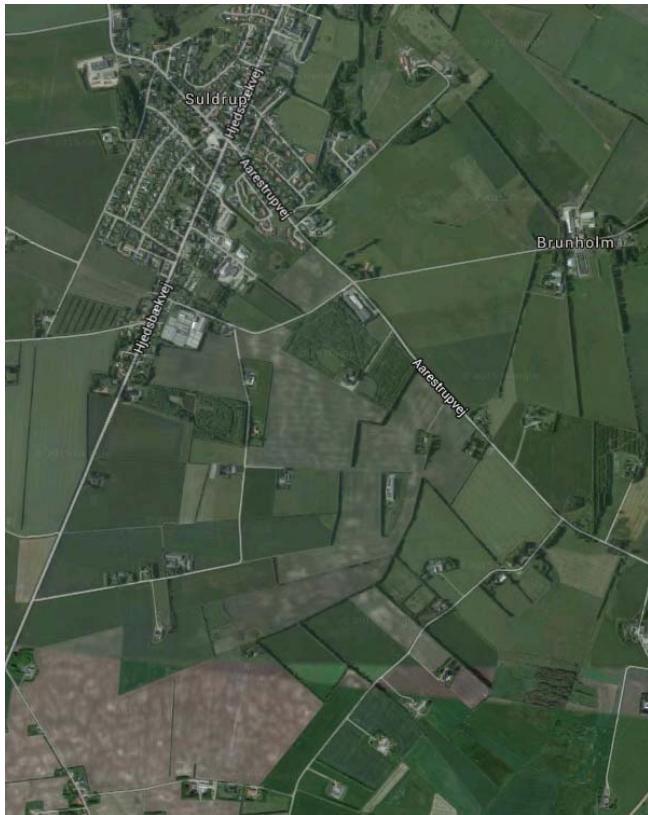
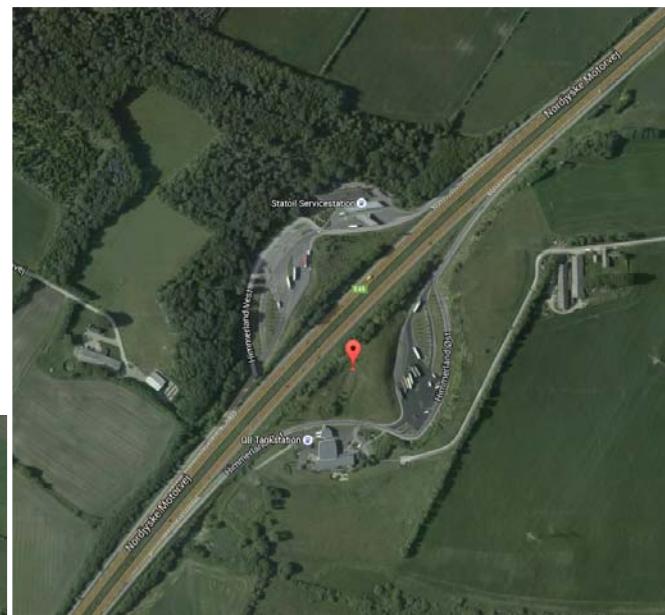
Absolute gravity point description.

Location/Code:	Suldrup GNSS / SULD / 60-10-00009		
Lat:	56.84166	Long:	9.74214

g [μ Gal] @ 0m:	981 638 686 +/- 11	dg/dh [μ Gal/m]:	-3.194
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Description:
Point at Suldrup GNSS site on concrete pillar next to hut. First measured with the FG5-220 in June 2005 and first with the A10-019 in July 2010.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Tejn GNSS / TGPS / 140-03-09103		
Lat:	55.24843	Long:	14.83934

g [μ Gal] @ 0m:	981 551 946 +/- 12	dg/dh [μ Gal/m]:	-283.6
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Description:
Point at the Tejn GNSS site. First measured with the A10-019 in June 2014.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Tejn / TRDH / 140-03-09095		
Lat:	55.24380	Long:	14.84730

g [μ Gal] @ 0m:	981 550 041 +/- 11	dg/dh [μ Gal/m]:	-266.0
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Description:
Point in the basement of Tejn town hall. First measured with the FG5-220 in October 2004, and first with the A10-019 in June 2014.
Point is marked with a plate.





Absolute gravity point description.

Location/Code:	Tolstrup Church / TOLS		
Lat:	55.92993	Long:	9.86892

g [μGal] @ 0m:	981 579 532 +/- 11	dg/dh [μGal/m]:	-305.2
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Description:
Point in the door of the entry to the Nave of Tolstrup Church. Gravity station number: 250. First measured with the A10-019 in June 2013.
Point is unmarked.





Absolute gravity point description.

Location/Code:	Tolstrup Church Eccenter / TOLS_ECC		
Lat:	55.92993	Long:	9.86892

g [μ Gal] @ 0m:	981 579 542 +/- 11	dg/dh [μ Gal/m]:	-305.2
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Description:
Point at Tolstrup Church. Eccenter point located at the doorway to the entrance. First measured with the A10-019 in June 2013.
Point is unmarked.





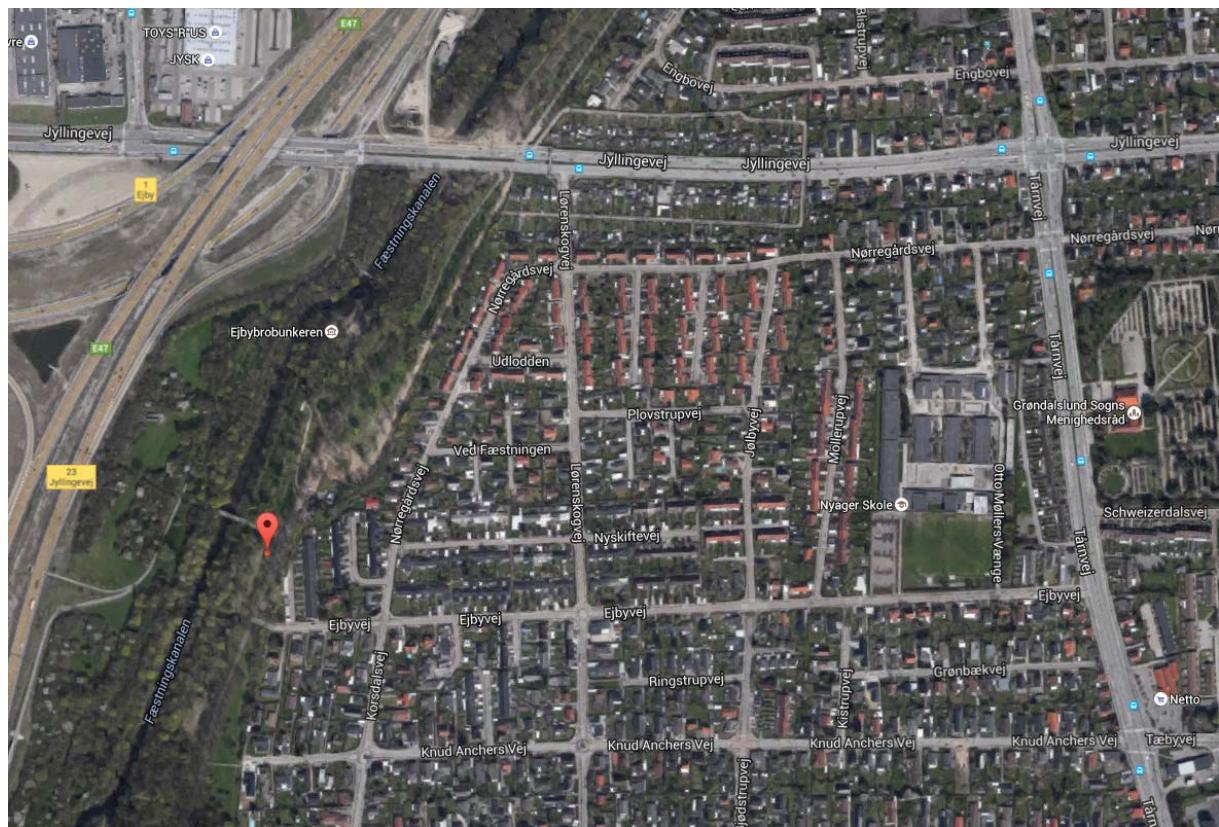
Absolute gravity point description.

Location/Code:	Vestvolden / VVOL / 2-04-09193		
Lat:	55.68789	Long:	12.43490

g [μ Gal] @ 0m:	981 547 612 +/- 11	dg/dh [μ Gal/m]:	-283.0
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Description:
Point in old bunker named Vestvolden in the Copenhagen region. First measured with FG5-220 in June 2003 and with the A10-019 in August 2008.
Point is marked with bolt.





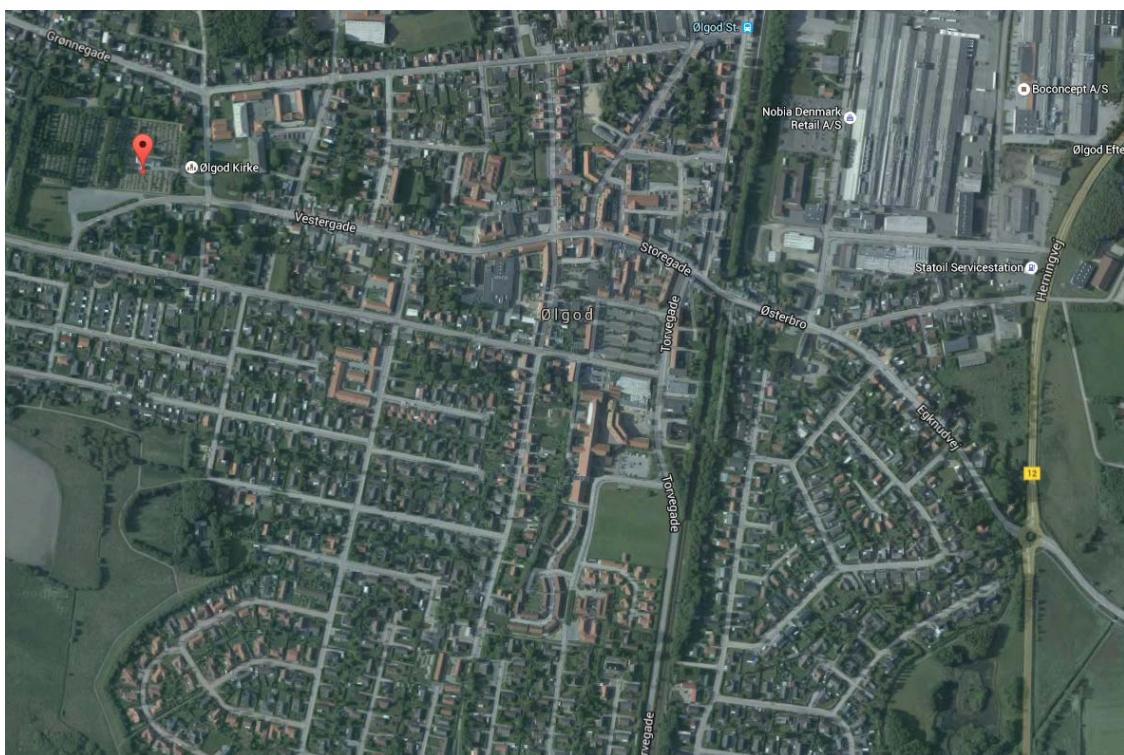
Absolute gravity point description.

Location/Code:	Ølgod Church / OLKR / 234		
Lat:	55.80915	Long:	8.60883

g [μ Gal] @ 0m:	981 580 509 +/- 11	dg/dh [μ Gal/m]:	-296.4
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Description:
Point in the entry of Ølgod Church. The point is under the entrance mat. Gravity station number: 234.
Point is marked with a bolt.





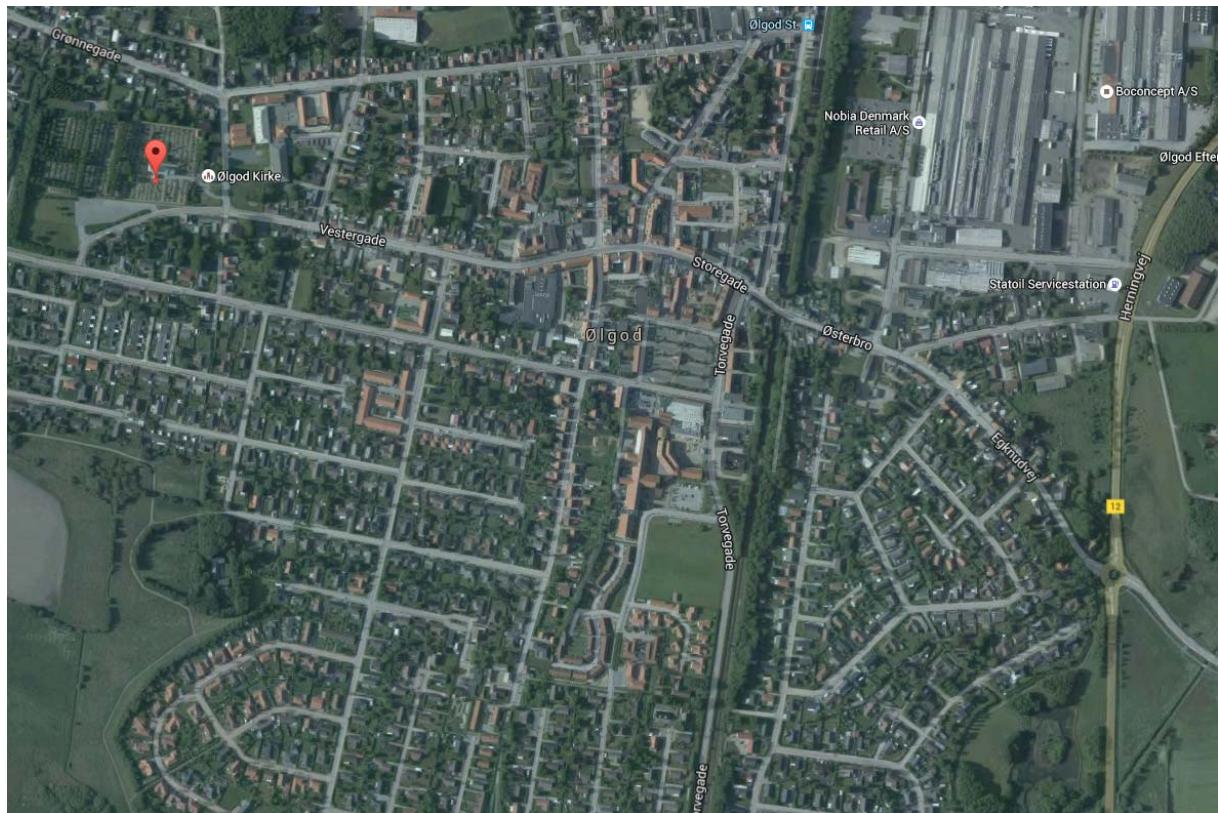
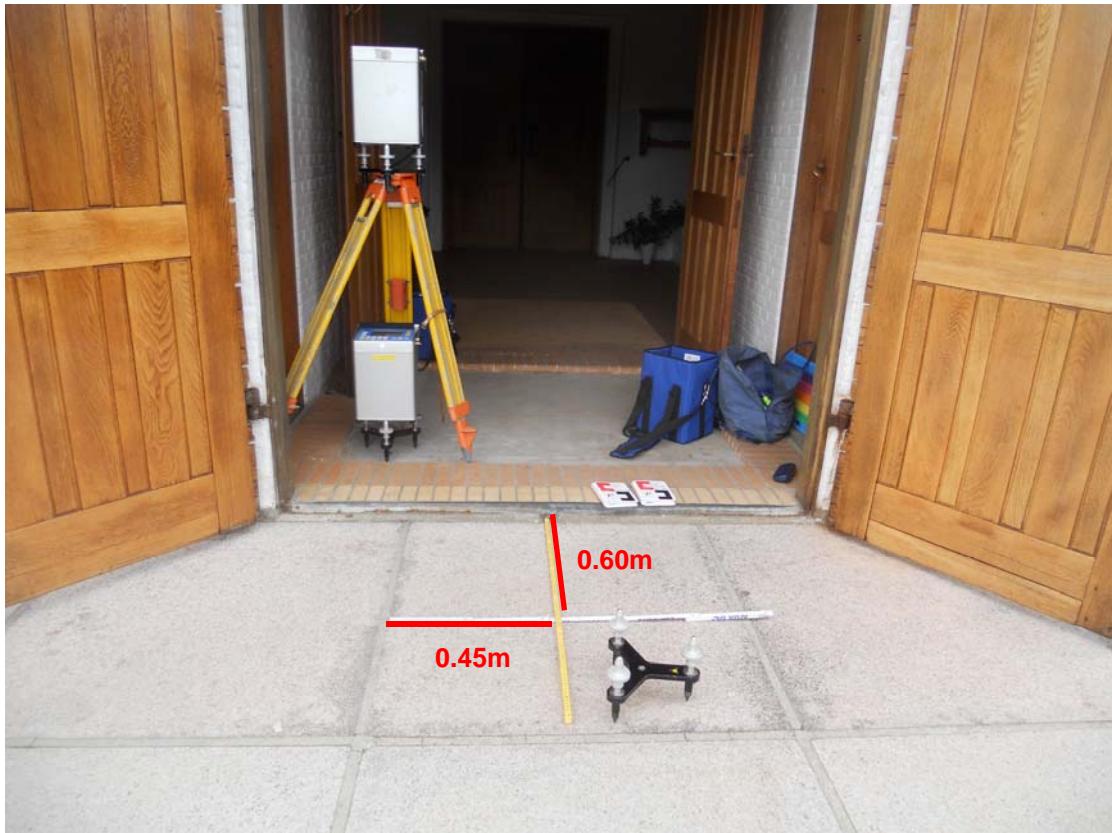
Absolute gravity point description.

Location/Code:	Ølgod Church / OLKR_ECC		
Lat:	55.80915	Long:	8.60883

g [μ Gal] @ 0m:	981 580 524 +/- 11	dg/dh [μ Gal/m]:	-310.8
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Description:
Point outside the entry to Ølgod Church on the granite steps.
Point is unmarked.





Absolute gravity point description.

Location/Code:	Aarhus Cathedral / AADK		
Lat:	56.15679	Long:	10.21138

g [μ Gal] @ 0m:	981 622 189 +/- 11	dg/dh [μ Gal/m]:	-284.7
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Description:
Point on the east side of Aarhus Cathedral. First measured in June 2013.
Point is unmarked.



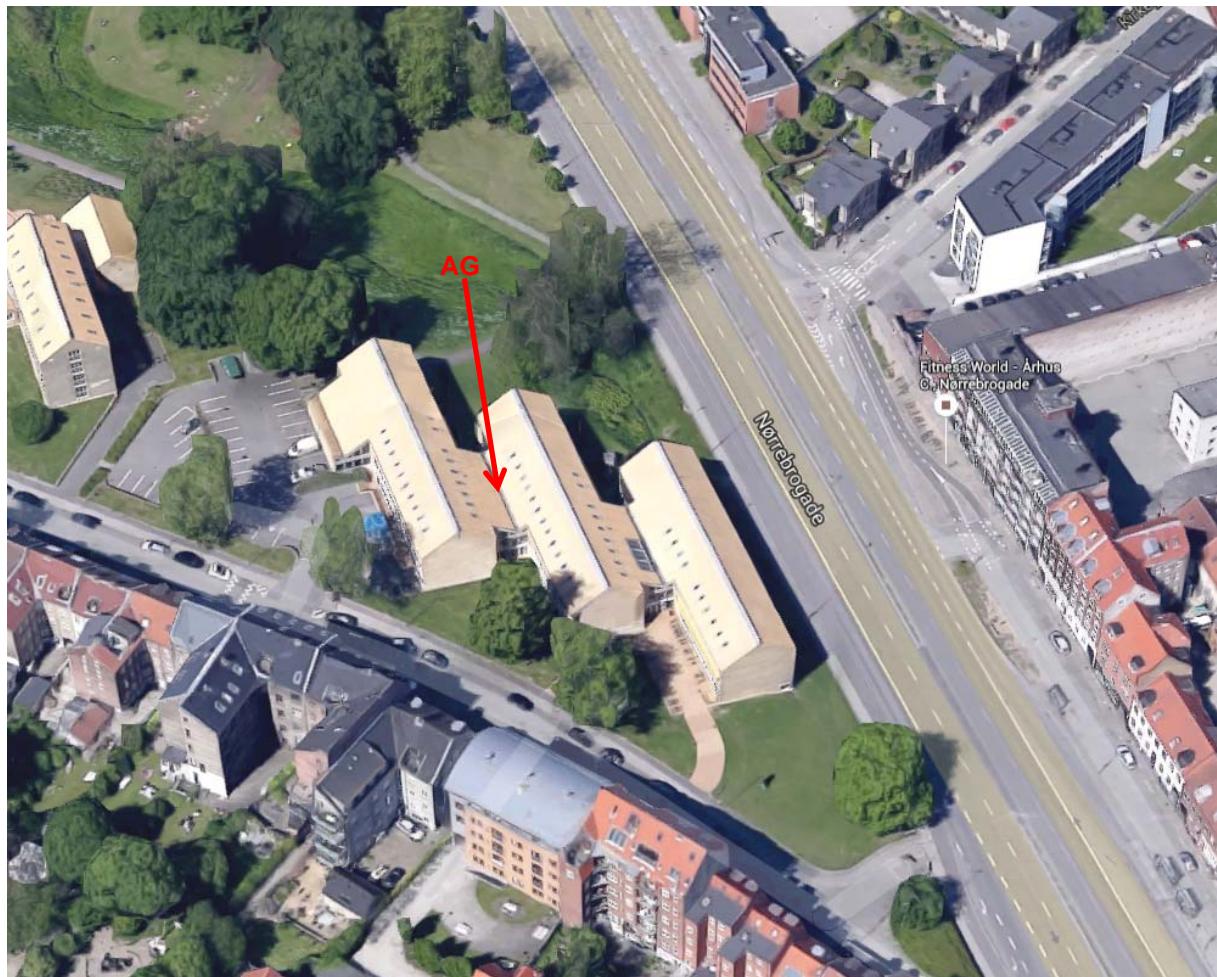


Absolute gravity point description.

Location/Code:	Aarhus University / AAUN		
Lat:	56.16336	Long:	10.20934

g [μ Gal] @ 0m:	981 620 884 +/- 11	dg/dh [μ Gal/m]:	-277.0
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Description:
Point in the basement of the Geology Institute at Aarhus University. First measured in June 2013.
Point is marked with a bolt.





D Greenlandic sites - map



Figure 4: Location of absolute gravity sites in Greenland.

E Greenlandic point descriptions

On the following pages are the point descriptions of the absolute points in Greenland. They are arranged as presented in the table below. For sites where the gradient is undetermined is the free-air gradient of $-308.6\mu Gal/m$ used and written with *italic* in the table.

Location	Code	Lat. [°]	Long. [°]	Elev. [m]	<i>dg/dz</i> [$\mu Gal/m$]
Aasiaat Airport	AASA	68.72000	-52.79200	19.00	-260.0
Astrup Kystland (GNET)	ASKY	75.72613	-58.25735	687.30	<i>-308.6</i>
Constable Pynt	CNPT	70.74380	-22.64613	14.00	-298.0
Daneborg	DANE	74.30892	-20.22808	10.00	-283.8
Daneborg	DNBG	74.30669	-20.22664	4.00	<i>-308.6</i>
Danmarkshavn (GNET)	DKHV	76.77107	-18.65567	53.44	-296.8
Daugaard Jensen Gletscher (GNET)	DGJG	71.78653	-29.85020	1494.14	<i>-308.6</i>
Hamberg Gletscher	HMBG	73.67611	-28.12907	1322.92	<i>-308.6</i>
Helheim Gletscher	HEL1	66.38583	-38.11488	204.00	<i>-308.6</i>
Helheim Gletscher (GNET)	HEL2	66.40117	-38.21567	424.00	<i>-308.6</i>
Hjørnefjeldet (GNET)	HJOR	63.41833	-41.14778	763.00	<i>-308.6</i>
Ilulissat Airport	ILUL	69.24104	-51.06605	14.00	-292.0
Isortoq (GNET)	ISOR	65.54662	-38.97463	83.00	<i>-308.6</i>
Kangerlussuaq	SFJ1	67.15347	-50.06106	502.00	-333.0
Kangia (GNET)	KAGA	69.22222	-49.81611	149.00	<i>-308.6</i>
Kap Agassiz (GNET)	KAGZ	79.13196	-65.85295	86.54	<i>-308.6</i>
Kapisilit (GNET)	KAPI	64.43231	-50.27164	70.00	-378.5
Kellyville	KELY	66.98711	-50.94250	195.00	-331.6
Køge Bugt (GNET)	KBUG	65.14367	-41.15750	291.00	<i>-308.6</i>
Kulusuk (GNET)	KULU	65.57759	-37.15632	14.00	<i>-308.6</i>
Kulusuk Airport	KULA	65.57457	-37.13368	17.00	<i>-308.6</i>
Lynæs (GNET)	LYNS	64.43050	-40.19817	174.00	<i>-308.6</i>
Marie Gletscher (GNET)	MARG	77.18704	-65.69462	670.57	<i>-308.6</i>
Mestersvig (GNET)	MSVG	72.24082	-23.91286	88.16	<i>-308.6</i>
Mestersvig Terminal	MSVT	72.23455	-23.91563	2.00	<i>-308.6</i>
Narsarsuaq Airport	NARA	61.16250	-45.41644	27.00	<i>-306.8</i>
Nuuk (Town hall)	NUUK	64.17783	-51.74033	23.10	-284.4
Pilappik (GNET)	PLPK	66.89778	-34.03333	122.00	<i>-308.6</i>
Qasigiannguit	QASI	68.80117	-50.46297	502.40	<i>-308.6</i>
Qaarsut Airport	QARA	70.73220	-52.69672	60.00	<i>-308.6</i>
Qaarsut (GNET)	QAAR	70.74042	-52.68829	20.00	<i>-308.6</i>
Qeqertarsuaq (GNET)	GODH	69.25240	-53.52100	18.00	-273.2
Rink Isbræ(GNET)	RINK	71.84850	-50.99397	1337.82	<i>-308.6</i>
Scorsbysund Heliport	SCBY	70.48775	-21.97176	80.00	-427.6
Sisimiut ARTEK	SIAR	66.93414	-53.66046	38.00	-272.8
Sisimiut Airport	SISA	66.95203	-53.72211	17.00	-292.0
Station Nord	NORD	81.59767	-16.66133	45.00	-279.0
Tasiilaq Airport	TAS1	65.61217	-37.61950	9.00	-376.0
Tasiilaq Airport	TAS2	65.61217	-37.61950	9.00	-340.6

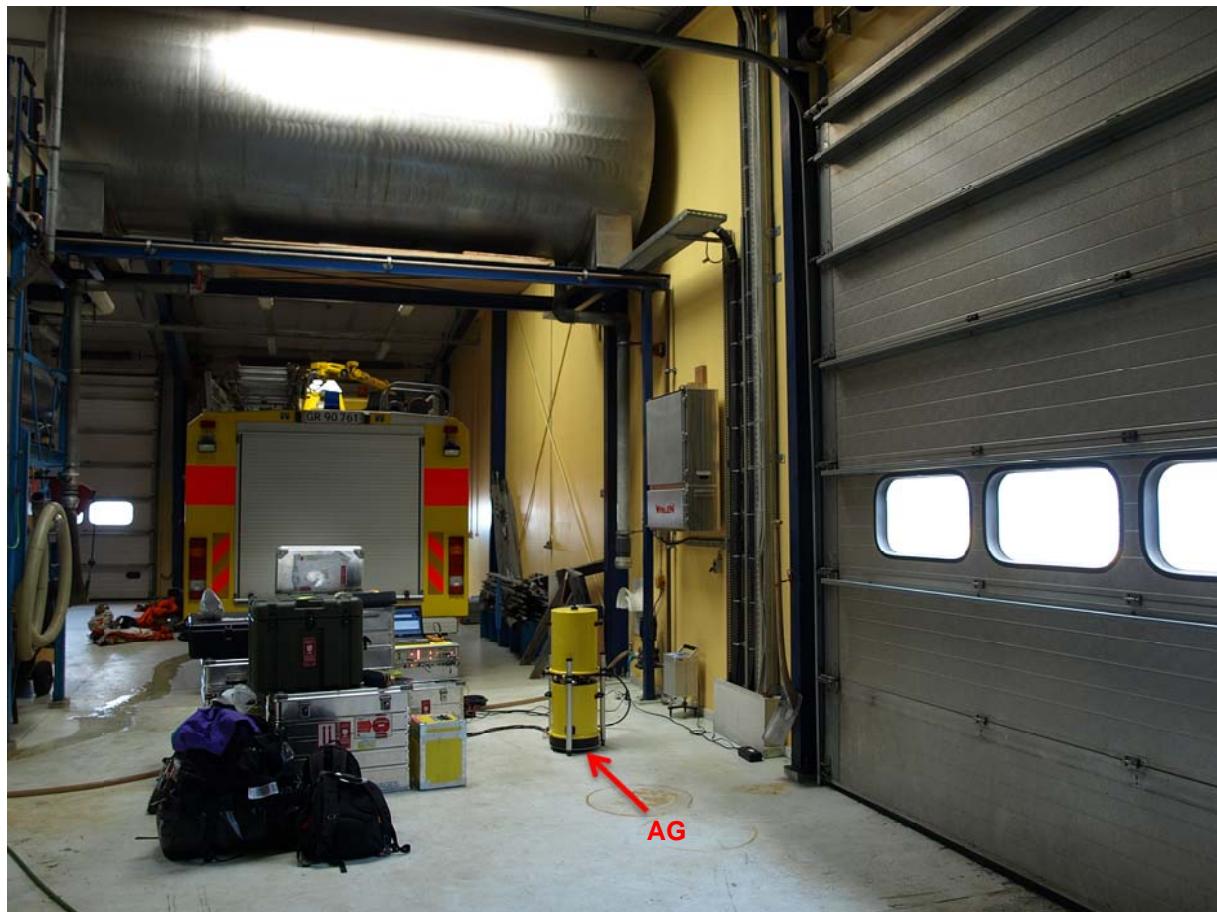
Location	Code	Lat. [°]	Long. [°]	Elev. [m]	dg/dz [$\mu\text{Gal}/\text{m}$]
Thule	TAB1	76.53833	-68.80167	26.85	-308.6
Thule	TAB2	76.53792	-68.79672	26.91	-308.6
Thule (GNET)	THU3	76.53704	-68.82495	21.00	-398.9
Thule - Camp Tuto	TUTO	76.43077	-68.33957	490.00	-308.6
Timmiarmiut	TIMM	62.53556	-42.28611	313.00	-308.6
Trefoldighedens Ø (GNET)	TREO	64.27694	-41.37500	122.00	-308.6
Upernavik Airport	UPAI	72.78689	-56.12922	95.00	-308.6
Vestfjord Gletscher (GNET)	VFDG	70.29922	-29.81764	1293.50	-308.6
Waltershausen Gletscher (GNET)	WTHG	73.95528	-24.30889	1109.89	-308.6
Øvre Timmiarmiut (GNET)	UTMG	62.92722	-43.30639	1471.00	-308.6

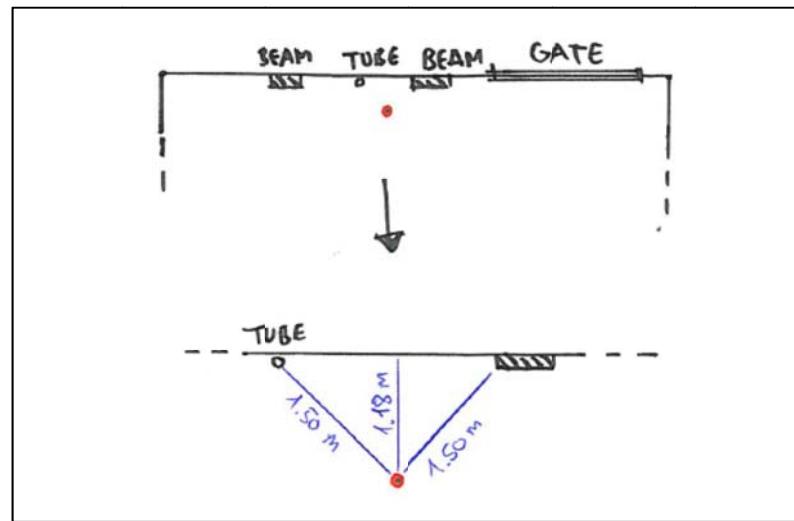
Absolute gravity point description.

Location/Code:	Aasiaat Airport / AASA		
Lat:	68.72000	Long:	-52.79200

g [μGal] @ 0m:	982 475 527 +/- 11	dg/dh [μGal/m]:	-260.0
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Description:
Point established in June 2009 in the garage at Aasiat airport.
Point marked with a bolt.





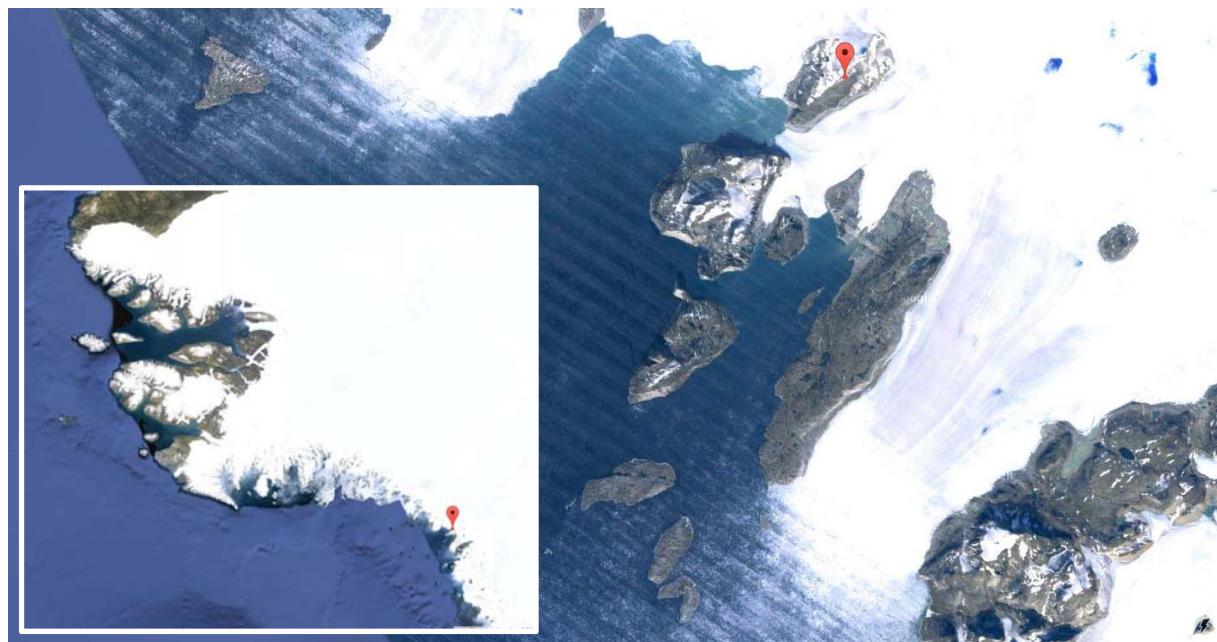
Absolute gravity point description.

Location/Code:	Astrup Kystland / ASKY		
Lat:	75.72613	Long:	-58.25735

g [μ Gal] @ 0m:	982 725 385 +/- 14	dg/dh [μ Gal/m]:	-306.8
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Description:
Point near GNET GNSS antenna at the Astrup Kystland site. GNET code ASKY. Point established in September 2009. The gradient is undetermined therefore is the free-air gradient used.
Point is marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Constable Pynt / CNPT		
Lat:	70.74380	Long:	-22.64613

g [μGal] @ 0m:	982 614 842 +/- 11	dg/dh [μGal/m]:	-298.0
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Description:
Point in hangar at Constable Pynt airport. Near door in the south corner. Established near an existing relative point (59302). First measured in July 2017.
Point marked with a bolt.



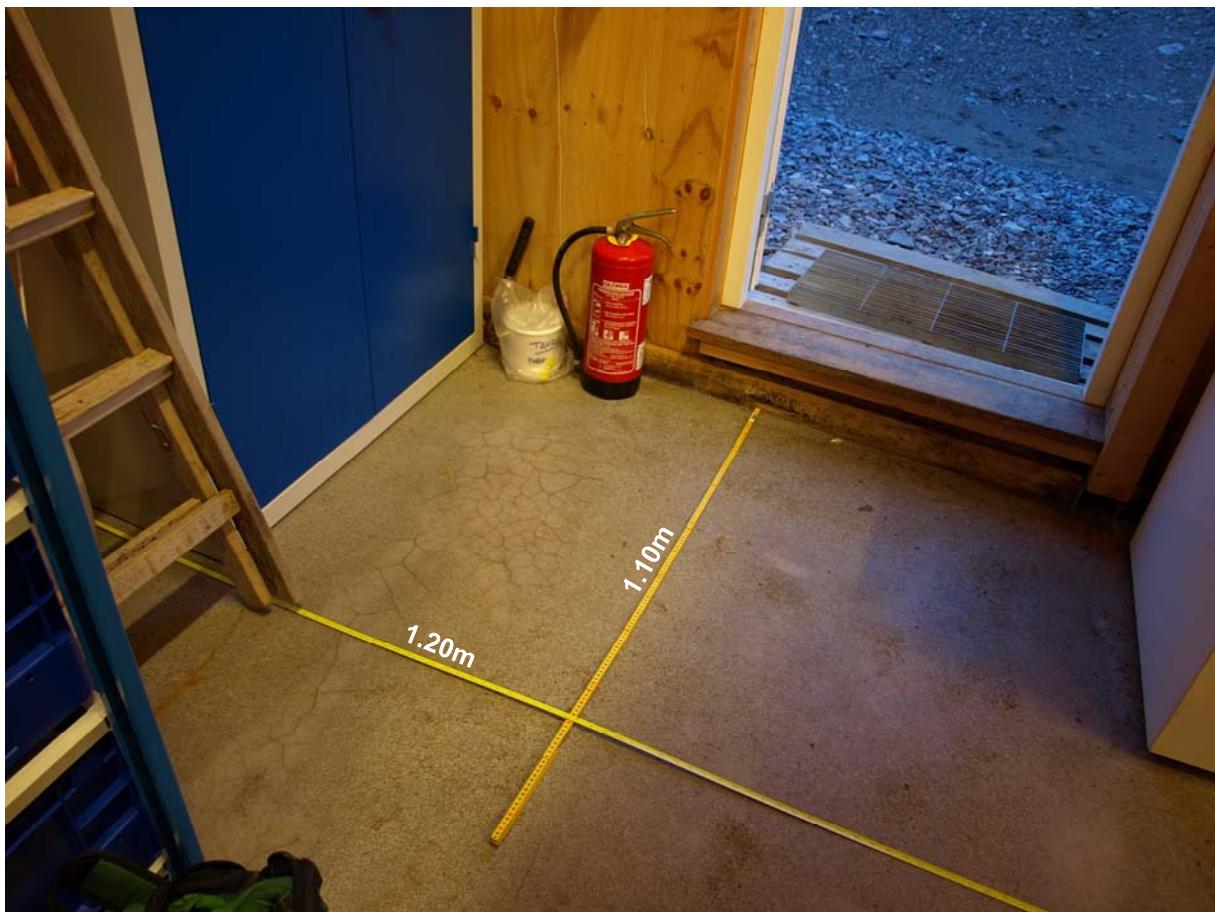


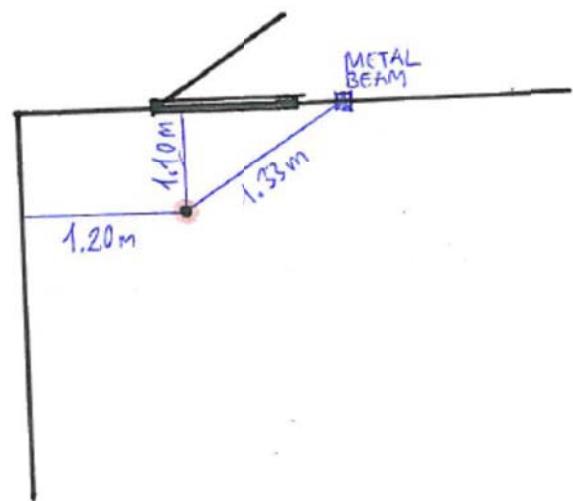
Absolute gravity point description.

Location/Code:	Daneborg / DANE		
Lat:	74.308917	Long:	-20.228083

g [μ Gal] @ 0m:	982 839 098 +/- 11	dg/dh [μ Gal/m]:	-283.8
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Description:
Point in boat house belonging to DMU (AU) at Daneborg. Established in 2015. Floor is not optimal, take extra care when setting up for measurements. Remeasured in 2017, resulting in a much better measurement.
The point is not marked. See sketch for position.





Absolute gravity point description.

Location/Code:	Daneborg / DNBG		
Lat:	74.30669	Long:	-20.22664

g [μ Gal] @ 0m:	982 838 906 +/- 12	dg/dh [μ Gal/m]:	-308.6
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Description:
Point on visible bedrock near the road along the shore and south of the old "Sandodden fangsthytte". First measured in August 2008.
Marked with a KMS bronze plate.





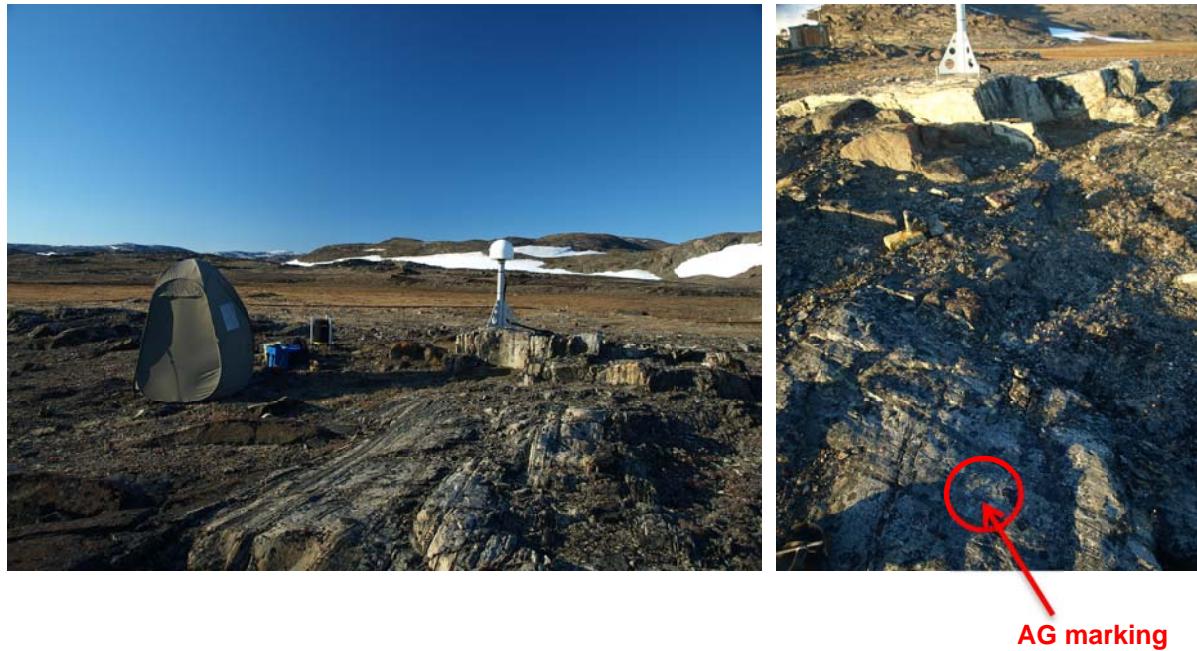
Absolute gravity point description.

Location/Code:	Danmarkshavn GNET GNSS / DKHV		
Lat:	76.771074	Long:	-18.655674

g [μ Gal] @ 0m:	982 944 532 +/- 11	dg/dh [μ Gal/m]:	-296.8
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Description:
Point near to the permanent GNET GNSS antenna, named DMHN established in August 2015.
Point is unmarked. A cross is circled with stones.





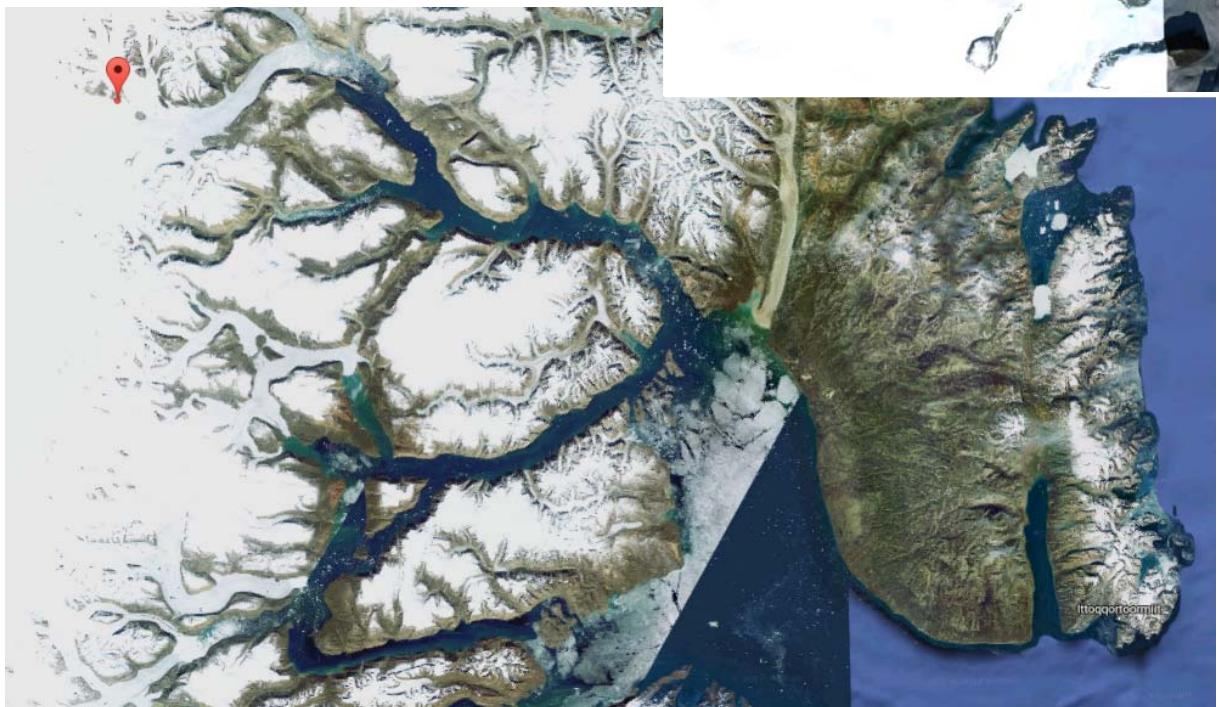
Absolute gravity point description.

Location/Code:	Daugaard Jensen gletscher GNET site / DGJG		
Lat:	71.786533	Long:	-29.850204

g [μGal] @ 0m:	982 297 258 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point at Daugaard Jensen gletscher GNET GNSS site. First measured in July 2017. Free-air gradient used.
Point marked with a KMS bronze plate.





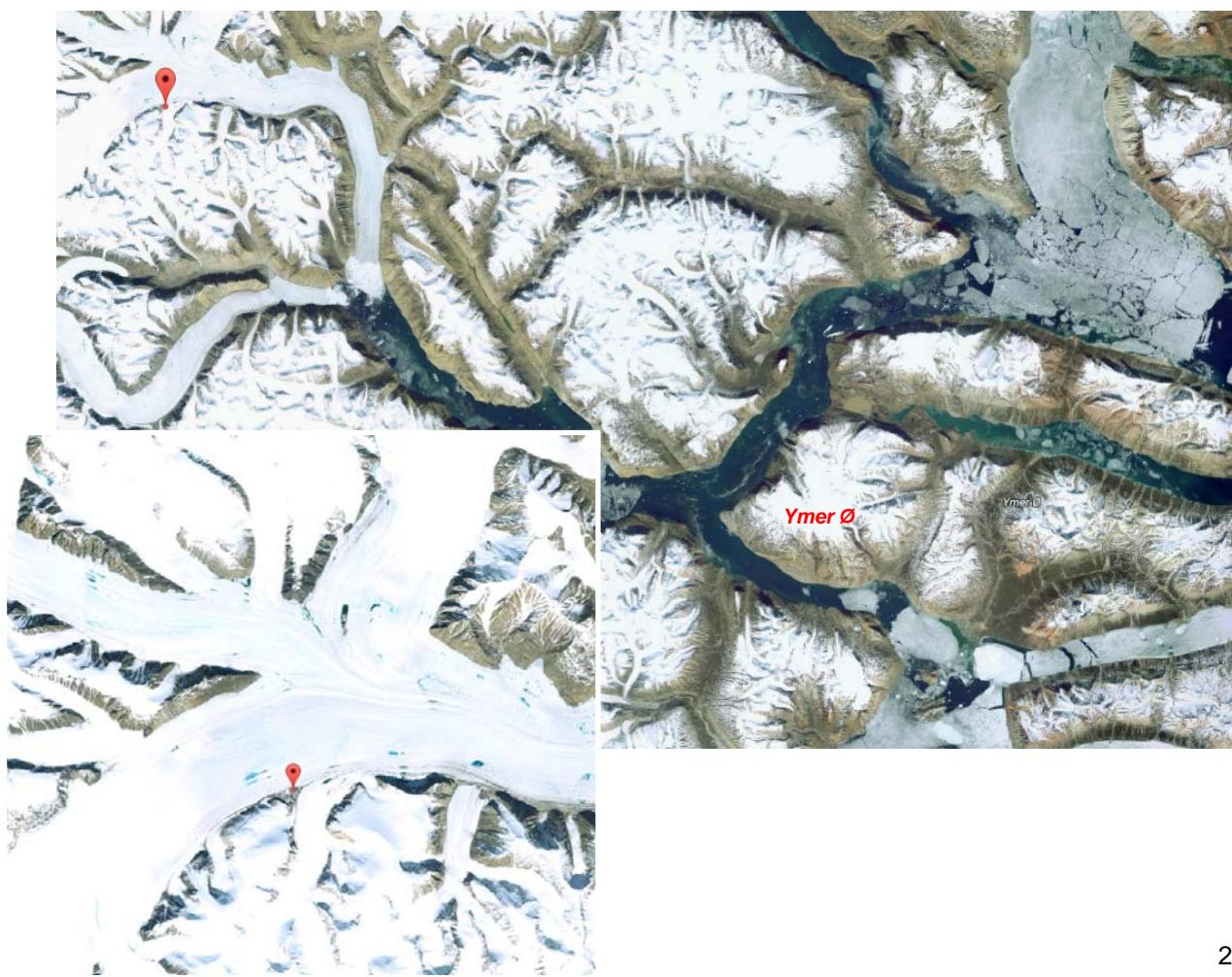
Absolute gravity point description.

Location/Code:	Hamberg gletscher / HMBG		
Lat:	73.67611	Long:	-28.12907

g [μ Gal] @ 0m:	982 352 420 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point near the permanent GNET GNSS antenna. First measured in August 2017.
Point is marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Helheim glacier / HEL2		
Lat:	66.401170	Long:	-38.215670

g [μGal] @ 0m:	982 222 923 +/- 12	dg/dh [μGal/m]:	-308.6
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Description:
Point near the Helheim glacier. The AG site is located near to the <i>HEL2</i> GNET GNSS site. Established in August 2009. The gradient is not determined and therefore is the free-air gradient used.
Point is marked with a KMS bronze plate.





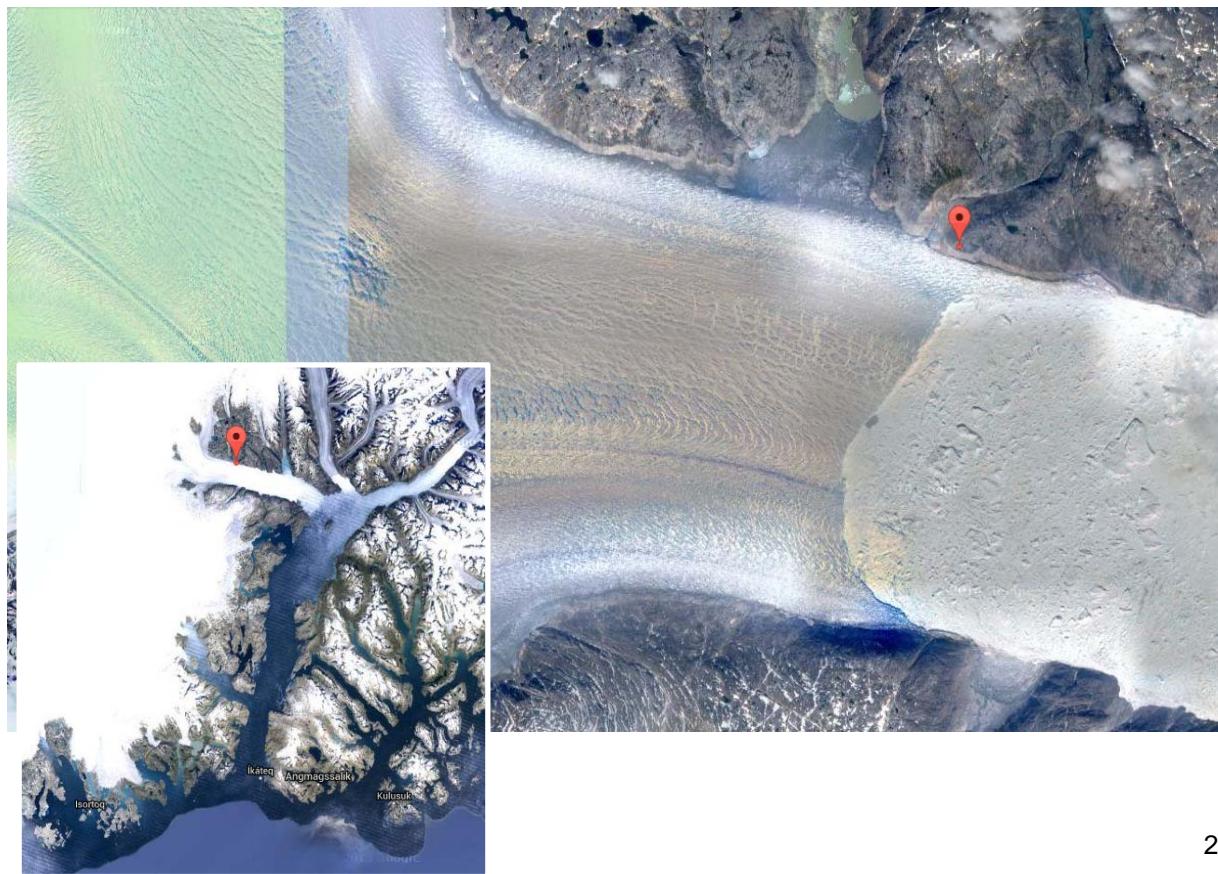
Absolute gravity point description.

Location/Code:	Helheim glacier, near GNSS antenna / HEL1		
Lat:	66.38583	Long:	-38.11488

g [μ Gal] @ 0m:	982 253 091 +/- 11	dg/dh [μ Gal/m]:	-3.086
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Description:
Point near the Helheim glacier. The AG site is located near the <i>HEL1</i> GNSS site. Established in August 2009. The gradient is not determined and therefore is the free-air gradient used.
Point is marked with a KMS bronze plate.





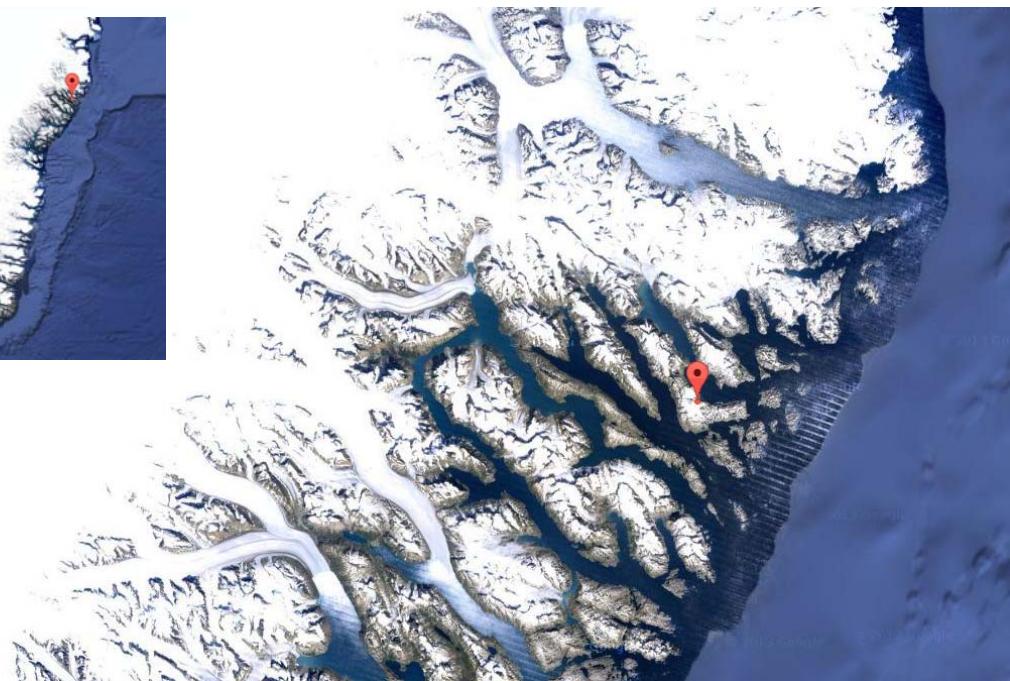
Absolute gravity point description.

Location/Code:	Hjørnefjeldet GNET GNSS station / HJOR		
Lat:	63.418209	Long:	-41.147867

g [μ Gal] @ 0m:	981 962 983 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point near to the permanent GNET GNSS antenna, named HJOR established in August 2010. Gradient not measured, free-air gradient used. Measured with BKGs A10-002.
Point marked with a plate.





Absolute gravity point description.

Location/Code:	Ilulissat airport / Ilul		
Lat:	69.241040	Long:	-51.066050

g [μGal] @ 0m:	982 486 842 +/- 11	dg/dh [μGal/m]:	-292.0
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Description:
Point in garage at the Ilulissat airport. Established near gates towards the apron in June 2009.
Point is marked with a bolt.



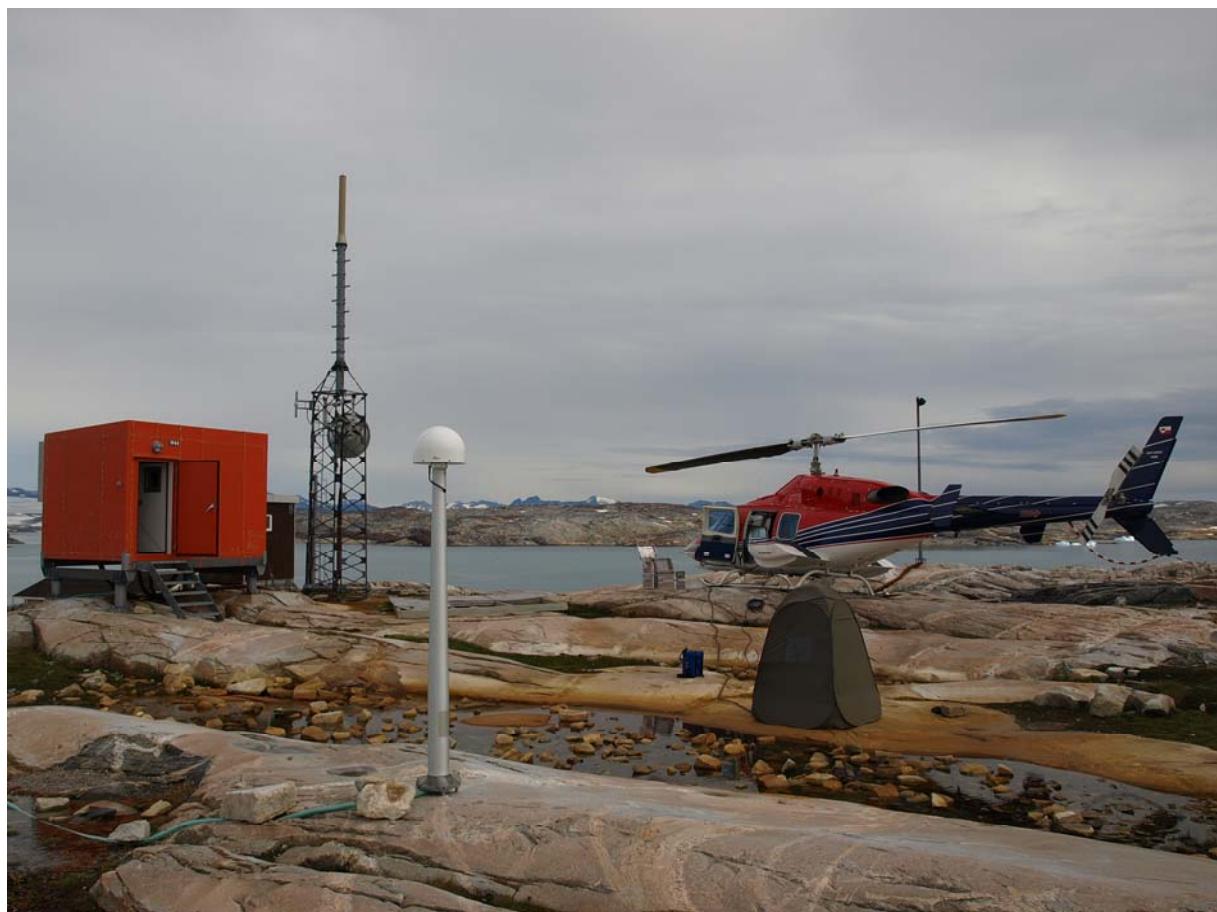


Absolute gravity point description.

Location/Code:	Isortoq / ISOR		
Lat:	65.546620	Long:	-38.974630

g [μGal] @ 0m:	982 253 744 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point near Isortoq bygd, at the GNET /SOR GNSS site, close to the Tele hut. Established in August 2009. Gradient not determined, free-air gradient used.
Point marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Kangerlussuaq, near the inland ice. / SFJ1		
Lat:	67.153470	Long:	-50.061060

g [μ Gal] @ 0m:	982 300 081 +/- 13	dg/dh [μ Gal/m]:	-333.0
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Description:
Point on rock outcrop next to the road from Kangerlussuaq to the inland ice. Established in June 2009. On south side of road (right side going towards the ice).
Point is marked with a plate.





Absolute gravity point description.

Location/Code:	Kangia glacier / KAGA		
Lat:	69.222220	Long:	-49.816110

g [μGal] @ 0m:	982 469 854 +/- 11	dg/dh [$\mu\text{Gal}/\text{m}$]:	-308.6
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Description:
Point near GNET KAGA GNSS permanent station. Established in May 2010 on a rock outcrop. Near Kangia glacier. Gradient is not determined, here is the free-air gradient used.
Point marked with a KMS bronze plate.





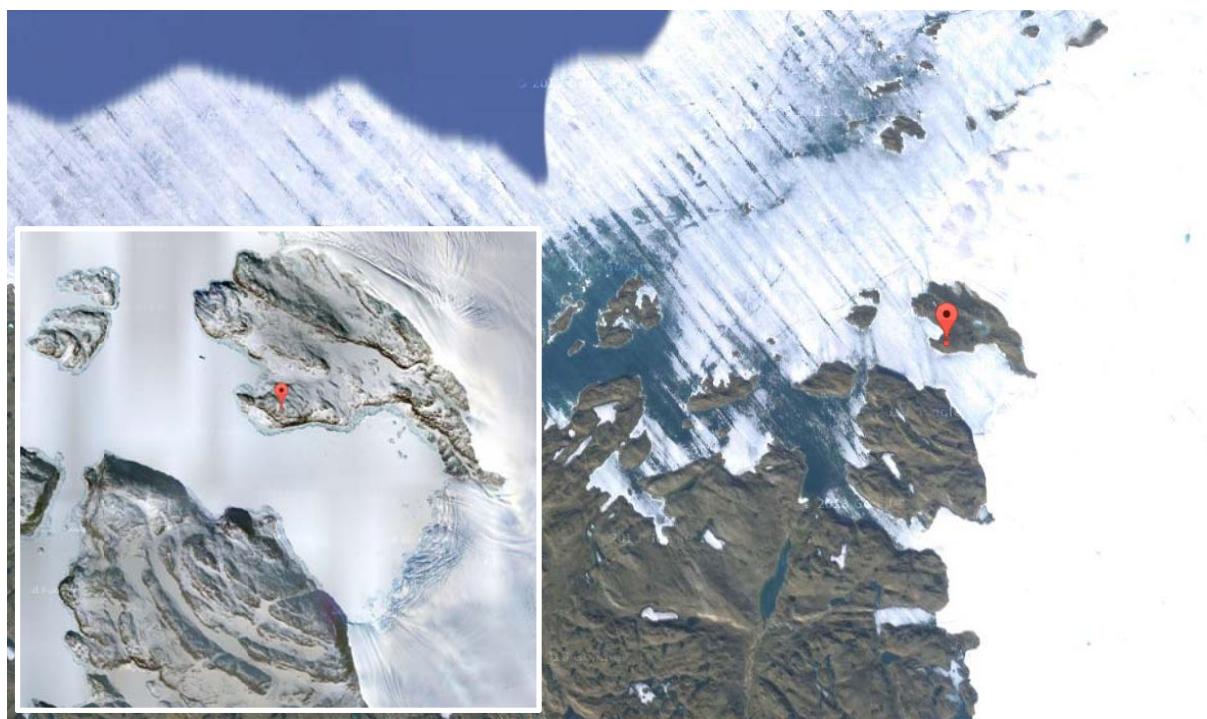
Absolute gravity point description.

Location/Code:	Kap Agassiz / KAGZ		
Lat:	79.131960	Long:	-65.852950

g [μ Gal] @ 0m:	982 968 431 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point at the <i>KAGZ</i> GNET GNSS, near Kap Agassiz glacier. Point established in September 2009. Gradient not measured, free-air gradient used.
Point marked with a KMS bronze plate.





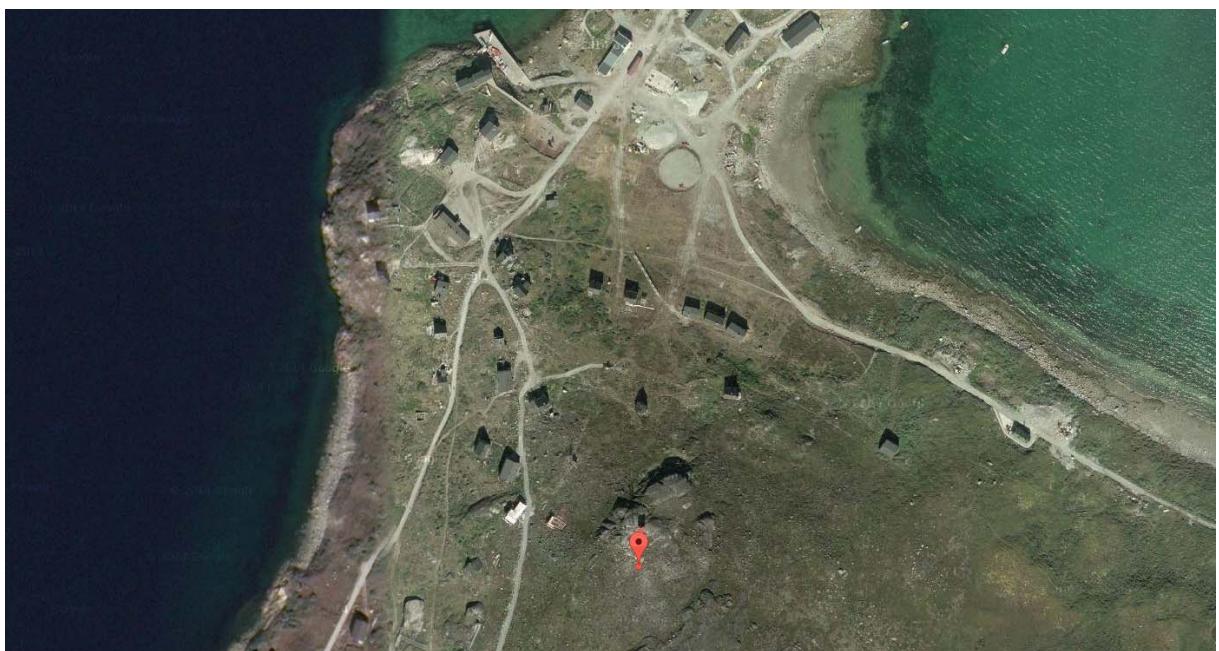
Absolute gravity point description.

Location/Code:	Kapisillit GNSS GNET station / KAPI		
Lat:	64.432310	Long:	-50.271640

g [μ Gal] @ 0m:	982 158 103 +/- 11	dg/dh [μ Gal/m]:	-378.5
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Description:
Point at the permanent GNET GNSS <i>KAPI</i> site. Located above Kapisillit bygd close to the TELE hut. Established in June 2009.
Point marked with a plate.





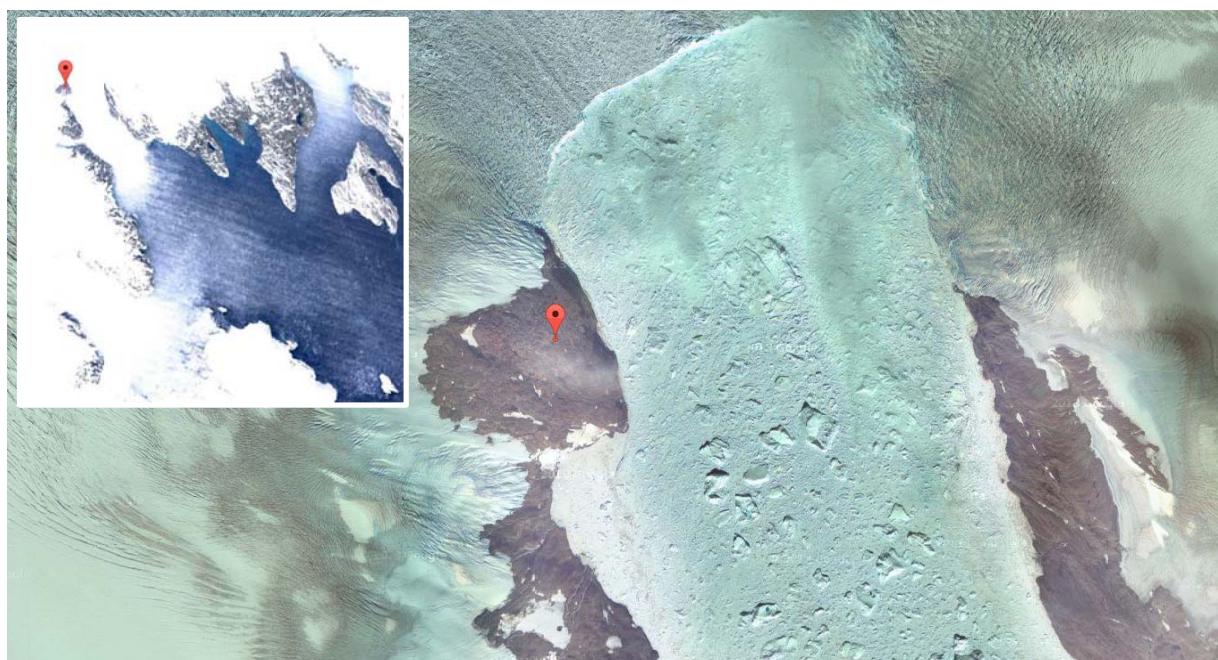
Absolute gravity point description.

Location/Code:	Køge Bugt / KBUG (P2)		
Lat:	65.143670	Long:	-41.157500

g [μGal] @ 0m:	982 157 671 +/- 11	dg/dh [$\mu\text{Gal}/\text{m}$]:	-308.6
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Description:
Point at Køge Bugt, next to the <i>KBUG GNET</i> GNSS antenna, established in August 2009. Gradient not measured, free-air gradient used.
Point marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Kellyville / KELY		
Lat:	66.98711	Long:	-50.94250

g [μ Gal] @ 0m:	982 347 028 +/- 11	dg/dh [μ Gal/m]:	-3.316
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Description:
Absolute point near Kellyville radar disc. Established in 1995 by NGS/NOAA. First measured with A10-019 in September 2015.
Marked with bronze plate.





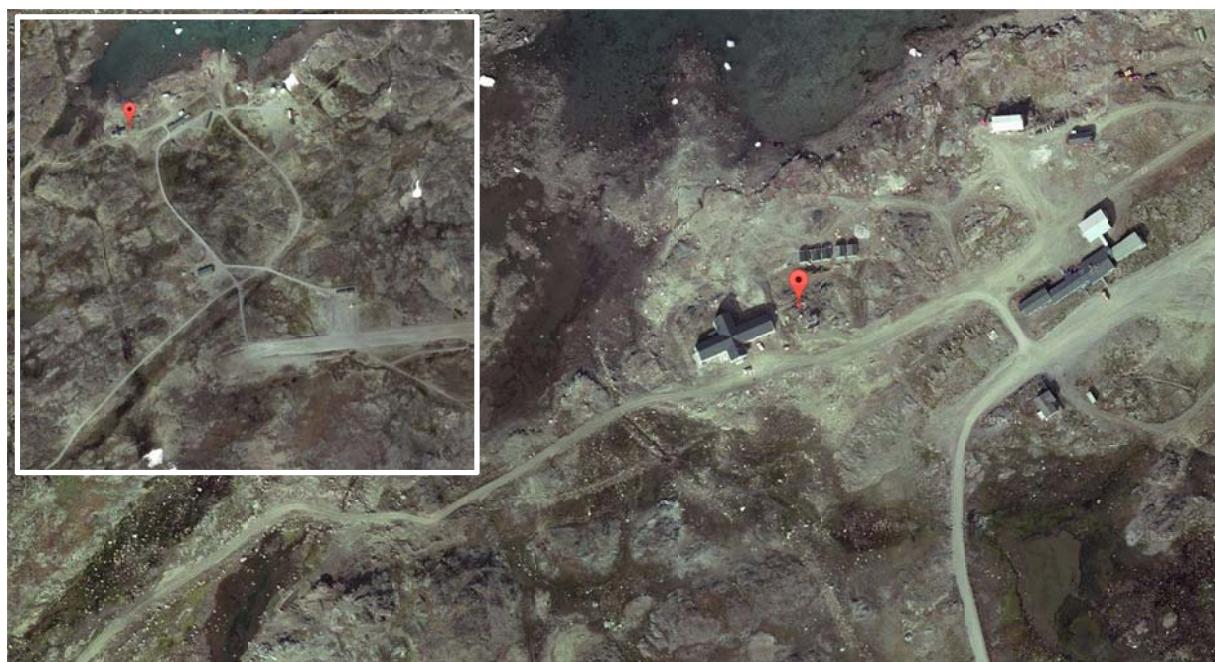
Absolute gravity point description.

Location/Code:	Kulusuk / KULU		
Lat:	65.577590	Long:	-37.156320

g [μGal] @ 0m:	982 337 488 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point near the Kulusuk hotel. Point established in 1996, first measured with A10-019 in August 2009.
Point marked with a bronze plate.





Absolute gravity point description.

Location/Code:	Kulusuk Airport / KULA		
Lat:	65.57457	Long:	-37.13368

g [μGal] @ 0m:	982 333 456 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point in garage at Kulusuk Airport. Point established in August 2010. Measured with BKGS A10-002. Gradient is not determined, therefore is the free-air gradient used.
Point marked with a bolt.





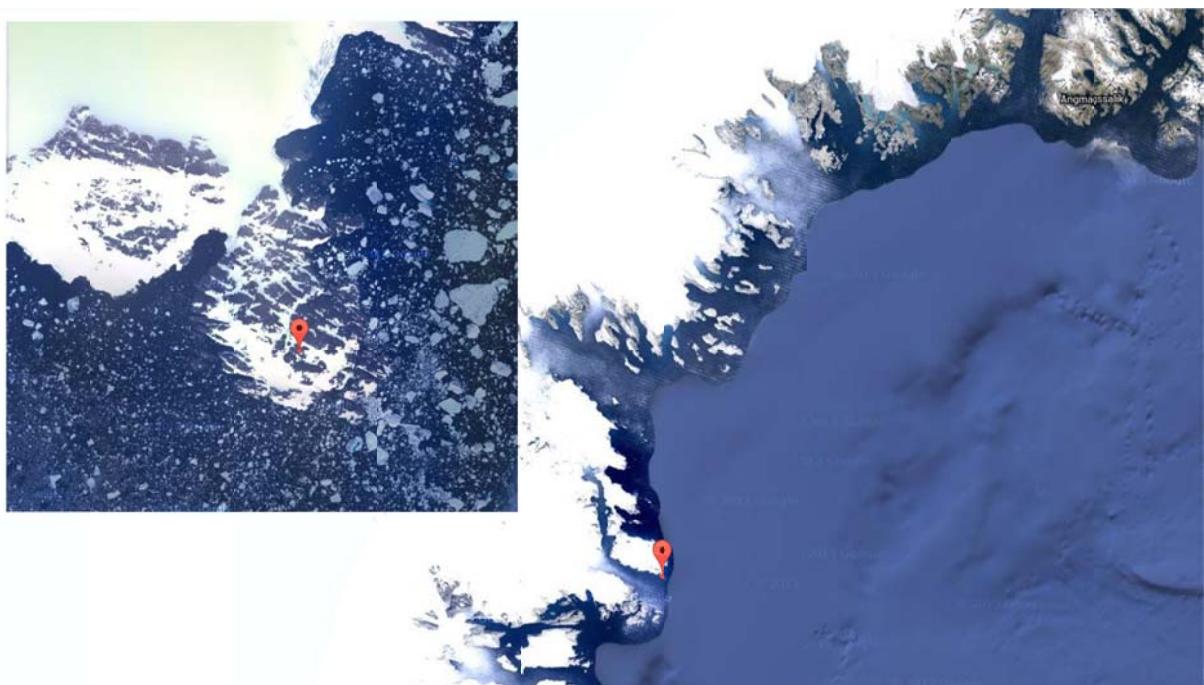
Absolute gravity point description.

Location/Code:	Lynæs / LYNS		
Lat:	64.430500	Long:	-40.198170

g [μ Gal] @ 0m:	982 173 159 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point at the GNET GNSS named <i>LYNS</i> . Established in August 2009. The gradient is undetermined, the free-air gradient is used.
Point marked with a KMS bronze plate.





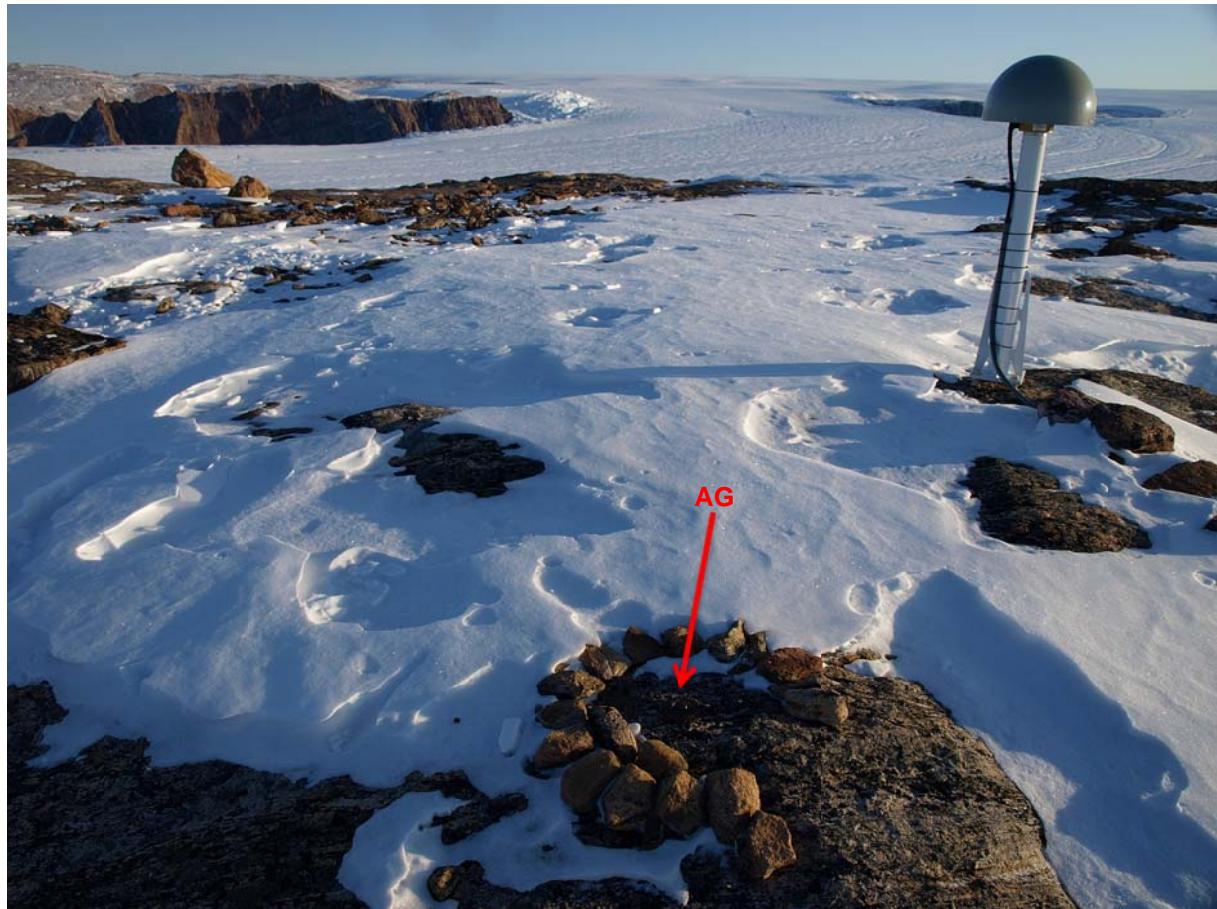
Absolute gravity point description.

Location/Code:	Marie gletcher / MARG		
Lat:	77.187040	Long:	-65.694620

g [μ Gal] @ 0m:	982 784 239 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point at Marie gletcher, near the <i>MARG GNET</i> GNSS antenna, established in September 2009. The gradient is undetermined, the free-air gradient is used.
Point is marked with a KMS bronze plate.





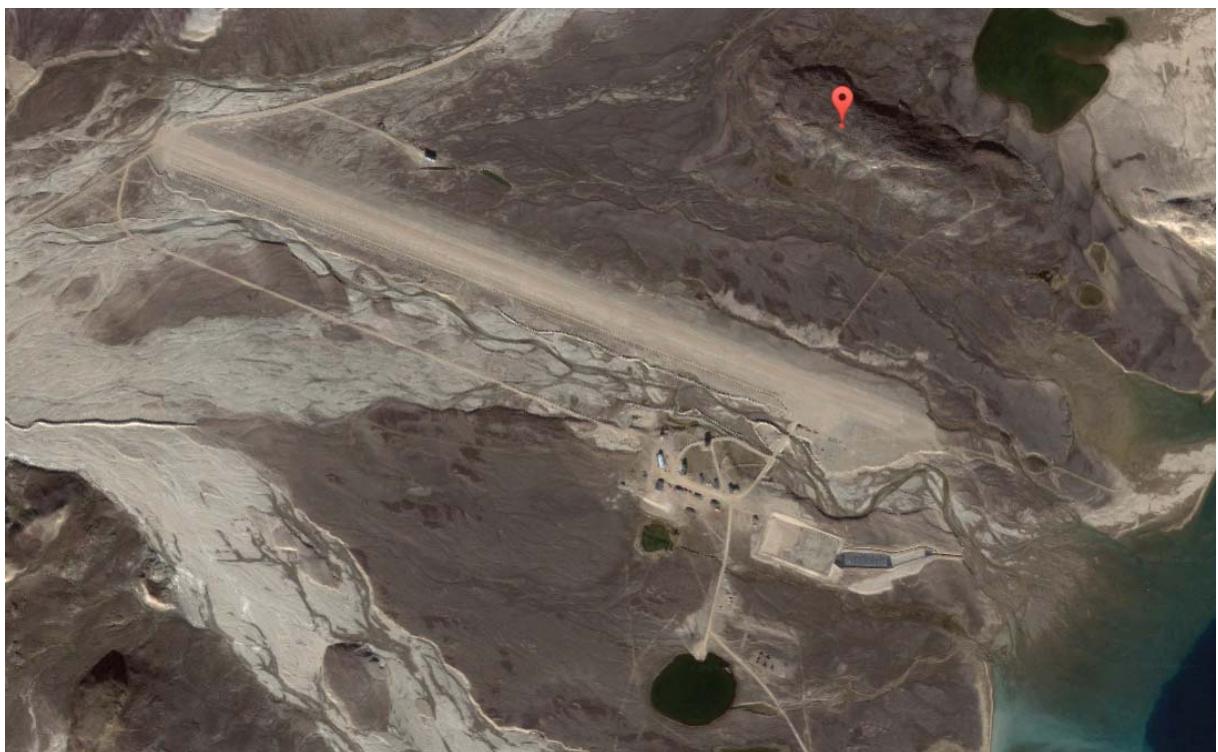
Absolute gravity point description.

Location/Code:	Mestersvig GNET site / MSVG		
Lat:	72.240821	Long:	-23.912861

g [μ Gal] @ 0m:	982 681 201 +/- 12	dg/dh [μ Gal/m]:	-308.6
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Description:
Point at the GNET GNSS site north of Mestersvig. Opposite the landing strip. First measured in July 2017.
Point marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Mestersvig Terminal / MSVT		
Lat:	72.234548	Long:	-23.915633

g [μGal] @ 0m:	982 684 488 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point in the Terminal building near the apron at Mestersvig. First measured in July 2017.
Point is unmarked.





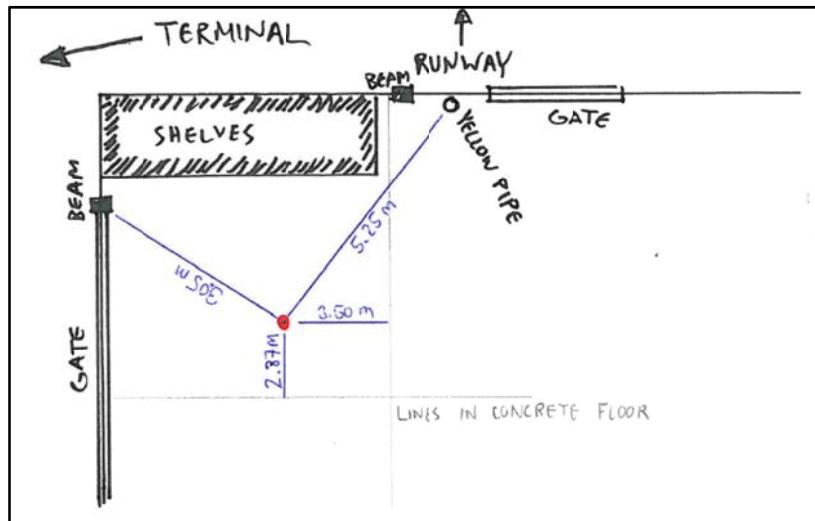
Absolute gravity point description.

Location/Code:	Narsarsuaq Airport Hangar / NARA			
Lat:	61.16250	Long:	-45.41644	Height [m] (ortho) : 27.00

g [μGal] @ 0m:	981 922 313 +/- 11	dg/dh [$\mu\text{Gal}/\text{m}$]:	-308.6
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Description:
Point established in a hangar at Narsarsuaq Airport. Established in August 2010. The gradient is not determined, therefore is the free-air gradient used. Measured with BKGs A10-002.
Point marked with a bolt.





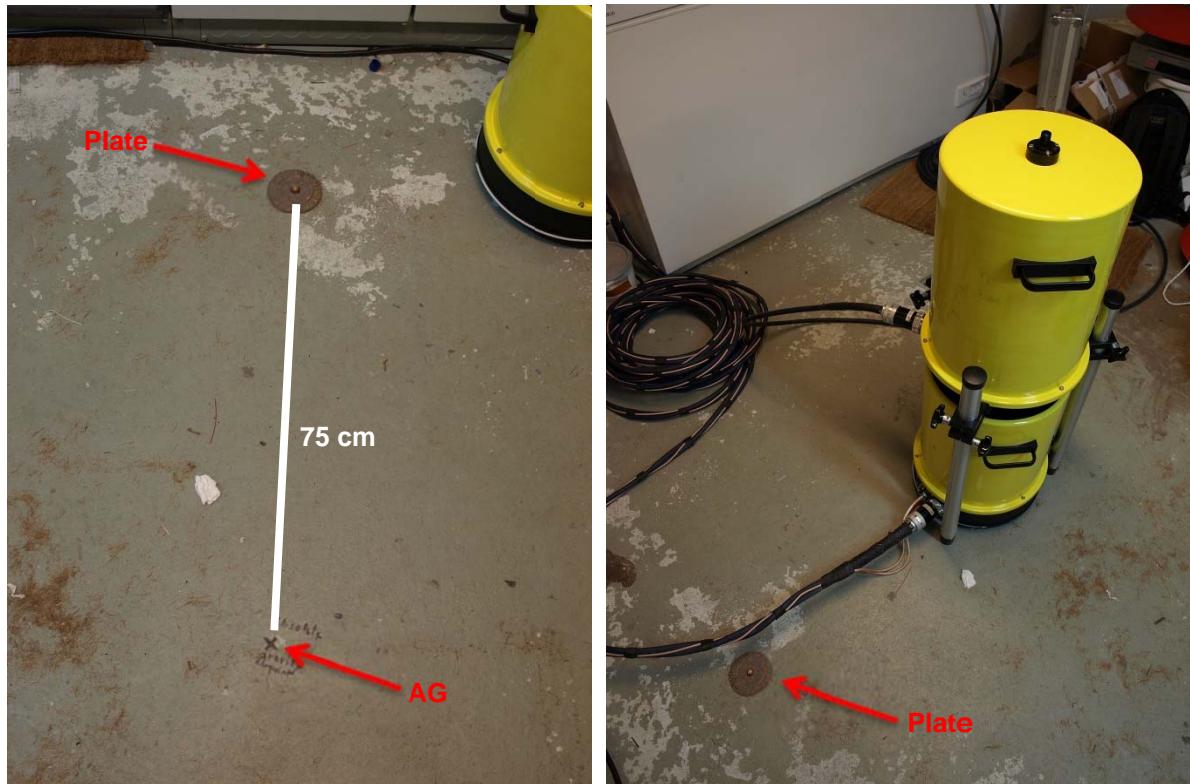
Absolute gravity point description.

Location/Code:	Nuuk / NUUK / 78801		
Lat:	64.177830	Long:	-51.740330

g [μGal] @ 0m:	982 190 653 +/- 11	dg/dh [$\mu\text{Gal}/\text{m}$]:	-284.4
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Description:
Point in the basement of Nuuk town hall. Point established in 2005 and first measured with A10-019 in June 2009. The AG point is offset to the bronze plate (benchmark 78801) by 75cm.
Point is marked on the floor with a pen.



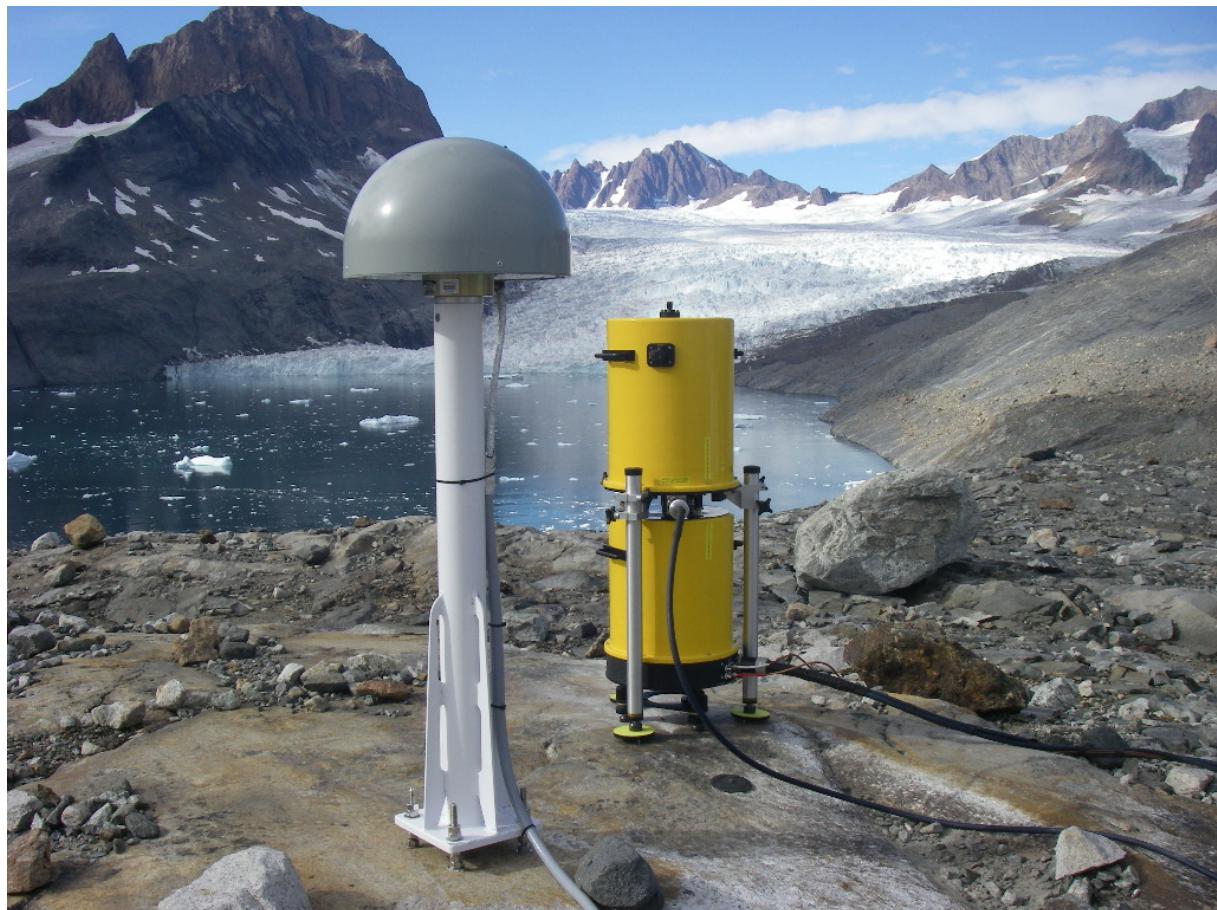


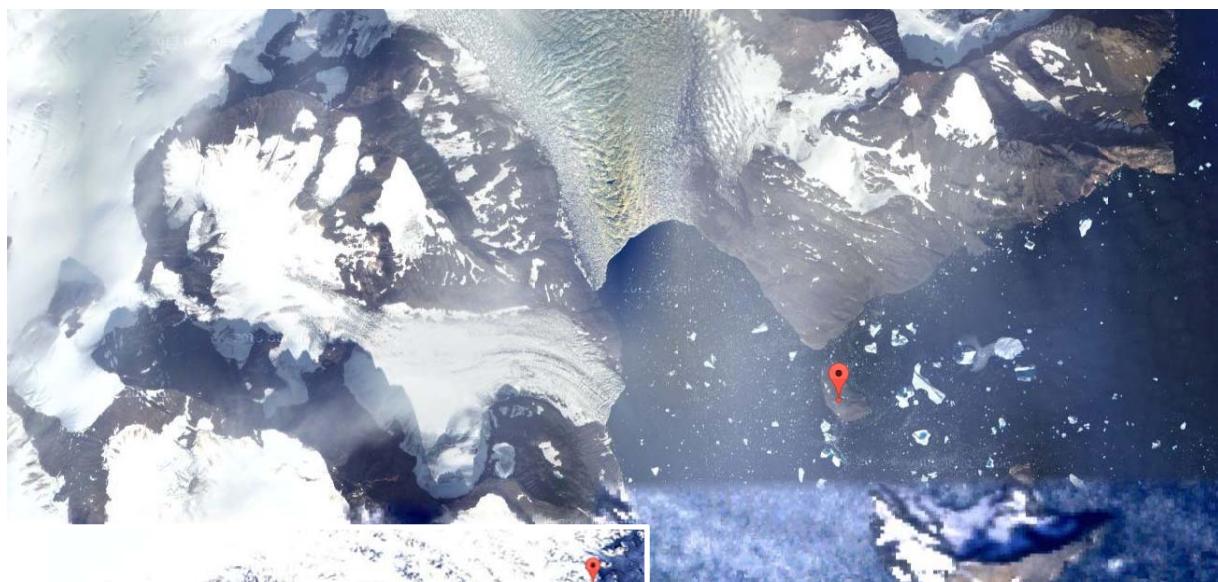
Absolute gravity point description.

Location/Code:	Pilappik GNET GNSS station / PLPK		
Lat:	66.897727	Long:	-34.033459

g [μ Gal] @ 0m:	982 393 884 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point next to the permanent GNET GNSS antenna, named PLPK established in August 2010. Gradient not measured, free-air gradient used. Measured with BKGs A10-002.
Point marked with a bolt. It is not the nearby plate.





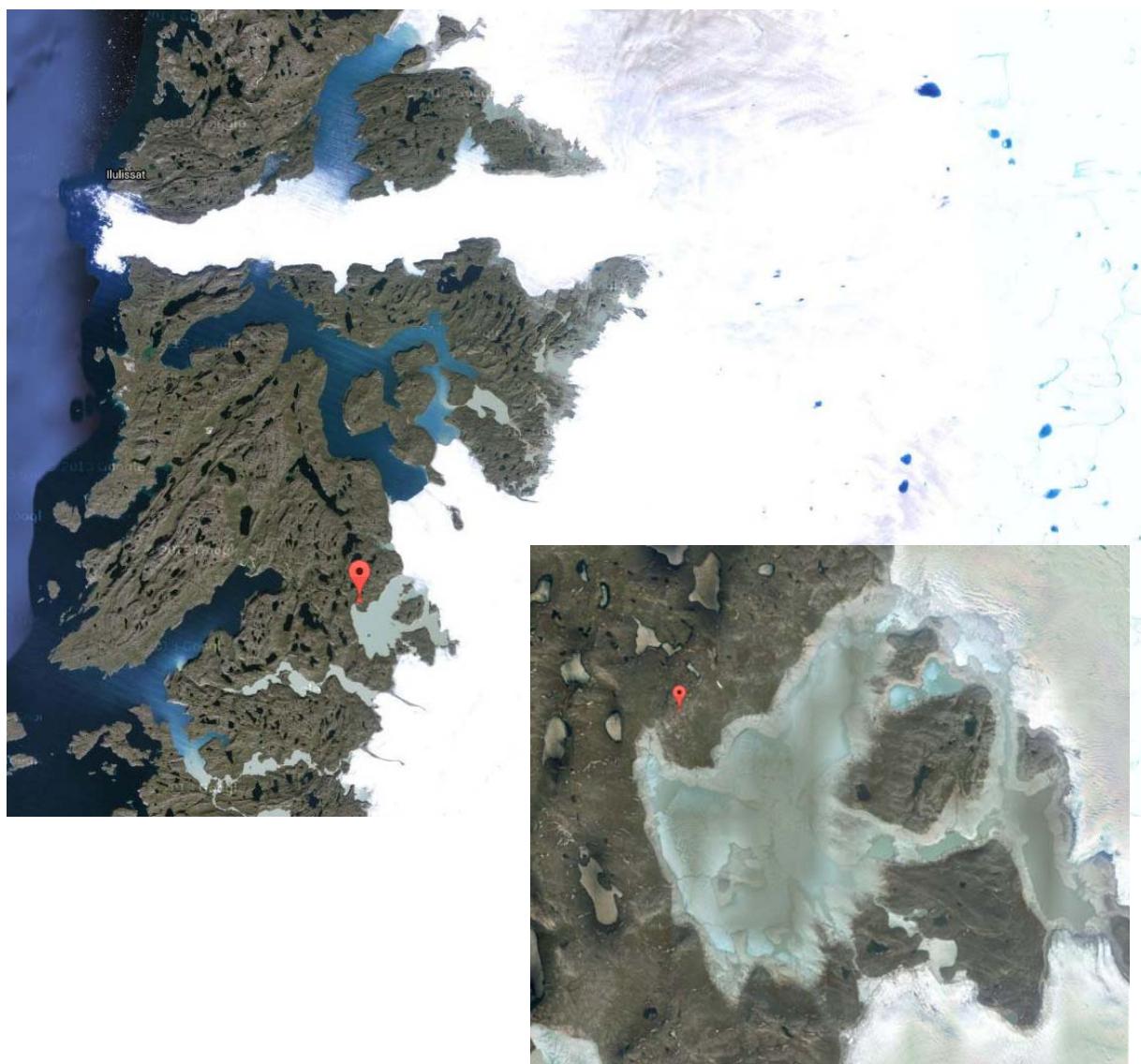
Absolute gravity point description.

Location/Code:	Qasigiannguit / QASI		
Lat:	68.801170	Long:	-50.462970

g [μGal] @ 0m:	982 374 509 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point established in May 2010 near an ice-dammed lake. A GNSS antenna is located nearby. The gradient is undetermined and the free-air gradient is used.
Point is marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Qaarsut Airport / QARA		
Lat:	70.732200	Long:	-52.696720

g [μGal] @ 0m:	982 576 151 +/- 11	dg/dh [$\mu\text{Gal}/\text{m}$]:	-308.6
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Description:
Point in the garage at Qaarsut Airport. The point is established in May 2010. The gradient is not determined so the free-air gradient is used.
The point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Qaarsut GNET GNSS site / QAAR		
Lat:	70.740420	Long:	-52.688290

g [μ Gal] @ 0m:	982 588 309 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point next to the permanent GNET GNSS antenna, named QAAR. Near Qaarsut airport. Established in May 2010.
Point marked with a plate.





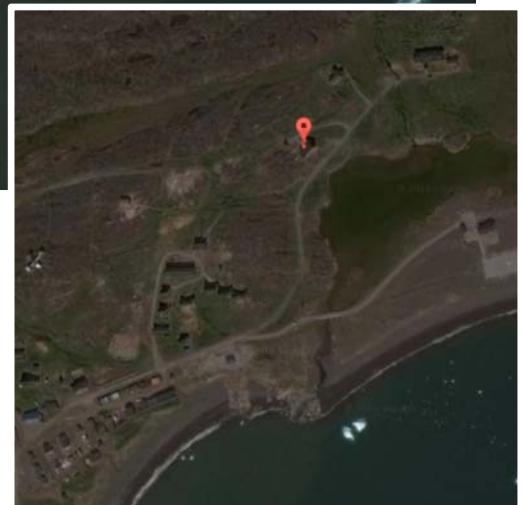
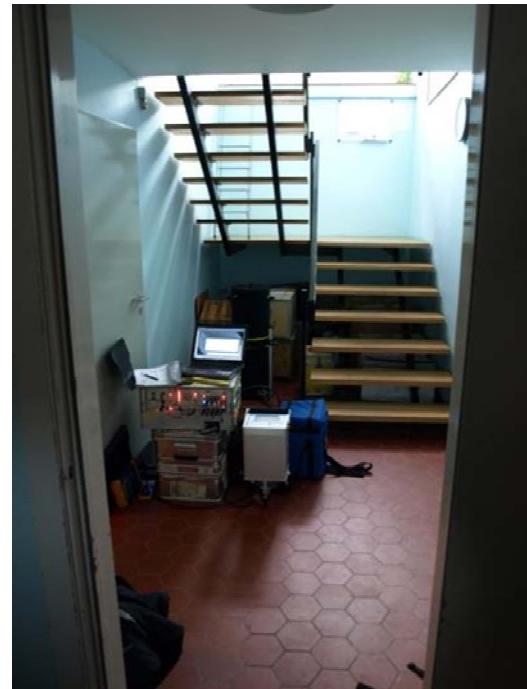
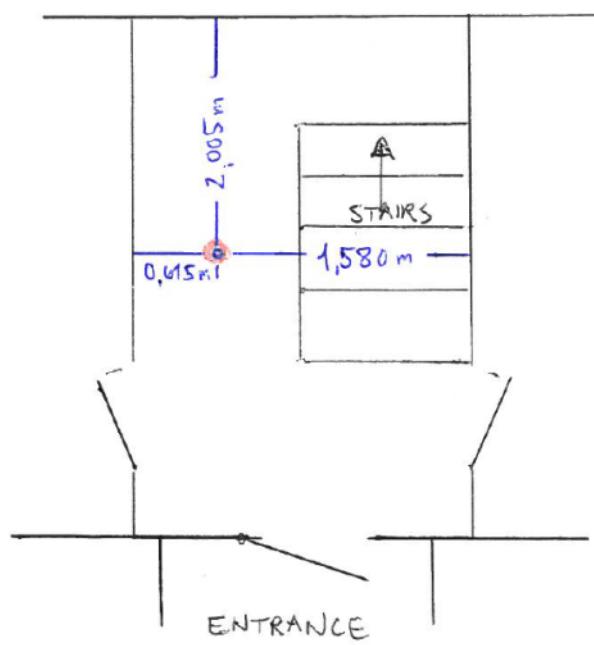
Absolute gravity point description.

Location/Code:	Qeqertarsuaq GNET GNSS / GODH		
Lat:	69.25240	Long:	-53.52100

g [μ Gal] @ 0m:	982 500 667 +/- 11	dg/dh [μ Gal/m]:	-273.2
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Description:
Point at the Arctic Station, Copenhagen University, North East of Qeqertarsuaq. The point is under the staircase in building 348. First measured in August 2016.
The point is unmarked. See sketch.





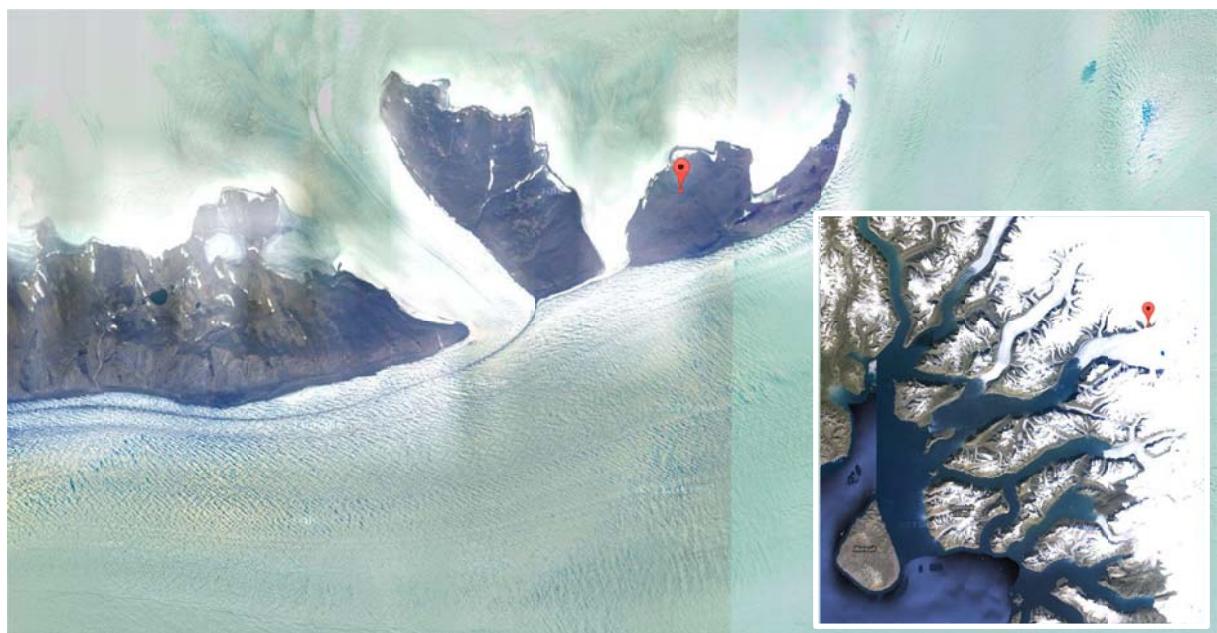
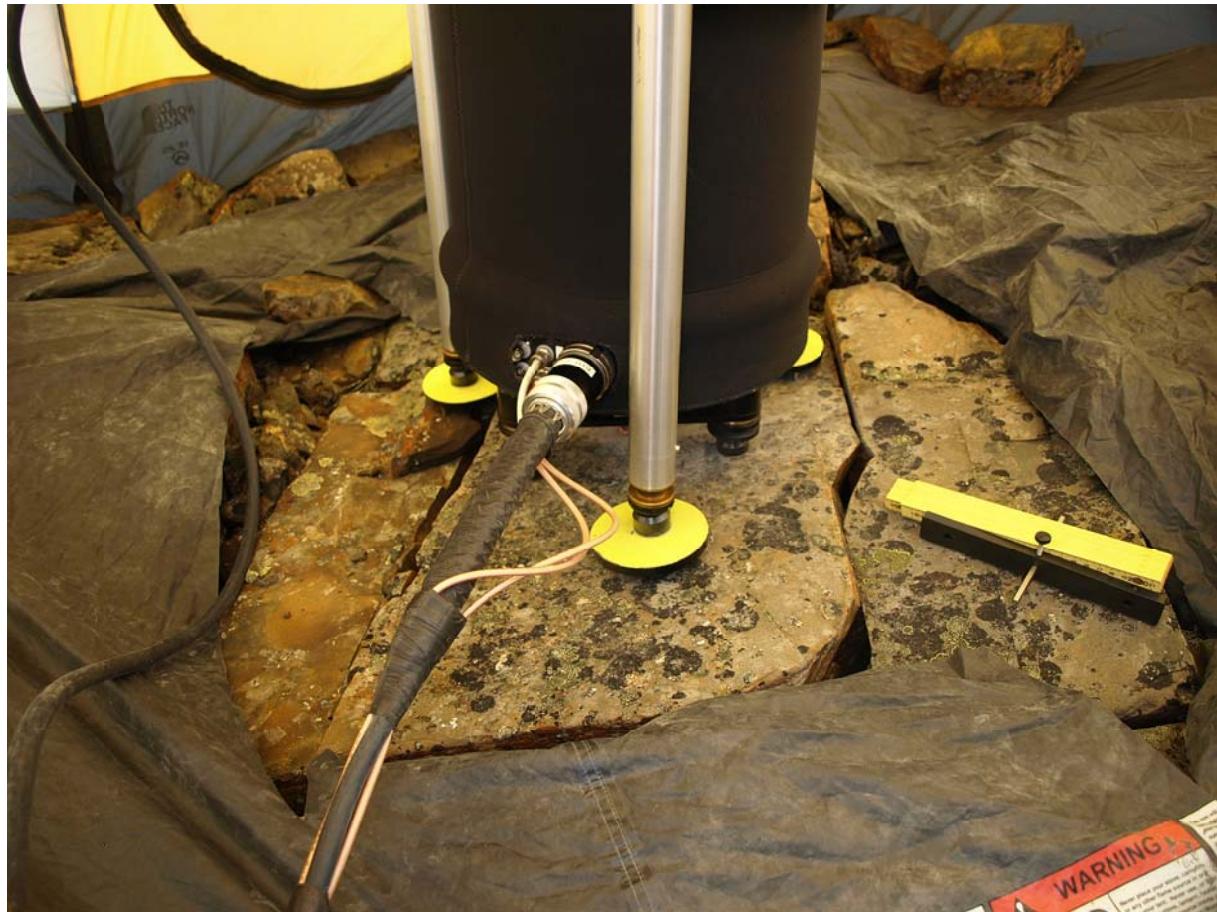
Absolute gravity point description.

Location/Code:	Rink Isbræ / RINK		
Lat:	71.848500	Long:	-50.993970

g [μ Gal] @ 0m:	982 356 166 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point near Rink Isbræ. The point is close to the R/NK GNET GNSS and established in May 2010. The gradient is not determined and therefore is the free-air gradient used.
Point marked with a bronze bolt.





Absolute gravity point description.

Location/Code:	Scorsbysund Heliport / SCBY		
Lat:	70.487749	Long:	-21.97176

g [μGal] @ 0m:	982 639 357 +/- 12	dg/dh [μGal/m]:	-427.6
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Description:
Point near the Scorsbysund Heliport, on outcrop next to the road to the city. First measured in August 2017.
Point is unmarked.





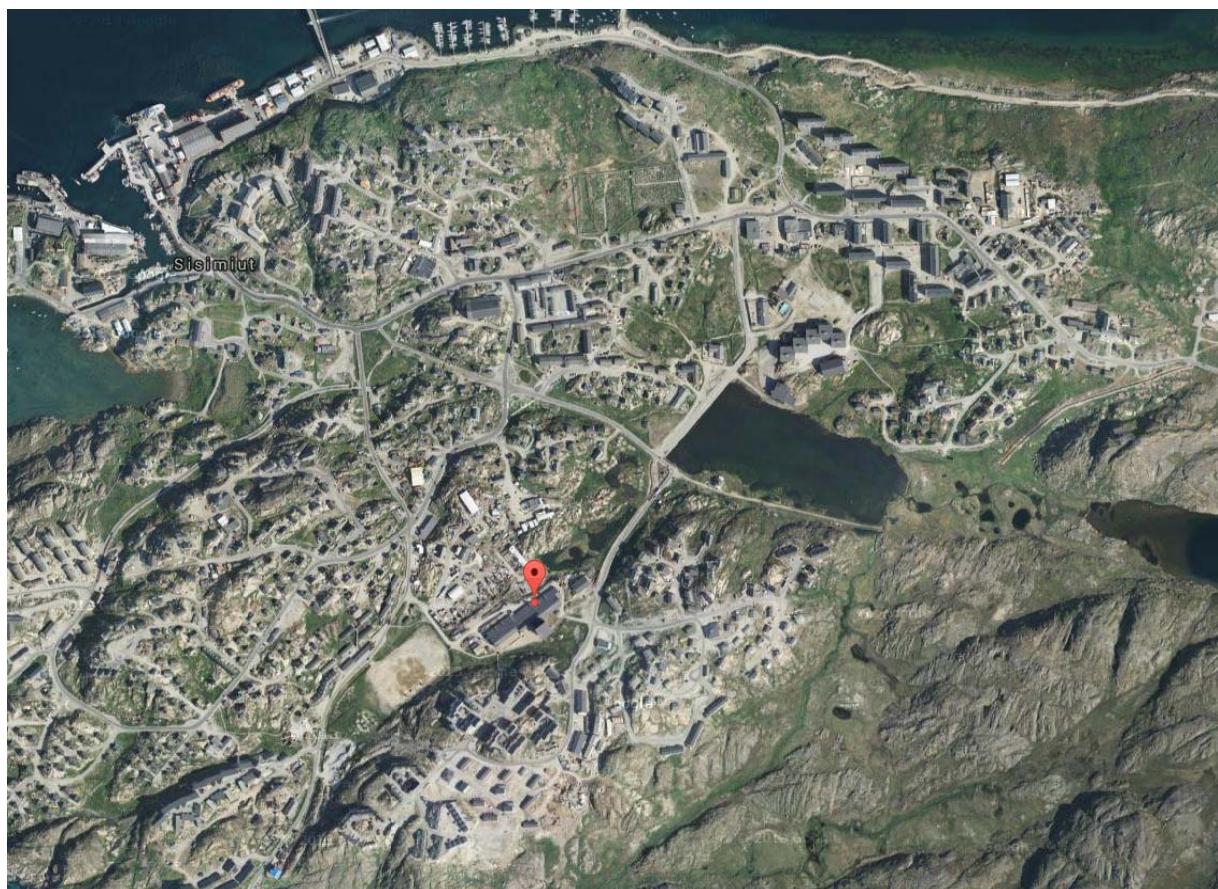
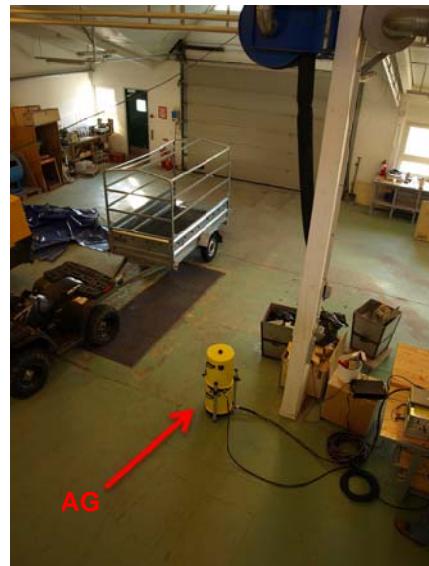
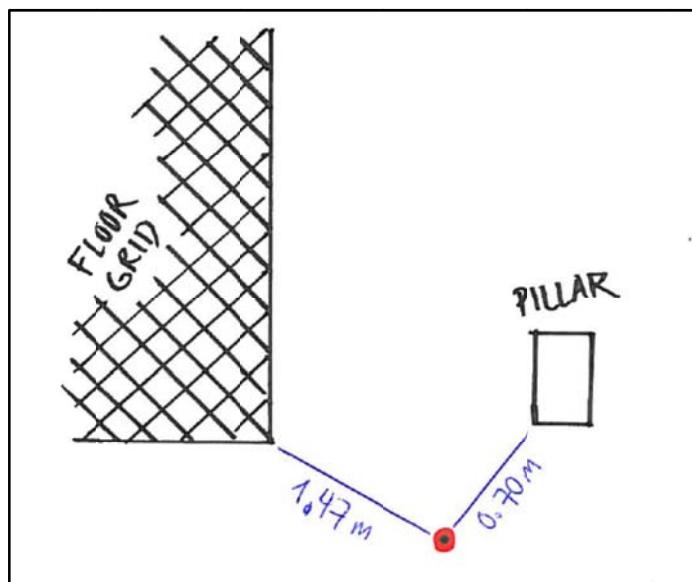
Absolute gravity point description.

Location/Code:	Artek Sisimiut / SIAR		
Lat:	66.934140	Long:	-53.660460

g [μGal] @ 0m:	982 402 361 +/- 11	dg/dh [μGal/m]:	-272.8
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Description:
Point in the workshop/garage of the Artic Technology Centre – ARTEK – in Sisimiut. Established in June 2009.
Marked with a bolt.





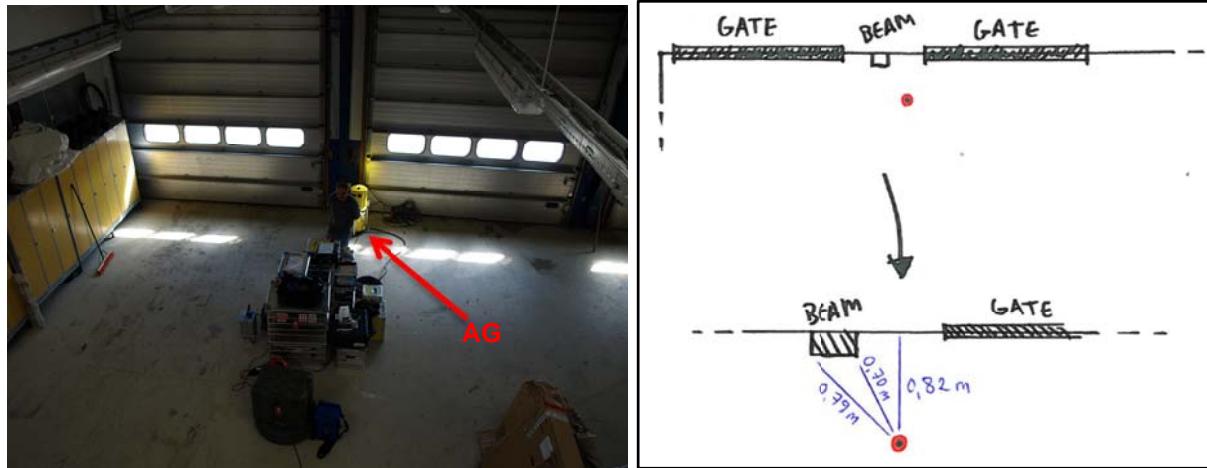
Absolute gravity point description.

Location/Code:	Sisimiut Airport / SISA		
Lat:	66.952030	Long:	-53.722110

g [μGal] @ 0m:	982 415 322 +/- 11	dg/dh [μGal/m]:	-292.0
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Description:
Point in the garage at Sisimiut airport, established in June 2009.
Point marked with a bolt.





Absolute gravity point description.

Location/Code:	Tasiilaq / TAS1 / 78211		
Lat:	65.612150	Long:	-37.620080

g [μ Gal] @ 0m:	982 322 724 +/- 11	dg/dh [μ Gal/m]:	-376.0
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Description:
Point near Tasiilaq heliport on a concrete platform next to the road to the heliport. Established in 1982, first measured with A10-019 in August 2009. Gradient undetermined, free-air gradient used.
Point is unmarked.





Absolute gravity point description.

Location/Code:	Tasiilaq / TAS2 / 71872		
Lat:	65.612170	Long:	-37.619500

g [μGal] @ 0m:	982 322 972 +/- 12	dg/dh [μGal/m]:	-340.6
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Description:
Point near Tasiilaq heliport. Established in 1995, measured with A10-019 in August 2009. The gradient is not determined so the free-air gradient is used.
Marked with a bronze plate on a rock outcrop.





Absolute gravity point description.

Location/Code:	Station Nord, Building 23, "Vippeporten" / NORD		
Lat:	81.597667	Long:	-16.661333

g [μGal] @ 0m:	983 068 776 +/- 11	dg/dh [μGal/m]:	-279.0
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Description:
Point in building 23 called "Vippeporten" near the Station Nord apron. Established in 1979 with station number 1351. First measured with A10-019 in 2013. The gradient is also measured in 2013.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Thule Air Base / TAB1 / 38801		
Lat:	76.538330	Long:	-68.801670

g [μ Gal] @ 0m:	982 921 539 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point in building 836 at Thule Air Base. Established in 1988, first measured with A10-019 in 2009. The gradient is undetermined and the free-air gradient is used.
Point is marked with a bolt.





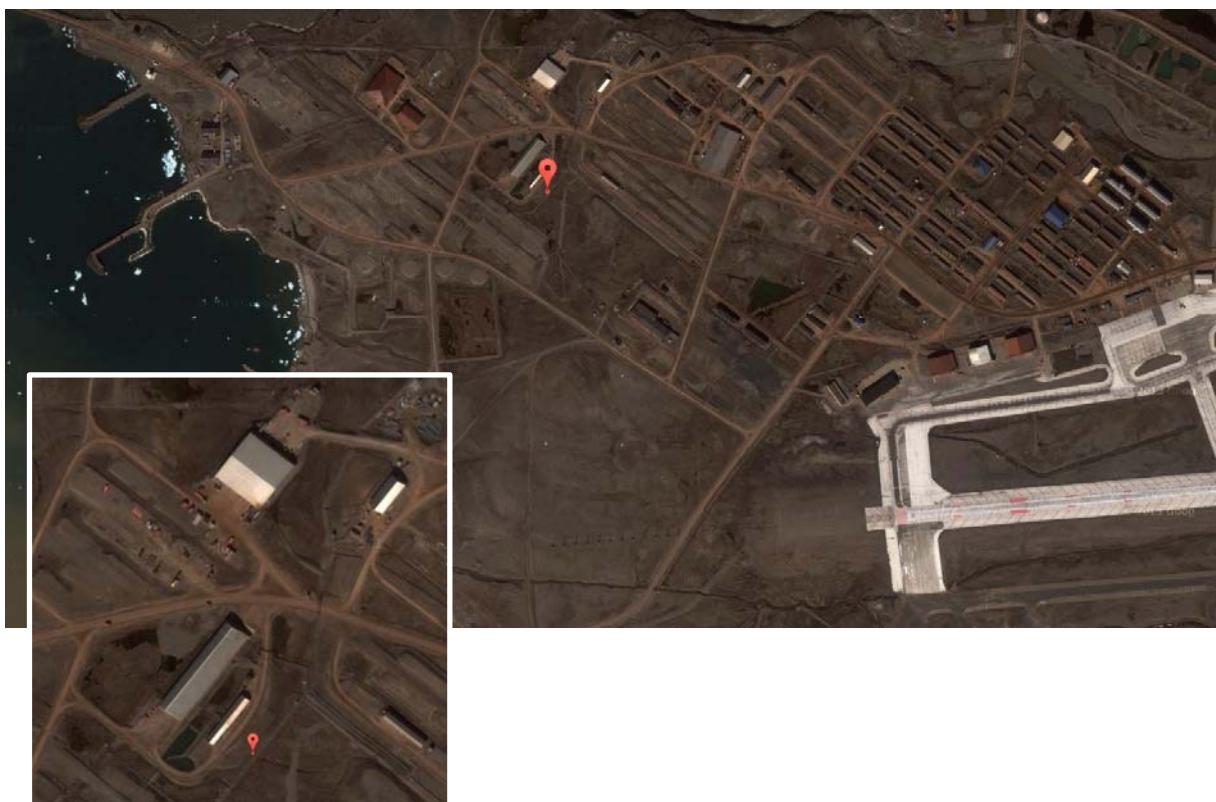
Absolute gravity point description.

Location/Code:	Thule Air Base / TAB2 / 38802		
Lat:	76.537920	Long:	-68.796720

g [μ Gal] @ 0m:	982 921 676 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point at Thule Air Base, established on a flag post fundament in 1988, first measured with A10-019 in 2009. Located near building 837. Gradient is undetermined, free-air gradient used.
Point is marked with a bolt.





Absolute gravity point description.

Location/Code:	Thule Air Base / THU3		
Lat:	76.537040	Long:	-68.824950

g [μ Gal] @ 0m:	982 923 315 +/- 11	dg/dh [μ Gal/m]:	-398.9
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Description:
Point next to the <i>THU3</i> GNET GNSS site. First measured with A10-019 in September 2009. The gradient was determined in 2015.
Point marked with a bronze plate.





Absolute gravity point description.

Location/Code:	Camp Tuto – Thule Air Base / TUTO		
Lat:	76.430767	Long:	-68.339567

g [μGal] @ 0m:	982 831 340 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point on the remaining concrete foundation of a building at Camp Tuto. Point is set in the NW corner of the foundation and established in September 2009.
Point is marked with a plate.



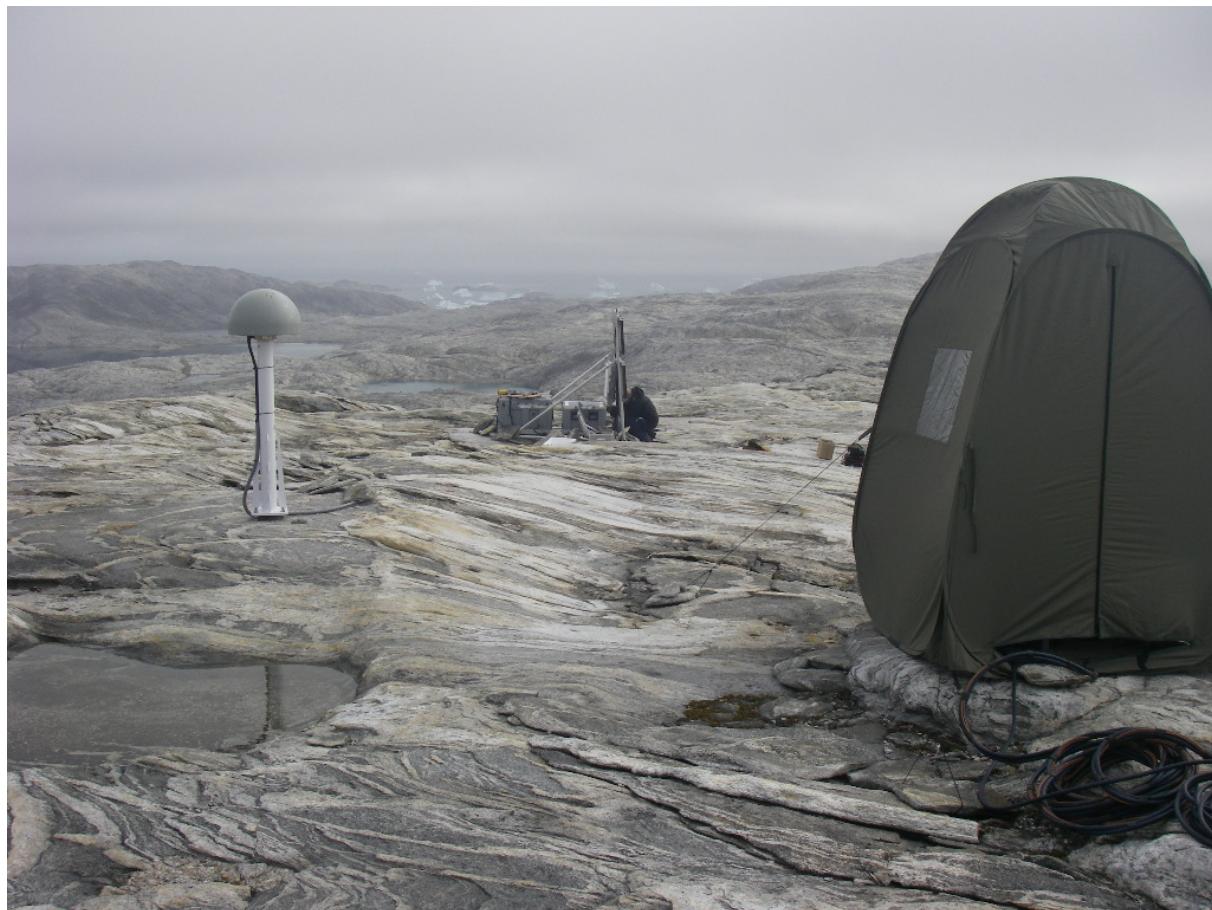


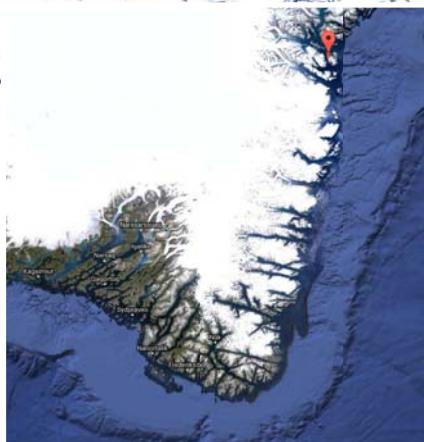
Absolute gravity point description.

Location/Code:	Timmiarmiut GNET GNSS site / TIMM		
Lat:	62.535542	Long:	-42.286150

g [μ Gal] @ 0m:	981 989 011 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point near the permanent GNET GNSS antenna, named TIMM established in August 2010. Gradient not measured, free-air gradient used. Measured with BKGs A10-002.
Point marked with a bolt.





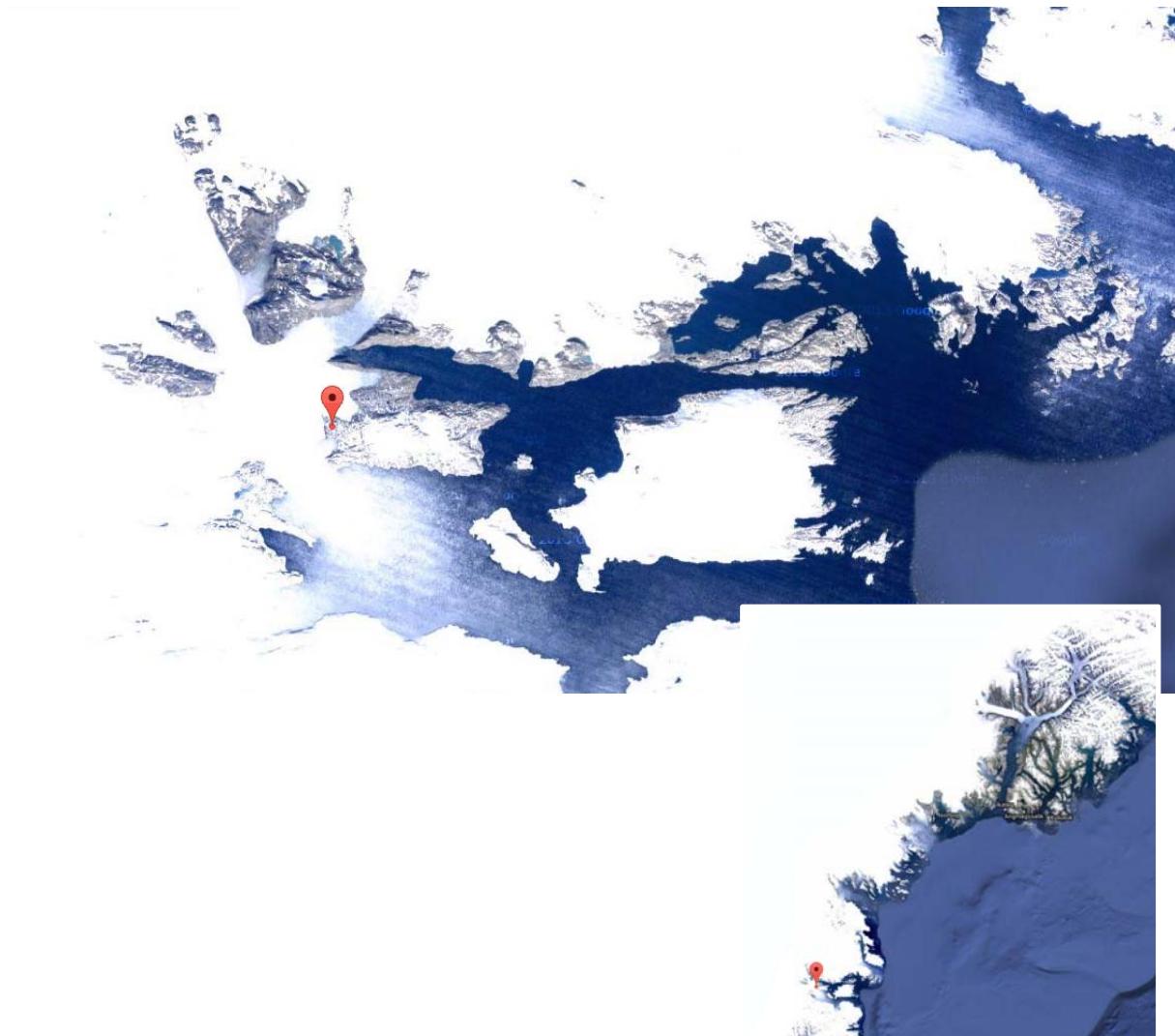
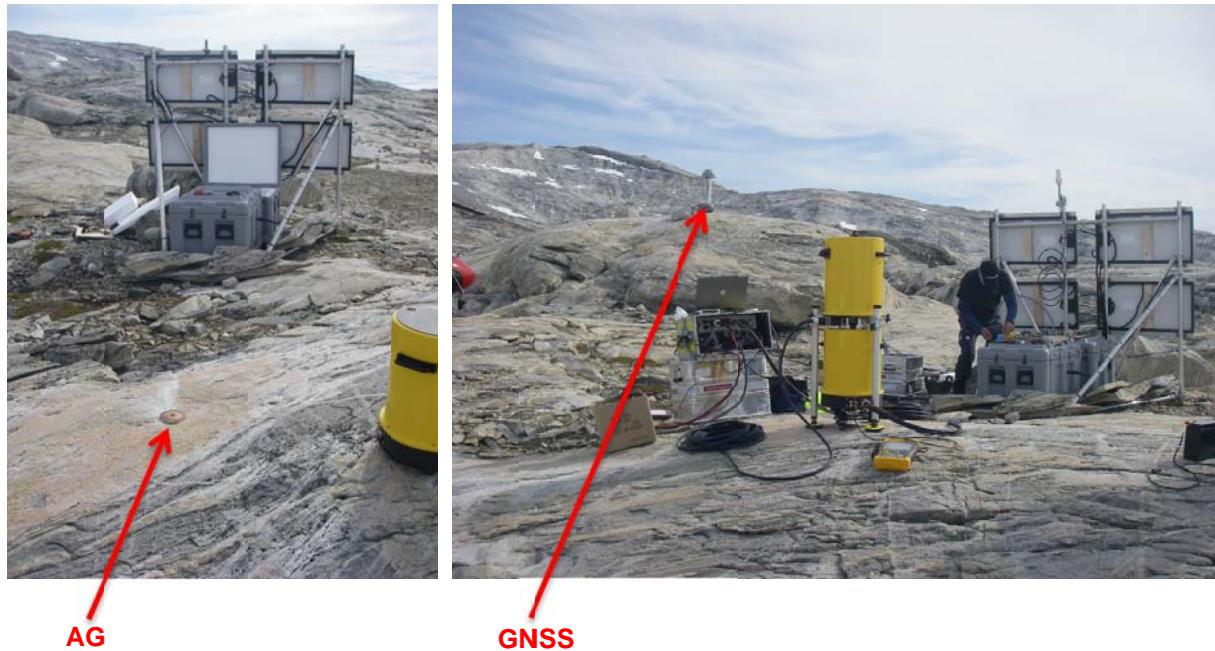
Absolute gravity point description.

Location/Code:	Trefoldighedens Ø GNET GNSS site / TREO		
Lat:	64.277069	Long:	-41.375075

g [μ Gal] @ 0m:	982 132 043 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point next to the permanent GNET GNSS antenna, named TREO established in August 2010. Gradient not measured, free-air gradient used. Measured with BKGs A10-002.
Point marked with a plate.





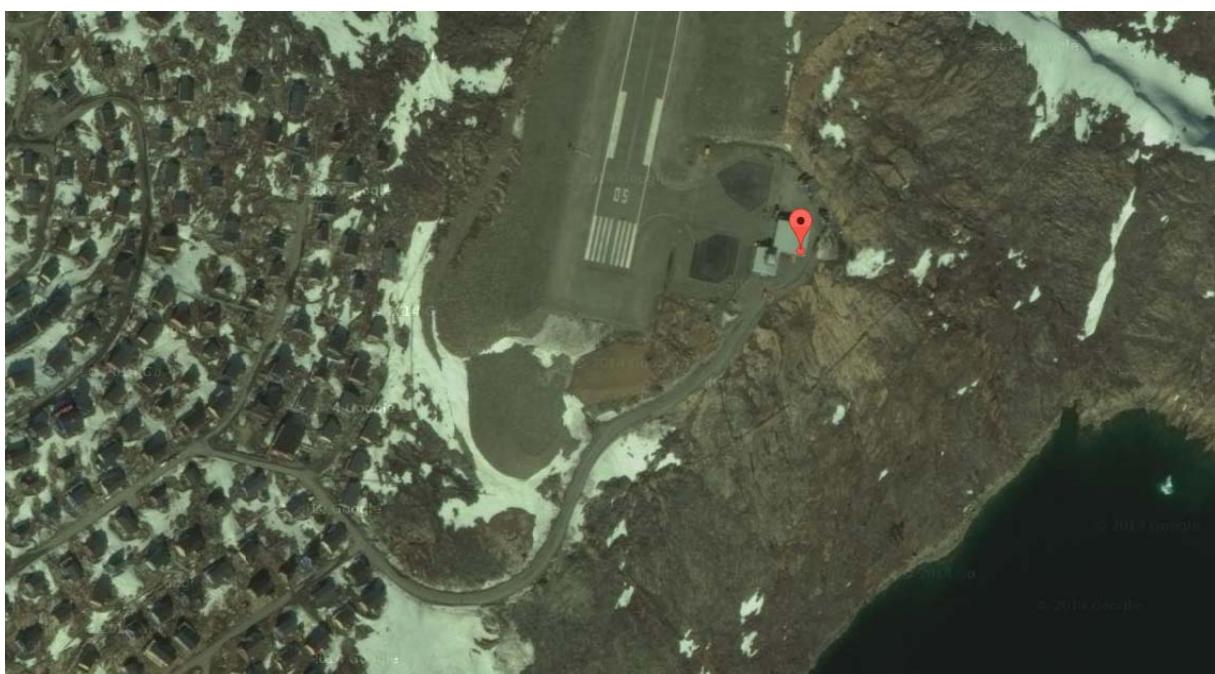
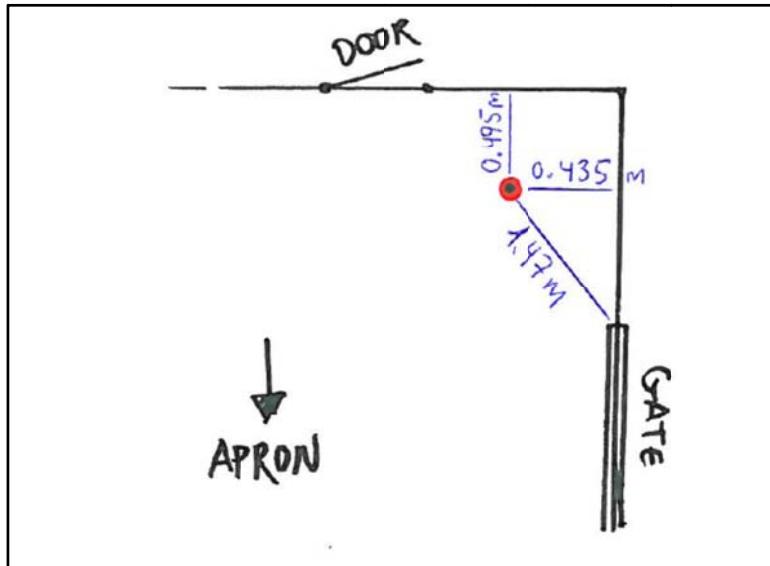
Absolute gravity point description.

Location/Code:	Upernavik Airport / UPAI		
Lat:	72.786890	Long:	-56.129220

g [μGal] @ 0m:	982 711 043 +/- 11	dg/dh [μGal/m]:	-308.6
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Description: Point in garage of Upernavik Airport. Established in May 2010. Gradient not measured, the free-air gradient is used. Point is marked with a bolt.





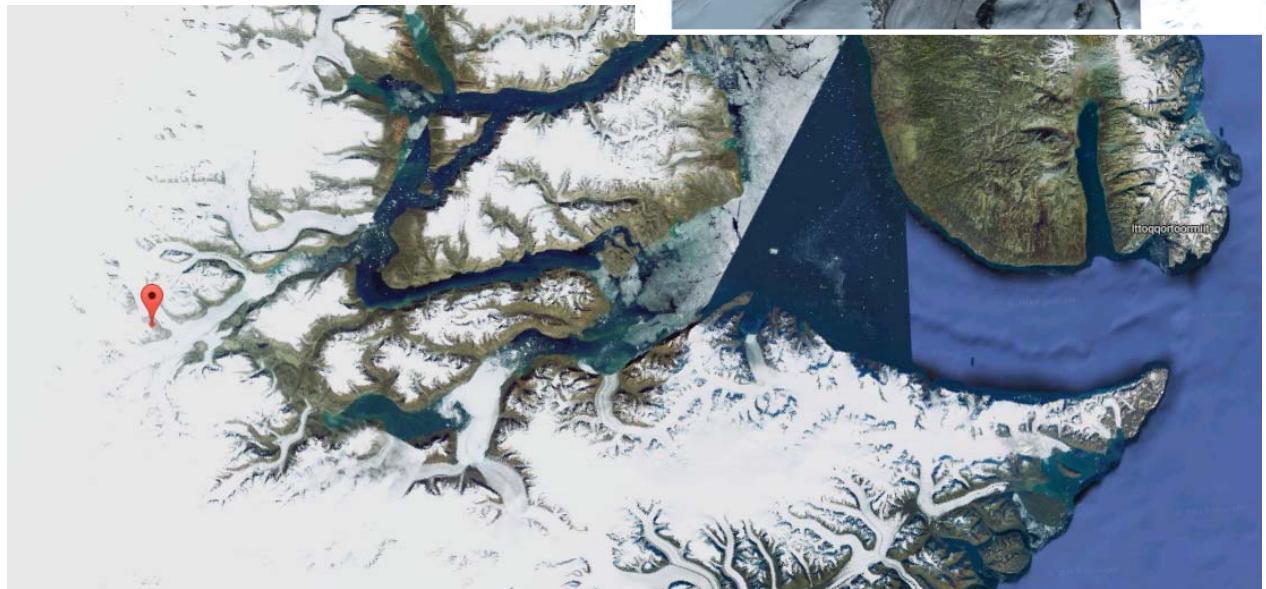
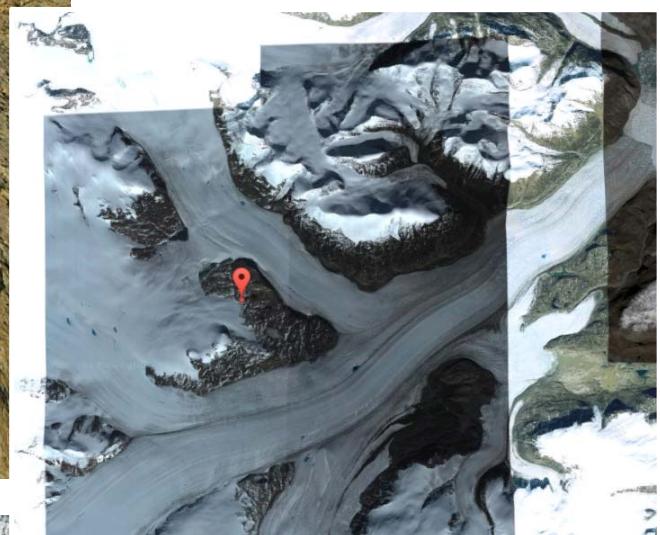
Absolute gravity point description.

Location/Code:	Vestfjord gletscher GNET GNSS site / VFDG		
Lat:	70.29922	Long:	-29.81764

g [μ Gal] @ 0m:	982 237 586 +/- 11	dg/dh [μ Gal/m]:	-308.6
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Description:
Point at Vestfjord gletscher GNET station. First visited in July 2017. Gradient is not determined, free-air gradient used.
Point marked with a KMS bronze plate.





Absolute gravity point description.

Location/Code:	Waltershausen gletscher / WTHG		
Lat:	73.955278	Long:	-24.308889

g [μ Gal] @ 0m:	982 558 088 +/- 30	dg/dh [μ Gal/m]:	-308.6
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Description:
Point near the permanent GNET GNSS station at Waltershausen gletscher. First measured in August 2017. Short measurement due to instrument problems, therefore the increased uncertainty.
Point marked with a KMS bronze plate.





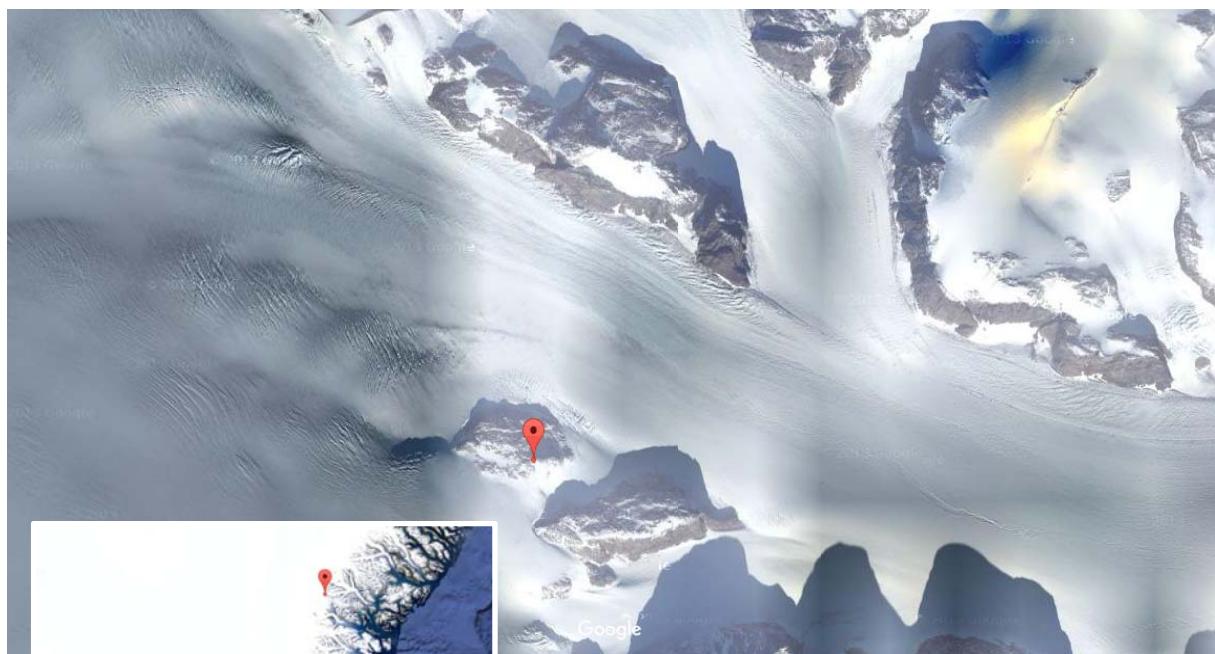
Absolute gravity point description.

Location/Code:	Upper Timmiarmiut GNET GNSS site / UTMG		
Lat:	62.927205	Long:	-43.306418

g [μGal] @ 0m:	981 758 450 +/- 11	dg/dh [μGal/m]:	-308.6
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Description:
Point next to the permanent GNET GNSS antenna, named UTMG established in August 2010. Gradient not measured, free-air gradient used. Measured with BKGs A10-002.
Point marked with a bolt.





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