

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

PRINCIPAL FACTS FOR GRAVITY STATIONS IN THE  
HAMILTON 2<sup>0</sup> QUADRANGLE, MONTANA AND IDAHO

by

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Open-File Report 78-423

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Principal facts for gravity stations in the  
Hamilton 2<sup>0</sup> quadrangle, Montana and Idaho

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Introduction

A gravity survey was made of an area in the Hamilton 2<sup>0</sup> sheet, Montana (fig. 1), to provide information on structural relationships and subsurface geology as part of regional geophysical studies in northwestern Montana.

Data Collection

During the summer of 1974, 135 stations were established using a LaCoste and Romberg gravity meter G-131.<sup>1/</sup> The stations were referenced to the International Gravity Standardization Net 1971 (Defense Mapping Agency Aerospace Center, 1974) at base station ACIC 0442-0 at Missoula, Montana. Secondary base stations were established in the field area at Superior and Lolo Work Center, Montana. Descriptions of the base stations are included at the end of this paper.

Station elevations were obtained from benchmarks, spot elevations, and contour interpolations on U.S. Geological Survey topographic maps at 1:24,000 and 1:62,500 scales. Elevations are accurate to 1-2 m in areas of low relief, but may be in error by 5-10 m in more rugged terrain. The resultant error in the Bouguer anomaly is less than 2 mGal (milligals).

<sup>1/</sup> Use of brand names in this report is for descriptive purposes only and in no way constitutes endorsement by the U.S. Geological Survey.

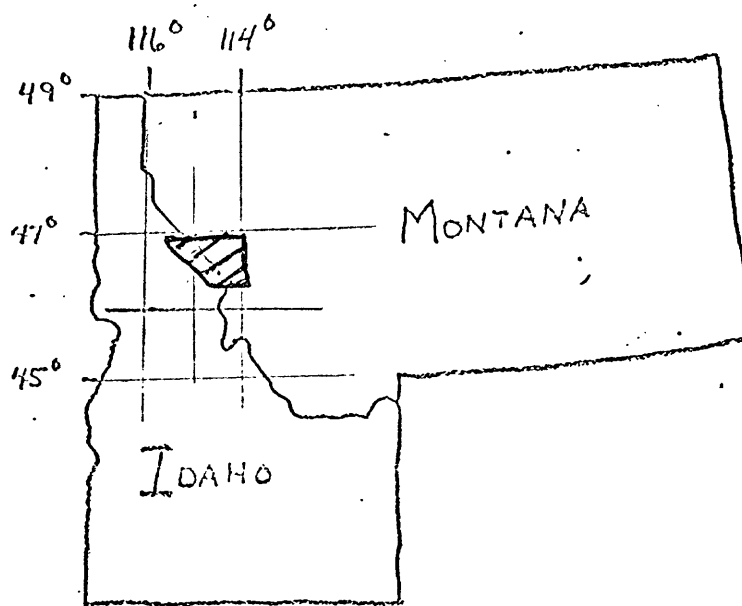


Figure 1.--Area of gravity survey (patterned) in Hamilton 2<sup>o</sup> quadrangle,  
Montana and Idaho.

### Data Reduction

The gravity data were reduced by means of a digital computer program written by G. I. Evenden and R. R. Wahl. Gravity meter readings were converted to observed gravity using the 1971 base values of the International Gravity Standardization Net. The Geodetic Reference System, 1967 formula (International Association of Geodesy, 1967), was used to compute theoretical gravity. The data were reduced to Bouguer anomaly values using an assumed average rock density of  $2.67 \text{ g/cm}^3$ . Terrain corrections were made by hand template through Zone H of Hammer (1939) and to 167 km by digital computer. The corrections ranged from 1.03 mGal 8 km northeast of Missoula to 22.48 mGal at the confluence of Joan Creek and Kelley Creek. Corrections were made for tidal effect and linear instrument drift. The principal facts for the gravity stations are listed in table 1.

Explanations of headings on table 1:

sta. no.	Gravity station number.
latitude	North latitude in degrees, minutes, and hundredths of minutes.
longitude	West longitude in degrees, minutes, and hundredths of minutes.
elev, f	Elevation in feet (to convert to meters, multiply by 0.3048).
st	State where station is located (Montana).
observed gravity	Observed gravity in milligals.
standard gravity	Theoretical gravity in milligals.
fr.-air correction	Free-air correction in milligals.

bouguer correction	Elevation and curvature correction in milligals.
terrain correction	Terrain correction in milligals.
fr.-air anomaly	Free-air anomaly in milligals.
bouguer anomaly	Bouguer anomaly in milligals for assumed average density of $2.67 \text{ g/cm}^3$ .

Table 1. Principal gravity facts for stations in Hamilton 2° Quadrangle, Montana and Idaho

identification proj. sta. no.	latitude	location longitude	elev. f	st	observed gravity	standard gravity	fr.-air bouguer terrain special	corrections	anomalies fr.-air Bouguer
belths. sup-base				mt	980497.42				
belths. su00008	46 58.98	-114 58.65	4665.0	mt	980350.75	-980798.41	438.56	-160.48	-9.10 -157.91
belths. su00010	46 58.53	-115 1.52	5990.0	mt	980283.18	-980797.74	563.07	-205.80	48.51 -152.45
belths. sup-base				mt	980497.42				
belths. sup-base				mt	980497.42				
belths. su00064	46 59.93	-114 26.94	3140.0	mt	980440.18	-980799.84	295.22	-108.17	-64.44 -169.04
belths. sup-base				mt	980497.42				
belths. sup-base				mt	980497.42				
belths. su00068	46 52.82	-114 1.21	3165.0	mt	980426.93	-980789.14	297.57	-100.03	-64.64 -172.36
belths. su00069	46 54.18	-114 2.75	3190.0	mt	980431.03	-980791.19	299.92	-109.89	-80.24 -163.09
belths. su00070	46 55.25	-114 4.81	3200.0	mt	980428.86	-980792.80	300.86	-110.23	-63.08 -172.14
belths. su00071	46 56.85	-114 7.79	3250.0	mt	980432.87	-980795.21	305.56	-111.95	-56.78 -167.88
belths. su00072	46 58.92	-114 7.38	3270.0	mt	980437.93	-980798.32	307.45	-112.64	-52.94 -163.42
belths. sup-base				mt	980497.42				
belths. sup-base				mt	980497.42				
belths. su00093	46 57.01	-115 0.78	4980.0	mt	980334.74	-980795.45	468.16	-171.26	7.45 -158.67
belths. su00094	46 55.32	-115 1.13	4320.0	mt	980369.54	-980792.90	406.14	-142.66	-17.22 -159.46
belths. su00095	46 53.83	-115 2.85	3960.0	mt	980384.98	-980790.66	372.30	-136.32	-33.38 -163.35
belths. su00096	46 52.44	-115 4.44	3670.0	mt	980400.93	-980788.57	345.04	-126.37	-42.60 -161.51
belths. su00097	46 50.47	-115 5.59	3530.0	mt	980368.99	-980785.60	331.88	-121.56	-84.73 -196.39
belths. su00098	46 49.01	-115 6.82	3510.0	mt	980379.89	-980783.40	330.00	-120.88	-73.51 -187.84
belths. su00099	46 47.65	-115 7.31	4462.0	mt	980356.44	-980781.35	419.48	-153.52	-5.43 -150.24
belths. su00100	46 46.19	-115 5.72	3800.0	mt	980391.48	-980779.15	357.26	-130.83	-30.41 -157.52
belths. su00101	46 44.62	-115 4.36	3300.0	mt	980415.06	-980776.79	310.27	-113.67	-51.46 -157.35
belths. su00102	46 43.29	-115 5.07	3160.0	mt	980422.19	-980774.79	297.11	-108.86	-55.49 -156.60
belths. su00103	46 42.43	-115 6.26	3060.0	mt	980418.56	-980773.49	287.71	-105.43	-67.22 -153.03
belths. su00104	46 42.93	-115 9.18	2950.0	mt	980427.09	-980774.25	277.37	-101.65	-69.79 -150.96
belths. su00105	46 42.83	-115 11.01	2910.0	mt	980433.41	-980774.09	273.61	-100.27	-67.07 -147.13
belths. su00106	46 43.18	-115 13.94	2790.0	mt	980447.75	-980774.62	262.32	-96.15	-64.55 -143.60
belths. su00107	46 43.08	-115 15.37	2760.0	mt	980451.96	-980774.47	259.51	-95.12	-63.00 -143.70
belths. su00108	46 43.22	-115 18.20	2705.0	mt	980461.11	-980774.68	254.33	-93.23	-59.24 -136.69
belths. su00109	46 42.16	-115 19.83	2632.0	mt	980458.21	-980773.08	247.47	-90.72	-67.40 -139.65
belths. su00110	46 41.12	-115 21.91	2510.0	mt	980462.83	-980771.52	236.00	-86.52	-72.69 -145.79
belths. su00111	46 39.21	-115 24.05	2400.0	mt	980463.97	-980768.64	225.66	-82.74	-79.01 -145.48
belths. su00112	46 38.28	-115 25.91	2375.0	mt	980465.34	-980767.24	223.31	-81.88	-78.59 -150.12
belths. su00113	46 43.86	-115 14.93	2840.0	mt	980443.95	-980775.65	267.02	-97.87	-64.68 -142.71
belths. su00114	46 44.72	-115 14.36	2910.0	mt	980436.98	-980776.94	273.61	-100.27	-66.35 -145.57
belths. su00115	46 46.51	-115 13.57	3130.0	mt	980426.45	-980779.64	294.28	-107.83	-58.91 -145.00
belths. su00116	46 48.63	-115 12.47	3360.0	mt	980423.73	-980782.83	315.91	-115.73	-43.19 -141.83
belths. su00117	46 49.94	-115 10.68	3550.0	mt	980423.70	-980784.80	314.96	-115.39	-45.14 -140.01

Table 1. Principal gravity facts for stations in Hamilton 2° Quadrangle, Montana and Idaho--continued.

identification proj. sta. no.	latitude	location longitude	elev. f	st	observed gravity	standard gravity	fr.-air bouguer terrain special	anomalies fr.-air bouguer	spc tie
belths. su00118	46 50.68	-115 8.60	3450.0	mt	980413.59	-980785.92	324.36 -118.82 10.19	-47.97 -156.60	
belths. su00118				mt	980497.42				
belths. lobase				mt	980382.71				
belths. su00272	46 46.95	-114 23.94	3788.0	mt	980390.34	-980780.30	356.13 -130.42 4.44	-33.83 -159.81	
belths. su00273	46 49.07	-114 24.53	4090.0	mt	980374.49	-980783.49	384.52 -140.77 3.45	-24.48 -161.80	
belths. su00274	46 50.94	-114 26.21	3872.0	mt	980389.20	-980786.31	364.03 -133.30 5.31	-33.83 -161.87	
belths. su00275	46 51.19	-114 29.03	5796.0	mt	980271.53	-980785.68	544.84 -109.17 12.13	29.69 -157.35	
belths. su00276	46 52.80	-114 27.34	3654.0	mt	980404.08	-980789.11	343.54 -125.82 7.63	-41.43 -157.75	
belths. su00277	46 54.25	-114 27.90	3553.0	mt	980413.39	-980791.29	334.04 -122.35 6.23	-43.65 -159.85	
belths. su00278	46 57.13	-114 25.83	3202.0	mt	980436.65	-980795.63	301.05 -110.30 10.41	-57.93 -157.32	
belths. su00279	46 45.42	-114 4.89	3189.0	mt	980423.25	-980778.00	299.83 -109.86 2.22	-54.92 -162.56	
belths. su00280	46 45.06	-114 7.79	3265.0	mt	980417.96	-980777.45	306.98 -112.47 5.17	-52.51 -159.31	
belths. su00281	46 44.89	-114 11.89	3394.0	mt	980408.43	-980777.20	319.10 -116.90 8.20	-49.67 -158.37	
belths. su00282	46 45.90	-114 16.11	3542.0	mt	980402.27	-980778.72	333.01 -121.98 6.13	-43.44 -159.29	
belths. su00283	46 45.80	-114 19.58	3647.0	mt	980395.17	-980778.57	342.88 -125.58 6.34	-40.52 -159.70	
belths. su00284	46 45.77	-114 29.04	3979.0	mt	980371.15	-980778.52	374.09 -136.97 7.44	-33.22 -162.81	
belths. su00285	46 43.93	-114 31.65	4122.0	mt	980360.06	-980775.60	387.53 -141.87 7.79	-28.01 -162.09	
belths. su00286	46 42.34	-114 32.21	4213.0	mt	980347.39	-980773.36	396.08 -144.99 3.05	-29.89 -171.83	
belths. su00287	46 40.55	-114 34.41	4480.0	mt	980319.60	-980770.66	421.17 -154.14 9.76	-29.89 -171.27	
belths. su00288	46 38.12	-114 34.73	5235.0	mt	980279.01	-980767.00	492.13 -179.99 1.69	4.14 -174.16	
belths. su00289	46 34.85	-114 36.61	3942.0	mt	980353.45	-980762.07	370.61 -135.70 6.83	-38.01 -160.88	
belths. su00290	46 33.87	-114 38.67	3751.0	mt	980363.71	-980760.60	352.66 -129.15 12.73	-44.23 -160.65	
belths. su00291	46 32.36	-114 40.48	3590.0	mt	980363.71	-980758.32	337.53 -123.62 12.40	-57.03 -168.30	
belths. su00292	46 30.49	-114 46.18	3292.0	mt	980373.12	-980755.50	309.51 -113.39 12.61	-72.87 -173.85	
belths. su00293	46 30.32	-114 49.38	3195.0	mt	980375.68	-980755.25	300.40 -110.06 14.38	-79.17 -174.85	
belths. su00294	46 30.94	-114 42.86	3542.0	mt	980365.06	-980756.18	333.01 -121.98 6.21	-58.11 -173.88	
belths. su00295	46 30.48	-114 35.49	4690.0	mt	980307.83	-980764.53	440.91 -161.33 4.16	-15.79 -172.66	
belths. lobase				mt	980382.71				
belths. lobase				mt	980382.71				
belths. su00296	46 32.68	-114 42.44	4653.0	mt	980309.02	-980758.80	437.43 -160.07 9.16	-12.35 -163.26	
belths. su00297	46 34.75	-114 43.03	5872.0	mt	980237.53	-980761.92	551.99 -201.77 4.08	27.60 -170.09	
belths. su00298	46 35.78	-114 46.67	6845.0	mt	980177.63	-980763.47	643.41 -234.98 9.27	57.57 -168.14	
belths. su00299	46 34.95	-114 49.22	6430.0	mt	980199.53	-980762.22	604.41 -220.82 5.92	41.72 -173.18	
belths. su00300	46 35.94	-114 51.18	5342.0	mt	980270.81	-980763.71	502.18 -183.65 3.39	9.28 -170.98	
belths. su00301	46 35.84	-114 55.31	6124.0	mt	980212.94	-980760.55	575.67 -210.37 6.41	28.06 -175.90	
belths. su00302	46 33.38	-114 57.36	6782.0	mt	980167.37	-980759.86	637.49 -232.83 10.75	45.00 -177.08	
belths. su00303	46 31.96	-114 59.41	6966.0	mt	980149.54	-980757.72	654.78 -239.11 21.07	46.60 -171.44	
belths. su00304	46 36.69	-114 51.73	6232.0	mt	980216.09	-980764.84	585.81 -214.06 6.77	37.06 -170.23	
belths. su00305	46 38.34	-114 51.09	6715.0	mt	980188.40	-980767.33	631.19 -230.55 5.52	52.26 -172.77	
belths. su00306	46 38.14	-114 54.64	6657.0	mt	980193.05	-980767.03	625.74 -228.57 7.44	51.76 -169.37	

Table 1. Principal gravity facts for stations in Hamilton 2° Quadrangle, Montana and Idaho--continued

identification proj. sta. no.	latitude	longitude	elevr. ft	st	observed gravity	standard gravity	fr.-air bouguer terrain special	corrections fr.-air bouguer terrain special	anomalies fr.-air bouguer
belths. su00307	46 39.16	-114 56.45	5700.0	mt	980257.02	-980768.57	535.82	-195.89	24.27
belths. su00308	46 39.73	-114 58.79	5784.0	mt	980253.40	-980769.42	543.72	-198.76	27.70
belths. su00309	46 40.04	-115 1.12	4546.0	mt	980331.44	-980769.89	427.38	-156.40	-11.07
belths. su00310	46 40.06	-115 4.02	3500.0	mt	980325.01	-980769.92	329.07	-120.53	-45.84
belths. su00311	46 40.87	-115 4.70	4616.0	mt	980334.75	-980771.14	433.96	-158.80	-2.42
belths. su00312	46 51.94	-115 7.32	5450.0	mt	980295.91	-980787.81	512.33	-187.34	20.43
belths. su00313	46 52.21	-115 9.62	5910.0	mt	980270.88	-980788.22	555.55	-203.06	38.21
belths. su00314	46 52.09	-115 11.71	5750.0	mt	980283.86	-980790.04	540.52	-197.60	36.34
belths. su00315	46 51.46	-115 14.35	6220.0	mt	980255.30	-980787.09	584.68	-213.65	52.89
belths. su00316	46 52.58	-115 14.58	6118.0	mt	980265.43	-980788.78	575.10	-210.17	51.75
belths. su00317	46 55.18	-115 14.79	5080.0	mt	980337.25	-980792.69	477.56	-174.68	22.12
belths. su00318	46 56.79	-115 13.83	5160.0	mt	980318.59	-980795.12	485.08	-177.42	8.55
belths. su00319	46 58.05	-115 12.46	6260.0	mt	980268.54	-980797.01	588.44	-215.02	59.77
belths. lolo base				mt	980382.71				
belths. lolo base				mt	980382.71				
belths. su00333	46 47.10	-114 35.54	4048.0	mt	980367.56	-980780.53	380.57	-139.33	-32.40
belths. su00334	46 49.20	-114 38.95	3638.0	mt	980395.97	-980783.69	342.03	-125.27	-45.69
belths. su00335	46 50.78	-114 41.01	3477.0	mt	980407.55	-980786.07	326.90	-119.75	-51.62
belths. su00336	46 52.79	-114 41.10	3315.0	mt	980419.94	-980789.09	311.67	-114.18	-57.48
belths. su00337	46 55.19	-114 41.78	3147.0	mt	980432.72	-980792.71	295.88	-108.41	-64.11
belths. su00338	46 57.36	-114 40.20	3020.0	mt	980443.98	-980795.97	283.95	-104.05	-68.04
belths. su00339	46 59.37	-114 39.58	2921.0	mt	980454.45	-980799.00	274.64	-100.65	-69.91
belths. su00340	46 59.46	-114 38.12	3177.0	mt	980447.48	-980799.13	298.70	-109.44	-52.95
belths. su00341	46 58.68	-114 31.71	3500.0	mt	980426.73	-980797.96	329.06	-120.53	-42.17
belths. su00342	46 59.02	-114 43.27	3126.0	mt	980444.64	-980798.47	293.91	-107.69	-59.92
belths. su00343	46 57.75	-114 43.27	4237.0	mt	980378.78	-980796.56	398.33	-145.81	-19.45
belths. su00350	46 56.10	-114 43.12	3276.0	mt	980432.91	-980794.08	308.01	-112.84	-53.16
belths. su00351	46 54.58	-114 48.12	3500.0	mt	980414.89	-980791.79	329.06	-120.53	-47.84
belths. lolo base				mt	980382.71				
belths. lolo base				mt	980382.71				
belths. su00352	46 47.56	-114 47.24	6472.0	mt	980230.25	-980781.22	608.36	-222.26	57.39
belths. su00353	46 58.15	-114 2.46	6202.0	mt	980245.80	-980797.16	582.99	-213.04	31.63
belths. su00354	46 48.79	-114 43.01	4934.0	mt	980316.37	-980783.07	463.84	-169.69	-2.86
belths. su00355	46 48.93	-114 41.19	4902.0	mt	980321.86	-980783.28	460.83	-168.59	-0.59
belths. su00356	46 48.32	-114 39.05	4544.0	mt	980341.83	-980782.36	427.19	-156.33	-13.34
belths. lolo base				mt	980382.71				
belths. lolo base				mt	980429.45				
belths. su00357	46 57.19	-114 4.85	3405.0	mt	980427.35	-980795.72	320.13	-117.27	-48.24
belths. su00358	46 58.15	-114 2.46	3801.0	mt	980409.31	-980797.16	357.35	-130.86	-30.50
belths. su00359	46 57.91	-114 11.79	3063.0	mt	980451.57	-980796.80	287.99	-105.53	-57.24



Table 1. Principal gravity facts for stations in Hamilton 2° Quadrangle, Montana and Idaho--continued

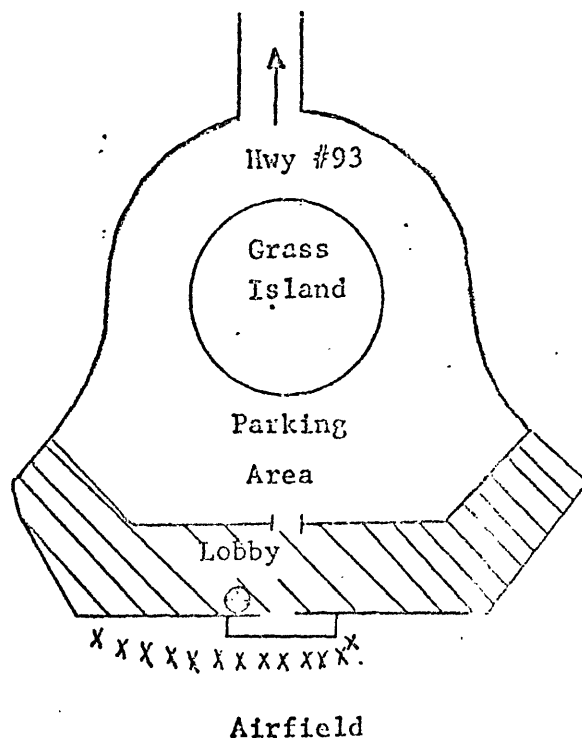
identification proj. sta. no.	latitude	longitude	elev., f	st	observed gravity	standard gravity	fr.-air bouguer	corrections terrain special	anomalies fr.-air bouguer	spec file
belths. su00360	46 55.72	-114 11.19	3064.0	mt	980451.68	-980793.50	288.08	-105.56	-53.74	-157.56
belths. su00361	46 54.64	-114 8.64	3083.0	mt	980445.83	-980791.88	289.87	-106.22	-56.18	-163.00
belths. su00362	46 53.62	-114 6.41	3199.0	mt	980429.43	-980790.34	300.77	-110.20	-60.14	-162.31
belths. su00363	46 53.19	-114 4.45	3150.0	mt	980429.37	-980789.70	296.16	-108.52	-64.17	-171.64
belths. su00364	46 56.68	-114 1.08	3571.0	mt	980423.65	-980794.95	335.74	-122.97	-35.56	-158.01
belths. lolobase				mt	980382.71					
belths. lolobase				mt	980382.71					
belths. su00365	46 50.04	-114 25.04	4391.0	mt	980356.76	-980784.95	412.81	-151.09	-15.38	-184.23
belths. su00366	46 49.24	-114 27.48	5382.0	mt	980296.33	-980783.75	505.94	-185.02	18.53	-162.45
belths. su00367	46 49.01	-114 29.31	5578.0	mt	980285.27	-980783.40	524.36	-191.72	26.23	-151.33
belths. su00368	46 48.73	-114 31.16	5377.0	mt	980296.97	-980782.98	505.47	-184.84	19.46	-163.20
belths. su00369	46 47.80	-114 33.62	5545.0	mt	980279.79	-980781.58	521.26	-190.59	19.47	-165.64
belths. su00370	46 45.56	-114 33.97	4923.0	mt	980313.89	-980778.21	462.81	-160.31	-1.51	-168.54
belths. su00371	46 54.00	-114 36.87	3670.0	mt	980400.22	-980790.92	345.04	-126.37	-45.66	-161.10
belths. su00372	46 53.03	-114 36.83	6180.0	mt	980250.57	-980789.46	580.92	-212.29	42.03	-160.01
belths. su00373	46 54.70	-114 34.11	6480.0	mt	980233.32	-980791.97	609.11	-222.53	50.46	-158.80
belths. su00374	46 51.82	-114 31.70	6470.0	mt	980233.68	-980787.63	608.17	-222.19	54.22	-156.45
belths. su00375	46 54.88	-114 30.67	5180.0	mt	980316.70	-980792.24	486.95	-178.11	11.41	-160.79
belths. lolobase				mt	980382.71					
belths. lolobase				mt	980382.71					
belths. su00376	46 56.07	-114 28.76	3656.0	mt	980411.94	-980794.03	343.73	-125.89	-38.36	-157.56
belths. su00377	46 56.79	-114 30.37	3900.0	mt	980398.12	-980795.12	366.66	-134.26	-30.34	-157.41
belths. su00378	46 57.09	-114 33.86	5160.0	mt	980318.89	-980795.57	485.08	-177.42	8.40	-164.80
belths. su00380	46 58.46	-114 16.16	3440.0	mt	980432.96	-980797.63	323.42	-118.47	-41.25	-154.99
belths. su00381	46 58.06	-114 19.54	3831.0	mt	980408.05	-980797.03	360.17	-131.89	-28.81	-152.14
belths. su00382	46 55.59	-114 14.46	3329.0	mt	980434.33	-980793.31	312.99	-114.66	-45.99	-154.24
belths. su00383	46 54.95	-114 15.97	3462.0	mt	980423.82	-980792.35	325.49	-119.23	-43.04	-154.83
belths. su00384	46 46.86	-114 5.51	3143.0	mt	980428.54	-980780.16	295.51	-108.28	-56.11	-161.86
belths. mslabase				mt	980429.45					
belths. mslabase				mt	980429.45					
belths. su00385	46 49.63	-114 5.18	3205.0	mt	980428.55	-980784.33	301.33	-110.41	-54.45	-162.94
belths. su00386	46 51.23	-114 9.29	3460.0	mt	980417.72	-980786.74	325.30	-119.16	-43.72	-157.39
belths. su00387	46 53.97	-114 10.54	3078.0	mt	980445.70	-980790.87	289.40	-106.04	-55.77	-157.94
belths. su00388	46 51.14	-114 5.48	3124.0	mt	980435.45	-980786.61	293.72	-107.62	-57.44	-163.62
belths. su00389	46 47.27	-114 2.02	3434.0	mt	980410.66	-980780.78	322.86	-118.27	-47.25	-161.49
belths. su00390	46 50.09	-114 2.83	3157.0	mt	980426.51	-980785.03	296.82	-108.76	-61.70	-169.07
belths. mslabase				mt	980429.45					

# GRAVITY BASE STATION

LATITUDE $46^{\circ} 55.00' N$ (1)		STATION DESIGNATION  MISSOULA	
LONGITUDE $111^{\circ} 06.50' W$ (1)			
ELEVATION 976.3 METERS (1)		COUNTRY/STATE USA/Montana	
REFERENCE CODE NUMBERS		ADOPTED GRAVITY VALUE	
ACIC 0112-0		$g =$ 980 429.45 mgals	
IGC 156013			
WA 127			
		ESTIMATED ACCURACY	DATE
		$\pm$ 0.1 mgals	MONTH/YEAR

## DESCRIPTION AND/OR SKETCH

Station is located at the Missoula Airport, inside the lobby, on the tile floor, 0.3 m west of the exit to the apron and aircraft. (1)



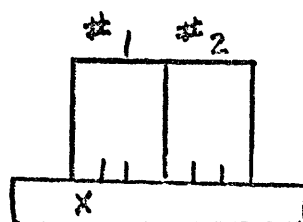
(2)

GRAVITY BASE STATION  
U.S. GEOLOGICAL SURVEY

STATE/COUNTRY Montana	STATION DESIGNATION Superior Motel	OBSERVED GRAVITY 980 497.43
AREST. TOWN Superior	LONGITUDE 114° 54' 50"	LATITUDE 47° 11' 55"
ELEVATION 835 m	TOPOGRAPHIC MAP(S) Wallace AMS	

DATE	OBSERVER	METER	REFERENCE STATION	REFERENCE VALUE
1/75.	Kleinkopf/Wilson	G-159	Missoula Airport	980 429.45

DESCRIPTION/SKETCH Base on the 1st concrete step, on the left, facing the door of cabin #1.



PARKING

→ To SUPERIOR

GRAVITY BASE STATION  
U.S. GEOLOGICAL SURVEY

STATE/COUNTRY Montana, USA		STATION DESIGNATION Lolo Ranger Station		OBSERVED GRAVITY 980 382.71
NEAREST TOWN Lolo		LONGITUDE 114°26'07"		LATITUDE 46°46'47"
ELEVATION 1174 m		TOPOGRAPHIC MAP(S) Hamilton AMS		
DATE	OBSERVER	METER	REFERENCE STATION	REFERENCE VAL
8/5/74.	D. Wilson	G-159	Missoula Airport	980 429.45

DESCRIPTION/SKETCH Base is located at BM 3851 on US Highway 12 at entrance to Lolo R Station, approximately 24 km west of Lolo, Montana.

## References

- Defense Mapping Agency Aerospace Center, 1974, World Relative Gravity Reference Network, North America, Part 2: DMAAC Ref. Pub. No. 25, with supplement updating gravity values to the International Gravity Standardization Net 1971, 1635 p.
- Hammer, Sigmund, 1939, Terrain corrections for gravimeter stations: Geophysics, v. 4, no. 3, p. 184-194.
- International Association of Geodesy, 1967, Geodetic Reference System, 1967, International Association of Geodesy Spec. Pub. no. 3, 74 p.