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Principal Facts for 398 Gravity Stations in the Palo Alto 7.5' Quadrangle, California

By

Steven F. Carle[1] and V.E. Langenheim[1]

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[1] **U.S. Geological Survey, Menlo Park, CA**

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INTRODUCTION

A gravity study was conducted by the U.S. Geological Survey as part of a request by the City of Menlo Park to help determine the location and quantity of groundwater. The study area includes Menlo Park, Atherton, and Menlo Park Municipal Water Districts. Principal facts for 398 stations used in preparing "An isostatic residual gravity anomaly map of the Palo Alto 7.5' quadrangle" (Carle and Langenheim, 1990) are contained in this report. New gravity measurements were made primarily in the study area, but additional gravity measurements were made in adjoining areas in East Palo Alto, Palo Alto, Redwood City, Woodside, and adjacent unincorporated areas to improve regional coverage near the study area. All stations are located between lat 37°22.5' and 37°30.0' N. and long 122°7.5' and 122°15.0' W. The other 136 gravity stations used in the preparation of the map are from a compilation by Robbins and others (1978), and measurements on the Dumbarton Bridge and approach by C.W. Roberts (written commun., 1989).

COLLECTION AND REDUCTION OF GRAVITY DATA

The gravity data consist of 398 new stations measured in March-July 1989, and 136 old stations consisting of a compilation by Robbins and others (1978) and measurements on the Dumbarton Bridge and approach by C. W. Roberts (written commun., 1989). The principal facts for the new data are shown in table 1, and an explanation of the principal facts format is shown in table 2. Most of the new gravity stations were located within the study area at a spacing of about 400 m (1/4 mile). The 400-m spacing could not always be achieved on private property, the salt evaporators, and marshlands due to access problems. New stations outside the study area provide regional gravity coverage.

LaCoste and Romberg gravity meters G-8 and G-614 were used for all of the new gravity measurements. The factory calibration constants and additional calibration factors of 1.00061 for G-8 and 1.00038 for G-614 were used to convert the readings to mGal equivalent units. The additional calibration factors were determined by calibration runs on the Mt. Hamilton calibration loop (Barnes and others, 1969). The observed gravity values were referenced to the International Gravity Standardization Net 1971 (IGSN71) gravity datum (Morelli, 1974). All gravity measurements were made relative to base station MPA (Menlo Park A) assuming linear meter drift between base readings. Base station MPA has an IGSN71 observed gravity value of 979,944.27 mGal and is located at the northwest corner of Building 2, United States Geological Survey, 345 Middlefield Road, Menlo Park, California (Defense Mapping Agency, 1982; Jablonski, 1974). Elevations of gravity stations were determined from bench marks, spot elevations, and contour interpolation from the U.S. Geological Survey Palo Alto 7.5' topographic quadrangle map (20-ft contours with 5-ft supplemental contours) and additional maps by the County of San Mateo and the City of Menlo Park (1-, 5- and 20-ft contours). In table 1, the expected accuracy of the elevation, location, and reading of each station is specified by the accuracy code, which is explained in table 3.

The following corrections were applied to the observed gravity values to obtain isostatic residual gravity values:

earth tide	for the gravitational force of and the solid-earth tidal response to the sun and moon;
latitude	for the variation of gravity with latitude;
free-air	for the decrease of gravity away from the center of the earth;
Bouguer	for the gravitational effect of the mass between the station and sea-level;
curvature	for curvature of the earth;
terrain	for the gravitational effect of topography;
isostatic	for the long-wavelength gravitational effect of isostatic compensation of the crust due to topographic loading.

The earth tide correction was computed from formulas by Longman (1959). The latitude and free-air corrections were made according to the Geodetic Reference System of 1967 (International Union of Geodesy

and Geophysics, 1971). Bouguer, curvature, and outer-zone (beyond 590 m) terrain corrections were determined by a computer procedure by Plouff (1977). The isostatic correction was computed by the program ISOCOMP (Jachens and Roberts, 1981)

Gravity measurements taken over terrain underlain by basement rocks in central California indicated that, in general, a reduction density of 2.67 g/cm^3 minimizes the correlation between gravity anomalies and topography (Robbins and others, 1977). Consequently, a terrain density of 2.67 g/cm^3 was assumed for the terrain and Bouguer corrections. The Hayford-Bowie (1912) system was used for the inner-zone terrain correction within 590 m. For the A and B zones, the terrain correction was estimated in the field. For the C and D zones, compartment elevations were estimated by computer using a digital elevation model (DEM) with a 30-m grid spacing. This was accomplished by averaging the DEM elevation values located within each Hayford-Bowie compartment. For improved accuracy, C1, C2, D1, and D2 subcompartments (see Spielman and Ponce, 1984) were used. With 30-m spacing, about 5 DEM elevation values are averaged in the smallest (C1) subcompartments to obtain the estimate of the compartment elevation.

For the isostatic correction, an Airy-Heiskanen model (Heiskanen and Vening Meinesz, 1958) with a sea-level crustal thickness of 25 km, a crust-mantle density contrast of 0.40 g/cm^3, and density of 2.67 g/cm^3 for the topographic load was assumed. For most stations, the isostatic residual gravity values are expected to be accurate to within 0.2 mGal.

DESCRIPTION OF CONTENTS OF DISKETTE

Four ascii files are contained on one 5 1/4-inch double-sided, high-density diskette formatted for IBM-PC's using DOS 2.0 or higher versions. README.TXT contains the title-page information and a brief description of the three other files on the diskette. MENLO.ISO contains the principal facts of the 398 gravity stations (Table 1). The data are in Plouff format (a8, f3.0, f4.2, f4.0, f4.2, f5.1, f7.2, a4, f6.2, f6.2, f5.2, f5.2, a1, f6.2, f6.2; see Table 2). The values for the observed gravity, the seventh format item, do not have the first digit (9 as in 979,948.73). The other two files, PFTAB.TEX and ACC.TEX contain the same information as Tables 2 and 3 respectively.

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TABLE 1.–*Principal facts for gravity stations collected March-July 1989*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC mGal	CBA 2.67	ISO 2.67
BF001	37	29.22	122	10.61	7.7	979948.73	P323	2.25	1.99	0.00	D	0.99	2.98	-1.67
BF002	37	29.25	122	10.40	9.4	979948.08	P323	1.72	1.40	0.00	D	0.98	2.38	-2.14
BF003	37	29.60	122	10.57	7.9	979948.40	P323	1.39	1.12	0.04	D	1.01	2.13	-2.46
BF004	37	29.61	122	10.39	53.3	979944.54	P323	1.79	-0.03	0.00	D	0.97	0.92	-3.56
BF005	37	29.58	122	10.04	29.8	979945.92	P323	1.00	-0.02	0.03	D	0.96	0.93	-3.33
BF006	37	29.85	122	10.58	6.2	979948.45	P323	0.92	0.70	0.00	D	0.94	1.64	-2.93
BF007	37	29.68	122	10.58	7.1	979948.30	P323	1.10	0.86	0.00	D	0.96	1.81	-2.77
BF008	37	29.88	122	9.80	9.0	979948.29	F423	0.97	0.66	0.00	D	0.89	1.55	-2.50
BF009	37	29.86	122	9.20	8.0	979947.93	F423	0.55	0.28	0.00	D	0.89	1.16	-2.49
BF010	37	29.55	122	9.22	12.0	979947.49	F423	0.94	0.53	0.00	D	0.90	1.42	-2.30
MP001	37	27.46	122	10.13	53.0	979944.65	C423	4.99	3.19	0.00	D	1.08	4.24	-0.29
MP002	37	27.37	122	9.97	52.0	979944.05	C323	4.43	2.66	0.00	D	1.08	3.72	-0.72
MP003	37	27.28	122	9.79	58.0	979942.84	C323	3.92	1.94	0.00	D	1.08	3.00	-1.33
MP004	37	27.16	122	9.93	59.0	979942.87	C423	4.22	2.20	0.00	D	1.10	3.28	-1.15
MP005	37	27.09	122	10.09	59.0	979943.11	C423	4.56	2.55	0.00	D	1.11	3.63	-0.91
MP006	37	27.01	122	10.21	58.0	979942.93	C423	4.40	2.42	0.00	D	1.12	3.52	-1.12
MP007	37	26.89	122	10.16	66.0	979941.59	C423	3.99	1.74	0.00	D	1.13	2.84	-1.79
MP008	37	27.04	122	10.42	60.0	979943.47	C423	5.08	3.04	0.00	D	1.13	4.14	-0.64
MP009	37	27.15	122	10.59	63.5	979944.19	C423	5.97	3.81	0.00	D	1.13	4.91	0.04
MP010	37	27.25	122	10.74	66.5	979944.37	C323	6.29	4.02	0.00	D	1.13	5.12	0.15
MP011	37	27.35	122	10.92	65.0	979945.04	C323	6.68	4.46	0.00	D	1.13	5.56	0.47
MP012	37	27.48	122	11.08	61.3	979945.87	C323	6.96	4.87	0.00	D	1.13	5.98	0.80
MP013	37	27.59	122	11.28	59.0	979946.64	F423	7.36	5.35	0.00	D	1.13	6.45	1.16
MP014	37	27.76	122	11.36	50.0	979947.85	C323	7.48	5.77	0.00	D	1.13	6.88	1.54
MP015	37	27.78	122	11.13	49.0	979947.91	C323	7.42	5.75	0.00	D	1.11	6.84	1.65
MP016	37	27.90	122	11.02	43.1	979948.50	C323	7.27	5.80	0.00	D	1.09	6.87	1.77
MP017	37	27.80	122	10.83	47.0	979947.85	F423	7.14	5.54	0.00	D	1.09	6.61	1.62
MP018	37	27.63	122	11.23	58.8	979946.18	C323	6.83	4.82	0.00	D	1.13	5.93	0.67
MP019	37	27.48	122	10.83	59.3	979945.73	C323	6.63	4.61	0.00	D	1.11	5.70	0.68
MP020	37	27.71	122	10.64	53.0	979946.93	C323	6.91	5.11	0.00	D	1.09	6.17	1.30
MP021	37	27.58	122	10.39	52.0	979946.01	F423	6.09	4.32	0.00	D	1.08	5.37	0.66
MP022	37	27.63	122	10.21	51.2	979945.60	C323	5.53	3.79	0.00	D	1.07	4.84	0.27
MP023	37	27.76	122	10.10	47.3	979945.71	C323	5.08	3.47	0.00	D	1.06	4.51	0.02
MP024	37	27.90	122	10.20	44.0	979946.66	C323	5.52	4.02	0.00	D	1.06	5.06	0.52
MP025	37	28.07	122	10.12	38.0	979946.44	F423	4.49	3.19	0.00	D	1.04	4.22	-0.22
MP026	37	28.24	122	10.03	30.0	979946.37	C423	3.42	2.39	0.00	D	1.02	3.40	-0.97
MP027	37	28.44	122	10.02	18.0	979946.76	N223	2.39	1.78	0.00	D	1.01	2.78	-1.57
MP028	37	28.45	122	9.82	18.0	979946.25	C323	1.87	1.25	0.00	D	0.99	2.23	-1.98
MP029	37	28.34	122	9.63	20.0	979945.54	B123	1.50	0.82	0.00	D	0.99	1.80	-2.29
MP030	37	28.25	122	9.73	27.0	979945.48	F423	2.23	1.31	0.00	D	1.00	2.30	-1.86
MP031	37	28.15	122	9.95	32.5	979945.92	C423	3.34	2.23	0.00	D	1.03	3.24	-1.07
MP032	37	27.99	122	10.04	40.5	979945.98	C323	4.38	3.00	0.00	D	1.04	4.02	-0.39
MP033	37	27.81	122	9.93	43.5	979945.16	C323	4.10	2.62	0.00	D	1.05	3.65	-0.72
MP034	37	27.75	122	9.74	43.0	979944.44	F423	3.42	1.96	0.00	D	1.04	2.98	-1.26
MP035	37	28.02	122	9.71	34.0	979944.87	C423	2.61	1.45	0.00	D	1.02	2.46	-1.74
MP036	37	28.11	122	9.49	26.0	979944.44	C423	1.30	0.41	0.00	D	1.00	1.40	-2.62
MP037	37	27.92	122	9.44	29.0	979943.73	N223	1.15	0.16	0.00	D	1.01	1.16	-2.86
MP038	37	27.90	122	9.19	25.0	979942.92	C323	-0.01	-0.86	0.00	D	1.00	0.13	-3.73
MP039	37	28.02	122	9.14	22.0	979942.97	C323	-0.41	-1.16	0.00	D	0.99	-0.18	-3.99
MP040	37	27.93	122	9.01	24.2	979942.08	C323	-0.96	-1.79	0.00	D	0.99	-0.81	-4.55
MP041	37	27.71	122	9.06	31.0	979941.78	C323	-0.30	-1.36	0.00	D	1.00	-0.37	-4.16
MP042	37	27.73	122	9.27	31.5	979942.82	C323	0.75	-0.32	0.00	D	1.01	0.67	-3.26
MP043	37	27.57	122	9.34	36.0	979942.74	C323	1.33	0.10	0.00	D	1.02	1.10	-2.89
MP044	37	27.53	122	9.11	36.0	979941.72	C323	0.36	-0.86	0.00	D	1.01	0.13	-3.72
MP045	37	27.38	122	9.27	47.0	979941.73	C323	1.63	0.03	0.00	D	1.03	1.03	-2.93
MP046	37	27.23	122	10.90	69.0	979944.31	N223	6.50	4.14	0.00	D	1.14	5.25	0.17
MP047	37	27.11	122	11.02	74.3	979943.11	C323	5.97	3.43	0.00	D	1.16	4.56	-0.61
MP048	37	26.83	122	11.25	80.0	979941.72	C323	5.53	2.80	0.00	D	1.21	3.97	-1.37
MP049	37	26.71	122	11.35	84.7	979940.83	C323	5.25	2.36	0.00	D	1.24	3.56	-1.87
MP050	37	26.59	122	11.45	90.5	979939.61	C323	4.75	1.66	0.00	D	1.25	2.87	-2.64
MP051	37	26.43	122	11.54	94.0	979938.19	C323	3.89	0.68	0.00	D	1.28	1.92	-3.67
MP052	37	26.30	122	11.65	99.0	979937.15	C323	3.51	0.13	0.00	D	1.32	1.41	-4.30
MP053	37	26.07	122	11.83	105.5	979936.81	C323	4.12	0.52	0.00	D	1.36	1.83	-4.02
MP054	37	25.92	122	12.00	131.0	979935.90	N223	5.82	1.36	0.02	D	1.41	2.71	-3.28
MP055	37	25.72	122	11.69	149.0	979933.87	F423	5.78	0.69	0.01	D	1.39	2.02	-3.78
MP056	37	25.98	122	11.72	110.0	979935.95	C423	3.81	0.06	0.01	D	1.37	1.38	-4.40
MP057	37	26.13	122	11.60	106.7	979936.33	C323	3.66	0.02	0.00	D	1.34	1.32	-4.36
MP058	37	26.24	122	11.55	103.5	979936.85	C323	3.72	0.19	0.00	D	1.32	1.46	-4.17
MP059	37	26.35	122	11.45	98.4	979937.67	C323	3.90	0.55	0.00	D	1.29	1.79	-3.75
MP060	37	26.26	122	11.33	97.5	979937.33	C323	3.61	0.29	0.00	D	1.29	1.53	-3.93

TABLE 1.–*Principal facts for gravity stations collected March-July 1989–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC mGal	CBA 2.67	ISO 2.67
MP061	37	26.08	122	11.46	103.3	979936.00	C323	3.09	-0.44	0.00	D	1.34	0.86	-4.73
MP062	37	25.92	122	11.50	114.0	979935.03	C423	3.36	-0.53	0.00	D	1.35	0.77	-4.87
MP063	37	26.04	122	11.27	104.0	979936.16	C423	3.37	-0.17	0.00	D	1.32	1.10	-4.36
MP064	37	26.22	122	11.13	89.0	979937.59	F423	3.13	0.09	0.00	D	1.30	1.35	-3.97
MP065	37	26.11	122	11.03	95.0	979936.65	C423	2.92	-0.33	0.01	D	1.31	0.94	-4.33
MP066	37	26.96	122	11.05	75.3	979942.49	C323	5.66	3.09	0.00	D	1.18	4.24	-0.96
MP067	37	26.89	122	10.93	72.9	979942.26	C323	5.30	2.82	0.00	D	1.18	3.97	-1.15
MP068	37	27.01	122	10.84	71.3	979943.09	C323	5.81	3.38	0.00	D	1.16	4.51	-0.54
MP069	37	27.11	122	10.71	66.0	979943.98	C323	6.06	3.80	0.00	D	1.14	4.92	-0.03
MP070	37	27.03	122	10.59	62.0	979943.58	C323	5.40	3.28	0.00	D	1.14	4.39	-0.50
MP071	37	26.92	122	10.68	67.0	979942.82	C323	5.27	2.99	0.00	D	1.16	4.12	-0.83
MP072	37	26.80	122	10.77	72.6	979941.70	C323	4.85	2.37	0.00	D	1.18	3.52	-1.50
MP073	37	26.76	122	10.98	76.8	979941.23	C323	4.84	2.22	0.00	D	1.20	3.38	-1.79
MP074	37	26.67	122	10.88	77.8	979940.65	C323	4.47	1.82	0.00	D	1.20	2.99	-2.12
MP075	37	26.57	122	10.96	80.0	979939.86	C323	4.04	1.31	0.00	D	1.22	2.50	-2.68
MP076	37	26.65	122	11.12	82.0	979940.58	C323	4.83	2.03	0.00	D	1.23	3.23	-2.04
MP077	37	26.48	122	11.05	82.5	979939.38	C323	3.93	1.12	0.00	D	1.25	2.33	-2.91
MP078	37	26.35	122	11.15	87.6	979938.38	C323	3.60	0.61	0.00	D	1.27	1.84	-3.49
MP079	37	26.31	122	10.93	88.0	979938.01	C423	3.32	0.32	0.01	D	1.27	1.55	-3.63
MP080	37	26.43	122	10.77	87.5	979938.42	C323	3.51	0.53	0.01	D	1.24	1.73	-3.34
MP081	37	27.68	122	10.91	52.0	979947.27	C323	7.20	5.43	0.00	D	1.10	6.50	1.44
MP082	37	27.37	122	11.19	65.0	979945.10	C323	6.71	4.49	0.00	D	1.14	5.60	0.35
MP083	37	27.20	122	11.31	71.5	979944.12	C323	6.59	4.15	0.00	D	1.17	5.29	-0.05
MP084	37	27.04	122	11.21	75.3	979943.12	C323	6.17	3.60	0.00	D	1.18	4.75	-0.55
MP085	37	27.07	122	11.42	77.4	979942.98	C323	6.19	3.55	0.00	D	1.19	4.71	-0.73
MP086	37	26.98	122	11.49	80.3	979942.28	C323	5.90	3.16	0.00	D	1.21	4.33	-1.17
MP087	37	26.87	122	11.58	82.5	979941.39	C323	5.37	2.56	0.00	D	1.22	3.74	-1.84
MP088	37	26.81	122	11.49	86.0	979941.04	C323	5.43	2.50	0.00	D	1.23	3.69	-1.82
MP089	37	26.75	122	12.05	80.5	979940.62	C323	4.58	1.84	0.00	D	1.30	3.10	-2.82
MP090	37	26.88	122	11.92	77.5	979941.38	C323	4.87	2.23	0.00	D	1.27	3.46	-2.35
MP091	37	26.75	122	11.71	84.7	979940.60	C323	4.96	2.07	0.00	D	1.25	3.28	-2.39
MP092	37	26.63	122	11.82	86.0	979939.59	C323	4.25	1.32	0.00	D	1.28	2.56	-3.21
MP093	37	26.61	122	11.66	88.0	979939.52	C323	4.39	1.39	0.00	D	1.27	2.62	-3.04
MP094	37	26.48	122	11.71	90.8	979938.69	C323	4.02	0.92	0.00	D	1.29	2.17	-3.55
MP095	37	26.40	122	11.81	96.0	979937.94	C323	3.88	0.60	0.00	D	1.32	1.88	-3.92
MP096	37	26.47	122	11.92	89.2	979938.90	C323	4.10	1.05	0.00	D	1.32	2.33	-3.53
MP097	37	28.01	122	11.21	39.0	979949.29	C323	7.52	6.19	0.00	D	1.10	7.27	2.05
MP098	37	27.94	122	11.42	45.0	979948.72	C423	7.62	6.08	0.00	D	1.12	7.18	1.83
MP099	37	27.72	122	11.58	53.0	979947.47	C323	7.44	5.63	0.00	D	1.15	6.76	1.26
MP100	37	27.61	122	11.71	57.5	979946.99	C323	7.54	5.58	0.00	D	1.17	6.72	1.12
MP101	37	27.45	122	11.83	61.6	979945.95	C323	7.12	5.02	0.00	D	1.20	6.19	0.49
MP102	37	27.29	122	11.90	66.0	979944.94	C323	6.76	4.51	0.00	D	1.22	5.70	-0.04
MP103	37	27.09	122	12.12	71.4	979942.82	C323	5.43	3.00	0.00	D	1.25	4.22	-1.72
MP104	37	26.94	122	12.21	74.0	979942.12	C423	5.20	2.67	0.00	D	1.29	3.93	-2.07
MP105	37	26.80	122	12.29	77.5	979941.60	C423	5.21	2.57	0.00	D	1.32	3.85	-2.22
MP106	37	27.22	122	12.30	70.5	979943.86	C323	6.20	3.80	0.00	D	1.25	5.02	-1.03
MP107	37	27.41	122	12.14	64.0	979945.78	C423	7.24	5.06	0.00	D	1.21	6.24	0.33
MP108	37	27.58	122	12.07	58.0	979947.43	C323	8.07	6.10	0.00	D	1.20	7.27	1.41
MP109	37	27.70	122	11.99	53.1	979948.27	C323	8.28	6.47	0.00	D	1.18	7.62	1.84
MP110	37	27.84	122	11.85	52.1	979948.61	C323	8.32	6.54	0.00	D	1.15	7.67	2.00
MP111	37	27.97	122	11.74	50.0	979948.95	C323	8.27	6.56	0.00	D	1.14	7.68	2.10
MP112	37	28.18	122	11.60	37.7	979950.29	C323	8.15	6.86	0.00	D	1.11	7.96	2.53
MP113	37	28.11	122	11.44	38.0	979949.93	F423	7.92	6.62	0.00	D	1.11	7.72	2.38
MP114	37	28.12	122	11.11	35.0	979949.60	C423	7.29	6.10	0.00	D	1.09	7.17	2.06
MP115	37	28.06	122	10.89	39.0	979949.12	C323	7.27	5.94	0.00	D	1.07	7.00	2.02
MP116	37	27.91	122	10.51	42.2	979947.61	C323	6.28	4.84	0.00	D	1.07	5.89	1.14
MP117	37	28.05	122	10.34	40.0	979947.50	C323	5.76	4.40	0.00	D	1.05	5.43	0.84
MP118	37	28.15	122	10.43	36.0	979947.63	F423	5.37	4.15	0.00	D	1.05	5.18	0.53
MP119	37	28.35	122	10.27	25.0	979947.40	C423	3.81	2.96	0.00	D	1.03	3.98	-0.53
MP120	37	28.38	122	10.53	30.0	979947.96	C423	4.80	3.78	0.00	D	1.04	4.81	0.11
MP121	37	28.52	122	10.60	23.0	979948.35	F423	4.33	3.55	0.00	D	1.03	4.57	-0.15
MP122	37	28.55	122	10.84	24.0	979949.44	C423	5.47	4.65	0.00	D	1.05	5.69	0.80
MP123	37	28.56	122	11.10	23.0	979950.34	C423	6.26	5.48	0.00	D	1.06	6.53	1.48
MP124	37	28.23	122	11.29	32.0	979950.44	C423	7.69	6.60	0.00	D	1.09	7.68	2.46
MP125	37	28.24	122	11.04	33.3	979949.76	C323	7.12	5.98	0.00	D	1.08	7.05	2.00
MP126	37	28.36	122	10.92	31.0	979949.72	C323	6.69	5.63	0.00	D	1.07	6.69	1.72
MP127	37	28.27	122	10.59	37.0	979948.09	C423	5.75	4.49	0.00	D	1.05	5.52	0.76
MP128	37	28.05	122	10.71	44.0	979948.49	C323	7.13	5.63	0.00	D	1.07	6.68	1.82
MP129	37	28.23	122	10.83	42.0	979948.87	F423	7.06	5.63	0.00	D	1.06	6.67	1.75
MP130	37	27.96	122	10.79	44.2	979948.31	C323	7.10	5.59	0.00	D	1.08	6.65	1.71

TABLE 1.–*Principal facts for gravity stations collected March-July 1989–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC mGal	CBA 2.67	ISO 2.67
MP131	37	27.54	122	9.66	44.2	979943.66	C323	3.06	1.55	0.00	D	1.05	2.58	-1.64
MP132	37	27.69	122	9.52	40.4	979943.51	C323	2.33	0.95	0.00	D	1.02	1.96	-2.14
MP133	37	27.81	122	9.44	35.8	979943.38	C323	1.60	0.38	0.00	D	1.01	1.37	-2.66
MP134	37	28.07	122	9.32	23.8	979943.84	C323	0.55	-0.26	0.00	D	0.99	0.72	-3.18
MP135	37	28.08	122	9.81	35.0	979945.26	C323	3.01	1.82	0.00	D	1.02	2.82	-1.42
MP136	37	27.93	122	9.87	40.2	979945.31	C323	3.77	2.40	0.00	D	1.04	3.42	-0.88
MP137	37	27.61	122	9.82	46.4	979944.38	C323	3.88	2.30	0.00	D	1.05	3.33	-0.98
MP138	37	27.87	122	12.09	46.2	979949.46	C323	8.57	7.00	0.00	D	1.17	8.14	2.31
MP139	37	27.95	122	12.21	44.2	979949.87	C323	8.68	7.17	0.00	D	1.17	8.32	2.42
MP140	37	27.94	122	12.40	45.0	979950.18	C323	9.08	7.54	0.00	D	1.18	8.70	2.68
MP141	37	27.77	122	12.57	47.5	979949.38	C423	8.75	7.13	0.00	D	1.22	8.33	2.17
MP142	37	27.59	122	12.72	54.3	979948.12	C323	8.40	6.55	0.00	D	1.25	7.77	1.48
MP143	37	27.42	122	12.84	59.6	979946.20	C323	7.23	5.20	0.00	D	1.28	6.45	0.06
MP144	37	27.36	122	12.85	61.0	979945.70	C323	6.94	4.86	0.00	D	1.29	6.13	-0.28
MP145	37	27.25	122	12.97	63.4	979944.85	C323	6.48	4.31	0.00	D	1.31	5.60	-0.89
MP146	37	27.04	122	13.12	71.3	979944.23	C323	6.90	4.47	0.00	D	1.39	5.83	-0.79
MP147	37	26.90	122	13.24	81.0	979943.69	F423	7.48	4.72	0.01	D	1.43	6.11	-0.63
MP148	37	26.63	122	13.42	128.0	979940.67	F423	9.28	4.91	0.03	D	1.51	6.37	-0.52
MP149	37	26.64	122	13.10	100.0	979941.74	C423	7.70	4.29	0.04	D	1.50	5.75	-0.91
MP150	37	26.86	122	12.94	84.0	979942.81	C423	6.94	4.08	0.00	D	1.37	5.41	-1.11
MP151	37	26.96	122	12.83	78.0	979943.28	C423	6.70	4.04	0.00	D	1.35	5.36	-1.07
MP152	37	27.14	122	12.79	69.0	979943.91	C323	6.23	3.87	0.00	D	1.33	5.17	-1.22
MP153	37	27.35	122	12.61	62.6	979945.15	C323	6.56	4.43	0.00	D	1.27	5.67	-0.57
MP154	37	27.50	122	12.51	56.6	979947.26	C323	7.89	5.96	0.00	D	1.24	7.17	1.02
MP155	37	27.73	122	12.32	53.0	979948.77	C323	8.72	6.92	0.00	D	1.20	8.09	2.11
MP156	37	27.42	122	12.37	61.3	979946.23	C323	7.42	5.33	0.00	D	1.23	6.53	0.46
MP157	37	27.32	122	12.45	63.5	979945.05	C323	6.58	4.42	0.00	D	1.25	5.64	-0.49
MP158	37	27.07	122	12.65	69.8	979943.49	C323	5.99	3.61	0.00	D	1.32	4.89	-1.41
MP159	37	26.98	122	12.51	74.2	979942.68	C323	5.72	3.19	0.00	D	1.31	4.47	-1.74
MP160	37	26.86	122	12.57	80.0	979942.23	C423	5.99	3.26	0.00	D	1.34	4.56	-1.71
MP161	37	26.74	122	12.67	87.0	979941.54	F423	6.13	3.16	0.00	D	1.35	4.47	-1.88
MP162	37	26.61	122	12.79	96.0	979940.85	C423	6.47	3.20	0.00	D	1.40	4.56	-1.90
MP163	37	26.39	122	12.95	117.0	979939.81	B123	7.73	3.74	0.02	D	1.49	5.18	-1.42
MP164	37	26.44	122	12.70	107.0	979939.54	C423	6.45	2.80	0.00	D	1.42	4.17	-2.25
MP165	37	27.22	122	11.52	69.0	979944.31	C423	6.51	4.16	0.00	D	1.19	5.32	-0.17
MP166	37	27.35	122	11.62	64.5	979945.32	C323	6.91	4.71	0.00	D	1.19	5.87	0.32
MP167	37	27.16	122	11.70	70.7	979943.73	C323	6.18	3.77	0.00	D	1.22	4.95	-0.67
MP168	37	26.58	122	12.06	86.0	979939.69	C323	4.42	1.49	0.00	D	1.33	2.78	-3.17
MP169	37	26.53	122	12.23	91.5	979939.60	C323	4.92	1.80	0.00	D	1.36	3.12	-2.95
MP170	37	26.61	122	12.42	88.5	979940.43	C323	5.35	2.33	0.00	D	1.35	3.64	-2.56
MP171	37	26.48	122	12.47	95.0	979939.98	C323	5.71	2.47	0.00	D	1.38	3.80	-2.45
MP172	37	26.37	122	12.56	105.5	979939.29	C323	6.16	2.56	0.00	D	1.42	3.93	-2.40
MP173	37	26.34	122	12.36	97.0	979939.31	C323	5.43	2.12	0.00	D	1.40	3.48	-2.71
MP174	37	26.39	122	12.01	98.3	979938.30	C323	4.46	1.11	0.00	D	1.35	2.41	-3.53
MP175	37	26.24	122	12.13	104.5	979938.15	C323	5.11	1.55	0.00	D	1.40	2.90	-3.14
MP176	37	26.13	122	12.22	105.5	979938.38	C323	5.60	2.00	0.01	D	1.42	3.38	-2.73
MP177	37	26.14	122	12.02	107.0	979937.42	C323	4.76	1.12	0.00	D	1.37	2.44	-3.54
MP178	37	26.20	122	11.90	103.0	979937.31	C323	4.19	0.68	0.00	D	1.36	1.99	-3.90
MP179	37	25.60	122	11.46	133.0	979934.36	C423	4.94	0.40	0.02	D	1.40	1.75	-3.89
MP180	37	25.77	122	11.47	123.0	979934.41	C423	3.80	-0.40	0.01	D	1.39	0.94	-4.69
MP181	37	26.55	122	10.74	77.7	979939.65	C323	3.65	1.00	0.00	D	1.21	2.17	-2.87
MP182	37	26.64	122	10.59	71.0	979940.42	C323	3.65	1.23	0.00	D	1.19	2.39	-2.53
MP183	37	26.79	122	10.46	65.3	979941.55	C323	4.03	1.80	0.00	D	1.16	2.93	-1.89
MP184	37	26.61	122	10.46	78.0	979939.47	C323	3.40	0.74	0.00	D	1.18	1.88	-2.96
MP185	37	26.86	122	10.32	64.0	979941.96	C323	4.22	2.03	0.00	D	1.14	3.14	-1.59
MP186	37	27.40	122	9.65	49.3	979943.24	C323	3.32	1.64	0.00	D	1.06	2.68	-1.55
MP187	37	27.57	122	9.45	39.0	979943.03	C323	1.90	0.57	0.00	D	1.02	1.57	-2.49
MP188	37	27.44	122	9.45	45.0	979942.81	C323	2.43	0.90	0.00	D	1.05	1.93	-2.14
MP189	37	27.28	122	9.40	50.0	979942.18	C323	2.51	0.80	0.00	D	1.06	1.84	-2.23
MP190	37	27.35	122	8.97	35.0	979941.01	B123	-0.17	-1.37	0.00	D	1.02	-0.36	-4.12
MP191	37	27.19	122	9.21	42.0	979941.84	C423	1.54	0.11	0.00	D	1.04	1.13	-2.82
MP192	37	27.13	122	9.37	45.0	979942.35	C423	2.43	0.89	0.00	D	1.07	1.94	-2.13
MP193	37	27.72	122	10.31	48.0	979946.55	C323	6.05	4.41	0.00	D	1.07	5.46	0.82
MP194	37	28.55	122	10.43	22.0	979947.72	C423	3.56	2.81	0.00	D	1.02	3.82	-0.78
MP195	37	28.64	122	10.22	16.0	979947.42	C423	2.57	2.02	0.00	D	1.01	3.02	-1.44
MP196	37	28.70	122	10.42	16.5	979947.95	C423	3.06	2.49	0.00	D	1.01	3.50	-1.09
MP197	37	28.69	122	10.61	20.0	979948.50	C423	3.95	3.27	0.00	D	1.02	4.28	-0.43
MP198	37	28.67	122	11.17	22.0	979950.40	[illegible]223	6.07	5.32	0.00	D	1.05	6.36	1.27
MP199	37	28.72	122	10.85	19.0	979949.23	C423	4.55	3.90	0.00	D	1.03	4.92	0.05
MP200	37	28.92	122	10.78	12.5	979949.03	C423	3.44	3.01	0.00	D	1.02	4.03	-0.77

TABLE 1.–*Principal facts for gravity stations collected March-July 1989–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC mGal	CBA 2.67	ISO 2.67
MP201	37	28.98	122	10.93	11.9	979949.42	C323	3.69	3.28	0.00	D	1.02	4.30	-0.58
MP202	37	28.84	122	11.02	16.0	979949.64	C323	4.50	3.95	0.00	D	1.03	4.97	0.00
MP203	37	29.06	122	10.42	5.0	979948.42	C423	1.92	1.75	0.00	D	0.98	2.73	-1.82
MP204	37	28.91	122	10.49	9.0	979948.46	C423	2.56	2.25	0.00	D	1.00	3.24	-1.38
MP205	37	28.91	122	10.22	8.0	979948.05	C423	2.05	1.78	0.00	D	0.99	2.77	-1.67
MP206	37	28.77	122	9.40	6.0	979945.96	C323	-0.02	-0.23	0.00	D	0.95	0.72	-3.18
MP207	37	28.72	122	9.61	8.0	979946.59	C323	0.87	0.60	0.00	D	0.97	1.57	-2.49
MP208	37	28.71	122	9.80	8.5	979946.87	C323	1.21	0.92	0.00	D	0.97	1.88	-2.30
MP209	37	28.62	122	10.00	14.0	979947.01	C323	2.00	1.52	0.00	D	1.00	2.52	-1.80
MP210	37	28.58	122	9.75	13.4	979946.39	C323	1.38	0.93	0.00	D	0.98	1.90	-2.26
MP211	37	28.55	122	9.53	10.0	979945.91	F423	0.62	0.28	0.00	D	0.97	1.25	-2.77
MP212	37	28.39	122	9.61	18.0	979945.69	C323	1.39	0.78	0.00	D	0.99	1.76	-2.32
MP213	37	28.29	122	9.44	19.0	979944.96	C323	0.90	0.26	0.00	D	0.99	1.24	-2.73
MP214	37	28.42	122	9.38	14.3	979945.13	C323	0.44	-0.05	0.00	D	0.98	0.92	-3.01
MP215	37	28.55	122	9.31	10.0	979945.13	C323	-0.16	-0.50	0.00	D	0.97	0.47	-3.41
MP216	37	28.76	122	9.21	5.5	979945.28	C323	-0.73	-0.92	0.00	D	0.94	0.02	-3.76
MP217	37	27.28	122	10.07	52.0	979944.00	C423	4.52	2.74	0.00	D	1.09	3.81	-0.70
MP218	37	27.19	122	10.14	54.0	979943.78	C423	4.61	2.77	0.00	D	1.10	3.84	-0.73
MP219	37	27.14	122	10.27	55.0	979943.70	C423	4.70	2.82	0.00	D	1.12	3.92	-0.75
MP220	37	27.17	122	10.37	57.0	979943.97	C423	5.11	3.17	0.00	D	1.12	4.26	-0.47
MP221	37	27.24	122	10.53	62.0	979944.24	C423	5.75	3.64	0.00	D	1.12	4.73	-0.10
MP222	37	27.39	122	10.49	62.5	979944.86	C423	6.20	4.07	0.00	D	1.11	5.15	0.35
MP223	37	27.30	122	10.29	56.0	979944.28	C423	5.14	3.23	0.00	D	1.10	4.31	-0.35
MP224	37	27.39	122	10.66	61.4	979945.16	C323	6.39	4.30	0.00	D	1.11	5.38	0.47
MP225	37	27.59	122	10.74	55.7	979945.83	C323	6.24	4.34	0.00	D	1.10	5.42	0.46
MP226	37	27.51	122	10.56	55.7	979945.83	C323	6.36	4.46	0.00	D	1.10	5.53	0.70
MP227	37	27.51	122	10.00	50.5	979944.53	C423	4.57	2.85	0.00	D	1.07	3.89	-0.55
MP228	37	27.66	122	10.02	50.4	979944.92	C323	4.73	3.01	0.00	D	1.06	4.05	-0.38
MP229	37	27.50	122	9.86	48.0	979944.27	C423	4.09	2.45	0.00	D	1.06	3.49	-0.86
MP230	37	27.27	122	9.55	55.0	979942.25	C423	3.06	1.19	0.01	D	1.08	2.24	-1.93
MP231	37	26.99	122	9.17	40.0	979941.55	C423	1.36	-0.01	0.00	D	1.06	1.04	-2.90
MP232	37	27.16	122	8.99	35.0	979941.23	C423	0.32	-0.87	0.00	D	1.04	0.15	-3.65
MP233	37	27.20	122	8.52	21.0	979940.72	F423	-1.56	-2.28	0.00	D	1.01	-1.28	-4.74
MP234	37	26.94	122	8.31	17.0	979940.79	F423	-1.49	-2.07	0.00	D	1.02	-1.06	-4.40
MP235	37	27.37	122	8.01	17.0	979940.76	F423	-2.15	-2.73	0.00	D	0.99	-1.75	-4.86
MP236	37	27.43	122	8.76	38.0	979940.08	C423	-0.94	-2.24	0.01	D	1.02	-1.23	-4.85
MP237	37	27.54	122	8.91	37.0	979940.66	C423	-0.62	-1.88	0.00	D	1.01	-0.89	-4.59
MP238	37	27.64	122	8.72	27.5	979940.54	C423	-1.77	-2.71	0.00	D	1.00	-1.72	-5.28
MP239	37	27.62	122	8.44	21.0	979940.41	B123	-2.49	-3.21	0.00	D	0.99	-2.23	-5.59
MP240	37	27.81	122	8.81	29.0	979940.76	C323	-1.66	-2.65	0.00	D	0.99	-1.67	-5.28
MP241	37	27.14	122	9.75	61.0	979942.15	C423	3.72	1.63	0.01	D	1.10	2.71	-1.61
MP242	37	27.01	122	9.90	66.0	979941.70	C423	3.92	1.67	0.01	D	1.12	2.76	-1.67
MP243	37	26.88	122	10.00	71.0	979941.00	C423	3.88	1.46	0.01	D	1.13	2.56	-1.95
MP244	37	26.77	122	10.01	65.0	979941.15	C423	3.63	1.41	0.00	D	1.13	2.52	-2.01
MP245	37	26.85	122	9.79	58.0	979941.61	C423	3.32	1.34	0.00	D	1.11	2.42	-1.95
MP246	37	26.99	122	9.64	52.5	979942.51	C423	3.49	1.70	0.00	D	1.09	2.77	-1.49
MP247	37	27.10	122	9.53	49.5	979942.51	C423	3.05	1.36	0.00	D	1.08	2.42	-1.75
MP248	37	26.69	122	9.82	62.0	979940.74	C423	3.06	0.94	0.00	D	1.13	2.04	-2.36
MP249	37	26.56	122	9.60	56.0	979940.38	C423	2.32	0.41	0.00	D	1.13	1.51	-2.77
MP250	37	26.38	122	9.29	44.0	979940.39	C423	1.46	-0.04	0.00	D	1.13	1.07	-3.01
MP251	37	26.21	122	8.95	40.0	979939.89	C423	0.83	-0.53	0.00	D	1.12	0.57	-3.30
MP252	37	26.17	122	8.51	26.0	979940.24	F423	-0.08	-0.97	0.00	D	1.09	0.11	-3.45
MP253	37	26.45	122	8.97	35.0	979940.72	C423	0.84	-0.35	0.00	D	1.11	0.74	-3.10
MP254	37	26.64	122	9.25	43.0	979940.81	C423	1.41	-0.06	0.00	D	1.10	1.02	-3.00
MP255	37	26.78	122	9.48	50.0	979941.30	C423	2.35	0.65	0.00	D	1.10	1.73	-2.44
MP256	37	26.97	122	9.41	45.0	979942.08	C423	2.38	0.85	0.00	D	1.09	1.92	-2.19
MP257	37	26.83	122	9.19	42.5	979941.32	C423	1.60	0.15	0.00	D	1.09	1.22	-2.73
MP258	37	26.69	122	8.98	35.0	979941.07	C423	0.85	-0.35	0.00	D	1.07	0.71	-3.12
MP259	37	26.55	122	8.76	30.0	979940.95	C423	0.46	-0.56	0.00	D	1.08	0.50	-3.19
MP260	37	26.84	122	8.81	30.0	979941.20	C423	0.29	-0.74	0.00	D	1.05	0.30	-3.40
MP261	37	28.58	122	9.10	8.0	979944.36	C423	-1.15	-1.43	0.00	D	0.95	-0.48	-4.19
MP262	37	28.41	122	8.93	12.0	979943.47	C423	-1.42	-1.83	0.00	D	0.97	-0.87	-4.49
MP263	37	28.22	122	9.06	17.0	979943.20	C423	-0.94	-1.52	0.00	D	0.98	-0.55	-4.27
MP264	37	28.25	122	8.82	15.0	979942.54	C423	-1.84	-2.35	0.00	D	0.97	-1.39	-4.95
MP265	37	28.04	122	8.81	26.0	979941.12	C423	-1.92	-2.81	0.00	D	0.98	-1.84	-5.43
MP266	37	28.11	122	8.50	18.0	979941.54	F423	-2.35	-2.97	0.00	D	0.97	-2.00	-5.36
MP267	37	28.53	122	8.50	9.0	979943.37	C423	-1.98	-2.29	0.00	D	0.94	-1.35	-4.67
MP268	37	28.56	122	8.06	11.0	979943.40	C423	-1.81	-2.18	0.00	D	0.92	-1.27	-4.29
MP269	37	28.02	122	8.03	12.0	979941.81	F423	-2.51	-2.92	0.00	D	0.96	-1.97	-5.03
MP270	37	27.66	122	8.00	13.5	979941.16	C423	-2.50	-2.96	0.00	D	0.97	-2.00	-5.09

TABLE 1.–*Principal facts for gravity stations collected March-July 1989–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC mGal	CBA 2.67	ISO 2.67
MP271	37	27.87	122	8.28	15.0	979941.25	C423	-2.57	-3.09	0.00	D	0.98	-2.11	-5.36
MP272	37	26.74	122	10.27	72.0	979940.60	C423	3.78	1.32	0.00	D	1.15	2.44	-2.28
MP273	37	26.62	122	10.03	65.0	979940.33	C423	3.03	0.81	0.00	D	1.15	1.93	-2.63
MP274	37	26.45	122	10.58	82.5	979938.46	C423	3.05	0.24	0.00	D	1.21	1.41	-3.53
MP275	37	26.36	122	10.64	82.5	979938.00	C423	2.72	-0.09	0.01	D	1.24	1.11	-3.89
MP276	37	26.12	122	10.80	88.0	979936.98	C423	2.57	-0.43	0.02	D	1.29	0.82	-4.30
MP277	37	25.33	122	10.86	154.0	979932.34	F423	5.29	0.03	0.11	D	1.52	1.49	-3.77
MP278	37	25.84	122	10.62	100.0	979935.19	C423	2.32	-1.10	0.01	D	1.31	0.17	-4.86
MP279	37	25.90	122	10.37	86.0	979936.10	C423	1.82	-1.11	0.02	D	1.29	0.14	-4.73
MP280	37	26.27	122	9.94	66.0	979938.78	C423	2.08	-0.17	0.00	D	1.19	0.99	-3.54
MP281	37	26.38	122	10.19	77.0	979938.48	C423	2.65	0.03	0.00	D	1.19	1.18	-3.51
MP282	37	28.41	122	11.27	26.0	979950.85	F423	7.27	6.38	0.00	D	1.08	7.45	2.26
MP283	37	28.48	122	11.45	23.5	979951.51	C423	7.59	6.79	0.00	D	1.08	7.86	2.56
MP284	37	28.59	122	11.76	22.0	979952.22	C423	8.01	7.26	0.00	D	1.08	8.33	2.83
MP285	37	28.91	122	11.51	11.0	979951.58	F423	5.86	5.49	0.00	D	1.05	6.53	1.22
MP286	37	29.07	122	11.33	9.0	979950.58	F423	4.44	4.13	0.00	D	1.03	5.16	0.00
MP287	37	28.04	122	11.96	40.0	979949.64	C423	7.92	6.55	0.00	D	1.14	7.68	1.97
MP288	37	28.20	122	11.86	36.0	979950.50	C423	8.17	6.94	0.00	D	1.12	8.04	2.42
MP289	37	28.22	122	12.26	35.0	979950.88	C423	8.43	7.24	0.00	D	1.14	8.36	2.48
MP290	37	28.10	122	12.59	36.0	979950.99	F423	8.81	7.58	0.00	D	1.18	8.74	2.63
MP291	37	27.96	122	12.71	43.0	979950.78	C423	9.46	7.99	0.00	D	1.21	9.18	2.95
MP292	37	27.76	122	12.86	50.0	979949.53	C423	9.16	7.45	0.00	D	1.24	8.67	2.32
MP293	37	27.53	122	13.03	55.5	979947.38	C423	7.86	5.97	0.00	D	1.30	7.24	0.74
MP294	37	27.36	122	13.17	55.0	979946.30	C423	6.98	5.10	0.00	D	1.34	6.42	-0.19
MP295	37	27.20	122	13.32	63.0	979945.61	C423	7.28	5.13	0.00	D	1.38	6.48	-0.27
MP296	37	27.03	122	13.43	76.0	979944.84	C423	7.97	5.38	0.01	D	1.43	6.78	-0.06
MP297	37	27.16	122	13.61	71.0	979945.84	C423	8.32	5.89	0.00	D	1.44	7.30	0.35
MP298	37	27.37	122	13.49	60.0	979946.77	C423	7.91	5.86	0.00	D	1.38	7.21	0.36
MP299	37	27.48	122	13.37	52.5	979947.43	C423	7.70	5.91	0.00	D	1.34	7.22	0.48
MP300	37	27.57	122	13.29	49.5	979948.37	C423	8.23	6.54	0.00	D	1.33	7.85	1.17
MP301	37	27.82	122	13.03	49.0	979950.23	C423	9.68	8.00	0.00	D	1.26	9.24	2.77
MP302	37	27.97	122	13.13	42.0	979951.70	C423	10.27	8.84	0.00	D	1.25	10.07	3.57
MP303	37	28.09	122	12.87	38.0	979951.61	C423	9.63	8.33	0.00	D	1.21	9.53	3.24
MP304	37	26.82	122	13.67	116.0	979942.61	F423	9.81	5.85	0.01	D	1.50	7.30	0.26
MP305	37	26.49	122	13.79	162.0	979940.75	F423	12.76	7.24	0.16	D	1.72	8.89	1.70
MP306	37	26.40	122	14.12	237.0	979937.72	F423	16.92	8.84	0.17	D	1.75	10.48	3.05
MP307	37	26.18	122	14.05	356.0	979930.06	F423	20.77	8.63	0.15	D	1.81	10.29	2.87
MP308	37	25.96	122	14.01	434.0	979925.30	F423	23.66	8.86	0.36	D	2.15	10.82	3.36
MP309	37	26.56	122	13.27	133.0	979939.92	F423	9.10	4.57	0.04	D	1.52	6.03	-0.76
MP310	37	26.25	122	13.42	222.0	979935.25	F423	13.25	5.68	0.13	D	1.64	7.22	0.24
MP311	37	26.21	122	13.64	343.0	979928.70	F423	18.14	6.44	0.23	D	1.89	8.19	1.04
MP312	37	26.24	122	13.08	206.0	979935.22	F423	11.73	4.70	0.14	D	1.64	6.25	-0.48
MP313	37	26.18	122	12.69	134.0	979938.41	F423	8.24	3.67	0.05	D	1.50	5.11	-1.33
MP314	37	26.04	122	12.97	146.0	979939.06	F423	10.22	5.24	0.14	D	1.64	6.82	0.14
MP315	37	25.92	122	13.08	138.0	979939.96	F423	10.54	5.83	0.25	D	1.80	7.57	0.80
MP316	37	25.72	122	12.99	162.0	979938.09	F423	11.22	5.69	0.18	D	1.71	7.33	0.59
MP317	37	25.81	122	13.24	151.0	979939.51	F423	11.47	6.32	0.08	D	1.64	7.89	0.98
MP318	37	25.90	122	13.58	240.0	979935.19	C623	15.40	7.21	0.23	D	1.76	8.87	1.73
MP319	37	25.81	122	12.53	250.0	979930.50	F423	11.77	3.25	0.09	D	1.57	4.71	-1.70
MP320	37	25.91	122	12.64	319.0	979926.13	F423	13.75	2.87	0.33	D	1.92	4.65	-1.82
MP321	37	25.72	122	12.71	364.0	979924.61	F423	15.80	3.72	0.32	D	1.93	5.50	-1.06
MP322	37	25.47	122	12.63	207.0	979933.80	F423	11.53	4.47	0.20	D	1.69	6.07	-0.44
MP323	37	25.55	122	13.03	262.0	979932.87	F423	15.66	6.72	0.12	D	1.63	8.23	1.42
MP324	37	25.51	122	12.42	222.0	979932.16	F423	11.24	3.67	0.07	D	1.51	5.08	-1.29
MP325	37	25.69	122	12.23	195.0	979932.45	F423	8.73	2.08	0.04	D	1.47	3.46	-2.73
MP326	37	25.69	122	11.97	174.0	979933.38	F423	7.69	1.75	0.02	D	1.43	3.10	-2.91
MP327	37	25.44	122	11.65	188.0	979931.66	F323	7.64	1.23	0.03	D	1.45	2.60	-3.21
MP328	37	25.54	122	11.68	176.0	979932.34	F423	7.05	1.05	0.02	D	1.43	2.40	-3.42
MP329	37	25.45	122	12.17	266.0	979927.93	F423	11.23	2.16	0.10	D	1.54	3.58	-2.61
MP330	37	25.33	122	11.84	211.0	979930.46	F323	8.77	1.57	0.03	D	1.48	2.96	-3.00
MP331	37	25.28	122	11.56	224.0	979928.77	F323	8.37	0.73	0.11	D	1.54	2.17	-3.59
MP332	37	25.28	122	12.33	278.0	979928.30	F323	12.98	3.50	0.04	D	1.50	4.88	-1.45
MP333	37	25.24	122	12.57	332.0	979925.90	F323	15.72	4.40	0.05	D	1.57	5.82	-0.68
MP334	37	25.24	122	12.91	303.0	979929.00	F423	16.09	5.76	0.02	D	1.56	7.19	0.44
MP335	37	25.39	122	13.14	290.0	979930.73	F423	16.38	6.49	0.04	D	1.58	7.94	1.05
MP336	37	25.10	122	13.27	314.0	979930.23	F423	18.56	7.85	0.06	D	1.64	9.36	2.32
MP337	37	25.34	122	13.55	323.0	979930.88	F423	19.71	8.69	0.18	D	1.79	10.34	3.12
MP338	37	25.11	122	13.55	361.0	979929.05	F423	21.79	9.47	0.09	D	1.74	11.06	3.80
MP339	37	25.10	122	13.91	420.0	979928.25	C623	26.55	12.23	0.11	D	1.84	13.89	6.34
MP340	37	24.72	122	14.39	292.0	979940.25	F423	27.06	17.10	0.05	D	2.00	18.97	11.02

TABLE 1.–*Principal facts for gravity stations collected March-July 1989–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC mGal	CBA 2.67	ISO 2.67
MP341	37	25.76	122	14.90	399.0	979933.34	F423	28.71	15.10	0.03	D	1.79	16.72	8.57
MP342	37	29.75	122	10.37	9.3	979947.86	P323	0.76	0.45	0.02	D	0.96	1.40	-3.05
MP343	37	29.76	122	10.02	8.2	979948.07	F323	0.86	0.58	0.01	D	0.91	1.48	-2.74
MP344	37	29.50	122	10.01	4.8	979947.73	P323	0.57	0.41	0.01	D	0.94	1.35	-2.89
MP345	37	29.52	122	10.49	9.0	979948.07	P323	1.28	0.98	0.01	D	0.98	1.95	-2.60
MP346	37	25.19	122	11.58	327.0	979921.66	F623	11.08	-0.07	0.47	D	2.02	1.81	-3.99
MP347	37	24.68	122	13.92	305.0	979938.30	F623	26.39	15.99	0.22	D	2.05	17.91	10.28
MP348	37	24.81	122	13.27	247.0	979935.98	F623	18.43	10.01	0.16	D	1.89	11.79	4.70
MP349	37	24.83	122	11.80	201.0	979930.06	F523	8.15	1.30	0.08	D	1.59	2.80	-3.22
MP351	37	24.78	122	12.02	212.0	979930.48	F523	9.68	2.45	0.07	D	1.62	3.98	-2.20
MP352	37	24.56	122	12.44	307.0	979927.04	F623	15.49	5.02	0.16	D	1.74	6.63	0.09
MP353	37	24.83	122	12.61	386.0	979922.24	F623	17.73	4.57	0.11	D	1.72	6.12	-0.51
MP355	37	24.88	122	13.23	302.0	979931.75	F623	19.27	8.97	0.07	D	1.69	10.53	3.46
MP356	37	24.82	122	13.70	312.0	979935.01	F623	23.56	12.92	0.11	D	1.84	14.62	7.19
MP357	37	24.81	122	13.85	310.0	979936.76	F623	25.14	14.57	0.07	D	1.82	16.25	8.70
MP358	37	24.73	122	14.28	329.0	979937.51	F623	27.78	16.56	0.09	D	1.94	18.36	10.47
MP359	37	24.77	122	14.01	325.0	979936.97	F623	26.81	15.73	0.07	D	1.84	17.43	9.75
MR349	37	28.79	122	14.66	33.0	979958.73	F323	15.26	14.14	0.00	D	1.39	15.51	8.07
MR350	37	28.58	122	14.67	69.0	979956.59	F323	16.81	14.46	0.04	D	1.45	15.88	8.39
MR351	37	28.62	122	14.79	48.0	979958.59	F323	16.78	15.14	0.00	D	1.45	16.57	9.01
MR352	37	28.39	122	14.68	52.0	979957.95	F323	16.85	15.08	0.01	D	1.49	16.54	9.02
MR353	37	28.48	122	14.51	91.0	979955.03	F323	17.47	14.36	0.07	D	1.45	15.77	8.38
MR354	37	28.31	122	14.46	45.0	979957.35	F323	15.71	14.17	0.01	D	1.45	15.60	8.23
MR355	37	28.14	122	14.45	44.0	979956.50	F323	15.01	13.51	0.01	D	1.48	14.97	7.59
MR356	37	27.89	122	14.52	96.0	979951.81	F323	15.57	12.30	0.04	D	1.55	13.81	6.32
MR357	37	27.87	122	14.70	139.0	979949.52	F323	17.36	12.62	0.08	D	1.64	14.20	6.56
MR358	37	27.97	122	14.95	182.0	979948.03	F323	19.77	13.56	0.16	D	1.76	15.24	7.43
MR359	37	27.48	122	14.85	231.0	979940.40	F323	17.46	9.58	0.09	D	1.74	11.22	3.41
MR360	37	24.97	122	9.39	100.0	979931.76	C423	0.15	-3.26	0.10	D	1.46	-1.84	-6.13
MR361	37	24.93	122	9.79	140.0	979927.96	C423	0.17	-4.61	0.08	D	1.48	-3.19	-7.76
MR362	37	24.54	122	9.06	140.0	979926.47	C423	-0.75	-5.53	0.03	D	1.41	-4.18	-8.31
ST001	37	24.92	122	14.34	368.0	979934.46	F623	28.13	15.58	0.11	D	1.90	17.32	9.42
ST002	37	25.24	122	14.23	372.0	979932.63	F623	26.22	13.53	0.03	D	1.75	15.12	7.38
ST003	37	25.37	122	14.04	409.0	979927.97	F623	24.84	10.89	0.20	D	1.91	12.62	5.04
ST004	37	25.40	122	13.81	329.0	979931.70	F623	21.01	9.78	0.24	D	1.87	11.51	4.11
ST005	37	25.28	122	13.67	393.0	979927.21	F623	22.71	9.30	0.28	D	1.97	11.10	3.76
ST006	37	24.84	122	13.87	348.0	979933.96	F623	25.87	14.00	0.10	D	1.81	15.65	8.08
ST007	37	24.99	122	12.95	256.0	979932.66	F623	15.69	6.96	0.05	D	1.64	8.49	1.66
ST008	37	24.93	122	13.26	301.0	979932.03	F623	19.38	9.11	0.04	D	1.65	10.63	3.55
ST009	37	24.88	122	13.61	346.0	979932.72	F623	24.38	12.58	0.12	D	1.79	14.22	6.86
ST010	37	24.79	122	14.10	363.0	979934.41	F623	27.80	15.42	0.35	D	2.10	17.36	9.61
ST011	37	24.70	122	14.41	288.0	979940.32	F623	26.78	16.96	0.05	D	2.03	18.87	10.90
ST012	37	24.97	122	12.06	266.9	979926.89	■223	10.98	1.88	0.06	D	1.56	3.32	-2.88
ST013	37	24.99	122	11.76	282.0	979925.07	F523	10.55	0.93	0.11	D	1.57	2.38	-3.60
ST014	37	25.06	122	11.61	324.0	979921.91	F523	11.24	0.19	0.30	D	1.83	1.88	-3.97
ST015	37	24.95	122	12.48	281.0	979928.13	F623	13.58	3.99	0.40	D	1.91	5.78	-0.71
ST016	37	24.94	122	12.59	286.0	979928.83	F623	14.75	5.00	0.34	D	1.87	6.74	0.15
ST017	37	25.00	122	12.22	284.0	979926.09	F623	11.74	2.05	0.13	D	1.61	3.54	-2.77

TABLE 2.–*Explanation of principal fact format*

Item	Explanation
STATION NAME (a8)	An alphanumeric combination of up to 8 characters used for station identification
LAT (f3.0,f4.2)	Latitude in degrees and minutes, to 0.01 minute
LON (f4.0,f4.2)	Longitude in degrees and minutes, to 0.01 minute
ELEV (f5.1)	Elevation, to 0.1 foot
OG (f7.2)	Observed gravity, to 0.01 mGal
AC (a4)	Four digit code describing the general location, elevation, latitude, and observed gravity accuracy (see table 3)
FAA (f6.2)	Free-air anomaly to 0.01 mGal
SBA (f6.2)	Simple Bouguer anomaly to 0.01 mGal
ITC (f5.2)	Inner-zone terrain correction for a density of 2.67 g/cm^3, to 0.01 mGal, followed by a letter denoting the extent of the correction.
TC (f5.2)	Total terrain correction from the station to 166.7 km for a density of 2.67 g/cm^3, to 0.01 mGal
CBA (f6.2)	Complete Bouguer anomaly reduced for a density of 2.67 g/cm^3, to 0.01 mGal
ISO (f6.2)	Isostatic residual anomaly values assuming an Airy model for isostatic compensation of topographic loads. This model assumes a crustal thickness of 25 km, a topographic density load of 2.67 g/cm^3 and a density contrast across the base of the model crust of 0.4 g/cm^3.

TABLE 3.–*Explanation of accuracy code (AC)*

[NGS, National Geodetic Survey; NMD, National Mapping Division; USGS, U. S. Geological Survey]

Code	Explanation
	General elevation and location code–1st digit
A	Altimetry, good control
B	On USGS or NGS level-line bench mark
C	Contour line interpolation
D	Destroyed or not found reference mark
E	Near level-line bench mark other than USGS or NGS
F	Map elevation, black or field checked
G	Map elevation, brown or not field checked
H	Near vertical angle bench mark
I	Other special source
K	Photogrammetry by other than USGS NMD
N	Near USGS or NGS level-line bench mark
M	On level-line bench mark other than USGS or NGS
P	On or near surveyed mark
Q	River gradient interpolation
R	Lake or reservoir elevation by leveling
S	Sea level elevation
T	Photogrammetry by USGS NMD
U	Unknown elevation source
V	On vertical angle bench mark
W	Map elevation, blue
X	On or near boundary marker
Y	Altimetry, poor control
Z	Special source (e.g. mobile elevation recorder)

	Elevation code–2nd digit	Elevation accuracy (ft)	Approximate gravity effect (mGal)
1	On bench mark	0.2	0.01
2	Near bench mark	0.3	0.02
3	Transit or good alidade survey	1.0	0.06
4	Vertical angle bench mark or black map elevation	2.0	0.12
5	Black map elevation on old map or good photogrammetry	4.0	0.24
6	Brown map elevation or good photogrammetry on 20 ft contour interval map	10	0.6
7	Brown map elevation on 80 ft contour interval map or good altimetry	20	1.2
8	Contour interpolation on 80 ft contour interval map	40	2.4
9	Contour interpolation on 200 ft contour interval map or poor altimetry	80	4.8

	Latitude code–3rd digit (based at lat 37°)	Latitude accuracy (min)	Distance accuracy (ft)	Approximate gravity effect (mGal)
1	Triangulation or special survey data	0.007	42	0.01
2	Location known to 0.04 in on 1:24,000 map (special care)	0.014	84	0.02
3	0.10 in on 1:24,000 map or 0.04 in on 1:62,500 map	0.035	210	0.05
4	0.21 in on 1:24,000 map or 0.08 in on 1:62,500 map	0.07	420	0.1
5	0.42 in on 1:24,000 map or 0.16 in on 1:62,500 map	0.14	840	0.2
6	0.40 in on 1:62,500 map or 0.1 in on 1:250,000 map	0.35	2,100	0.5
7	0.80 in on 1:62,500 map or 0.2 in on 1:250,000 map	0.7	4,200	1.0
8	1.60 in on 1:62,500 map or 0.4 in on 1:250,000 map	1.4	8,400	2.0
9	4.00 in on 1:62,500 map or 1.0 in on 1:250,000 map	3.5	21,000	5.0

	Observed gravity code–4th digit	Approximate gravity effect (mGal)
1	Local survey with special gravity meter	0.01
2	Multiple observations with LaCoste and Romberg gravity meter	0.02
3	Average LaCoste and Romberg or multiple observations with Worden gravity meter	0.05
4	LaCoste and Romberg observation with small vibrations or average Worden gravity meter	0.1
5	Data from loop with closure error this large	0.2
6	Data from loop with closure error this large	0.5
7	Data from loop with closure error this large	1
8	Data from loop with closure error this large	2
9	Data from loop with closure error this large	4