

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Principal facts for gravity stations in the Osgood  
Mountains, Humbolt County, Nevada

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

## Table of Contents

Introduction.....	1
Data Collection.....	1
Elevation Control.....	1
Data Reduction.....	2
Location Map, Figure 1.....	3
Location of Gravity Stations, Figure 2.....	4
Appendix A	
Gravity Base Station Description.....	5
Appendix B	
Principal Facts of Gravity Data.....	10
References.....	11

## INTRODUCTION

A gravity study was made in the Osgood Mountains and vicinity (fig. 1) in June, 1984. The data were obtained as part of the U.S. Geological Survey's (USGS) development of assessment techniques (DAT) program, the purpose of which is to research, assess, and develop exploration techniques and models for mineral deposits.

## DATA COLLECTION

Gravity observations were made using LaCoste-Romberg<sup>1</sup> gravity meters G-551 and G-24. The gravity stations were referenced to the U.S. Department of Defense (DOD) base at Winnemucca airport, Nevada (Appendix A). Gravity loops were started and closed daily by making repeat observations at a secondary base in Winnemucca. Access was by secondary roads and jeep trails.

## ELEVATION CONTROL

The survey area is bound by latitudes  $40^{\circ} 55'$  -  $41^{\circ} 23'N$  and longitudes  $117^{\circ} 10'$  -  $117^{\circ} 30'W$ . The station elevations were obtained from benchmarks, spot elevations and section corners on 1:62,500 and 1:24,000 scale USGS topographic maps and from 1:200 scale topographic maps produced by Pinson and Getchell Mining companies. The elevation uncertainty is one-half the contour interval; thus on a map at a scale of 1:62,500 with 40-ft contour intervals, the maximum Bouguer and free air correction would be 1.13 mgals.

<sup>1</sup>Use of trade names in this report is for descriptive purposes only, and does not constitute endorsement by the U.S. Geological Survey.

## DATA REDUCTION

Computer programs existing on the USGS DEC VAX 11-750 computer system were used to obtain principal facts and terrain-corrected gravity values. A program written by M. Webring and R. Wahl (USGS unpub. program 1984) was used to reduce gravity meter readings to observed gravity values by calculating and correcting for earth-tide and linear-meter drift. The theoretical gravity value was calculated using the 1967 formula of the Geodetic Reference System (International Association of Geodesy, 1967). Complete terrain corrections were computed using a program by R. H. Godson (USGS, unpub. program, 1978) correcting for the gravity effects of terrain from each station to a radius 166.7 km away using the method of Plouff (1977). Godson's program also calculates earth curvature corrections and complete (terrain-corrected) Bouguer anomaly values. These computed terrain-corrections use mean elevation digitized on a 15-second grid for corrections from 0 to 5 km, 1-minute terrain data for corrections from 5 to 21 km, and 3-minute terrain data for corrections from 21 to 116.7 km. Densities of  $2.67 \text{ g/cm}^3$  and  $2.45 \text{ g/cm}^3$  were used to calculate terrain corrections, giving two complete Bouguer anomaly values per station. The corrections and anomaly values are listed in Appendix B.

## Acknowledgements

We wish to thank the personnel of the Pinson Mining Company and FRM Minerals, Inc. for their help and many courtesies extended to us during the field operations.

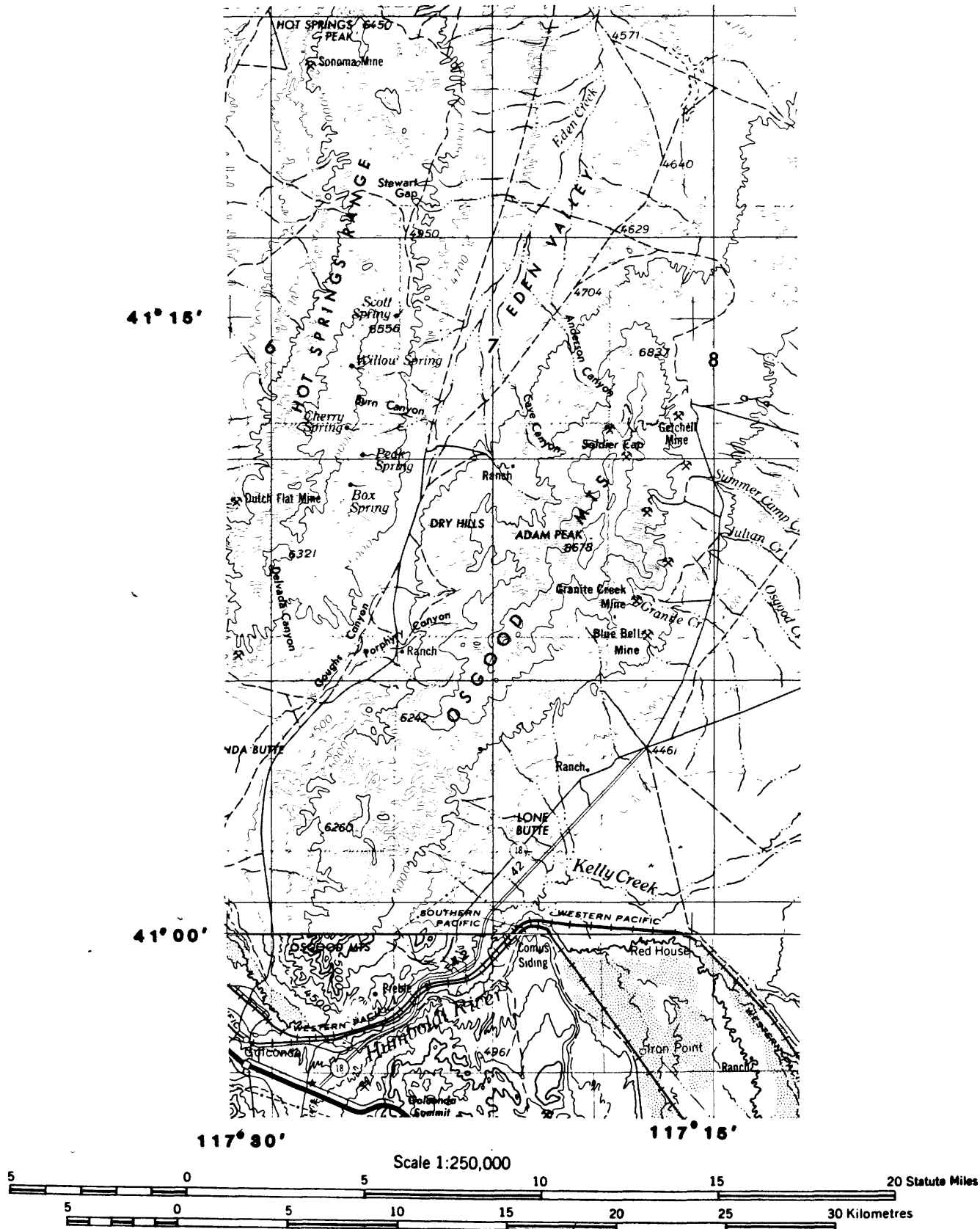
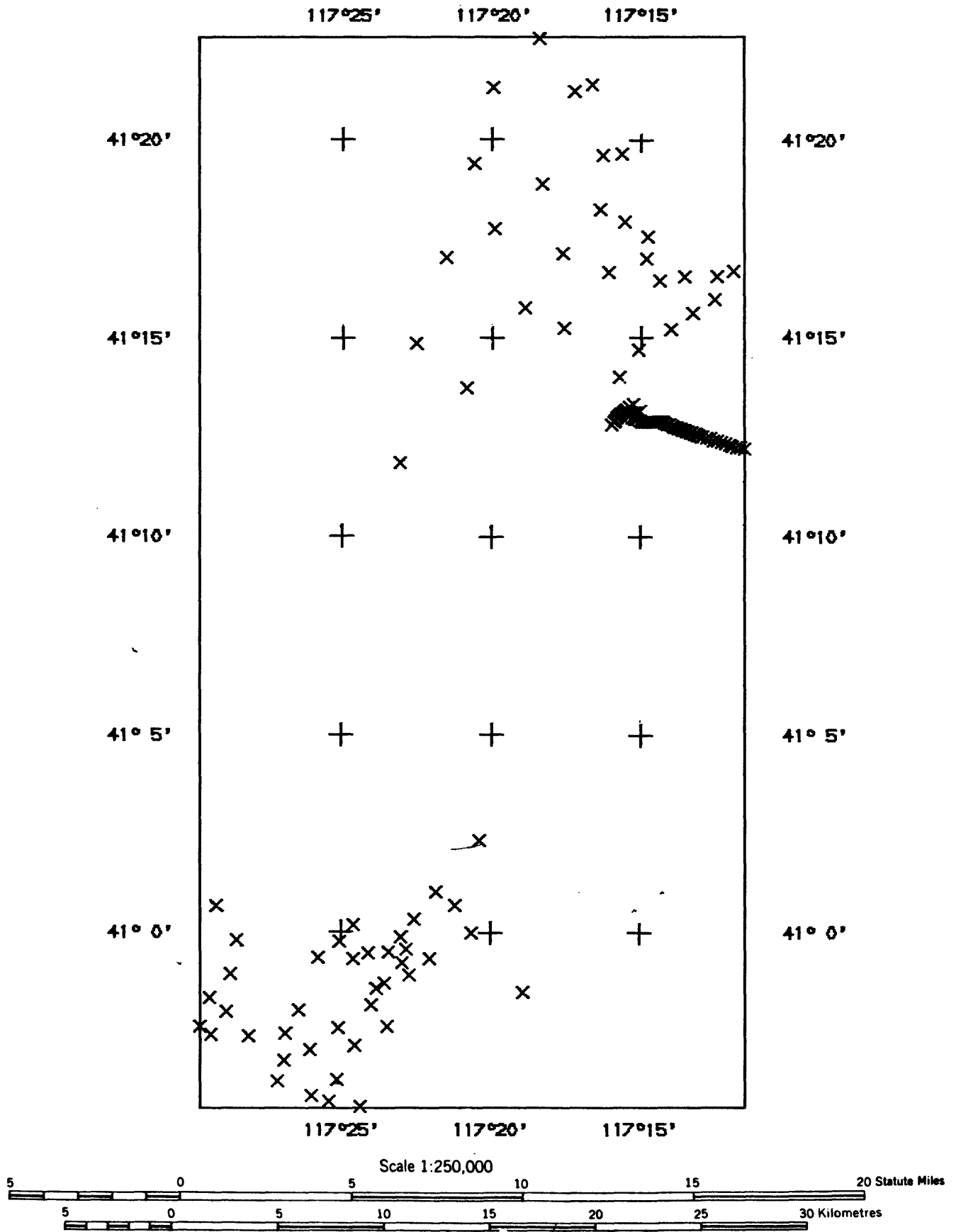


Figure 1-- Location Map of  
**Osgood Mt. Nevada**





**Figure 2-- Osgood Mt. Nevada**

x-- Location of Gravity Stations

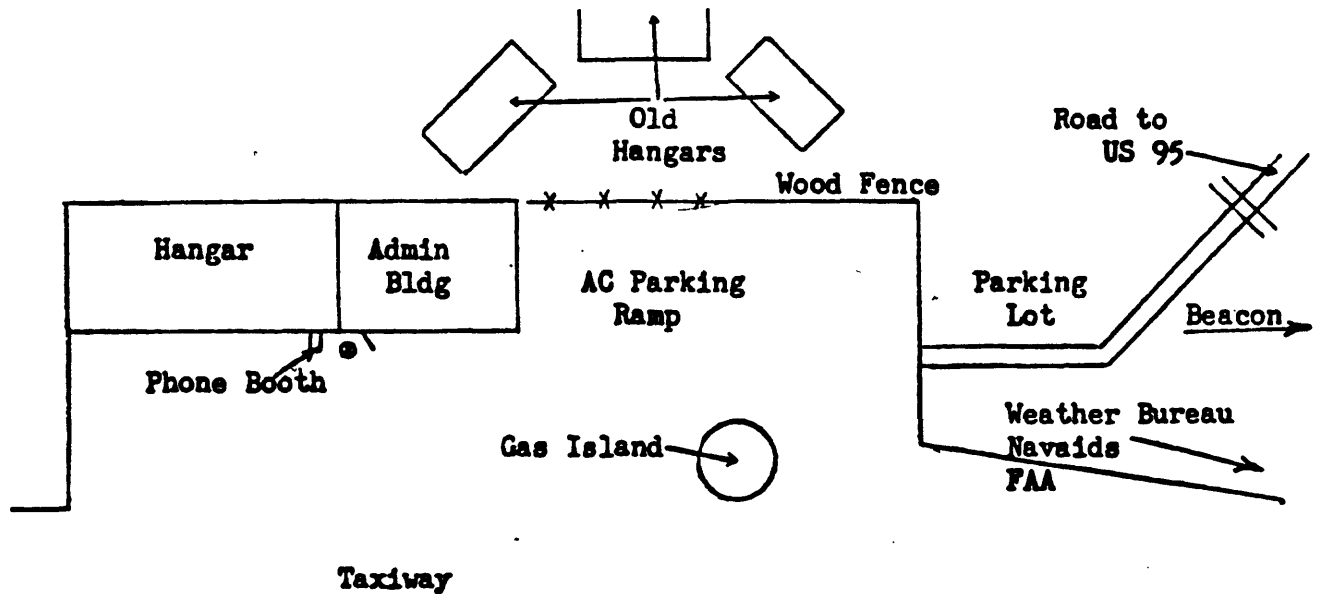
### GRAVITY BASE STATION

LATITUDE <b>40° 54.23' N</b> (1)	STATION DESIGNATION <b>WINNEMUCCA</b>	
LONGITUDE <b>117° 48.21' W</b> (1)		
ELEVATION <b>1310</b> METERS (1)	COUNTRY/STATE <b>USA/Nevada</b>	
REFERENCE CODE NUMBERS		ADOPTED GRAVITY VALUE
<b>ACIC 0474-1</b>		<b>g = 979 810.48</b> mgals
<b>IGB 15607J</b>		
	ESTIMATED ACCURACY	DATE
	<b>± 0.1</b> mgals	MONTH/YEAR <b>Jan/1971</b>

**DESCRIPTION AND/OR SKETCH**

The station is at the Winnemucca Municipal Airport, (4 miles west of town), at south wall of Air Service building on concrete sidewalk, 1.0 meter east of phone booth, 1.0 meter west of door against the wall. Site is monumented with a "USAF Gravity Station" disc. (1)

N  
↑



**REFERENCE SOURCE**

(1) Personal Communication 1st GSS (23 Jan 69)

## Appendix B: Principal Facts of Gravity Data

### Explanation of headings

#### Identification

proj	Not used.
sta id	Gravity station identification number.

#### Locations

latitude	North latitude in degrees, decimal minutes.
longitude	West longitude in degrees, decimal minutes.
ele	Station elevation in feet.
st	Not used.

#### Gravity

observed	Observed gravity in milligals.
theoretical	Theoretical gravity in milligals.

#### Corrections

Terrain	Terrain correction, 166.7 km radius, in milligals.
Bouguer	Simple Bouguer slab correction in milligals.
curv	Curvature correction in milligals.
special	Not used.

#### Anomalies

free-air	Free-air anomaly in milligals.
complete-Bouguer	Complete Bouguer anomaly in milligals for designated densities $d_1$ and $d_2$ .
spec fields	Not used.



## BOUGUER GRAVITY DATA

osgood mts  
nevada gravity  
2g-24

STATION IDENTIFICATION proj sta-id	L O C A T I O N S		E L E (in ft)	G R A V I T Y		C O R R E C T I O N S		A N O M A L I E S				
	LATITUDE deg min	LONGITUDE deg min		ST OBSERVED	THEORETICAL	TERRAIN BOUGUER CURV (d1=2.67)	SPECIAL	FREE AIR	COMPLETE-BOUGUER d1=2.67	SPEC FIELDS		
1	41 11.83	-117 23.04	4862.00	979820.58	980275.96	1.09	-165.83	-1.39	0.00	1.75	-164.38	-150.69
2	41 13.74	-117 20.83	4793.00	979833.51	980278.82	1.06	-163.48	-1.38	0.00	5.34	-158.46	-144.96
3	41 15.75	-117 18.89	4704.00	979846.63	980281.82	0.91	-160.44	-1.37	0.00	7.10	-153.80	-140.55
4	41 15.26	-117 17.60	5162.00	979822.09	980281.09	2.19	-176.06	-1.43	0.00	26.33	-148.97	-134.52
5	41 16.67	-117 16.08	4873.00	979844.80	980283.20	0.89	-166.20	-1.40	0.00	19.77	-146.94	-133.20
6	41 17.15	-117 17.61	4629.00	979858.20	980283.91	0.61	-157.88	-1.36	0.00	9.52	-149.11	-136.04
7	41 17.92	-117 15.55	4723.00	979848.58	980285.07	0.30	-161.09	-1.38	0.00	7.58	-154.58	-141.22
8	41 18.24	-117 16.36	4656.00	979850.17	980285.55	0.27	-158.80	-1.37	0.00	2.40	-157.50	-144.33
9	41 19.60	-117 16.28	4607.00	979852.24	980287.58	0.15	-157.13	-1.36	0.00	-2.17	-160.51	-147.46
10	41 18.90	-117 18.32	4563.00	979853.50	980286.53	0.23	-155.63	-1.35	0.00	-4.00	-160.75	-147.84
11	41 21.22	-117 17.26	4567.00	979856.93	980290.00	0.09	-155.77	-1.35	0.00	-3.66	-160.69	-147.75
12	41 21.40	-117 16.63	4551.00	979857.83	980290.27	0.17	-155.22	-1.35	0.00	-4.54	-160.94	-148.06
13	41 22.57	-117 18.45	4533.00	979862.39	980292.02	0.27	-154.61	-1.35	0.00	-3.42	-159.11	-146.28
701	40 58.92	-117 28.68	4338.00	979831.11	980256.58	0.65	-147.96	-1.32	0.00	-17.68	-166.31	-154.06
702	40 58.02	-117 26.37	4490.00	979827.88	980255.34	0.73	-153.14	-1.34	0.00	-5.28	-159.03	-146.36
703	40 59.32	-117 24.57	4754.00	979818.98	980257.28	0.42	-162.15	-1.38	0.00	8.68	-154.42	-140.98
704	40 59.77	-117 25.02	4831.00	979809.03	980257.95	0.77	-164.77	-1.39	0.00	5.30	-160.09	-146.46
705	40 59.36	-117 25.72	4906.00	979808.67	980257.34	0.67	-167.33	-1.40	0.00	12.61	-155.45	-141.60
706	41 0.19	-117 24.57	4906.00	979811.55	980258.58	0.56	-167.33	-1.40	0.00	14.24	-153.93	-140.07
707	40 59.46	-117 24.06	4716.00	979822.01	980257.48	0.48	-160.85	-1.37	0.00	7.94	-153.80	-140.48
708	40 59.50	-117 23.40	4776.00	979817.25	980257.55	0.96	-162.90	-1.38	0.00	8.76	-154.56	-141.10
709	40 59.22	-117 22.93	4518.00	979832.74	980257.13	0.40	-154.10	-1.35	0.00	0.42	-154.63	-141.85
710	40 59.56	-117 22.78	4558.00	979829.55	980257.64	0.34	-155.46	-1.35	0.00	0.47	-156.00	-143.11
711	40 59.87	-117 23.00	4761.00	979817.61	980258.10	1.10	-162.38	-1.38	0.00	7.15	-155.51	-142.11
712	41 0.32	-117 22.52	4524.00	979830.56	980258.77	0.42	-154.30	-1.35	0.00	-2.84	-158.07	-145.28
713	41 0.66	-117 21.20	4370.00	979838.74	980259.28	0.29	-149.05	-1.32	0.00	-9.64	-159.73	-147.36
714	41 1.03	-117 21.81	4479.00	979831.97	980259.83	0.35	-152.77	-1.34	0.00	-6.72	-160.48	-147.81
715	41 2.34	-117 20.36	4433.00	979841.76	980261.79	0.42	-151.20	-1.33	0.00	-3.22	-155.33	-142.79
716	40 58.92	-117 22.70	4390.00	979838.13	980256.58	0.39	-149.73	-1.33	0.00	-5.77	-155.44	-144.02
717	40 58.72	-117 23.53	4362.00	979840.83	980256.38	0.77	-148.78	-1.32	0.00	-5.41	-154.74	-142.44
718	40 58.57	-117 23.81	4364.00	979840.38	980256.16	0.86	-148.84	-1.32	0.00	-5.44	-154.75	-142.45
719	40 58.17	-117 23.97	4371.00	979839.70	980255.56	0.91	-149.08	-1.32	0.00	-4.87	-154.37	-142.05
720	40 57.59	-117 25.03	4358.00	979838.99	980254.70	1.00	-148.64	-1.32	0.00	-5.94	-154.90	-142.62
721	40 57.01	-117 25.99	4405.00	979833.74	980253.83	0.57	-150.24	-1.33	0.00	-5.90	-156.90	-144.46

## BOUGUER GRAVITY DATA

osgood mts  
nevada gravity  
2g-24

STATION IDENTIFICATION	L O C A T I O N S		E L E (in ft)	S T OBSERVED	G R A V I T Y THEORETICAL	C O R R E C T I O N S		S P E C I A L	F R E E A I R	A N O M A L I E S		
	L A T I T U D E deg	L O N G I T U D E min				T E R R A I N (d1=2.67)	B O U G U E R (d1=2.67)			C O M P L E T E	B O U G U E R d2=2.45	S P E C I A L F I E L D S
104	41 12.28	-117 11.92	4856.00	979830.80	980276.63	0.48	-155.62	-1.39	0.00	10.74	-155.80	-142.08
105	41 12.31	-117 12.04	4868.00	979830.27	980276.68	0.50	-166.03	-1.39	0.00	11.29	-155.63	-141.88
106	41 12.34	-117 12.17	4865.00	979830.75	980276.73	0.55	-165.93	-1.39	0.00	11.44	-155.33	-141.59
107	41 12.37	-117 12.30	4886.00	979829.75	980276.77	0.58	-166.65	-1.40	0.00	12.37	-155.10	-141.30
108	41 12.40	-117 12.42	4903.00	979828.96	980276.81	0.60	-167.23	-1.40	0.00	13.14	-154.89	-141.04
109	41 12.42	-117 12.55	4919.00	979827.94	980276.84	0.64	-167.77	-1.40	0.00	13.59	-154.95	-141.06
110	41 12.46	-117 12.68	4937.00	979826.74	980276.91	0.67	-168.39	-1.40	0.00	14.02	-155.10	-141.16
111	41 12.48	-117 12.80	4956.00	979825.71	980276.94	0.70	-169.00	-1.41	0.00	14.65	-155.05	-141.07
112	41 12.51	-117 12.92	4981.00	979824.29	980276.98	0.69	-169.89	-1.41	0.00	15.63	-154.97	-140.91
113	41 12.52	-117 12.99	4989.00	979823.92	980276.99	0.71	-170.16	-1.41	0.00	16.00	-154.86	-140.78
114	41 12.54	-117 13.05	5002.00	979823.67	980277.02	0.72	-170.60	-1.41	0.00	16.94	-154.35	-140.24
115	41 12.55	-117 13.11	5013.00	979823.14	980277.04	0.75	-170.98	-1.41	0.00	17.43	-154.21	-140.07
116	41 12.57	-117 13.17	5025.00	979822.60	980277.07	0.78	-171.39	-1.41	0.00	17.99	-154.03	-139.86
117	41 12.58	-117 13.22	5034.00	979822.10	980277.09	0.80	-171.70	-1.41	0.00	18.32	-153.99	-139.79
118	41 12.60	-117 13.30	5056.00	979821.45	980277.12	0.85	-172.45	-1.42	0.00	19.71	-153.31	-139.05
119	41 12.62	-117 13.35	5067.00	979820.89	980277.15	0.87	-172.82	-1.42	0.00	20.15	-153.22	-138.94
120	41 12.64	-117 13.42	5079.00	979820.74	980277.17	0.90	-173.23	-1.42	0.00	21.10	-152.65	-138.33
121	41 12.65	-117 13.48	5092.00	979820.30	980277.19	0.94	-173.67	-1.42	0.00	21.86	-152.29	-137.94
122	41 12.67	-117 13.55	5105.00	979820.66	980277.22	0.96	-174.12	-1.42	0.00	23.41	-151.17	-136.78
123	41 12.69	-117 13.61	5119.00	979819.06	980277.25	0.97	-174.59	-1.42	0.00	23.10	-151.94	-137.52
124	41 12.70	-117 13.68	5134.00	979818.16	980277.27	0.99	-175.11	-1.43	0.00	23.59	-151.95	-137.49
125	41 12.72	-117 13.74	5151.00	979817.38	980277.30	1.01	-175.69	-1.43	0.00	24.39	-151.72	-137.21
126	41 12.74	-117 13.81	5162.00	979816.67	980277.32	1.06	-176.06	-1.43	0.00	24.68	-151.75	-137.21
127	41 12.75	-117 13.87	5173.00	979816.19	980277.34	1.08	-176.44	-1.43	0.00	25.22	-151.67	-137.00
128	41 12.79	-117 13.95	5192.00	979815.48	980277.40	1.12	-177.08	-1.43	0.00	26.23	-151.17	-136.55
129	41 12.81	-117 14.03	5221.00	979813.87	980277.43	1.15	-178.07	-1.44	0.00	27.32	-151.04	-136.35
130	41 12.83	-117 14.11	5247.00	979812.40	980277.46	1.20	-178.96	-1.44	0.00	28.26	-150.94	-136.17
131	41 12.85	-117 14.19	5267.00	979811.21	980277.49	1.27	-179.64	-1.44	0.00	28.92	-150.89	-136.08
132	41 12.87	-117 14.27	5291.00	979809.72	980277.52	1.35	-180.46	-1.44	0.00	29.66	-150.89	-136.02
133	41 12.88	-117 14.36	5312.00	979808.41	980277.53	1.39	-181.18	-1.44	0.00	30.31	-150.93	-135.99
134	41 12.87	-117 14.44	5333.00	979807.32	980277.52	1.44	-181.89	-1.45	0.00	31.21	-150.69	-135.70
136	41 12.87	-117 14.62	5377.00	979804.72	980277.52	1.59	-183.39	-1.45	0.00	32.74	-150.51	-135.41
135	41 12.87	-117 14.53	5356.00	979806.02	980277.52	1.52	-182.68	-1.45	0.00	32.07	-150.53	-135.49
137	41 12.87	-117 14.70	5407.00	979802.72	980277.52	1.66	-184.42	-1.45	0.00	33.56	-150.65	-135.47
138	41 12.87	-117 14.79	5435.00	979801.02	980277.52	1.78	-185.37	-1.45	0.00	34.50	-150.55	-135.30
139	41 12.88	-117 14.88	5460.00	979799.73	980277.53	1.88	-186.22	-1.45	0.00	35.54	-150.27	-134.96
140	41 12.90	-117 14.96	5482.00	979798.12	980277.56	2.03	-186.98	-1.45	0.00	35.96	-150.44	-135.08
141	41 12.92	-117 15.04	5505.00	979795.57	980277.51	2.14	-187.70	-1.45	0.00	35.52	-151.11	-135.07

## BOUGUER GRAVITY DATA

osgood mts  
nevada gravity  
2g-24

STATION IDENTIFICATION proj sta-id	L O C A T I O N S		ELE (in ft)	ST OBSERVED	G R A V I T Y		C O R R E C T I O N S		A N O M A L I E S			
	LATITUDE deg min	LONGITUDE deg min			THEORETICAL	TERRAIN BOUGUER CURV (d1=2.67)	SPECIAL	FREE AIR	COMPLETE-BOUGUER d1=2.67 d2=2.45	SPEC FIELDS		
722	40 56.73	-117 26.86	4305.00	979830.57	980253.41	1.22	-146.83	-1.31	0.00	-18.06	-164.98	-152.88
723	40 56.24	-117 27.06	4458.00	979824.71	980252.68	0.50	-152.05	-1.34	0.00	-8.80	-161.69	-149.09
801	40 59.78	-117 28.47	4461.00	979825.63	980257.97	0.59	-152.15	-1.34	0.00	-12.89	-165.79	-153.19
802	41 0.66	-117 29.15	4387.00	979831.26	980259.28	0.41	-149.63	-1.33	0.00	-15.53	-166.08	-153.67
803	40 58.32	-117 29.36	4341.00	979830.75	980255.79	0.57	-148.06	-1.32	0.00	-16.87	-165.68	-153.42
804	40 57.96	-117 28.79	4346.00	979831.24	980255.25	0.56	-148.23	-1.32	0.00	-15.37	-164.36	-152.08
805	40 57.40	-117 29.31	4387.00	979829.82	980254.41	0.54	-149.63	-1.33	0.00	-12.10	-162.52	-150.12
806	40 57.60	-117 29.65	4383.00	979831.98	980254.71	0.56	-149.49	-1.33	0.00	-10.62	-160.87	-148.49
807	40 57.37	-117 28.05	4373.00	979822.90	980254.37	0.49	-149.15	-1.32	0.00	-20.29	-170.28	-157.92
808	40 57.44	-117 26.83	4354.00	979828.88	980254.47	0.59	-148.50	-1.32	0.00	-16.20	-165.43	-153.13
809	40 55.86	-117 25.94	4605.00	979818.49	980252.12	0.58	-157.06	-1.36	0.00	-0.64	-158.48	-145.48
810	40 55.71	-117 25.34	4710.00	979813.32	980251.89	0.81	-160.64	-1.37	0.00	4.28	-156.93	-143.64
811	40 55.59	-117 24.32	4996.00	979795.45	980251.71	0.77	-170.40	-1.41	0.00	14.48	-156.56	-142.47
812	40 59.32	-117 22.04	4438.00	979832.30	980257.28	0.24	-151.37	-1.33	0.00	-7.70	-160.16	-147.60
813	40 59.98	-117 20.64	4381.00	979838.16	980258.27	0.15	-149.42	-1.32	0.00	-8.18	-158.78	-146.37
814	40 58.47	-117 18.89	4374.00	979834.18	980256.01	0.45	-149.18	-1.32	0.00	-10.56	-160.62	-148.25
815	40 57.60	-117 23.43	4822.00	979811.83	980254.71	0.61	-164.46	-1.39	0.00	10.50	-154.75	-141.13
816	40 57.12	-117 24.51	4803.00	979810.50	980253.99	1.00	-163.82	-1.39	0.00	8.10	-156.10	-142.57
817	40 56.27	-117 25.07	4808.00	979808.76	980252.73	0.80	-163.99	-1.39	0.00	8.10	-156.48	-142.92
14	41 14.85	-117 22.51	4664.00	979840.65	980280.48	0.69	-159.08	-1.37	0.00	-1.30	-161.05	-147.89
15	41 17.03	-117 21.54	4631.00	979846.44	980283.73	0.35	-157.95	-1.36	0.00	-1.87	-160.84	-147.74
16	41 17.73	-117 19.91	4580.00	979848.02	980284.78	0.27	-156.21	-1.36	0.00	-6.13	-163.42	-150.46
17	41 19.39	-117 20.60	4626.00	979848.00	980287.27	0.24	-157.75	-1.36	0.00	-4.41	-163.27	-150.18
18	41 21.33	-117 19.99	4615.00	979853.29	980290.16	0.14	-157.40	-1.36	0.00	-2.96	-161.58	-148.51
19	41 19.65	-117 15.66	4617.00	979851.87	980287.66	0.18	-157.47	-1.36	0.00	-1.68	-160.33	-147.26
20	41 17.57	-117 14.79	4796.00	979844.30	980284.55	0.37	-163.58	-1.39	0.00	10.68	-153.91	-140.35
21	41 17.01	-117 14.81	4828.00	979842.59	980283.70	0.47	-164.67	-1.39	0.00	12.83	-152.76	-139.11
22	41 16.44	-117 14.34	4928.00	979837.84	980282.85	0.72	-168.08	-1.40	0.00	18.33	-150.43	-136.52
23	41 15.22	-117 14.01	5361.00	979810.97	980281.03	0.72	-182.51	-1.45	0.00	33.03	-150.20	-135.10
24	41 14.70	-117 15.06	5447.00	979804.83	980280.25	1.26	-185.78	-1.46	0.00	36.70	-149.28	-133.96
25	41 14.03	-117 15.69	5809.00	979780.65	980279.25	2.63	-198.13	-1.48	0.00	47.54	-149.45	-133.21
101	41 12.20	-117 11.54	4819.00	979832.20	980276.52	0.40	-164.36	-1.39	0.00	8.78	-156.57	-142.94
102	41 12.22	-117 11.67	4831.00	979831.82	980276.55	0.42	-164.77	-1.39	0.00	9.50	-156.24	-142.59
103	41 12.25	-117 11.79	4844.00	979831.22	980276.59	0.44	-165.21	-1.39	0.00	10.07	-156.10	-142.40

## BOUGUER GRAVITY DATA

osgood mts  
nevada gravity  
2g-24

STATION IDENTIFICATION proj sta-id	L O C A T I O N S		E L E (in ft)	S T OBSERVED	G R A V I T Y THEORETICAL	C O R R E C T I O N S		S P E C I A L	A N O M A L I E S			
	L A T I T U D E deg min	L O N G I T U D E deg min				T E R R A I N (d1=2.67)	B O U G U E R (d1=2.67)		F R E E A I R	C O M P L E T E - B O U G U E R d2=2.45	S P E C F I E L D S	
142	41 12.94	-117 15.13	5542.00	979792.93	980277.63	2.26	-189.02	-1.47	0.00	36.35	-151.88	-136.37
143	41 12.96	-117 15.19	5566.00	979791.51	980277.66	2.35	-189.84	-1.47	0.00	37.15	-151.80	-136.23
144	41 12.97	-117 15.23	5574.00	979790.73	980277.66	2.45	-190.11	-1.47	0.00	37.12	-152.01	-136.43
145	41 12.97	-117 15.28	5596.00	979789.05	980277.66	2.57	-190.86	-1.47	0.00	37.50	-152.26	-136.62
146	41 13.15	-117 15.05	5530.00	979795.74	980277.94	2.05	-188.61	-1.46	0.00	37.72	-150.30	-134.81
147	41 13.14	-117 15.14	5572.00	979791.76	980277.92	2.14	-190.04	-1.47	0.00	37.70	-151.67	-136.07
148	41 13.13	-117 15.23	5613.00	979789.24	980277.91	2.29	-191.44	-1.47	0.00	39.06	-151.57	-135.86
149	41 13.13	-117 15.32	5643.00	979787.52	980277.91	2.53	-192.47	-1.47	0.00	40.16	-151.25	-135.48
150	41 13.13	-117 15.40	5673.00	979785.69	980277.91	2.86	-193.49	-1.48	0.00	41.14	-150.97	-135.14
151	41 13.14	-117 15.48	5743.00	979781.13	980277.92	3.27	-195.88	-1.48	0.00	43.15	-150.94	-134.95
152	41 13.15	-117 15.51	5743.00	979781.26	980277.94	3.37	-195.88	-1.48	0.00	43.26	-150.73	-134.75
26	41 15.62	-117 13.27	5532.00	979799.70	980281.63	1.80	-188.68	-1.46	0.00	38.18	-150.16	-134.64
27	41 15.97	-117 12.56	5622.00	979794.30	980282.15	1.67	-191.75	-1.47	0.00	40.71	-150.84	-135.06
28	41 16.70	-117 11.89	5858.00	979780.39	980283.24	3.22	-199.80	-1.49	0.00	47.89	-150.18	-133.86
29	41 16.56	-117 12.46	5515.00	979803.94	980283.03	1.36	-188.10	-1.46	0.00	39.41	-148.79	-133.28
30	41 16.57	-117 13.62	5253.00	979819.75	980283.05	0.95	-179.16	-1.44	0.00	30.59	-149.07	-134.26
153	41 13.12	-117 15.56	5785.00	979778.80	980277.89	3.41	-197.31	-1.48	0.00	44.79	-150.59	-134.49
154	41 13.10	-117 15.64	5810.00	979777.40	980277.86	3.61	-198.16	-1.48	0.00	45.77	-150.27	-134.11
156	41 13.02	-117 15.74	5876.00	979772.43	980277.74	3.84	-200.41	-1.49	0.00	47.12	-150.94	-134.62
155	41 13.05	-117 15.69	5842.00	979774.86	980277.79	3.70	-199.25	-1.49	0.00	46.31	-150.73	-134.49
161	41 13.25	-117 15.37	5681.00	979787.22	980278.09	2.57	-193.76	-1.48	0.00	43.24	-149.43	-133.55
162	41 13.14	-117 15.44	5693.00	979784.36	980277.92	3.03	-194.17	-1.48	0.00	41.67	-150.94	-135.07
163	41 13.19	-117 15.47	5728.00	979782.57	980278.00	3.04	-195.37	-1.48	0.00	43.10	-150.71	-134.74
164	41 13.18	-117 15.47	5721.00	979783.01	980277.98	3.07	-195.13	-1.48	0.00	42.89	-150.64	-134.70
165	41 13.32	-117 15.24	5583.00	979792.94	980278.19	2.29	-190.42	-1.47	0.00	39.65	-149.95	-134.33
157	41 13.00	-117 15.81	5910.00	979769.74	980277.71	4.10	-201.57	-1.49	0.00	47.66	-151.30	-134.91
160	41 12.82	-117 15.98	6050.00	979759.65	980277.45	4.57	-206.35	-1.50	0.00	50.99	-152.29	-135.54
159	41 12.87	-117 15.90	5997.00	979763.61	980277.52	4.20	-204.54	-1.50	0.00	49.90	-151.94	-135.31
158	41 12.93	-117 15.85	5956.00	979766.76	980277.61	4.09	-203.14	-1.49	0.00	49.10	-151.44	-134.92

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