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GEOLOGICAL SURVEY

[Reports - Open file series]

PRINCIPAL FACTS FOR GRAVITY STATIONS IN MARICOPA, MOJAVE,
YAVAPAI, AND YUMA COUNTIES, ARIZONA

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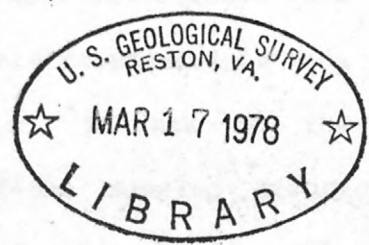
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Jeffrey C. Wynn, James K. Otton and Ronald A. Stawicki

Open-File Report 78-207

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This report is preliminary and has not been
edited and reviewed for conformity with U.S.
Geological Survey standards and nomenclature.

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Principle facts for gravity stations in Maricopa, Mojave,
Yavapai and Yuma Counties, Arizona

by

Jeffrey C. Wynn, James K. Otton and Ronald A. Stawicki

Introduction

A gravity survey was made in parts of Maricopa, Mojave, Yavapai and Yuma counties, Arizona to provide information on structural relationships and basement topography of the Artillery Peak - Date Creek Basin and surrounding areas as part of geologic mapping and resource evaluation projects of the U.S. Geological Survey.

Data Collection

During May and June of 1977, 73 gravity stations were established with LaCoste-Romberg gravimeter G-2. The gravity stations were referenced to base station ACIC 3219-1 at the old Wickenburg airport, Arizona of the International Gravity Standardization Net 1971 (Defense Mapping Agency Aerospace Center, 1974). The area covered by the survey is shown in figure 1. (Figure 1 near here).

Station elevations were obtained from bench marks and spot elevations shown on 1:24,000 scale U.S. Geological Survey topographic maps. Elevations are accurate to 3.0 meters, giving a resultant maximum error in the Bouguer anomaly of less than 0.60 mgal (milligals). An additional 216 stations were obtained from the Defense Mapping Agency, DMA Aerospace Center, South Annex, St. Louis AFS, Missouri 63125, and after careful comparison and examination were combined with the stations obtained by the USGS.

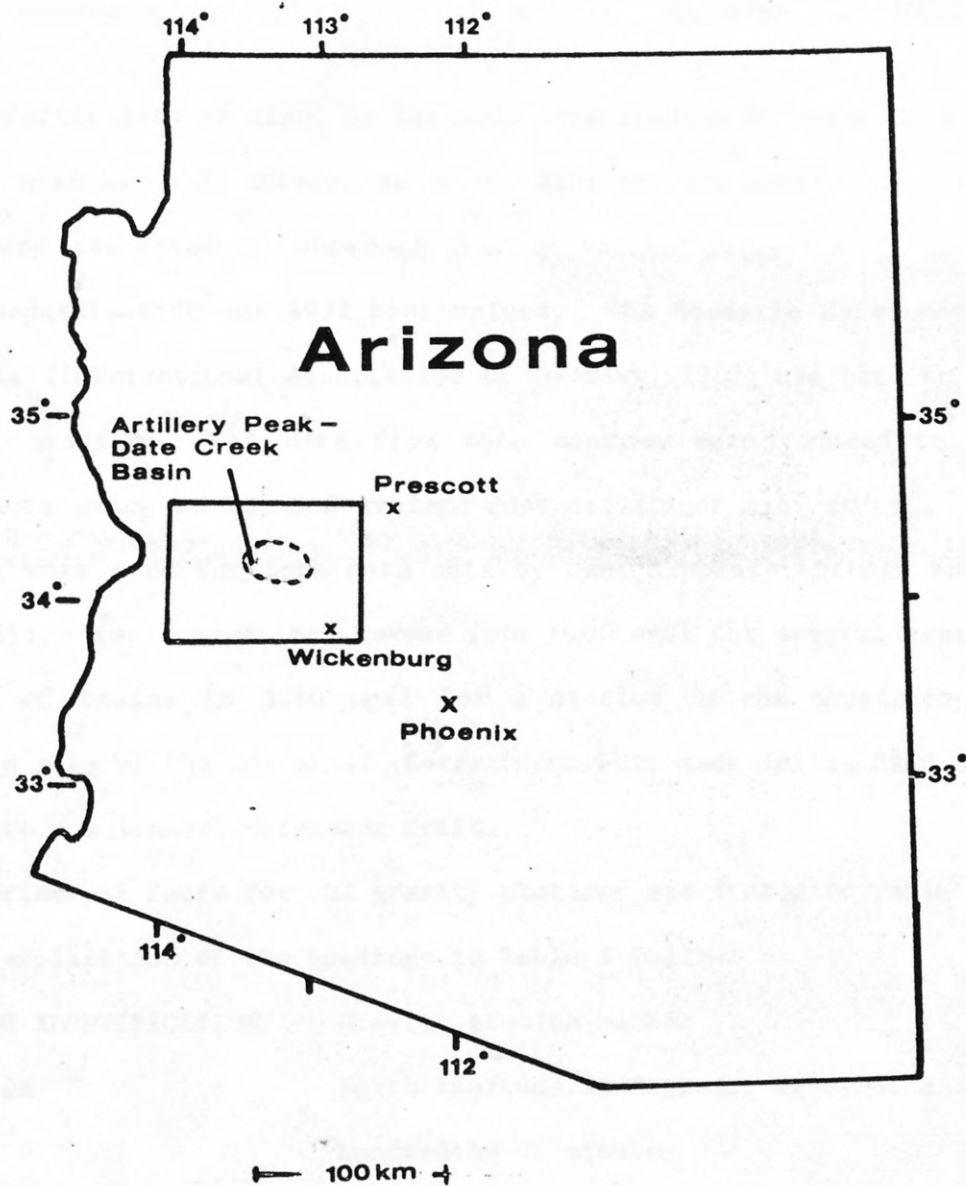


Figure 1. Area of gravity survey in Mojave, Yuma, Yavapai, and Maricopa Counties, Arizona.

Data Reduction

The gravity data obtained by the USGS were reduced by means of a digital computer program by G. I. Evenden and R. R. Wahl (unpub. data). Gravity meter readings were converted to observed gravity values using the International Gravity Standardization Net 1971 base values. The Geodetic Reference System 1967 formula (International Association of Geodesy, 1967) was used to compute theoretical gravity. The data from both sources were reduced to Bouguer anomaly values using an assumed average rock density of 2.67 gm/cm^3 . Terrain corrections were made for both data sets by hand template through Zone H of Hammer (1939). The corrections ranged from 0.00 mgal for several stations in the middle of basins to 3.10 mgal for a station in the mountains on the northeastern edge of the map area. Corrections were made in the USGS data for tidal effects and linear instrument drift.

The principal facts for the gravity stations are listed in Table 1 (near here). An explanation of the headings in Table 1 follow:

STATION IDENTIFICATION	Gravity station number
LATITUDE	North latitude in degrees, minutes, and hundredths of minutes
LONGITUDE	West longitude in degrees, minutes, and hundredths of minutes
ELEV	Elevation in meters
ST	State (Arizona)
OBSERVED GRAVITY	Observed gravity in milligals
THEORETICAL GRAVITY	Theoretical gravity
TERRAIN	Terrain corrections in milligals

FREE-AIR

Free-air anomaly in milligals

BOUGUER

Elevation and curvature correction in
milligals

BOUGUER ANOMALY

Bouguer anomaly in milligals for assumed
average density of 2.67 gm/cm^3

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 gravity stations: Geophysics, v. 4, no. 3, pp. 184-194.
- International Association of Geodesy, 1967, Geodetic Reference System, 1967: International Association of Geodesy Spec. Pub. no. 3, 74 p.

artillery peaks gravity data 11/28/77
collected by J. Wynn and J. Otton, processed by J. Wynn and R. Stawicki
density: 2.67

identification		location		elev, f	st	observed gravity	standard gravity	corrections			anomalies	
proj.	sta. no.	latitude	longitude					fr.-air	bouguer	terrain	fr.-air	bouguer
ARTIL.	a02	34 1.44	-112 48.47	2441.6	AZ	979391.79	-979650.54	229.64	-84.17	0.09	-29.11	-113.19
ARTIL.	a03	34 5.57	-112 54.36	2701.4	AZ	979369.93	-979656.31	254.08	-93.10	0.01	-32.30	-125.39
ARTIL.	a04	34 7.44	-112 56.91	2769.7	AZ	979368.61	-979658.92	260.50	-95.45	0.01	-29.81	-125.25
ARTIL.	a05	34 9.75	-113 0.42	2847.4	AZ	979374.18	-979662.16	267.81	-98.12	0.02	-20.17	-118.27
ARTIL.	a06	34 10.35	-113 3.45	2848.4	AZ	979383.26	-979663.00	267.90	-98.16	0.01	-11.84	-109.99
ARTIL.	a07	34 10.25	-113 6.51	2731.6	AZ	979385.09	-979662.86	256.92	-94.14	0.05	-20.85	-114.94
ARTIL.	a08	34 11.00	-113 8.87	2593.5	AZ	979394.12	-979663.91	243.93	-89.39	0.03	-25.86	-115.22
ARTIL.	a09	34 11.82	-113 10.18	2310.4	AZ	979414.97	-979665.05	217.30	-79.66	0.12	-32.78	-112.32
ARTIL.	a10	34 12.73	-113 11.77	2464.6	AZ	979403.37	-979666.33	231.80	-84.96	0.06	-31.16	-116.06
ARTIL.	a11	34 13.04	-113 13.08	2386.5	AZ	979404.03	-979666.76	224.46	-82.27	0.01	-38.27	-120.53
ARTIL.	a12	34 13.36	-113 14.34	2318.6	AZ	979403.41	-979667.21	218.07	-79.94	0.01	-45.73	-125.66
ARTIL.	a13	34 13.18	-113 16.31	2181.4	AZ	979406.31	-979666.96	205.18	-75.22	0.02	-55.47	-130.67
ARTIL.	a14	34 14.34	-113 17.13	2202.4	AZ	979404.15	-979668.58	207.15	-75.94	0.01	-57.28	-133.21
ARTIL.	a15	34 15.53	-113 16.70	2301.5	AZ	979399.59	-979670.25	216.47	-79.35	0.01	-54.19	-133.53
ARTIL.	a16	34 16.45	-113 16.61	2372.4	AZ	979397.78	-979671.54	223.13	-81.79	0.04	-50.63	-132.38
ARTIL.	a17	34 17.95	-113 16.06	2234.3	AZ	979412.94	-979673.64	210.14	-77.04	0.82	-50.56	-126.78
ARTIL.	a18	34 19.51	-113 18.80	1752.3	AZ	979457.53	-979675.83	164.82	-60.45	0.49	-53.48	-113.44
ARTIL.	a19	34 17.65	-113 20.70	1425.2	AZ	979478.15	-979673.22	134.06	-49.18	0.20	-61.01	-109.99
ARTIL.	a20	34 15.40	-113 18.55	2266.4	AZ	979406.30	-979670.07	213.17	-78.14	0.05	-50.60	-128.69
ARTIL.	a21	34 15.10	-113 20.80	2151.2	AZ	979422.33	-979669.65	202.34	-74.18	0.10	-44.98	-119.06
ARTIL.	a22	34 15.97	-113 24.13	1634.2	AZ	979468.62	-979670.87	153.71	-56.38	0.07	-48.54	-104.85
ARTIL.	a23	34 16.51	-113 26.33	1424.2	AZ	979484.78	-979671.63	133.96	-49.14	0.02	-52.89	-102.01
ARTIL.	a24	34 17.07	-113 29.03	1344.2	AZ	979491.91	-979672.41	126.43	-46.39	0.04	-54.07	-100.42
ARTIL.	a25	34 16.70	-113 32.05	1368.1	AZ	979495.58	-979671.89	128.69	-47.21	0.10	-47.62	-94.73
ARTIL.	a26	34 18.00	-113 34.15	1228.0	AZ	979508.17	-979673.71	115.51	-42.38	0.12	-50.03	-92.29
ARTIL.	a27	34 21.65	-113 35.45	1943.2	AZ	979465.04	-979678.83	182.78	-67.02	0.13	-31.01	-97.90
ARTIL.	a28	34 25.60	-113 41.45	2344.5	AZ	979440.16	-979684.38	220.51	-80.83	0.21	-23.71	-104.33
ARTIL.	a29	34 29.30	-113 43.83	2347.4	AZ	979447.36	-979689.58	220.79	-80.93	0.06	-21.43	-102.30
ARTIL.	a30	34 30.80	-113 35.50	1498.4	AZ	979490.09	-979691.69	140.94	-51.70	0.13	-60.66	-112.23
ARTIL.	a32	34 28.10	-113 18.75	3335.6	AZ	979373.27	-979687.89	313.71	-114.89	0.08	-0.91	-115.72
ARTIL.	b01	34 0.10	-113 13.20	2164.4	AZ	979410.15	-979648.67	203.57	-74.63	0.00	-34.95	-109.58
ARTIL.	b02	34 2.03	-113 13.84	2283.5	AZ	979410.06	-979651.36	214.77	-78.73	0.01	-26.53	-105.25
ARTIL.	b03	34 3.96	-113 14.30	2437.3	AZ	979413.11	-979654.06	229.24	-84.02	0.03	-11.71	-95.70
ARTIL.	b04	34 5.37	-113 14.20	2417.3	AZ	979416.18	-979656.03	227.36	-83.33	0.11	-12.49	-95.71
ARTIL.	b05	34 6.90	-113 10.65	2372.4	AZ	979405.18	-979658.17	223.13	-81.79	0.01	-29.86	-111.64
ARTIL.	b06	34 6.15	-113 14.25	2373.4	AZ	979419.03	-979657.12	223.23	-81.82	0.03	-14.86	-96.65
ARTIL.	b07	34 6.95	-113 14.23	2329.4	AZ	979418.89	-979658.24	219.09	-80.31	0.03	-20.26	-100.54
ARTIL.	b08	34 7.84	-113 14.30	2249.3	AZ	979420.80	-979659.48	211.56	-77.56	0.01	-27.12	-104.67
ARTIL.	b09	34 8.42	-113 14.88	2212.3	AZ	979422.23	-979660.30	208.08	-76.28	0.02	-29.99	-106.25
ARTIL.	b10	34 9.26	-113 15.17	2223.4	AZ	979416.95	-979661.47	209.13	-76.66	0.06	-35.39	-111.99

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density: 2.67

identification proj. sta. no.	latitude	location longitude	elev, f	st	observed gravity	standard gravity	corrections			anomalies	
							fr.-air	bouguer	terrain	fr.-air	bouguer
ARTIL. b11	34 9.25	-113 13.00	2342.5	AZ	979403.42	-979661.46	220.33	-80.76	0.02	-37.71	-118.45
ARTIL. b12	34 10.16	-113 11.00	2499.3	AZ	979394.16	-979662.73	235.07	-86.16	0.01	-33.50	-119.65
ARTIL. b13	34 9.78	-113 17.07	2156.5	AZ	979419.02	-979662.20	202.83	-74.36	0.08	-40.35	-114.63
ARTIL. b14	34 10.80	-113 18.85	2078.4	AZ	979420.42	-979663.63	195.49	-71.67	0.09	-47.72	-119.30
ARTIL. b15	34 12.09	-113 18.04	2100.4	AZ	979414.45	-979665.43	197.56	-72.43	0.09	-53.42	-125.76
ARTIL. b16	34 9.50	-113 18.70	2085.3	AZ	979428.17	-979661.81	196.14	-71.91	0.01	-37.50	-109.40
ARTIL. b17	34 7.67	-113 19.15	2251.3	AZ	979432.23	-979659.25	211.75	-77.62	0.14	-15.27	-92.75
ARTIL. b18	34 9.65	-113 20.94	1961.3	AZ	979441.90	-979662.02	184.47	-67.64	0.02	-35.65	-103.27
ARTIL. b19	34 11.12	-113 21.37	1947.2	AZ	979439.89	-979664.07	183.15	-67.16	0.03	-41.03	-108.16
ARTIL. b20	34 11.91	-113 23.35	1832.3	AZ	979455.77	-979665.18	172.35	-63.20	0.03	-37.06	-100.23
ARTIL. b21	34 13.24	-113 26.20	1636.2	AZ	979474.32	-979667.04	153.90	-56.45	0.08	-38.82	-95.19
ARTIL. b22	34 20.20	-113 28.38	1744.4	AZ	979466.44	-979676.80	164.08	-60.18	0.20	-46.28	-106.26
ARTIL. b23	34 14.66	-113 29.14	1426.2	AZ	979492.23	-979669.03	134.15	-49.21	0.01	-42.65	-91.85
ARTIL. b24	34 10.34	-113 27.97	1628.3	AZ	979487.69	-979662.98	153.16	-56.18	0.05	-22.13	-78.26
ARTIL. b25	34 9.10	-113 29.51	1859.3	AZ	979477.81	-979661.25	174.88	-64.13	0.07	-8.56	-72.62
ARTIL. b26	34 13.83	-113 36.00	1369.1	AZ	979509.77	-979667.87	128.78	-47.25	1.61	-29.32	-74.96
ARTIL. c01	34 4.00	-113 2.20	2503.6	AZ	979394.90	-979654.11	235.48	-86.30	0.01	-23.73	-110.02
ARTIL. c02	34 1.28	-113 5.63	2370.4	AZ	979409.88	-979650.31	222.95	-81.72	0.03	-17.48	-99.17
ARTIL. c03	34 2.24	-113 17.80	2466.5	AZ	979413.47	-979651.66	231.99	-85.03	0.06	-6.20	-91.17
ARTIL. c04	34 5.05	-113 28.70	2255.2	AZ	979443.99	-979655.58	212.12	-77.76	0.03	0.53	-77.20
ARTIL. c05	34 5.25	-113 25.50	2619.4	AZ	979422.85	-979655.86	246.37	-90.28	0.26	13.36	-76.66
ARTIL. c06	34 6.75	-113 24.97	2162.4	AZ	979445.48	-979657.96	203.39	-74.56	0.13	-9.09	-83.52
ARTIL. c07	34 9.15	-113 24.33	1918.3	AZ	979462.42	-979661.32	180.43	-66.16	0.11	-18.47	-84.52
ARTIL. c08	34 15.30	-113 20.13	2018.4	AZ	979425.17	-979667.13	189.84	-69.61	0.02	-52.12	-121.71
ARTIL. c09	34 16.86	-113 13.78	2495.4	AZ	979397.00	-979672.12	234.70	-86.02	0.04	-40.42	-126.40
ARTIL. c10	34 16.15	-113 10.35	2799.5	AZ	979388.53	-979671.12	263.30	-96.48	0.43	-19.29	-115.34
ARTIL. c11	34 15.53	-113 8.60	2840.6	AZ	979385.46	-979670.25	267.16	-97.89	0.06	-17.63	-115.46
ARTIL. c12	34 15.01	-113 4.85	2919.6	AZ	979381.64	-979669.52	274.59	-100.60	0.03	-13.29	-113.86
ARTIL. c13	34 28.50	-113 28.70	3246.7	AZ	979379.10	-979688.46	305.35	-111.84	0.40	-4.01	-115.45
ARTIL. c14	34 25.62	-113 30.47	2560.4	AZ	979421.61	-979684.41	240.81	-88.25	0.49	-21.99	-109.75
ARTIL. c15	34 27.15	-113 22.03	2960.6	AZ	979396.23	-979686.56	278.45	-102.01	0.35	-11.88	-113.54
ARTIL. c16	34 25.50	-113 14.40	2387.5	AZ	979424.95	-979684.24	224.55	-82.31	0.21	-34.74	-116.84
ARTIL. c17	34 21.52	-113 10.20	1942.3	AZ	979453.45	-979678.65	182.68	-66.99	0.64	-42.52	-108.87
ARTIL.dod- 1	33 45.15	-112 51.91	1777.9	AZ	979428.76	-979627.83	167.23	-61.33		-31.84	-93.17
ARTIL.dod- 2	33 46.00	-112 56.60	1906.2	AZ	979425.94	-979629.01	179.29	-65.75		-23.78	-89.53
ARTIL.dod- 3	33 46.30	-112 51.40	1846.1	AZ	979431.20	-979629.43	173.65	-63.68		-24.58	-88.26
ARTIL.dod- 4	33 46.50	-112 48.40	1809.1	AZ	979436.21	-979629.71	170.16	-62.40		-23.34	-85.74
ARTIL.dod- 5	33 48.00	-112 50.55	1959.0	AZ	979425.96	-979631.79	184.26	-67.56		-21.57	-89.13
ARTIL.dod- 6	33 49.60	-112 49.30	2089.9	AZ	979419.36	-979634.02	196.57	-72.07		-18.09	-90.16
ARTIL.dod- 7	33 50.40	-112 53.90	2357.9	AZ	979396.93	-979635.14	221.78	-81.29		-16.43	-97.72

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identification		location		elev, f	st	observed gravity	standard gravity	corrections			anomalies	
proj.	sta. no.	latitude	longitude					fr.-air	bouguer	terrain	fr.-air	bouguer
ARTIL.dod-	8	33 51.32	-112 49.53	2339.9	AZ	979399.95	-979636.42	220.08	-80.67		-16.39	-97.06
ARTIL.dod-	9	33 53.20	-112 49.10	2622.0	AZ	979378.08	-979639.04	246.61	-90.37	0.10	-14.35	-104.62
ARTIL.dod-	10	33 54.00	-112 57.90	2599.1	AZ	979396.41	-979640.15	244.45	-89.59		0.71	-88.88
ARTIL.dod-	11	33 56.60	-112 56.20	2564.0	AZ	979394.47	-979643.78	241.15	-88.38		-8.16	-96.54
ARTIL.dod-	12	33 56.60	-112 58.60	2471.1	AZ	979400.66	-979643.78	232.42	-85.19		-10.70	-95.69
ARTIL.dod-	13	33 56.80	-112 53.20	2642.1	AZ	979386.85	-979644.06	248.50	-91.06		-8.71	-99.77
ARTIL.dod-	14	33 56.90	-112 53.50	2629.9	AZ	979386.61	-979644.20	247.35	-90.65		-10.24	-100.89
ARTIL.dod-	15	33 57.00	-112 52.00	2617.1	AZ	979387.97	-979644.34	246.15	-90.21	0.06	-10.22	-100.37
ARTIL.dod-	16	33 57.70	-112 46.20	2289.0	AZ	979389.22	-979645.32	215.30	-78.92		-40.80	-119.72
ARTIL.dod-	17	33 57.80	-112 49.70	2465.9	AZ	979387.14	-979645.46	231.93	-85.00		-26.39	-111.39
ARTIL.dod-	19	34 0.20	-112 54.00	2465.9	AZ	979399.65	-979648.81	231.93	-85.00		-17.23	-102.23
ARTIL.dod-	20	34 1.00	-112 52.20	2469.2	AZ	979401.32	-979649.92	232.24	-85.12		-16.36	-101.48
ARTIL.dod-	21	34 1.50	-112 48.60	2438.3	AZ	979391.28	-979650.62	229.34	-84.06	0.08	-30.00	-113.98
ARTIL.dod-	22	34 2.30	-112 59.00	3020.0	AZ	979359.93	-979651.74	284.03	-104.05	4.09	-7.78	-107.74
ARTIL.dod-	23	34 3.15	-112 45.10	2683.1	AZ	979376.08	-979652.93	252.35	-92.47	0.63	-24.50	-116.34
ARTIL.dod-	24	34 4.15	-112 55.50	2612.9	AZ	979383.47	-979654.32	245.75	-90.06		-25.10	-115.16
ARTIL.dod-	25	34 4.40	-112 49.30	2639.1	AZ	979379.57	-979654.67	248.22	-90.96		-26.88	-117.84
ARTIL.dod-	26	34 6.50	-112 49.70	2798.9	AZ	979364.76	-979657.61	263.24	-96.45		-29.61	-126.06
ARTIL.dod-	27	34 7.30	-112 57.20	2752.0	AZ	979370.80	-979658.73	258.83	-94.84		-29.10	-123.94
ARTIL.dod-	28	34 7.50	-112 50.10	2800.9	AZ	979355.35	-979659.01	263.43	-96.52		-40.23	-136.75
ARTIL.dod-	29	34 8.00	-112 55.60	2813.0	AZ	979364.26	-979659.71	264.57	-96.94		-30.88	-127.82
ARTIL.dod-	30	34 8.30	-112 54.90	2858.3	AZ	979363.74	-979660.13	268.83	-98.49		-27.56	-126.05
ARTIL.dod-	31	34 9.20	-112 52.60	2991.8	AZ	979356.69	-979661.39	281.38	-103.08		-23.32	-126.40
ARTIL.dod-	32	34 9.40	-112 50.60	3021.7	AZ	979355.89	-979661.67	284.19	-104.11		-21.59	-125.70
ARTIL.dod-	33	34 9.40	-112 55.70	2978.0	AZ	979359.81	-979661.67	280.09	-102.61		-21.77	-124.38
ARTIL.dod-	34	34 9.50	-112 52.60	3040.0	AZ	979356.94	-979661.81	285.92	-104.74		-18.95	-123.69
ARTIL.dod-	35	34 9.60	-112 51.60	3020.7	AZ	979356.38	-979661.95	284.10	-104.07		-21.47	-125.54
ARTIL.dod-	36	34 9.70	-112 50.70	3039.0	AZ	979356.77	-979662.09	285.82	-104.71		-19.50	-124.21
ARTIL.dod-	37	34 10.00	-112 50.40	3023.0	AZ	979358.19	-979662.51	284.31	-104.15		-20.01	-124.16
ARTIL.dod-	38	34 10.90	-112 49.60	3108.6	AZ	979355.62	-979663.77	292.36	-107.10	0.12	-15.79	-122.77
ARTIL.dod-	39	34 11.80	-112 48.80	3300.9	AZ	979342.92	-979665.03	310.44	-113.70	0.27	-11.67	-125.10
ARTIL.dod-	40	34 12.10	-112 57.70	3554.1	AZ	979333.47	-979665.45	334.26	-122.39	3.10	2.28	-117.01
ARTIL.dod-	43	34 14.30	-112 51.90	3325.8	AZ	979338.29	-979668.53	312.78	-114.55	0.13	-17.46	-131.88
ARTIL.dod-	44	34 14.40	-112 52.10	3352.0	AZ	979337.60	-979668.67	315.25	-115.46	0.06	-15.82	-131.22
ARTIL.dod-	45	34 16.15	-112 46.40	4708.0	AZ	979259.13	-979671.12	442.74	-161.95	0.52	30.75	-130.68
ARTIL.dod-	46	34 16.40	-112 54.30	3292.7	AZ	979341.95	-979671.47	309.67	-113.42		-19.85	-133.27
ARTIL.dod-	48	34 20.50	-112 52.30	4423.9	AZ	979268.62	-979677.22	416.03	-152.22	1.46	7.43	-143.33
ARTIL.dod-	49	34 20.90	-112 54.85	3584.0	AZ	979322.12	-979677.78	337.06	-123.42		-18.60	-142.02
ARTIL.dod-	52	34 25.00	-112 55.00	3852.7	AZ	979316.64	-979683.54	362.32	-132.64		-4.58	-137.22
ARTIL.dod-	54	34 27.00	-112 58.20	3474.7	AZ	979345.02	-979686.35	326.79	-119.67	1.19	-14.54	-133.02

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							fr.	air	bouguer terrain	fr.	air bouguer
ARTIL.dod- 55	34 28.60	-112 50.90	3666.0	AZ	979319.55	-979688.60	344.77	-126.23	0.13	-24.28	-150.38
ARTIL.dod- 56	34 30.00	-112 53.70	3567.9	AZ	979333.60	-979690.56	335.55	-122.87		-21.41	-144.28
ARTIL.dod- 57	33 45.20	-113 4.30	2285.1	AZ	979403.59	-979627.90	214.93	-78.79		-9.38	-88.17
ARTIL.dod- 58	33 45.40	-113 34.00	1762.1	AZ	979446.74	-979628.18	165.75	-60.79		-15.69	-76.48
ARTIL.dod- 59	33 45.60	-113 39.20	1924.9	AZ	979442.58	-979628.45	181.05	-66.39		-4.82	-71.21
ARTIL.dod- 60	33 45.70	-113 46.90	1319.9	AZ	979492.26	-979628.59	124.15	-45.55		-12.18	-57.73
ARTIL.dod- 61	33 45.90	-113 13.90	2016.1	AZ	979434.20	-979628.87	189.63	-69.53		-5.04	-74.57
ARTIL.dod- 62	33 46.10	-113 35.20	1791.0	AZ	979449.38	-979629.15	168.46	-61.78		-11.31	-73.09
ARTIL.dod- 63	33 46.10	-113 51.10	1119.1	AZ	979500.63	-979629.15	105.27	-38.63		-23.25	-61.88
ARTIL.dod- 64	33 46.30	-113 37.80	1895.0	AZ	979443.28	-979629.43	178.24	-65.36		-7.91	-73.27
ARTIL.dod- 65	33 46.70	-113 36.60	1857.0	AZ	979446.07	-979629.99	174.66	-64.05		-9.26	-73.31
ARTIL.dod- 66	33 46.90	-113 36.90	1874.0	AZ	979445.25	-979630.26	176.27	-64.64		-8.74	-73.38
ARTIL.dod- 67	33 47.20	-113 0.80	2086.9	AZ	979408.52	-979630.68	196.29	-71.97		-25.87	-97.84
ARTIL.dod- 68	33 47.30	-113 29.50	2057.1	AZ	979434.68	-979630.82	193.49	-70.94		-2.65	-73.59
ARTIL.dod- 69	33 47.80	-113 55.30	1061.0	AZ	979508.10	-979631.52	99.80	-36.62		-23.62	-60.24
ARTIL.dod- 70	33 48.10	-113 11.10	2147.0	AZ	979419.59	-979631.93	201.94	-74.03		-10.40	-84.43
ARTIL.dod- 71	33 48.20	-113 50.50	1140.1	AZ	979503.18	-979632.07	107.24	-39.35		-21.65	-61.00
ARTIL.dod- 72	33 48.70	-113 38.60	2047.9	AZ	979439.17	-979632.77	192.62	-70.62		-0.98	-71.60
ARTIL.dod- 73	33 48.90	-113 51.20	1182.1	AZ	979502.08	-979633.05	111.19	-40.80		-19.78	-60.58
ARTIL.dod- 74	33 49.10	-113 6.00	2231.0	AZ	979401.64	-979633.33	209.84	-76.92		-21.85	-98.77
ARTIL.dod- 75	33 49.40	-113 32.50	1869.1	AZ	979436.98	-979633.74	175.81	-64.47		-20.95	-85.42
ARTIL.dod- 76	33 49.50	-113 46.10	1643.0	AZ	979477.67	-979633.88	154.55	-56.68		-1.66	-58.34
ARTIL.dod- 77	33 49.60	-113 13.70	2282.2	AZ	979417.19	-979634.02	214.65	-78.69		-2.18	-80.87
ARTIL.dod- 78	33 50.30	-113 29.00	1966.9	AZ	979432.61	-979635.00	185.00	-67.83		-17.39	-85.22
ARTIL.dod- 80	33 50.80	-113 20.30	2680.1	AZ	979399.97	-979635.69	252.07	-92.37		16.35	-76.02
ARTIL.dod- 81	33 51.20	-113 27.80	1971.1	AZ	979430.60	-979636.25	185.40	-67.98		-20.25	-88.23
ARTIL.dod- 83	33 52.20	-113 52.20	1190.9	AZ	979502.04	-979637.65	112.02	-41.10		-23.59	-64.69
ARTIL.dod- 84	33 52.20	-113 56.40	1083.0	AZ	979512.70	-979637.65	101.87	-37.38		-23.08	-60.46
ARTIL.dod- 85	33 52.30	-113 15.40	2476.0	AZ	979409.46	-979637.79	232.88	-85.35	0.72	4.55	-80.08
ARTIL.dod- 86	33 52.50	-113 10.70	2390.1	AZ	979412.49	-979638.06	224.80	-82.40	0.05	-0.77	-83.12
ARTIL.dod- 87	33 53.00	-113 23.00	2080.1	AZ	979428.72	-979638.76	195.64	-71.73		-14.40	-86.13
ARTIL.dod- 88	33 53.00	-113 37.50	2356.0	AZ	979424.64	-979638.76	221.59	-81.22	0.36	7.47	-73.39
ARTIL.dod- 89	33 53.10	-113 20.80	2111.9	AZ	979427.38	-979638.90	198.64	-72.83		-12.88	-85.71
ARTIL.dod- 90	33 54.00	-113 2.20	2412.1	AZ	979410.27	-979640.15	226.87	-83.15		-3.01	-86.16
ARTIL.dod- 91	33 54.50	-113 46.70	1553.1	AZ	979487.72	-979640.85	146.09	-53.59		-7.04	-60.63
ARTIL.dod- 92	33 54.80	-113 32.60	2212.9	AZ	979431.05	-979641.27	208.14	-76.30		-2.08	-78.38
ARTIL.dod- 93	33 55.30	-113 16.30	2153.9	AZ	979419.80	-979641.97	202.59	-74.27		-19.58	-93.85
ARTIL.dod- 94	33 55.30	-113 24.30	2016.1	AZ	979427.14	-979641.97	189.63	-69.53		-25.20	-94.73
ARTIL.dod- 95	33 55.80	-113 28.20	2108.9	AZ	979429.78	-979642.67	198.36	-72.72		-14.53	-87.25
ARTIL.dod- 96	33 56.10	-113 49.50	1347.1	AZ	979508.29	-979643.08	126.71	-46.49	0.07	-8.08	-54.50

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							fr. - air	bouguer	terrain	fr. - air	bouguer
ARTIL.dod- 97	33 56.20	-113 31.60	2399.9	AZ	979426.73	-979643.22	225.73	-82.74	0.23	9.24	-73.27
ARTIL.dod- 98	33 56.30	-113 55.30	1224.1	AZ	979513.97	-979643.36	115.14	-42.25		-14.25	-56.50
ARTIL.dod- 99	33 56.60	-113 10.00	2169.9	AZ	979409.86	-979643.78	204.10	-74.82		-29.82	-104.64
ARTIL.dod- 100	33 56.60	-113 20.90	2053.1	AZ	979421.62	-979643.78	193.11	-70.80		-29.05	-99.85
ARTIL.dod- 101	33 56.70	-113 10.70	2165.0	AZ	979410.18	-979643.92	203.64	-74.66		-30.10	-104.76
ARTIL.dod- 102	33 56.90	-113 0.00	2416.0	AZ	979405.50	-979644.20	227.24	-83.29		-11.46	-94.75
ARTIL.dod- 103	33 57.40	-113 43.00	1615.2	AZ	979477.09	-979644.90	151.92	-55.72		-15.89	-71.61
ARTIL.dod- 104	33 57.50	-113 2.80	2310.0	AZ	979410.00	-979645.04	217.27	-79.64		-17.77	-97.41
ARTIL.dod- 105	33 58.10	-113 27.20	2342.8	AZ	979427.84	-979645.87	220.36	-80.77	0.12	2.33	-78.32
ARTIL.dod- 106	33 58.50	-113 35.60	2117.1	AZ	979452.33	-979646.43	199.13	-73.01	0.15	5.03	-67.83
ARTIL.dod- 107	33 59.70	-113 39.00	1726.0	AZ	979469.75	-979648.11	162.35	-59.54		-16.01	-75.55
ARTIL.dod- 108	33 59.80	-113 58.60	1095.1	AZ	979524.46	-979648.25	103.01	-37.80		-20.78	-58.58
ARTIL.dod- 109	33 59.90	-113 7.50	2282.2	AZ	979406.70	-979648.39	214.65	-78.69		-27.04	-105.73
ARTIL.dod- 111	33 59.90	-113 52.00	1381.9	AZ	979512.24	-979648.39	129.98	-47.69		-6.17	-53.86
ARTIL.dod- 112	34 0.10	-113 2.20	2336.9	AZ	979406.35	-979648.67	219.80	-80.57		-22.52	-103.09
ARTIL.dod- 113	34 0.10	-113 16.10	2210.0	AZ	979414.30	-979648.67	207.86	-76.20		-26.51	-102.71
ARTIL.dod- 114	34 0.10	-113 20.40	2267.1	AZ	979418.00	-979648.67	213.23	-78.17		-17.44	-95.61
ARTIL.dod- 115	34 0.10	-113 40.70	1648.6	AZ	979476.26	-979648.67	155.07	-56.88		-17.34	-74.22
ARTIL.dod- 116	34 0.60	-113 6.40	2320.9	AZ	979410.98	-979649.36	218.29	-80.02		-20.09	-100.11
ARTIL.dod- 117	34 1.10	-113 43.90	1514.8	AZ	979489.29	-979650.06	142.48	-52.26		-18.29	-70.55
ARTIL.dod- 118	34 1.10	-113 56.10	1229.7	AZ	979516.97	-979650.06	115.67	-42.44		-17.42	-59.86
ARTIL.dod- 120	34 1.90	-113 21.00	2588.9	AZ	979410.11	-979651.18	243.50	-89.24	0.43	2.43	-86.38
ARTIL.dod- 121	34 2.00	-113 13.80	2283.1	AZ	979410.19	-979651.32	214.74	-78.72		-26.39	-105.11
ARTIL.dod- 122	34 2.10	-113 46.90	1658.1	AZ	979491.00	-979651.46	155.96	-57.20	0.04	-4.50	-61.66
ARTIL.dod- 123	34 2.20	-113 35.90	1844.2	AZ	979466.52	-979651.60	173.46	-63.61		-11.62	-75.23
ARTIL.dod- 124	34 2.50	-113 4.20	2412.7	AZ	979406.49	-979652.02	226.93	-83.18		-18.00	-101.78
ARTIL.dod- 125	34 2.80	-113 18.20	2581.0	AZ	979408.62	-979652.44	242.76	-88.96	0.15	-1.06	-89.87
ARTIL.dod- 126	34 2.90	-113 33.60	1995.1	AZ	979456.13	-979652.58	187.65	-68.81		-8.80	-77.61
ARTIL.dod- 127	34 3.30	-113 10.60	2407.2	AZ	979408.44	-979653.14	226.40	-82.98		-18.30	-101.28
ARTIL.dod- 128	34 4.00	-113 30.30	2230.0	AZ	979443.41	-979654.11	209.74	-76.89		-0.96	-77.85
ARTIL.dod- 129	34 4.30	-113 53.20	1450.8	AZ	979511.97	-979654.53	136.46	-50.06		-6.10	-56.16
ARTIL.dod- 130	34 4.40	-113 1.80	2515.7	AZ	979390.54	-979654.67	236.62	-86.72		-27.51	-114.23
ARTIL.dod- 131	34 4.50	-113 7.40	2424.9	AZ	979399.06	-979654.81	228.07	-83.59		-27.68	-111.27
ARTIL.dod- 132	34 4.50	-113 14.30	2443.9	AZ	979412.71	-979654.81	229.86	-84.25	0.05	-12.24	-96.44
ARTIL.dod- 133	34 5.00	-113 3.60	2521.0	AZ	979389.52	-979655.51	237.11	-86.90		-28.88	-115.78
ARTIL.dod- 134	34 5.00	-113 28.70	2254.9	AZ	979444.10	-979655.51	212.09	-77.75		0.68	-77.07
ARTIL.dod- 135	34 5.30	-113 25.50	2618.8	AZ	979423.06	-979655.93	246.30	-90.26	0.26	13.43	-76.57
ARTIL.dod- 136	34 5.30	-113 37.00	1768.4	AZ	979480.50	-979655.93	166.33	-61.00		-9.10	-70.10
ARTIL.dod- 137	34 5.60	-113 0.10	2642.7	AZ	979388.36	-979656.35	248.56	-91.09		-19.43	-110.52
ARTIL.dod- 138	34 5.60	-113 33.00	1965.6	AZ	979470.27	-979656.35	184.88	-67.79		-1.20	-68.99

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							fr.-air	bouguer	terrain	fr.-air	bouguer
ARTIL.dod- 139	34 6.70	-113 47.40	1790.0	AZ	979489.43	-979657.89	168.37	-61.75	0.39	-0.09	-61.45
ARTIL.dod- 140	34 6.80	-113 58.30	1361.9	AZ	979519.61	-979658.03	128.10	-47.00		-10.32	-57.32
ARTIL.dod- 141	34 6.90	-113 14.30	2328.7	AZ	979418.98	-979658.17	219.03	-80.29		-20.16	-100.45
ARTIL.dod- 142	34 7.60	-113 19.20	2251.0	AZ	979432.21	-979659.15	211.72	-77.61	0.13	-15.22	-92.70
ARTIL.dod- 143	34 7.70	-113 55.40	1475.4	AZ	979508.84	-979659.29	138.78	-50.91		-11.67	-62.58
ARTIL.dod- 144	34 7.80	-113 49.20	1533.1	AZ	979501.51	-979659.43	144.21	-52.90	0.04	-13.71	-66.57
ARTIL.dod- 145	34 8.20	-113 22.90	2047.9	AZ	979449.15	-979659.99	192.62	-70.62		-18.22	-88.84
ARTIL.dod- 146	34 8.40	-113 38.30	2251.6	AZ	979458.97	-979660.27	211.78	-77.64	1.17	10.48	-65.99
ARTIL.dod- 147	34 8.60	-113 32.20	2224.1	AZ	979460.16	-979660.55	209.19	-76.69	0.29	8.80	-67.60
ARTIL.dod- 148	34 9.20	-113 14.20	2262.5	AZ	979412.98	-979661.39	212.80	-78.01		-35.61	-113.62
ARTIL.dod- 149	34 9.20	-113 15.20	2222.4	AZ	979416.96	-979661.39	209.03	-76.63		-35.40	-112.03
ARTIL.dod- 150	34 9.40	-113 10.90	2476.0	AZ	979392.93	-979661.67	232.88	-85.35		-35.86	-121.21
ARTIL.dod- 151	34 9.50	-113 29.00	1805.1	AZ	979480.55	-979661.81	169.79	-62.27		-11.47	-73.74
ARTIL.dod- 152	34 9.60	-113 54.50	1665.0	AZ	979498.99	-979661.95	156.61	-57.44		-6.35	-63.79
ARTIL.dod- 153	34 9.80	-113 0.40	2847.1	AZ	979373.95	-979662.23	267.78	-98.11		-20.50	-118.61
ARTIL.dod- 154	34 10.10	-113 17.90	2123.4	AZ	979420.05	-979662.65	199.72	-73.22		-42.88	-116.10
ARTIL.dod- 155	34 10.30	-113 45.30	1294.3	AZ	979518.72	-979662.93	121.74	-44.67		-22.47	-67.14
ARTIL.dod- 156	34 10.40	-113 5.50	2778.2	AZ	979383.90	-979663.07	261.30	-95.74		-17.87	-113.61
ARTIL.dod- 157	34 10.40	-113 39.60	1392.1	AZ	979510.43	-979663.07	130.94	-48.04	0.27	-21.70	-69.47
ARTIL.dod- 158	34 11.00	-113 20.80	1979.7	AZ	979435.54	-979663.91	186.20	-68.28		-42.17	-110.45
ARTIL.dod- 159	34 11.20	-113 10.10	2544.9	AZ	979396.44	-979664.19	239.36	-87.72		-28.39	-116.11
ARTIL.dod- 160	34 11.90	-113 41.20	892.1	AZ	979538.90	-979665.17	83.91	-30.80	0.13	-42.36	-73.03
ARTIL.dod- 161	34 11.90	-113 58.00	1258.2	AZ	979525.73	-979665.17	118.35	-43.42	0.28	-21.09	-64.23
ARTIL.dod- 162	34 12.00	-113 23.60	1817.6	AZ	979457.53	-979665.31	170.96	-62.70		-36.82	-99.52
ARTIL.dod- 164	34 12.20	-113 32.30	1935.0	AZ	979476.01	-979665.59	182.01	-66.74	2.13	-7.57	-72.18
ARTIL.dod- 165	34 13.20	-113 26.20	1636.5	AZ	979474.50	-979666.99	153.93	-56.46		-38.56	-95.02
ARTIL.dod- 166	34 13.40	-113 14.40	2317.9	AZ	979403.29	-979667.27	218.01	-79.92		-45.97	-125.89
ARTIL.dod- 169	34 14.20	-113 4.40	2945.9	AZ	979379.14	-979668.39	277.06	-101.50		-12.19	-113.69
ARTIL.dod- 170	34 14.20	-113 28.20	1482.6	AZ	979487.05	-979668.39	139.46	-51.16		-41.88	-93.04
ARTIL.dod- 171	34 14.40	-113 17.20	2202.1	AZ	979404.17	-979668.67	207.12	-75.93		-57.38	-133.31
ARTIL.dod- 172	34 14.60	-113 29.20	1426.2	AZ	979492.43	-979668.95	134.15	-49.21		-42.37	-91.58
ARTIL.dod- 173	34 14.90	-113 56.40	615.2	AZ	979554.48	-979669.37	57.87	-21.24		-57.02	-78.26
ARTIL.dod- 174	34 15.20	-113 2.10	3118.1	AZ	979366.21	-979669.79	293.26	-107.42	0.08	-10.32	-117.66
ARTIL.dod- 175	34 15.20	-113 19.90	2208.0	AZ	979414.90	-979669.79	207.68	-76.13		-47.21	-123.34
ARTIL.dod- 176	34 15.40	-113 19.00	2247.0	AZ	979409.28	-979670.07	211.35	-77.48		-49.44	-126.92
ARTIL.dod- 177	34 15.50	-113 31.60	1267.4	AZ	979505.84	-979670.21	119.21	-43.74		-45.16	-88.90
ARTIL.dod- 178	34 15.70	-113 28.10	1426.2	AZ	979486.62	-979670.49	134.15	-49.21		-49.72	-98.93
ARTIL.dod- 179	34 15.80	-113 57.70	612.9	AZ	979550.43	-979670.63	57.65	-21.16		-62.55	-83.71
ARTIL.dod- 180	34 15.90	-113 40.80	1688.0	AZ	979495.42	-979670.77	158.77	-58.23	0.23	-16.58	-74.58
ARTIL.dod- 182	34 16.60	-113 5.90	2759.5	AZ	979390.06	-979671.75	259.54	-95.10		-22.15	-117.25

artillery peaks gravity data 11/28/77
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density: 2.67

identification proj. sta. no.	latitude	location longitude	elev, f	st	observed gravity	standard gravity	corrections fr.-air bouguer terrain			anomalies fr.-air bouguer	
ARTIL.dod- 183	34 16.60	-113 24.50	1533.1	AZ	979475.84	-979671.75	144.21	-52.90		-51.70	-104.60
ARTIL.dod- 184	34 16.90	-113 0.70	3485.9	AZ	979343.46	-979672.17	327.84	-120.05	0.26	-0.87	-120.66
ARTIL.dod- 185	34 16.90	-113 13.80	2495.1	AZ	979396.91	-979672.17	234.67	-86.01	0.04	-40.59	-126.56
ARTIL.dod- 187	34 17.20	-113 38.00	1522.0	AZ	979498.96	-979672.59	143.16	-52.51	0.07	-30.47	-82.91
ARTIL.dod- 188	34 17.30	-113 58.40	816.9	AZ	979537.94	-979672.73	76.84	-28.21		-57.95	-86.16
ARTIL.dod- 189	34 17.50	-113 41.40	2064.0	AZ	979470.17	-979673.01	194.13	-71.18	0.11	-8.71	-79.78
ARTIL.dod- 190	34 17.60	-113 29.10	1337.9	AZ	979491.55	-979673.15	125.85	-46.17		-55.75	-101.92
ARTIL.dod- 191	34 17.70	-113 20.80	1428.1	AZ	979478.18	-979673.29	134.33	-49.28		-60.78	-110.06
ARTIL.dod- 192	34 17.90	-113 49.00	1305.1	AZ	979512.74	-979673.57	122.76	-45.04	0.11	-38.07	-83.00
ARTIL.dod- 193	34 18.00	-113 33.50	1228.0	AZ	979503.68	-979673.71	115.51	-42.38	0.24	-54.52	-96.66
ARTIL.dod- 195	34 18.30	-113 56.20	985.9	AZ	979529.46	-979674.13	92.74	-34.03		-51.93	-85.96
ARTIL.dod- 196	34 18.50	-113 29.60	1237.9	AZ	979503.27	-979674.42	116.44	-42.72	0.20	-54.71	-97.23
ARTIL.dod- 197	34 18.60	-113 6.50	2509.8	AZ	979407.76	-979674.56	236.06	-86.52		-30.74	-117.26
ARTIL.dod- 198	34 18.85	-113 16.75	1964.9	AZ	979436.03	-979674.91	184.81	-67.77	0.67	-54.07	-121.17
ARTIL.dod- 199	34 19.00	-113 7.80	2296.9	AZ	979424.38	-979675.12	216.04	-79.19	0.19	-34.70	-113.70
ARTIL.dod- 200	34 19.10	-113 37.00	1892.1	AZ	979465.75	-979675.26	177.96	-65.26	0.83	-31.55	-95.98
ARTIL.dod- 201	34 19.90	-113 52.20	1400.9	AZ	979508.02	-979676.38	131.77	-48.34		-36.59	-84.93
ARTIL.dod- 202	34 19.90	-113 56.10	1169.0	AZ	979522.21	-979676.38	109.96	-40.35		-44.21	-84.56
ARTIL.dod- 203	34 20.80	-113 43.00	2290.0	AZ	979451.88	-979677.64	215.39	-78.96	0.16	-10.37	-89.17
ARTIL.dod- 205	34 21.40	-113 3.90	2790.0	AZ	979393.16	-979678.48	262.41	-96.15	0.40	-22.91	-118.66
ARTIL.dod- 206	34 21.50	-113 10.20	1942.6	AZ	979453.01	-979678.62	182.71	-67.00	0.50	-42.90	-109.40
ARTIL.dod- 207	34 21.65	-113 36.45	1942.9	AZ	979465.14	-979678.83	182.75	-67.01	0.13	-30.94	-97.82
ARTIL.dod- 209	34 23.10	-113 43.20	2453.4	AZ	979435.73	-979680.87	230.75	-84.58	0.17	-14.39	-98.80
ARTIL.dod- 210	34 23.30	-113 7.30	2253.9	AZ	979429.87	-979681.15	211.99	-77.71	0.13	-39.29	-116.87
ARTIL.dod- 212	34 23.80	-113 54.40	1599.1	AZ	979504.45	-979681.85	150.41	-55.17		-26.99	-82.16
ARTIL.dod- 213	34 24.70	-113 13.80	2283.8	AZ	979430.86	-979683.12	214.80	-78.74	1.02	-37.46	-115.18
ARTIL.dod- 214	34 24.80	-113 44.50	2444.9	AZ	979443.76	-979683.26	229.95	-84.28	0.08	-9.55	-93.75
ARTIL.dod- 215	34 25.50	-113 4.10	3236.9	AZ	979366.34	-979684.24	304.42	-111.50	2.24	-13.48	-122.74
ARTIL.dod- 216	34 25.50	-113 14.40	2386.8	AZ	979424.92	-979684.24	224.49	-82.29	0.30	-34.83	-116.82
ARTIL.dod- 217	34 25.60	-113 41.50	2344.2	AZ	979440.31	-979684.38	220.48	-80.82	0.29	-23.59	-104.12
ARTIL.dod- 219	34 26.40	-113 31.25	2853.0	AZ	979404.73	-979685.50	268.33	-98.31	0.91	-12.44	-109.84
ARTIL.dod- 220	34 26.50	-113 50.20	2084.0	AZ	979466.29	-979685.64	196.01	-71.87		-23.34	-95.21
ARTIL.dod- 222	34 26.70	-113 38.00	1782.2	AZ	979483.43	-979685.93	167.63	-61.48	0.53	-34.87	-95.82
ARTIL.dod- 223	34 27.20	-113 43.00	2181.8	AZ	979450.95	-979686.63	205.21	-75.23		-30.47	-105.70
ARTIL.dod- 224	34 27.60	-113 14.70	2688.6	AZ	979408.19	-979687.19	252.87	-92.66	0.24	-26.13	-118.55
ARTIL.dod- 225	34 27.60	-113 21.10	3111.9	AZ	979385.72	-979687.19	292.67	-107.21	0.37	-8.80	-115.64
ARTIL.dod- 226	34 27.90	-113 15.70	2915.7	AZ	979396.39	-979687.61	274.22	-100.47	0.36	-17.00	-117.11
ARTIL.dod- 227	34 28.30	-113 3.20	2322.2	AZ	979416.20	-979688.17	218.41	-80.06	0.16	-53.56	-133.46
ARTIL.dod- 228	34 28.30	-113 12.80	2696.9	AZ	979405.02	-979688.17	253.64	-92.95	0.19	-29.51	-122.27
ARTIL.dod- 229	34 28.45	-113 29.25	3227.0	AZ	979381.06	-979688.38	303.50	-111.16	0.17	-3.82	-114.81

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identification		location		elev, f	st	observed gravity	standard gravity	corrections			anomalies	
proj.	sta. no.	latitude	longitude					fr.-air	bouguer	terrain	fr.-air	bouguer
ARTIL.dod-	230	34 28.70	-113 57.30	1865.2	AZ	979486.02	-979688.74	175.43	-64.33		-27.29	-91.62
ARTIL.dod-	232	34 29.20	-113 17.10	3104.3	AZ	979387.54	-979689.44	291.96	-106.95	0.24	-9.94	-116.65
ARTIL.dod-	233	34 29.30	-113 10.90	2919.6	AZ	979389.12	-979689.58	274.59	-100.60	0.16	-25.87	-126.31
ARTIL.dod-	234	34 29.30	-113 43.80	2346.8	AZ	979447.42	-979689.58	220.73	-80.91		-21.43	-102.34
ARTIL.dod-	235	34 29.30	-113 54.60	2044.0	AZ	979467.77	-979689.58	192.25	-70.49		-29.56	-100.05
ARTIL.dod-	236	34 29.40	-113 48.50	2404.9	AZ	979451.30	-979689.72	226.19	-82.91		-12.23	-95.14
ARTIL.dod-	237	34 29.40	-113 59.60	1767.1	AZ	979494.53	-979689.72	166.21	-60.96		-28.98	-89.94
ARTIL.dod-	238	34 29.80	-113 37.00	1516.7	AZ	979485.01	-979690.28	142.66	-52.33		-62.61	-114.94
ARTIL.dod-	240	34 30.00	-113 55.30	2059.1	AZ	979468.17	-979690.56	193.67	-71.01		-28.72	-99.73

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