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Principal facts for gravity stations in Hampden and  
Hampshire Counties, southwest Massachusetts

By  
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This report is preliminary and has not been edited or  
reviewed for conformity with U.S. Geological Survey  
standards and nomenclature. Any use of trade names is  
for descriptive purposes only and does not imply  
endorsement by the U.S. Geological Survey.

## Explanation

Principal facts for 314 gravity measurements, recorded in eight 1:24,000-scale quadrangles located in southwestern Massachusetts (fig. 1) are reported here. These new measurements were made in August of 1985 as part of ongoing geophysical and geologic investigations of the Mesozoic age Hartford Basin of Massachusetts and Connecticut. The goal of this investigation was to further delineate the basin boundaries and to enable computer modelling of selected gravity profiles to be completed.

Gravity observations were made using LaCoste and Romberg gravity meter G-159, at bench marks and spot elevations given on U.S. Geological Survey 1:24,000-scale topographic quadrangle maps. The accuracy of elevations based on bench marks is assumed to be  $\pm 0.5$  feet. For spot elevations, the accuracy is  $\pm 3$  feet (national map accuracy standards, unpublished, 1980). At a reduction density of 2.67 g/cc, this elevation uncertainty is equivalent to a maximum Bouguer gravity uncertainty of  $\pm 0.18$  milligals. Station latitude and longitude were digitized directly from the topographic maps to a precision of  $\pm 0.01$  minutes.

A working base was established (fig. 2) which was directly tied to base station NC 17 at the U. S. Geological Survey, Reston, Va. (location map fig. 3). Base NC 17 has an adopted gravity value of 980084.05 milligals, determined from a tie to base station "Washington C" (IGB 11687c, 980103.63 milligals; Morelli, 1974, p.45) at the Department of Commerce Building on 14th Street, NW, Washington, DC.

Computer programs existing on the USGS Digital Equipment Corporation VAX 11-780 computer system were used to obtain principal facts and terrain-corrected gravity values. A program written by D. Daniels (USGS, unpub. program, 1985) was used to reduce gravity-meter readings to observed-gravity values by calculating and correcting for earth-tide and linear instrument-drift. The theoretical gravity value was calculated using the 1967 formula of the Geodetic Reference System (International Association of Geodesy, 1971).

Terrain corrections were computed using a program by R. H. Godson (USGS, unpub. program, 1978), correcting for the gravity effects from each station to a radius of 166.7 km away from each station using the method of Plouff (1977). This program also calculates earth-curvature corrections and complete (terrain-corrected) Bouguer-gravity anomaly values. These computed-terrain corrections use mean-elevation data digitized on a 30-second grid for corrections from 0 to 5 km, 1-minute terrain data for corrections from 5 to 21 km, and 3-minute terrain data for corrections from 21 to 166.7 km. A density of 2.67 g/cc was used to calculate terrain corrections, giving the corrections and gravity anomaly values listed in Appendix 1.

#### Selected References

- International Association of Geodesy, 1971, Geodetic reference system 1967: International Association of Geodesy Special Publication No. 3, 116 p.
- Morelli, C., (ed.) 1974, The international gravity standardized net 1971 [IGSN 71]: International Association of Geodesy Special Publication No. 4, 194 p.
- Plouff, Donald, 1977, Preliminary documentation for a FORTRAN program to compute gravity terrain corrections based on topography digitized on a geographic grid: U.S. Geological Survey Open-File Report 77-535.

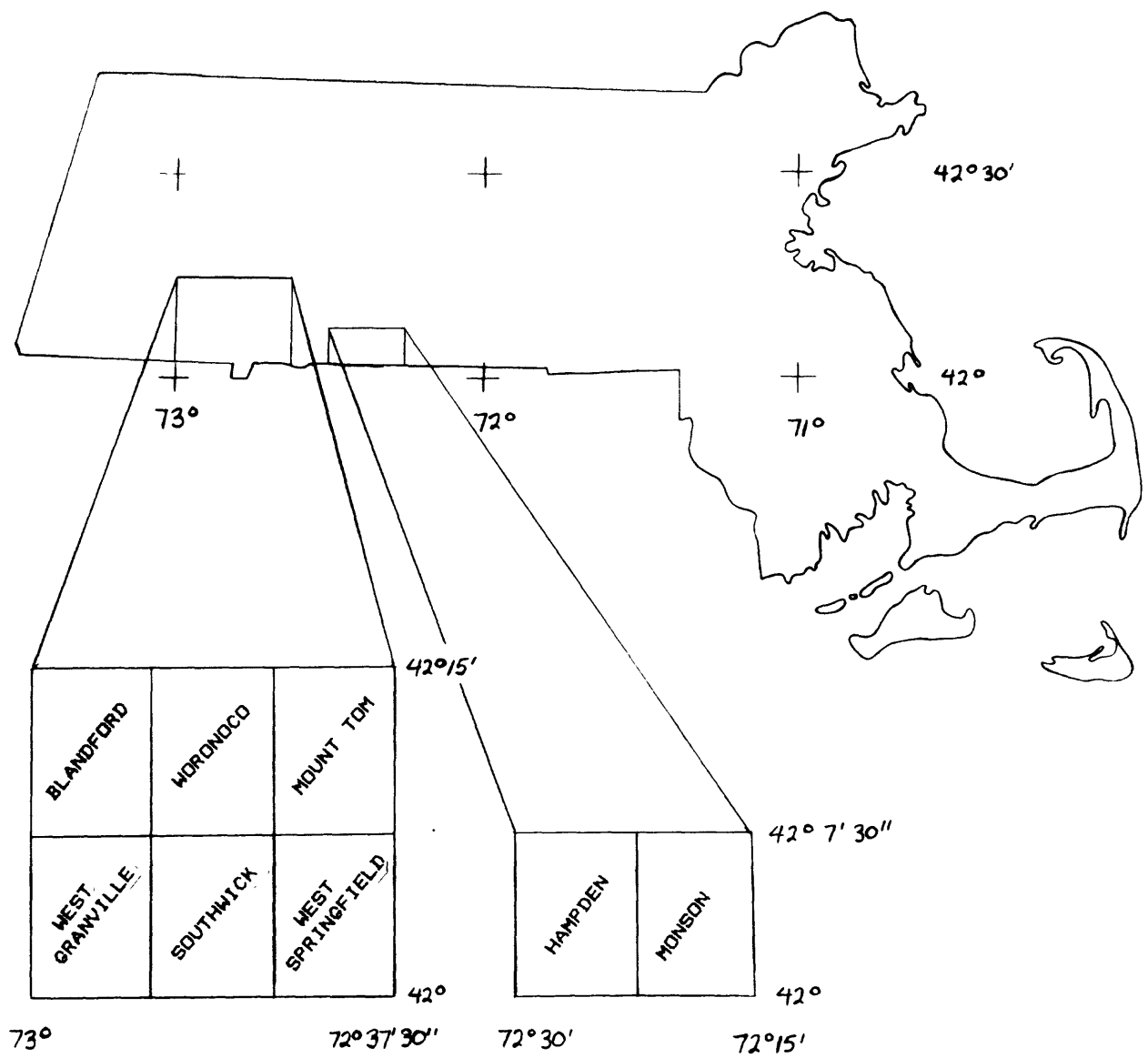


Fig. 1 Location of study area in state of Massachusetts.

# U. S. Geological Survey Gravity Base Station

State: Massachusetts  
Station name: WSPBASE  
Observed gravity: 980344.39 mGals  
Elevation: 122 feet  
Latitude:  $42^{\circ} 4.03'$   
Longitude:  $72^{\circ} 37.90'$   
Nearest town: West Springfield, Massachusetts

Date	Observer	Meter	Reference Base	Calculated Value
8/14/85	Bond	G-159	NC 17	980,344.28 mGals
8/26/85	Bond	G-159	NC 17	980,344.49 mGals

Description: Base is located in West Springfield quadrangle, approximately 2.5 miles south of the city center of West Springfield, Massachusetts, along state route 75 (also known as Suffield St.) at the intersection of Mill St. The station is on the northeast side of the intersection, on the asphalt sidewalk, 2 feet north of the north curb of Mill St. and 2 feet east of the east curb of Suffield St.

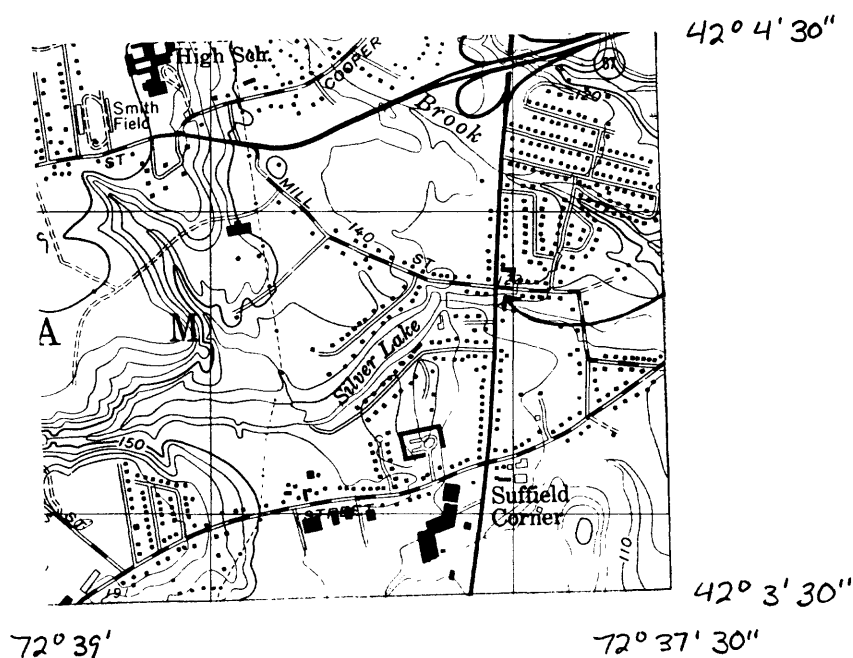


Fig. 2 Location of WSPBASE gravity base in West Springfield, Massachusetts.

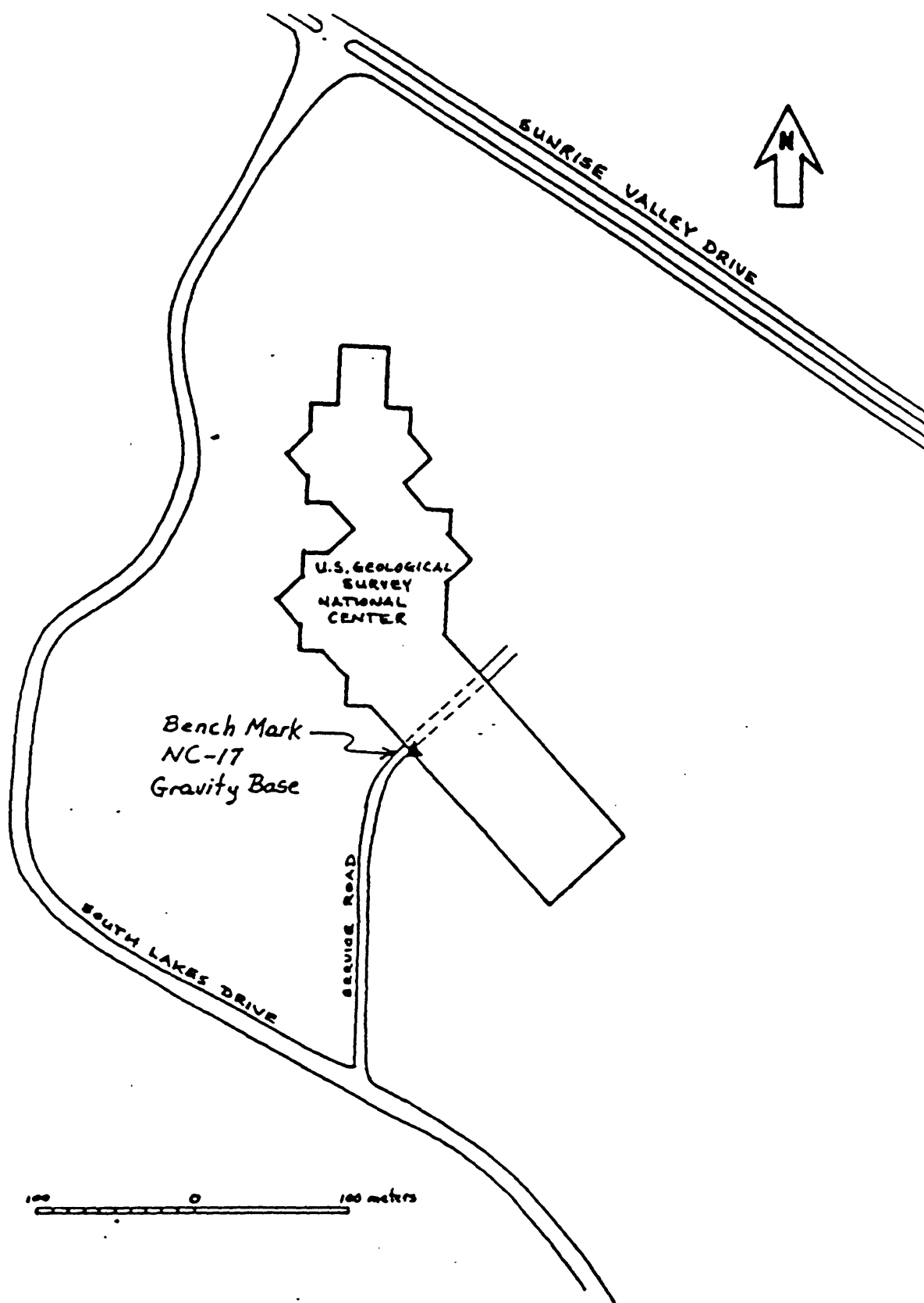


Fig. 3 Location of gravity base station NC-17 at the U.S. Geological Survey National Center in Reston, Virginia.

## Appendix A: Principal facts of gravity data

### Explanation of headings

#### Identification

station id	Gravity station identification number.
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#### Location

latitude	North latitude in degrees, decimal minutes.
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longitude	West longitude in degrees, decimal minutes.
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elev	Station elevation in feet.
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#### Gravity

observed gravity	Observed gravity in milligals.
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#### Corrections

Terrain	Terrain correction, 166.7 km radius, in milligals.
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Bouguer	Simple Bouguer slab correction in milligals.
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curv	Curvature correction in milligals.
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#### Anomalies

free-air	Free-air anomaly in milligals.
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complete-Bouguer	Complete Bouguer anomaly in milligals for density 2.67 g/cc.
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## Hartford Basin - southern Massachusetts

STATION ID	-----LOCATIONS-----			OBSERVED GRAVITY (mgals)	-CORRECTIONS-		---ANOMALIES---	
	LATITUDE deg min	LONGITUDE deg min	ELEV (in ft)		TERRAIN (dens=2.67)	CURV	FREE AIR	COMPLETE BOUQUER
WSP 1	42 4.03	72 37.90	122.0	980344.39	-0.07	-0.05	1.75	-2.54
WSP 2	42 3.55	72 38.82	191.0	980340.06	-0.05	-0.08	4.62	-2.03
WSP 3	42 3.78	72 39.48	200.0	980339.61	-0.05	-0.09	4.67	-2.29
WSP 4	42 3.63	72 40.23	184.0	980341.75	-0.04	-0.08	5.52	-0.87
WSP 5	42 3.62	72 40.58	216.0	980340.00	-0.05	-0.09	6.80	-0.71
WSP 6	42 4.03	72 40.75	218.0	980340.29	-0.02	-0.10	6.67	-0.88
WSP 7	42 4.75	72 40.77	219.0	980340.61	-0.03	-0.10	6.00	-1.60
WSP 8	42 5.03	72 39.13	205.0	980340.24	-0.05	-0.09	3.90	-3.23
WSP 9	42 5.00	72 38.34	164.0	980342.65	-0.05	-0.07	2.49	-3.23
WSP10	42 5.67	72 40.95	218.0	980341.04	0.03	-0.10	4.96	-2.54
WSP11	42 4.82	72 41.68	247.0	980339.26	0.05	-0.11	7.18	-1.30
WSP12	42 3.73	72 42.60	322.0	980333.61	0.01	-0.14	10.22	-0.90
WSP13	42 4.83	72 43.40	256.0	980338.27	0.01	-0.11	7.02	-1.81
WSP14	42 5.32	72 42.83	263.0	980338.72	0.03	-0.12	7.40	-1.66
WSP15	42 6.75	72 43.23	131.0	980346.46	0.11	-0.06	0.57	-3.85
WSP16	42 7.32	72 43.10	125.0	980347.26	0.10	-0.06	-0.04	-4.26
WSP17	42 6.67	72 44.23	136.0	980347.46	0.11	-0.06	2.17	-2.42
WSP18	42 6.30	72 44.77	134.0	980348.72	0.12	-0.06	3.80	-0.71
WSP19	42 6.38	72 43.52	203.0	980341.32	-0.02	-0.09	2.76	-4.27
WSP20	42 5.50	72 44.62	202.0	980343.61	0.00	-0.09	6.28	-0.70
WSP21	42 3.55	72 43.73	219.0	980340.29	-0.02	-0.10	7.49	-0.10
WSP22	42 2.85	72 43.60	273.0	980335.80	-0.02	-0.12	9.12	-0.33
WSP23	42 1.25	72 43.63	257.0	980335.51	0.01	-0.11	9.72	0.85
WSP25	42 2.15	72 42.75	226.0	980338.51	0.00	-0.10	8.47	0.66
WSP26	42 1.63	72 42.65	269.0	980336.04	-0.02	-0.12	10.81	1.50
WSP27	42 0.73	72 42.72	246.0	980336.69	-0.01	-0.11	10.65	2.14
WSP28	42 0.72	72 42.40	229.0	980337.47	-0.03	-0.10	9.85	1.90
WSP29	42 1.33	72 42.23	216.0	980338.72	-0.04	-0.09	8.96	1.46
WSP30	42 2.48	72 42.05	205.0	980339.78	-0.03	-0.09	7.26	0.15
WSP31	42 2.92	72 39.32	184.0	980339.98	-0.05	-0.08	4.83	-1.58
WSP32	42 1.65	72 38.27	144.0	980340.56	-0.06	-0.06	3.55	-1.49
WSP33	42 0.68	72 38.55	173.0	980337.85	-0.04	-0.08	5.02	-1.00
WSP34	42 0.95	72 39.37	131.0	980340.73	-0.05	-0.06	3.55	-1.03
WSP35	42 0.50	72 37.78	188.0	980336.07	0.04	-0.08	4.92	-1.53
WSP36	42 0.52	72 39.80	133.0	980339.97	-0.05	-0.06	3.62	-1.03
WSP37	42 1.00	72 41.55	235.0	980336.80	-0.03	-0.10	9.32	1.17
WSP38	42 2.30	72 41.12	206.0	980338.77	-0.06	-0.09	6.62	-0.56
WSP39	42 3.07	72 40.62	228.0	980338.53	-0.04	-0.10	7.29	-0.63
WSP40	42 1.90	72 40.27	200.0	980338.97	-0.05	-0.09	6.85	-0.11
WSP41	42 1.42	72 39.80	181.0	980338.24	-0.06	-0.08	5.05	-1.26
SOU 1	42 6.53	72 47.03	263.0	980344.83	0.11	-0.12	11.70	2.72
SOU 2	42 6.98	72 47.25	253.0	980346.42	0.13	-0.11	11.66	3.05
SOU 3	42 6.95	72 48.02	200.0	980350.85	0.23	-0.09	11.15	4.47
SOU 4	42 6.95	72 50.27	496.0	980338.51	1.12	-0.21	26.66	10.65
SOU 5	42 6.13	72 51.37	626.0	980329.80	0.91	-0.27	31.40	10.69
SOU 6	42 6.52	72 52.02	810.0	980319.89	0.56	-0.34	38.21	10.81
SOU 7	42 5.47	72 50.68	737.0	980322.83	0.52	-0.31	35.86	10.93
SOU 8	42 5.60	72 51.22	675.0	980326.11	0.46	-0.29	33.11	10.26
SOU 9	42 4.80	72 51.38	647.0	980327.67	0.58	-0.27	33.24	11.48
SOU10	42 4.07	72 51.53	685.0	980325.79	0.44	-0.29	36.03	12.82
SOU11	42 3.48	72 51.53	640.0	980327.29	0.56	-0.27	34.18	12.64
SOU12	42 2.93	72 51.03	809.0	980316.66	0.52	-0.34	40.27	12.86
SOU13	42 3.05	72 50.28	725.0	980321.23	0.49	-0.31	36.76	12.22
SOU14	42 2.23	72 50.88	671.0	980323.59	0.35	-0.28	35.27	12.45
SOU15	42 1.17	72 50.48	452.0	980334.87	0.22	-0.19	27.55	12.15
SOU16	42 0.07	72 50.08	327.0	980342.20	0.40	-0.14	24.77	13.88
SOU17	42 0.05	72 51.52	586.0	980327.01	0.48	-0.25	33.97	14.21
SOU18	42 0.27	72 50.52	356.0	980340.19	0.46	-0.15	25.18	13.35
SOU19	42 0.95	72 50.90	418.0	980337.15	0.33	-0.18	26.96	12.85
SOU20	42 1.93	72 52.20	635.0	980325.93	0.70	-0.27	34.68	13.45
SOU21	42 2.27	72 52.50	840.0	980316.11	0.61	-0.35	43.62	15.23
SOU22	42 3.73	72 45.95	265.0	980340.29	0.06	-0.12	11.54	2.44
SOU23	42 4.33	72 45.97	250.0	980341.71	0.11	-0.11	10.65	2.12
SOU24	42 4.67	72 46.15	248.0	980342.48	0.13	-0.11	10.72	2.29
SOU25	42 5.40	72 45.82	245.0	980342.20	0.04	-0.11	9.07	0.64



## Hartford Basin - southern Massachusetts

STATION ID	-----LOCATIONS-----			OBSERVED GRAVITY (mgals)	-CORRECTIONS-		---ANOMALIES---	
	LATITUDE deg min	LONGITUDE deg min	ELEV (in ft)		TERRAIN (dens=2.67)	CURV	FREE AIR	COMPLETE BOUQUER
SOU26	42 5.12	72 46.48	258.0	980343.00	0.12	-0.11	11.50	2.71
SOU27	42 5.53	72 46.62	259.0	980343.32	0.10	-0.11	11.31	2.46
SOU28	42 5.82	72 46.75	259.0	980344.01	0.11	-0.11	11.56	2.72
SOU29	42 5.00	72 47.60	397.0	980336.35	0.12	-0.17	18.10	4.51
SOU30	42 5.67	72 47.88	366.0	980339.44	0.15	-0.16	17.28	4.79
SOU31	42 6.50	72 48.38	240.0	980348.94	0.26	-0.11	13.68	5.65
SOU32	42 5.75	72 49.38	333.0	980344.71	0.87	-0.14	19.32	8.69
SOU33	42 5.00	72 48.90	245.0	980348.17	0.49	-0.11	15.63	7.66
SOU34	42 4.15	72 48.72	344.0	980340.75	0.25	-0.15	18.80	7.17
SOU35	42 3.83	72 48.42	407.0	980335.63	0.16	-0.18	20.08	6.18
SOU36	42 3.67	72 49.23	301.0	980343.74	0.92	-0.13	18.47	8.99
SOU37	42 2.68	72 49.57	383.0	980338.68	0.59	-0.17	22.61	9.97
SOU38	42 1.88	72 49.43	393.0	980336.98	0.19	-0.17	23.04	9.65
SOU39	42 0.35	72 49.42	386.0	980335.48	0.18	-0.17	23.18	10.03
SOU40	42 2.58	72 48.37	425.0	980332.94	0.20	-0.18	20.96	6.48
SOU41	42 3.08	72 48.17	301.0	980340.72	0.18	-0.13	16.33	6.11
SOU42	42 4.27	72 47.85	485.0	980332.36	0.21	-0.21	23.50	6.96
SOU43	42 3.68	72 47.32	344.0	980336.80	0.14	-0.15	15.55	3.81
SOU44	42 3.28	72 46.22	244.0	980341.26	0.08	-0.11	11.21	2.86
SOU45	42 2.83	72 46.90	263.0	980340.79	0.08	-0.12	13.20	4.19
SOU46	42 1.53	72 47.22	273.0	980338.81	0.07	-0.12	14.12	4.76
SOU47	42 1.17	72 46.55	258.0	980338.61	0.03	-0.11	13.04	4.16
SOU48	42 0.57	72 45.50	263.0	980336.58	0.01	-0.12	12.38	3.31
SOU49	42 0.18	72 46.03	258.0	980335.25	0.03	-0.11	11.16	2.28
SOU50	42 0.02	72 45.25	276.0	980336.21	0.03	-0.12	14.05	4.55
SOU51	42 0.85	72 46.68	243.0	980339.38	0.04	-0.11	12.88	4.52
SOU52	42 0.68	72 48.37	387.0	980333.04	0.11	-0.17	20.34	7.08
SOU53	42 1.55	72 48.35	401.0	980333.27	0.11	-0.17	20.58	6.84
SOU54	42 2.67	72 47.58	288.0	980339.90	0.11	-0.13	14.91	5.07
SOU55	42 0.68	72 47.75	260.0	980339.93	0.18	-0.11	15.29	6.49
SOU56	42 0.08	72 47.72	244.0	980340.02	0.13	-0.11	14.77	6.47
TAR 1	41 59.92	72 48.55	280.0	980338.55	0.12	-0.12	16.93	7.38
WEG 1	42 5.32	72 53.72	1200.0	980297.69	0.66	-0.49	54.49	13.73
WEG 2	42 6.45	72 54.07	1173.0	980299.55	0.63	-0.48	52.11	12.25
WEG 3	42 6.85	72 54.23	1024.0	980308.26	0.45	-0.42	46.21	11.31
WEG 4	42 7.32	72 55.08	1227.0	980296.04	0.69	-0.50	52.37	10.72
WEG 5	42 7.27	72 55.95	1213.0	980293.51	0.52	-0.49	48.59	7.25
WEG 6	42 4.03	72 52.83	1043.0	980304.75	0.61	-0.43	48.72	13.32
WEG 7	42 6.08	72 53.18	1178.0	980298.19	0.75	-0.48	51.77	11.86
WEG 8	42 4.44	72 54.28	1125.0	980300.88	0.52	-0.46	51.94	13.63
WEG 9	42 4.60	72 55.87	1335.0	980287.26	0.78	-0.54	57.83	12.54
WEG10	42 4.67	72 56.70	1190.0	980291.77	0.45	-0.48	48.60	7.98
WEG11	42 5.15	72 56.88	1240.0	980288.74	0.48	-0.50	49.56	7.24
WEG12	42 5.45	72 56.85	1287.0	980286.40	0.50	-0.52	51.18	7.26
WEG13	42 6.12	72 57.05	1324.0	980285.83	0.55	-0.53	53.09	7.94
WEG14	42 7.38	72 57.10	1134.0	980299.36	0.42	-0.46	46.86	8.14
BLA 1	42 7.57	72 57.68	1251.0	980290.18	0.47	-0.51	48.40	5.69
WEG15	42 6.72	72 58.60	1391.0	980284.51	0.67	-0.56	57.16	9.83
WEG16	42 6.78	72 59.33	1398.0	980280.90	0.66	-0.56	54.13	6.54
WEG17	42 4.88	72 59.83	1394.0	980276.65	0.59	-0.56	52.34	4.83
WEG18	42 4.60	72 57.65	1326.0	980282.49	0.67	-0.53	52.21	7.12
WEG19	42 4.69	72 58.27	1113.0	980295.04	0.71	-0.46	44.60	6.89
WEG20	42 3.67	72 58.25	1182.0	980289.45	0.47	-0.48	47.03	6.70
WEG21	42 3.67	72 59.48	1428.0	980273.25	0.85	-0.57	53.96	5.54
WEG22	42 3.08	72 58.33	1181.0	980288.73	0.47	-0.48	47.10	6.81
WEG23	42 2.28	72 58.00	1295.0	980280.52	0.75	-0.52	50.81	6.87
WEG24	42 1.52	72 58.03	1230.0	980284.08	0.61	-0.50	49.39	7.55
WEG25	42 0.93	72 58.18	1233.0	980283.45	0.69	-0.50	49.93	8.07
WSP42	42 6.40	72 38.78	204.3	980341.55	0.01	-0.09	3.09	-3.96
WSP43	42 6.33	72 39.48	175.5	980343.92	-0.05	-0.08	2.85	-3.26
WSP44	42 6.25	72 40.20	223.6	980341.21	0.03	-0.10	4.78	-2.91
WSP45	42 6.43	72 40.93	132.3	980347.69	0.00	-0.06	2.41	-2.16
WSP46	42 6.47	72 42.25	133.8	980345.82	0.14	-0.06	0.62	-3.86
WSP47	42 6.87	72 42.85	119.1	980347.92	0.12	-0.05	0.73	-3.26
WEG26	42 0.45	72 58.28	1158.0	980287.80	0.62	-0.47	47.95	8.60

## Hartford Basin - southern Massachusetts

STATION ID	-----LOCATIONS-----			OBSERVED GRAVITY (mgals)	-CORRECTIONS-		---ANOMALIES---	
	LATITUDE deg min	LONGITUDE deg min	ELEV (in ft)		TERRAIN	CURV	FREE AIR	COMPLETE BOUQUER
WEG27	42 0.20	72 58.43	1194.0	980285.15	0.75	-0.49	49.06	8.60
WEG28	42 0.87	72 59.03	1122.0	980289.54	0.47	-0.46	45.68	7.42
WEG29	42 0.83	72 59.35	1110.0	980290.30	0.42	-0.45	45.37	7.48
WEG30	42 1.27	72 59.55	1132.0	980289.02	0.43	-0.46	45.49	6.85
WEG40	42 1.16	72 57.10	1147.0	980290.84	1.21	-0.47	48.89	10.51
WEG41	42 1.87	72 55.55	627.0	980326.43	0.97	-0.27	34.52	13.83
WEG42	42 0.43	72 54.55	1161.0	980294.83	0.63	-0.47	55.30	15.85
WEG43	42 0.70	72 52.58	806.0	980316.11	0.63	-0.34	42.78	15.58
WEG44	42 0.78	72 53.57	1000.0	980305.26	0.57	-0.41	50.06	16.11
WEG45	42 2.02	72 54.00	1218.0	980292.78	0.91	-0.49	56.22	15.09
WEG46	42 2.25	72 52.98	993.0	980305.80	0.61	-0.41	47.73	14.06
WEG47	42 2.68	72 53.40	1156.0	980296.22	0.86	-0.47	52.84	13.80
WEG48	42 3.40	72 53.45	1129.0	980299.02	0.68	-0.46	52.02	13.73
MOU 1	42 8.25	72 43.20	227.0	980341.36	0.00	-0.10	2.25	-5.59
MOU 2	42 8.88	72 42.00	251.0	980339.54	0.05	-0.11	1.75	-6.88
MOU 3	42 10.25	72 41.43	263.0	980338.73	0.13	-0.12	0.01	-8.95
MOU 4	42 9.60	72 43.60	262.0	980340.71	0.03	-0.11	2.87	-6.15
MOU 5	42 8.72	72 43.42	252.0	980341.18	0.05	-0.11	3.72	-4.94
MOU 6	42 8.58	72 41.07	322.0	980336.16	0.02	-0.14	5.49	-5.61
MOU 7	42 9.12	72 40.33	264.0	980339.53	0.06	-0.12	2.60	-6.46
MOU 8	42 9.30	72 39.91	353.0	980334.51	0.07	-0.15	5.69	-6.44
MOU 9	42 9.28	72 39.20	291.0	980337.89	0.01	-0.13	3.26	-6.79
MOU10	42 8.87	72 38.91	258.0	980338.74	0.01	-0.11	1.62	-7.28
MOU11	42 8.62	72 38.08	168.0	980343.86	-0.03	-0.07	-1.35	-7.18
MOU12	42 11.28	72 37.90	258.0	980338.45	0.07	-0.11	-2.29	-11.13
MOU13	42 12.65	72 37.87	266.0	980339.79	0.14	-0.12	-2.25	-11.30
MOU14	42 12.73	72 38.62	483.0	980326.78	0.28	-0.21	5.03	-11.37
MOU15	42 11.65	72 38.84	426.0	980329.97	0.12	-0.18	4.47	-10.12
MOU16	42 10.98	72 38.97	307.0	980336.89	0.02	-0.13	1.21	-9.38
MOU17	42 8.77	72 37.80	64.0	980350.51	0.04	-0.03	-4.71	-6.88
MOU18	42 7.82	72 38.27	153.0	980345.10	-0.05	-0.07	-0.32	-5.66
MOU19	42 7.88	72 39.16	225.0	980341.16	-0.03	-0.10	2.42	-5.39
MOU20	42 8.53	72 39.91	275.0	980339.00	-0.01	-0.12	3.99	-5.52
MOU21	42 9.95	72 40.12	316.0	980336.97	0.05	-0.14	3.68	-7.18
WSP48	42 7.02	72 38.22	160.0	980345.01	-0.06	-0.07	1.45	-4.14
WSP49	42 7.47	72 40.08	228.0	980341.17	-0.04	-0.10	3.33	-4.59
WSP50	42 7.13	72 40.62	230.0	980341.10	-0.03	-0.10	3.95	-4.02
MOU22	42 7.70	72 40.55	244.0	980340.28	-0.02	-0.11	3.60	-4.85
MOU23	42 8.17	72 40.50	249.0	980340.11	0.00	-0.11	3.20	-5.40
WSP51	42 6.82	72 39.80	254.0	980339.27	0.05	-0.11	4.85	-3.87
WSP52	42 7.13	72 44.42	134.0	980348.05	0.09	-0.06	1.87	-2.67
HAM 1	42 3.22	72 29.63	260.0	980323.41	0.00	-0.11	-5.05	-14.03
HAM 2	42 2.72	72 29.07	229.0	980323.72	0.01	-0.10	-6.90	-14.80
HAM 3	42 1.58	72 28.03	241.0	980321.74	0.02	-0.11	-6.04	-14.35
HAM 4	42 1.25	72 28.07	204.0	980323.36	0.03	-0.09	-7.41	-14.43
HAM 5	42 0.70	72 28.95	253.0	980319.03	0.00	-0.11	-6.30	-15.04
HAM 6	42 0.35	72 29.22	250.0	980317.97	0.00	-0.11	-7.12	-15.76
HAM 7	42 0.20	72 28.70	216.0	980319.47	0.01	-0.09	-8.59	-16.05
HAM 8	42 2.00	72 29.53	284.0	980320.79	-0.01	-0.12	-3.58	-13.40
HAM10	42 2.11	72 27.72	252.0	980322.11	0.03	-0.11	-5.43	-14.11
HAM11	42 1.90	72 27.37	212.0	980324.14	0.08	-0.09	-6.85	-14.09
HAM12	42 1.53	72 27.20	236.0	980322.30	0.08	-0.10	-5.88	-13.95
HAM13	42 0.97	72 26.92	216.0	980323.96	0.13	-0.09	-5.26	-12.60
HAM14	42 0.55	72 27.30	203.0	980323.09	0.09	-0.09	-6.72	-13.64
HAM15	42 0.52	72 26.40	249.0	980322.54	0.25	-0.11	-2.90	-11.26
HAM16	42 1.15	72 26.22	304.0	980321.85	0.26	-0.13	0.63	-9.61
HAM17	42 1.60	72 25.62	461.0	980316.02	0.34	-0.20	8.89	-6.69
HAM18	42 0.97	72 23.95	752.0	980299.39	0.31	-0.32	20.58	-5.08
HAM19	42 0.50	72 23.68	814.0	980296.05	0.41	-0.34	23.77	-3.92
HAM20	42 0.92	72 24.50	674.0	980303.72	0.31	-0.29	17.65	-5.31
HAM21	42 0.75	72 24.90	568.0	980310.03	0.40	-0.24	14.24	-4.97
HAM22	42 1.80	72 23.53	541.0	980312.58	0.43	-0.23	12.69	-5.57
HAM23	42 3.67	72 22.52	534.0	980320.77	0.23	-0.23	17.41	-0.80
HAM24	42 3.70	72 22.97	566.0	980317.76	0.26	-0.24	17.36	-1.92
HAM25	42 3.70	72 23.73	357.0	980328.10	0.29	-0.16	8.05	-3.99

## Hartford Basin - southern Massachusetts

STATION ID	-----LOCATIONS-----			OBSERVED GRAVITY (mgals)	-CORRECTIONS-		---ANOMALIES---	
	LATITUDE deg min	LONGITUDE deg min	ELEV (in ft)		TERRAIN (dens=2.67)	CURV	FREE AIR	COMPLETE BOUGUER
HAM26	42 3.83	72 24.27	325.0	980330.12	0.36	-0.14	6.87	-4.00
HAM27	42 3.17	72 26.37	255.0	980328.52	0.24	-0.11	-0.33	-8.90
HAM28	42 2.85	72 27.52	227.0	980324.61	0.06	-0.10	-6.39	-14.18
HAM29	42 3.40	72 27.52	228.0	980325.68	0.06	-0.10	-6.05	-13.87
HAM30	42 3.42	72 28.03	230.0	980324.86	0.01	-0.10	-6.72	-14.65
HAM40	42 1.92	72 26.60	266.0	980323.47	0.16	-0.12	-2.47	-11.50
HAM41	42 3.50	72 26.43	249.0	980328.63	0.18	-0.11	-1.28	-9.70
HAM42	42 4.38	72 27.53	237.0	980326.26	0.04	-0.10	-6.10	-14.25
HAM43	42 4.78	72 29.23	278.0	980324.68	-0.02	-0.12	-4.42	-14.04
HAM44	42 4.82	72 28.72	224.0	980327.60	0.03	-0.10	-6.64	-14.35
HAM45	42 6.18	72 27.58	253.0	980327.89	0.00	-0.11	-5.67	-14.41
HAM46	42 6.83	72 27.42	269.0	980327.75	-0.01	-0.12	-5.28	-14.58
HAM47	42 5.67	72 27.20	251.0	980327.01	0.04	-0.11	-5.96	-14.59
HAM48	42 5.50	72 28.13	253.0	980326.49	-0.01	-0.11	-6.05	-14.80
WSP53	42 6.08	72 38.18	98.4	980348.12	-0.04	-0.04	0.18	-3.26
HAM49	42 4.03	72 28.92	284.0	980323.14	-0.01	-0.12	-4.27	-14.09
HAM50	42 6.90	72 29.93	227.0	980330.13	-0.05	-0.10	-6.95	-14.84
HAM51	42 7.43	72 25.82	290.0	980330.51	0.17	-0.13	-1.44	-11.29
HAM52	42 6.68	72 26.15	271.0	980329.47	0.15	-0.12	-3.14	-12.35
HAM53	42 5.33	72 26.10	344.0	980324.24	0.20	-0.15	0.52	-11.16
HAM54	42 4.17	72 26.10	309.0	980327.03	0.24	-0.13	1.76	-8.67
HAM55	42 4.17	72 24.85	395.0	980327.21	0.16	-0.17	10.03	-3.45
HAM56	42 4.57	72 25.02	540.0	980318.66	0.21	-0.23	14.51	-3.92
HAM57	42 5.08	72 25.20	697.0	980307.77	0.55	-0.30	17.62	-5.90
HAM58	42 5.58	72 25.48	499.0	980317.67	0.28	-0.21	8.15	-8.80
HAM59	42 5.63	72 24.75	616.0	980312.90	0.25	-0.26	14.31	-6.71
HAM60	42 6.72	72 24.18	582.0	980316.41	0.26	-0.25	12.99	-6.85
HAM61	42 6.67	72 24.73	763.0	980305.40	0.74	-0.32	19.08	-6.53
HAM62	42 6.80	72 25.43	463.0	980321.43	0.31	-0.20	6.70	-8.98
HAM63	42 6.73	72 23.40	656.0	980311.10	0.18	-0.28	14.62	-7.85
HAM64	42 7.10	72 22.83	630.0	980312.51	0.18	-0.27	13.03	-8.55
HAM65	42 4.82	72 23.62	483.0	980320.86	0.18	-0.21	10.98	-5.53
MON 1	42 5.80	72 21.92	692.0	980312.72	0.29	-0.29	21.02	-2.58
MON 2	42 6.18	72 21.53	692.0	980314.33	0.21	-0.29	22.06	-1.62
MON 3	42 6.47	72 22.47	729.0	980307.70	0.26	-0.31	18.48	-6.44
MON 4	42 6.60	72 21.60	681.0	980313.82	0.26	-0.29	19.89	-3.37
MON 5	42 7.08	72 21.88	614.0	980316.90	0.19	-0.26	15.95	-5.07
MON 6	42 6.97	72 21.20	504.0	980326.63	0.34	-0.22	15.50	-1.57
MON 7	42 7.35	72 20.50	749.0	980313.33	0.37	-0.32	24.67	-0.83
MON 8	42 6.45	72 20.73	721.0	980313.89	0.23	-0.30	23.94	-0.72
MON 9	42 5.87	72 20.93	852.0	980305.53	0.47	-0.36	28.77	-0.17
MON10	42 5.87	72 21.42	825.0	980307.72	0.40	-0.35	28.43	0.34
MON11	42 5.47	72 21.37	891.0	980303.65	0.50	-0.37	31.16	0.90
MON12	42 6.97	72 19.83	568.0	980325.65	0.17	-0.24	20.53	1.09
MON13	42 7.45	72 19.98	616.0	980322.16	0.17	-0.26	20.84	-0.26
MON14	42 5.07	72 19.00	467.0	980333.08	0.37	-0.20	21.32	5.56
MON15	42 4.58	72 19.33	559.0	980326.10	0.27	-0.24	23.72	4.69
MON16	42 5.20	72 17.93	678.0	980325.55	0.34	-0.29	33.44	10.37
MON17	42 5.32	72 17.40	816.0	980318.78	0.38	-0.34	39.47	11.67
MON18	42 6.35	72 17.02	880.0	980316.97	0.58	-0.37	42.12	12.32
MON19	42 6.83	72 16.82	837.0	980320.77	0.44	-0.35	41.16	12.70
MON20	42 7.32	72 16.82	687.0	980330.32	0.23	-0.29	35.87	12.38
MON21	42 7.22	72 17.67	639.0	980330.59	0.24	-0.27	31.77	9.95
MON22	42 6.57	72 18.96	364.0	980341.56	0.43	-0.16	17.86	5.72
MON23	42 5.95	72 18.57	392.0	980340.42	0.48	-0.17	20.28	7.22
MON24	42 6.85	72 17.37	724.0	980326.13	0.31	-0.31	35.87	11.18
MON25	42 7.12	72 15.53	493.0	980344.04	0.58	-0.21	31.64	15.20
MON26	42 6.05	72 16.08	665.0	980332.02	0.49	-0.28	37.41	14.94
MON27	42 4.92	72 16.42	895.0	980315.79	0.38	-0.37	44.51	13.99
MON28	42 4.94	72 15.32	1043.0	980309.92	0.50	-0.43	52.52	17.02
MON29	42 5.50	72 15.28	1007.0	980312.47	0.53	-0.42	50.84	16.61
MON30	42 4.46	72 16.57	862.0	980317.36	0.33	-0.36	43.66	14.23
MON31	42 4.19	72 16.15	952.0	980312.12	0.41	-0.40	47.29	14.84
MON32	42 4.40	72 15.40	1031.0	980309.29	0.46	-0.43	51.57	16.44
MON33	42 3.78	72 17.18	819.0	980316.91	0.27	-0.34	40.19	12.18

## Hartford Basin - southern Massachusetts

STATION ID	-----LOCATIONS-----			OBSERVED GRAVITY (mgals)	-CORRECTIONS-		---ANOMALIES---	
	LATITUDE deg min	LONGITUDE deg min	ELEV (in ft)		TERRAIN (dens=2.67)	CURV	FREE AIR	COMPLETE BOUQUER
MON34	42 4.35	72 17.87	751.0	980320.29	0.30	-0.32	36.31	10.68
MON35	42 4.71	72 18.62	529.0	980330.25	0.27	-0.23	24.86	6.86
MON36	42 4.37	72 18.62	503.0	980331.31	0.41	-0.22	23.98	7.02
MON37	42 5.63	72 18.87	414.0	980335.28	0.43	-0.18	17.69	3.82
MON38	42 5.35	72 19.93	681.0	980316.28	0.24	-0.29	24.22	0.95
MON39	42 5.67	72 19.53	701.0	980317.76	0.41	-0.30	27.10	3.31
MON40	42 5.72	72 20.32	701.0	980314.73	0.28	-0.30	24.00	0.07
MON41	42 4.07	72 20.53	833.0	980304.44	0.35	-0.35	28.60	0.19
MON42	42 3.12	72 21.13	743.0	980307.89	0.37	-0.31	25.00	-0.28
MON43	42 2.63	72 21.17	749.0	980306.83	0.39	-0.32	25.25	-0.23
MON44	42 2.30	72 21.45	638.0	980313.47	0.54	-0.27	21.95	0.45
MON45	42 2.65	72 22.48	427.0	980323.49	0.44	-0.18	11.60	-2.71
MON46	42 1.16	72 21.75	784.0	980301.02	0.48	-0.33	24.93	-1.65
MON47	42 0.68	72 21.87	807.0	980298.30	0.34	-0.34	25.10	-2.42
MON48	42 1.95	72 21.97	782.0	980303.56	0.38	-0.33	26.10	-0.52
MON49	42 1.23	72 20.35	917.0	980294.92	0.58	-0.38	31.24	0.16
MON50	42 1.92	72 20.35	834.0	980300.39	0.33	-0.35	27.87	-0.60
MON51	42 1.40	72 21.02	917.0	980297.50	0.43	-0.38	33.56	2.33
MON52	42 0.32	72 19.12	601.0	980314.60	0.20	-0.26	22.56	2.01
MON53	42 0.80	72 19.00	605.0	980316.11	0.23	-0.26	23.73	3.07
MON54	42 1.92	72 19.28	630.0	980315.66	0.25	-0.27	23.95	2.45
MON55	42 2.95	72 19.46	651.0	980315.80	0.33	-0.28	24.52	2.37
MON56	42 3.22	72 19.54	652.0	980315.74	0.42	-0.28	24.15	2.06
MON57	42 2.42	72 18.82	715.0	980314.38	0.23	-0.30	29.92	5.46
MON58	42 1.97	72 18.02	758.0	980314.50	0.28	-0.32	34.75	8.86
MON59	42 1.52	72 17.67	819.0	980310.65	0.30	-0.34	37.31	9.33
MON60	42 1.25	72 17.65	852.0	980308.22	0.37	-0.36	38.39	9.34
MON61	42 0.95	72 17.78	885.0	980304.80	0.58	-0.37	38.53	8.55
MON62	42 0.58	72 17.68	817.0	980308.01	0.29	-0.34	35.90	7.98
MON63	42 0.87	72 15.87	853.0	980309.47	0.30	-0.36	40.31	11.16
MON64	42 0.10	72 16.54	693.0	980315.28	0.27	-0.29	32.23	8.57
MON65	42 2.90	72 17.21	1018.0	980303.08	0.66	-0.42	46.39	11.91
MON66	42 3.12	72 18.03	815.0	980313.72	0.28	-0.34	37.60	9.75
MON67	42 3.57	72 18.20	833.0	980312.59	0.39	-0.35	37.50	9.13
MON68	42 4.03	72 19.00	508.0	980328.31	0.41	-0.22	21.96	4.83
MON69	42 4.35	72 19.62	607.0	980321.11	0.35	-0.26	23.59	2.98
WOR 1	42 7.50	72 45.12	145.3	980348.65	0.08	-0.06	2.98	-1.96
WOR 2	42 7.65	72 45.62	158.8	980349.05	0.08	-0.07	4.44	-0.97
WOR 3	42 7.67	72 46.18	161.5	980349.69	0.11	-0.07	5.30	-0.17
WOR 4	42 7.98	72 47.40	164.0	980352.35	0.21	-0.07	7.72	2.27
WOR 5	42 8.22	72 48.12	196.0	980353.80	0.26	-0.09	11.82	5.31
WOR 6	42 8.72	72 49.03	284.0	980350.24	0.55	-0.12	15.79	6.53
WOR 7	42 8.20	72 49.28	282.0	980350.09	0.49	-0.12	16.23	6.98
WOR 8	42 7.82	72 49.37	236.0	980352.95	0.68	-0.10	15.34	7.87
WOR 9	42 9.05	72 51.20	890.0	980317.49	0.52	-0.37	39.54	9.33
WOR10	42 8.28	72 52.07	1067.0	980306.77	0.72	-0.44	46.62	10.51
WOR11	42 9.39	72 51.53	858.0	980320.32	0.50	-0.36	38.84	9.72
WOR12	42 10.00	72 51.80	762.0	980326.18	0.46	-0.32	34.76	8.91
WOR13	42 11.23	72 51.70	352.0	980345.43	1.17	-0.15	13.61	2.62
WOR14	42 11.17	72 51.42	345.0	980349.40	1.03	-0.15	17.01	6.13
WOR15	42 11.38	72 51.45	313.6	980351.57	1.11	-0.14	15.91	6.19
WOR16	42 11.83	72 51.58	373.0	980347.41	1.04	-0.16	16.67	4.82
WOR17	42 12.38	72 51.35	311.0	980351.53	1.80	-0.14	14.13	5.19
WOR18	42 10.50	72 50.02	333.0	980348.79	1.07	-0.14	16.28	5.84
WSP54	42 7.23	72 44.97	122.0	980348.36	0.17	-0.05	0.91	-3.13