

UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

PRINCIPAL FACTS FOR GRAVITY STATIONS IN THE  
SHEEP HOLE/CADIZ WILDERNESS STUDY AREA (CDCA-305), CALIFORNIA

by

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OPEN-FILE REPORT

82-882

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

## Introduction

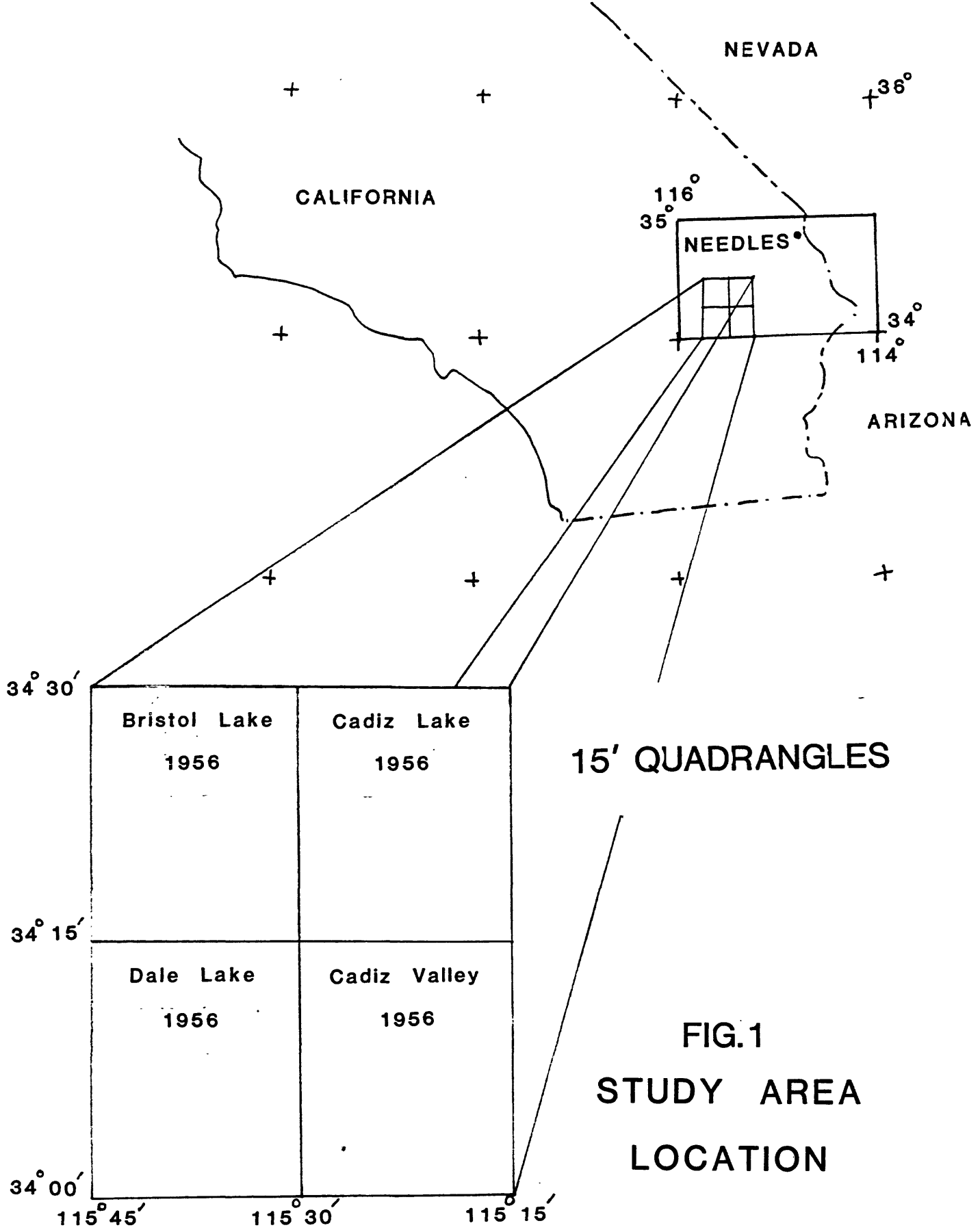
The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geophysical survey of the Sheep Hole/Cadiz Wilderness Study Area, Desert Conservaton Area, San Bernardino County, California. The Sheep Hole/Cadiz Wilderness was established by Public Law 94-579, October 21, 1976.

During March, 1980 and March and October, 1981 gravity data were collected in the Sheephole/Cadiz Wilderness Study Area by the U.S. Geological Survey. This was done to aid the Bureau of Land Management in assessing the mineral potential of the area as part of the Desert Lands Wilderness Study Program. This report describes the data (432 stations) and presents the principal facts for the data and for other data (80 stations) previously available for the area (Snyder and others, 1982).

The study area extends over parts of four 15' USGS quadrangles (see fig. 1) and lies in the southwestern corner of the Needles 1:250,000-scale quadrangle, approximately 20 miles east of Twentynine Palms, California. The primary topographic features are: the Pinto Mountains, Dale Lake, the Sheephole Mountains, the Calumet Mountains, and Cadiz Lake.

## Data Collection

The gravity observations were made using LaCoste & Romberg gravity meters. Meter numbers and dates used are given in Appendix A. Four primary base stations were used. Descriptions for these are given in Appendix B.



15' QUADRANGLES

FIG.1  
STUDY AREA  
LOCATION

Stations located in the broad valley regions were accessed by 4-wheel drive vehicles. Most of the stations located on peaks and near the flanks of ranges were accessed by helicopter.

#### Elevations sources

Elevations were obtained from several kinds of sources including: Bench marks (85 stations), checked spot elevations (Black spots on 15' quadrangles, 103 stations), unchecked spot elevations (Brown spots on 15' quadrangles, 9 stations), aerial photographs (11 stations) and contour lines (224 stations). Locations and elevations for 190 of the 432 stations were obtained using a Hewlett-Packard model 3810B Medium Range Total Station surveying device. The Total Station is a recently developed device which uses an infra-red laser to return vertical and horizontal distance information at a nominal range of 25,000 feet. Elevation control for the Total Station was obtained from benchmarks, or black spots (or well-controlled contour lines in Cadiz Lake-see Appendix D). The type of elevation control for each station is specified in the station identification. The key for the station identification is given in Appendix C. Station elevation errors are discussed in Appendix D.

#### Data Reduction

Observed gravity values were obtained by tying meter readings (with the following corrections: meter multiplier, linear meter drift, and earth tides) to the 1971 International Gravity Standardization Net. Theoretical gravity values were calculated using the 1967 formula of the Geodetic Reference System (International Association of Geodesy, 1971).

The free air anomaly and the complete Bouguer anomaly were calculated for all stations. Terrain corrections and earth curvature corrections (Lambert,

The calculations were performed by the USGS Honeywell Multics computer system using unpublished programs written at the USGS. The program for converting meter readings to observed values was written by D. Dansereau and R. Wahl. Theoretical gravity and the remaining corrections were calculated in a single program by R. H. Godson. This program performs terrain corrections using a method described by Plouff, 1977. The terrain data base used for the terrain corrections was in gridded form. Grid point spacing was 15 seconds, 1 minute, and 3 minutes, increasing with distance from each station.

An analysis of expected errors in the complete Bouguer anomaly is given in Appendix D. A complete listing of the principal facts for the gravity stations is given in Appendix E.

## REFERENCES

International Association of Geodesy, 1971, Geodetic reference system 1967.

International Association of Geodesy Special Publication no. 3, 116 p.

Lambert, W. D., 1930, The reduction of observed values of gravity to sea level: Bulletin geodesique, no. 26, Avril-mai-juin, p. 107-181.

Plouff, D., 1977, Preliminary documentation for FORTRAN program to compute gravity terrain corrections based on topography digitized on a geographic grid: U.S. Geological Survey Open-File Report 77-535, 45 p.

Snyder, D. B., Roberts, C. W., Saltus, R. W., and Sikora, R. F., 1982, Description of a magnetic tape containing principal facts of approximately 64,000 gravity stations in the state of California: National Technical Information Service Report No. PB82-168-279, 30 p.

U.S. Geological Survey Topographic Division, 1952, Topographic Instructions, Accuracy Specifications for Topographic Mapping, Book 1, Part 1B, Chapter 1B4, p. 9-10.

APPENDIX A

Table 1.--Gravity meters

La Coste & Romberg Gravity Meter No.	Data description
G-24	All 1980 stations
G-9	Mar. 1981 stations
G-161	Oct. 1981 Those stations with an "s" in the station identification
G-159	Oct. 1981 Those stations with a "+" in the station identification
G-22	Oct. 1981 Those stations with a "d" in the station identification

APPENDIX B

Base stations

ID	LAT	LONG	ELEV	GRAVITY IGSN71
DCCB	33°42.78'	-115°24.20'	906'	979,501.48

Description:

Accuracy: ±.1 mgal. Station Designation: Desert Center.

Reference code: ACIC 2325-1. Located at Desert Center in the north wall of the Desert Center Cafe and Greyhound Bus Depot, just west of the front door. Reading is taken on the sidewalk 3.5 feet below the disc annotated USC & GS G-132.

PB 1712	33°42.34'	-115°20.75'	820'	979,518.556
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Description:

Established by Robert Jachens (personal commun., 1981) located on Interstate Highway 10 3.1 miles east of Desert Center. Station is on rock outcrop 90 feet south of south edge of Highway 10, 30 feet north of a fence, 180 feet west of the west end of bridge 56-44R and about level with the highway. Read with the meter facing south.

PB 0818a	34°04.62'	-115°34.18'	1883'	979,466.863
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Description:

Established by Robert Jachens (personal commun., 1980) located about 28 miles east of Twentynine Palms along the Twentynine Palms Hwy. (Hwy. 62), southwest of the highway opposite north end of a turnout to a gravel pit, on rock outcrop about 25 feet southwest of and about 7 feet higher than NGS BM "H1330 1978". Read with meter facing away from road.



PB 0817a 34°12.29' -115°43.18' 1840' 979,475.558

Description:

Established by Robert Jachens (personal commun., 1980) located about 24 miles east of Twentynine Palms along the Amboy road 6 inches west of NGS BM "J1251 1974". Read with the meter facing away from road.

## APPENDIX C

### Station Identifier Description

The following example will suffice as a description:

Example: 2k1c+078

2k = Elevation control

k      reference elevation type (see list below)  
         black spot elevation in this example

2      number of laser shots between the reference elevation  
         and the station

1c = Date of station

c      month (see list below)  
         October in this example

1      year  
         1981 in this example

+078 = Station identification

+078 Any combination of symbols unique to the date of station

Reference elevation symbols:

- m bench Mark
- k blacK spot elevation
- n browN spot elevation
- p air Photograph
- c Contour line
- a Altimeter
- h Helicopter

Note: If "a" or "h" appears in place of the number of laser shots this means that an altimeter was used to get an elevation difference between the station and a nearby reference elevation. Preliminary checks indicate that this method is more accurate than reading the contour lines.

Month symbols:

- j January
- f February
- m March
- a April
- y maY
- u jUne
- l juLy
- g auGust
- s September
- c oCtober
- n November
- d December

## APPENDIX D

### Error Analysis

Elevations obtained from bench marks are accurate to better than  $\pm 1$  foot. Black spot elevations are accurate to better than  $\pm 5$  feet (U.S. Geological Survey, 1952). Brown spot elevations should be within  $1/2$  of a contour interval. Surveyed stations have been shown (by measuring a 35,000 foot line of bench marks) to be within 1 foot for each Total Station measurement under 25,000 feet. Typically a station will require two measurements, one from the Total Station to the gravity station and a second from the Total Station to a known elevation point. A maximum error for the surveyed station can be established based on the number of Total Station measurements and the error of the elevation control.

Station locations which were not on bench marks, black spots, brown spots or surveyed in were marked on aerial photographs. The elevations for a small number of these stations were then taken directly from the photos (using a stereoscopic elevation plotting device). They are as accurate as the brown spot elevations.

Unfortunately, most areas in the 15' quadrangles did not provide enough reliable elevation control points to level the air photos. Points from these areas were transferred to topographic maps and the elevations were read from the contour lines. Errors for this method may be broken into two categories: 1) errors in the contour line positions, 2) errors resulting from difficulties associated with reading the map (stemming from local topography that is not expressed in the contour lines).

Following is a tabulation of the errors:

Description of Error	Quadrangles with 40 foot contour interval	Quadrangles with 80 foot contour interval
	Bristol Lake, Cadiz Lake	Dale Lake, Cadiz Valley
Standard contour line errors	± 20'	± 40'
Estimated reading errors	± 10'	± 20'
Total	± 30'	± 60'

Bouguer gravity errors  
resulting from elevation errors

In the complete Bouguer anomaly a 100 foot elevation error produces approximately a 6 mgal error with a 2.67 g/cc reduction density. The following table shows gravity errors for the elevation errors given above:

<u>Type</u>	<u>Elevation Error</u>	<u>Gravity Error</u>
Benchmark	.1 foot	.006 milligal
Black spot	5 feet	.3 milligal
Brown spot	40 feet	2.4 milligal
Air photo	20 feet	1.2 milligal
40' contour	30 feet	1.8 milligal
80' contour	60 feet	3.6 milligal
1 Total Station Measurement	1 foot	.06 milligal

### Terrain correction tabulation

All terrain corrections from 0.895 km to 166.7 km from the station were done by computer (Plouff, 1977). Maximum expected error is .3 mgal. Most terrain corrections from 0 to .895 km were also done by computer (Plouff, 1977). Errors expected for these corrections increase in proportion to local topographic variations but should not exceed .7 mgal.

Following is a list of stations on which more accurate inner terrain corrections were performed.

<u>Description of method used for the correction</u>	<u>Stations</u>
	.c0m=012
	.c0m=013
Special computer program written by M. W. Webring. Maximum error is .1 mgal.	.c0m=022
	.c0m=023
	.c0m=035
	.c0m=038
	.k0m=043
	.c0m=055
	.c0m=066
	.c0m=071
	.c0m=073
	.c0m=130

<u>Description of method used for the correction</u>	<u>Stations</u>
	.nlc+251
	.plc+256
Modified Hammer hand terrain correction computer program Maximum error .3 mgal	.clc+264
	.clc+270
	.clc+271
	.clc+272
	.cic+273
	.nlc+274
	.nlc+277
	.nlc+278
	hklc+283
	.nlc+285
	hnlc+286

#### Other errors

There are four other sources of error: 1) latitude errors, 2) gravimeter errors, 3) base station errors, and 4) tidal correction errors.

Some of the station locations are uncertain within a 40 meter radius. The latitude correction at  $34^{\circ}15'$  varies by approximately  $7.56 \times 10^{-4}$  mgal/meter. This gives a latitude error of approximately .03 mgal.

Gravity meter reading errors are typically .02 mgal. Gravity meter drift which cannot be accounted for amounts to .04 mgal.

The base station errors vary considerably although .1 mgal may be considered maximum. Tidal correction errors are probably smaller than .01 mgal.

### General Error Tabulation

The stations in this study, for convenience, may be broken into 2 categories: 1) those accurate to within 1 mgal and 2) those with errors ranging up to 5 mgal.

Stations with bench mark, black spot and/or laser elevation control fit into category 1. Most of them are located in non-mountainous areas so the terrain correction errors are small. Following is a tabulation of the worst expected errors.

<u>Description</u>	<u>Worst Error (mgal)</u>
black spot	.3
2 Total Station measurements	.12
terrain correction	.5
latitude	.01
gravimeter	.06
base station	.1
tidal correction	<u>.01</u>
Total	1.10 mgal

Brown spot, air photo, or contour elevation control are in category 2. (Note that some stations which were surveyed in and near Cadiz lake have a contour reference elevation. However the lake bed elevation is known to within 2 feet so these stations fit into category 1.)

The category 2 stations are mostly in mountainous areas so their terrain correction errors are larger than the category 1 stations. Following is a tabulation of the worst expected errors.



<u>Description</u>	<u>Worst Error (mgal)</u>
80' contour	3.6
terrain correction	1.0
latitude	.03
gravimeter	.06
base station	.1
tidal correction	<u>.01</u>
Total	4.80 mgal

The 4.8 mgal maximum error seems excessive and the authors do not believe this amount of error is present in more than a few stations. This judgment is based on the consistency exhibited in the contoured map of the stations. A 2.5 mgal error is probably a more reasonable assumption for the stations in category 2.

BOUGUER GRAVITY DATA

SHFEPHNF-San Bernardino Co., CA  
RLM Desert Lands Wilderness Study  
Meter 10: 0 Date: 03/04/82

STATION IDENTIFICATION proj sta-ld  
L O C A T I O N S  
LATITUDE LONGITUDE  
deg min deg min  
ELEVATION (in ft)  
OBSERVED THEORETICAL  
G R A V I T Y  
TERRAIN BOUGUER CURV SPECIAL  
C O R R E C T I O N S  
FREE AIR d1=2.67 d2=2.50  
A N O M A L I E S  
COMPLETE-ROUGHER SPEC  
FIELDS

Not Used

Standard Bouguer Anomaly with 2.50g/cc density

Standard Bouguer Anomaly with 2.67g/cc density

Standard Free Air Anomaly

Not Used

Earth Curvature Correction with 2.67 g/cc density

Standard Bouguer Slab Correction with 2.67g/cc density

Terrain Correction calculated from 0 to 166.7km from station with 2.67g/cc density

Values (in milligals) calculated from the 1967 formula of The Geodetic Reference System

Values (in milligals) tied to the IGSN '71

State of California (This column is left blank)

Elevation in feet above sea level

Minutes and hundredths of minutes

Degrees West Longitude

Minutes and hundredths of minutes

Degrees North Latitude

Eight characters of unique station identification

Not Used

ROUGHNER GRAVITY DATA

SHFEPHOLF-San Bernardino Co., CA  
 RLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION IDENTIFICATION	L O C A T I O N S	ELE ST	G R A V I T Y	TERRAIN	C O R R E C T I O N S	FREE AIR	A N O M A L I E S	SPEC FIELDS
proj	lat	lon	observed	theoretical	curv	special	d1=2.67	d2=2.50
sta-id	deg min	deg min	(in ft)					
:671R8	34 7.32	-115 14.75	1049.9	979527.95	979658.76	0.46	-35.81	-0.43
:N193	34 29.00	-115 14.80	2200.0	979489.25	979689.16	2.37	-75.04	-0.82
:N60	34 2.75	-115 14.90	1291.0	979509.10	979652.37	0.42	-44.03	-0.52
:Y250	33 59.89	-115 15.53	1015.0	979517.24	979648.38	0.35	-34.62	-0.42
:.m1m-037	34 4.78	-115 15.58	1030.0	979521.57	979655.20	0.30	-35.13	-0.42
:NDL N214	34 0.30	-115 15.60	1019.0	979518.44	979648.95	0.36	-34.76	-0.42
:.m1m-033	34 1.25	-115 15.65	1017.0	979519.28	979650.27	0.60	-34.69	-0.42
:N215	34 5.80	-115 15.70	1007.0	979526.54	979656.63	0.38	-34.35	-0.42
:.m1m-036	34 4.09	-115 15.77	1024.0	979518.52	979654.24	0.28	-34.93	-0.42
:.m1m-035	34 3.26	-115 16.01	1025.0	979514.96	979653.08	0.30	-34.96	-0.42
:.m1m-034	34 2.18	-115 16.09	1021.0	979514.63	979651.57	0.38	-34.82	-0.42
:.c1m-032	34 0.64	-115 16.60	1140.0	979506.68	979649.42	0.61	-38.88	-0.47
:Y252	33 59.41	-115 16.78	1229.0	979507.04	979647.70	0.59	-41.92	-0.50
:N196	34 21.65	-115 16.95	1014.0	979548.80	979678.84	0.33	-34.58	-0.42
:.c1m-031	34 1.55	-115 17.33	1065.0	979511.80	979650.70	0.89	-36.32	-0.44
:.m1c+243	34 0.30	-115 17.40	1472.0	979493.03	979648.95	1.47	-50.21	-0.59
:Y253	33 59.40	-115 17.84	1437.0	979492.54	979647.69	0.96	-49.01	-0.57
:4066	34 4.07	-115 17.89	1011.0	979518.85	979654.21	0.44	-34.48	-0.42
:N194	34 25.30	-115 18.05	1235.0	979536.78	979683.96	0.59	-42.12	-0.50
:.c1m-030	34 2.57	-115 18.15	1155.0	979505.88	979652.12	0.82	-39.39	-0.47
:.c1c+241	34 0.35	-115 18.32	1630.0	979482.00	979649.02	2.36	-55.59	-0.64
:N112	34 4.20	-115 18.35	1066.0	979515.09	979654.40	0.49	-36.36	-0.44
:NDLNC167	34 22.91	-115 18.45	985.0	979556.98	979680.60	0.34	-33.60	-0.41
:.c1c+244	34 1.42	-115 18.75	1280.0	979503.23	979650.51	3.95	-43.66	-0.52
:.c1c+245	34 1.60	-115 19.03	1330.0	979498.49	979650.77	3.21	-45.36	-0.54
:.c1m-026	34 3.68	-115 19.07	1250.0	979499.25	979653.67	0.89	-42.63	-0.51
:N192	34 27.75	-115 19.10	1370.0	979527.54	979687.40	0.61	-46.73	-0.55
:.c1c+242	34 0.32	-115 19.85	2010.0	979453.70	979648.98	7.49	-68.56	-0.76
:N189	34 30.25	-115 19.90	1475.0	979525.61	979690.91	0.60	-50.31	-0.59
:.c1m-027	34 3.05	-115 19.93	1575.0	979480.49	979652.79	1.28	-53.72	-0.62
:N205	34 5.60	-115 19.95	1217.0	979506.63	979656.35	0.56	-41.51	-0.49
:.c1m-023	34 4.61	-115 19.97	1217.0	979505.49	979654.97	0.89	-41.51	-0.49
:.c1cs007	34 15.19	-115 20.00	540.0	979559.11	979669.77	0.44	-18.42	-0.23
:.c1c+246	34 2.21	-115 20.32	1720.0	979472.97	979651.62	3.90	-58.66	-0.67
:.c1cs006	34 15.19	-115 20.48	540.0	979557.82	979669.77	0.32	-18.42	-0.23
:N197	34 20.25	-115 20.60	770.0	979559.99	979676.87	0.18	-26.26	-0.32
:.c1m-029	34 2.45	-115 20.70	1805.0	979465.85	979651.95	2.51	-61.56	-0.70
:1c1c+044	34 15.26	-115 20.98	538.0	979555.73	979669.88	0.28	-18.35	-0.23
:.c1cs005	34 15.19	-115 21.00	540.0	979556.21	979669.77	0.30	-18.42	-0.23
:.m1m-025	34 4.91	-115 21.10	1277.0	979504.09	979655.39	1.86	-43.55	-0.52

SHFEPHNF-San Bernardino Co., CA  
 RLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION	L	U	C	A	T	I	O	N	S	ST	GRAVITY	TERRAIN	CORRECTION	SPECIAL	AIR	COMPLETE	SPEC
IDENTIFICATION	deg	min	deg	min	deg	min	deg	min	deg	ft	OBSERVED	BOUGUER	BOUGUER	BOUGUER	BOUGUER	BOUGUER	BOUGUER
prof	ste-id	lat	lon	lat	lon	lat	lon	lat	lon	ele	obs	terr	cor	spe	air	com	spe
		deg	min	deg	min	deg	min	deg	min	(in ft)							
:c1m-022	34	6.50	-115	21.10	1110.0	979517.24	979657.61	0.58	-37.86	-0.45	0.00	-35.96	-73.69	-71.29			
:c1c+247	34	2.08	-115	21.28	1930.0	979455.04	979651.43	6.74	-65.83	-0.74	0.00	-14.86	-74.69	-70.88			
:c1c+043	34	17.05	-115	21.35	539.0	979557.52	979672.38	0.35	-18.38	-0.23	0.00	-64.16	-82.42	-81.26			
:c1c+042	34	16.93	-115	21.45	539.0	979556.82	979672.21	0.29	-18.38	-0.23	0.00	-64.69	-83.02	-81.85			
:c1cs008	34	15.17	-115	21.53	540.0	979555.17	979669.75	0.30	-18.42	-0.23	0.00	-63.78	-82.13	-80.96			
:c1m-28c	34	2.18	-115	21.65	2000.0	979451.78	979651.57	7.83	-68.21	-0.76	0.00	-11.68	-72.82	-68.93			
:c1c+041	34	16.58	-115	21.80	535.0	979556.07	979671.73	0.30	-18.25	-0.23	0.00	-65.33	-83.50	-82.35			
:c1c+251	34	4.05	-115	21.88	2920.0	979391.64	979654.19	14.69	-99.59	-1.02	0.00	12.09	-73.84	-68.37			
:c1m-021	34	8.15	-115	21.88	1030.0	979523.45	979659.92	0.48	-35.13	-0.42	0.00	-39.58	-74.65	-72.42			
:N113	34	5.10	-115	21.90	1381.0	979499.66	979655.66	1.63	-47.10	-0.55	0.00	-26.09	-72.11	-69.18			
:N206	34	8.45	-115	22.05	1000.0	979527.12	979660.34	0.40	-34.11	-0.41	0.00	-39.16	-73.28	-71.10			
:c1cs003	34	15.17	-115	22.07	540.0	979554.90	979669.75	0.30	-18.42	-0.23	0.00	-64.05	-82.40	-81.23			
:K04	34	25.23	-115	22.08	853.0	979554.70	979683.86	0.33	-29.09	-0.36	0.00	-48.92	-78.04	-76.19			
:c1c+040	34	16.24	-115	22.12	535.0	979555.64	979671.25	0.33	-18.25	-0.23	0.00	-65.28	-83.43	-82.27			
:c1c+248	34	3.32	-115	22.13	2050.0	979453.28	979653.16	4.70	-69.92	-0.78	0.00	-7.07	-73.06	-68.86			
:c1c+039	34	15.90	-115	22.43	538.0	979555.15	979670.77	0.30	-18.35	-0.23	0.00	-65.01	-83.29	-82.13			
:c1cs002	34	15.17	-115	22.58	540.0	979555.01	979669.75	0.35	-18.42	-0.23	0.00	-63.94	-82.24	-81.08			
:c1m-020	34	9.71	-115	22.60	860.0	979538.76	979662.10	0.80	-29.33	-0.36	0.00	-42.45	-71.34	-69.50			
:c1c+038	34	15.56	-115	22.73	538.0	979554.99	979670.30	0.32	-18.35	-0.23	0.00	-64.69	-82.95	-81.79			
:c1c+037	34	15.23	-115	23.08	545.0	979554.57	979669.84	0.35	-18.59	-0.23	0.00	-63.99	-82.47	-81.29			
:c1cs001	34	15.17	-115	23.14	540.0	979555.45	979669.75	0.42	-18.42	-0.23	0.00	-63.50	-81.73	-80.57			
:c1cs010	34	15.62	-115	23.14	540.0	979555.98	979670.38	0.37	-18.42	-0.23	0.00	-63.60	-81.88	-80.71			
:c1cs011	34	16.05	-115	23.14	540.0	979556.84	979670.98	0.33	-18.42	-0.23	0.00	-63.34	-81.66	-80.49			
:c1cs012	34	16.48	-115	23.14	540.0	979557.57	979671.59	0.30	-18.42	-0.23	0.00	-63.22	-81.57	-80.40			
:c1cs013	34	17.02	-115	23.14	540.0	979558.21	979672.34	0.29	-18.42	-0.23	0.00	-63.33	-81.69	-80.52			
:m1cs024	34	10.80	-115	23.15	863.5	979537.32	979663.63	0.66	-29.45	-0.36	0.00	-45.08	-74.23	-72.38			
:c0m=062	34	9.77	-115	23.16	870.0	979540.84	979662.19	2.33	-29.67	-0.36	0.00	-39.50	-67.21	-65.45			
:N208	34	14.30	-115	23.20	600.0	979553.04	979668.53	0.23	-20.46	-0.26	0.00	-59.05	-79.54	-78.23			
:N209	34	16.90	-115	23.20	540.0	979559.13	979672.17	0.13	-18.42	-0.23	0.00	-62.24	-80.76	-79.58			
:c0m=050	34	6.53	-115	23.33	1430.0	979500.65	979657.66	0.75	-48.77	-0.57	0.00	-22.50	-71.09	-68.00			
:c0m=061	30	9.18	-115	23.48	1070.0	979527.54	979661.36	1.77	-36.50	-0.44	0.00	-33.17	-68.34	-66.10			
:c1cs014	34	16.20	-115	23.48	540.0	979557.37	979671.20	0.29	-18.42	-0.23	0.00	-63.03	-81.39	-80.22			
:c1cs021	34	19.54	-115	23.51	540.0	979567.20	979675.88	0.21	-18.42	-0.23	0.00	-57.88	-76.31	-75.14			
:c1c+048	34	14.89	-115	23.59	598.0	979552.24	979669.36	0.30	-20.40	-0.26	0.00	-60.86	-81.21	-79.92			
:c1m-ne5	34	25.67	-115	23.62	810.0	979563.52	979684.48	0.35	-27.63	-0.34	0.00	-44.76	-72.38	-70.62			
:c1c+249	34	4.50	-115	23.74	1870.0	979468.90	979654.81	1.93	-63.78	-0.72	0.00	-10.03	-72.60	-68.61			
:4069	34	5.48	-115	23.85	1644.0	979483.35	979656.19	0.77	-56.07	-0.64	0.00	-18.20	-74.15	-70.58			
:c1cs015	34	16.99	-115	23.87	540.0	979558.84	979672.30	0.30	-18.42	-0.23	0.00	-62.66	-81.01	-79.84			
:c1m-ne4	34	25.37	-115	23.89	771.0	979565.96	979684.05	0.28	-26.30	-0.32	0.00	-45.57	-71.91	-70.24			
:c1c+250	34	4.27	-115	23.93	2030.0	979456.81	979654.49	1.99	-69.24	-0.77	0.00	-6.74	-74.76	-70.43			

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ROUGHER GRAVITY DATA

STATION	L O C A T I O N S	L A T I T U D E	L O N G I T U D E	E L E V A T I O N	ST	OBSERVED	G R A V I T Y	TERRAIN	C O R R E C T I O N S	SPECIAL	FREE	A N O M A L I E S	COMPLETE-ROUGHER	SPEC
proj	sta-id	deg min	deg min	(in ft)			THEORETICAL				AIR	d1=2.67	d2=2.50	FIELDS
:1c1c+047	34	14.60	-115 24.05	664.0		979549.02	979668.95	0.35	-22.65	-0.28	-57.46	-80.04	-78.61	
:.m1cs025	34	12.38	-115 24.10	850.0		979538.07	979665.84	0.57	-28.99	-0.36	-47.81	-76.59	-74.76	
:.c0m=060	34	7.89	-115 24.16	1430.0		979503.50	979659.55	1.38	-48.77	-0.57	-21.55	-69.51	-66.46	
:.c1cs020	34	21.17	-115 24.17	540.0		979565.29	979678.16	0.26	-18.42	-0.23	-62.08	-80.47	-79.29	
:.c1cs017	34	18.62	-115 24.19	540.0		979564.44	979674.59	0.25	-18.42	-0.23	-59.35	-77.75	-76.58	
:2c1m-ne3	34	24.98	-115 24.19	731.0		979566.66	979683.51	0.21	-24.93	-0.31	-48.08	-73.11	-71.52	
:.c1cs018	34	19.43	-115 24.20	540.0		979566.56	979675.72	0.22	-18.42	-0.23	-58.36	-76.79	-75.62	
:.c1cs019	34	20.32	-115 24.22	540.0		979567.24	979676.97	0.22	-18.42	-0.23	-58.93	-77.36	-76.19	
:.c1cs016	34	17.78	-115 24.23	540.0		979560.63	979673.41	0.24	-18.42	-0.23	-61.98	-80.39	-79.21	
:NDLNC166	34	26.19	-115 24.30	778.0		979574.44	979685.21	0.60	-26.53	-0.33	-37.59	-63.85	-62.18	
:.c0m=057	34	6.12	-115 24.38	1570.0		979490.95	979657.08	0.99	-53.55	-0.62	-18.45	-71.63	-68.24	
:1c1c+046	34	14.32	-115 24.43	732.0		979545.11	979668.55	0.37	-24.97	-0.31	-54.59	-79.50	-77.91	
:.m1cs026	34	13.10	-115 24.45	849.3		979538.65	979666.85	0.48	-28.97	-0.36	-48.31	-77.15	-75.32	
:2c1m-ne2	34	24.65	-115 24.53	687.0		979568.25	979683.05	0.19	-23.43	-0.29	-50.17	-73.71	-72.21	
:.c1m=039	34	3.13	-115 24.56	2500.0		979425.52	979652.90	3.68	-85.27	-0.91	4.76	-77.74	-72.49	
:4c1m-se2	34	23.32	-115 24.60	623.0		979566.47	979681.18	0.14	-21.25	-0.27	-56.11	-77.48	-76.12	
:.m1cs027	34	13.91	-115 24.85	828.1		979540.95	979667.98	0.44	-28.24	-0.35	-49.14	-77.29	-75.49	
:1c1c+045	34	14.02	-115 24.85	823.0		979540.37	979668.14	0.41	-28.07	-0.34	-50.35	-78.36	-76.58	
:4c1m-ne1	34	24.35	-115 24.86	656.0		979569.04	979682.63	0.17	-22.37	-0.28	-51.88	-74.36	-72.93	
:4c1m-se1	34	23.65	-115 24.90	627.0		979568.02	979681.64	0.14	-21.39	-0.27	-54.64	-76.15	-74.78	
:.c0m=063	34	8.96	-115 24.92	1480.0		979502.54	979661.05	1.83	-50.48	-0.59	-19.30	-68.54	-65.41	
:.c0m=058	34	6.40	-115 25.03	1720.0		979481.49	979657.47	1.09	-58.66	-0.67	-14.20	-72.44	-68.73	
:.k1m=024	34	5.72	-115 25.18	1708.0		979479.53	979656.52	0.98	-58.26	-0.67	-16.33	-74.28	-70.59	
:.c1cs042	34	20.47	-115 25.20	540.0		979569.13	979677.18	0.20	-18.42	-0.23	-57.25	-75.70	-74.52	
:NDLNC165	34	26.69	-115 25.20	749.0		979578.61	979685.91	0.79	-25.55	-0.32	-36.85	-61.92	-60.32	
:3c1m=000	34	24.00	-115 25.22	630.0		979569.06	979682.13	0.14	-21.49	-0.27	-53.81	-75.43	-74.05	
:.c1cs022	34	19.52	-115 25.25	540.0		979570.65	979675.84	0.20	-18.42	-0.23	-54.40	-72.85	-71.68	
:.c1cs041	34	21.35	-115 25.27	540.0		979566.27	979678.41	0.23	-18.42	-0.23	-61.35	-79.76	-78.59	
:.m1cs028	34	14.72	-115 25.33	791.7		979543.74	979669.12	0.40	-27.00	-0.33	-50.90	-77.84	-76.12	
:.c0m=064	34	10.32	-115 25.37	1400.0		979511.78	979662.95	2.21	-47.75	-0.56	-19.49	-65.59	-62.65	
:1c1c+049	34	13.88	-115 25.39	921.0		979535.40	979667.94	0.48	-31.41	-0.38	-45.91	-77.22	-75.23	
:4c1m=sw1	34	23.74	-115 25.48	615.0		979568.18	979681.77	0.12	-20.98	-0.26	-55.74	-76.86	-75.51	
:.m1cs043	34	20.17	-115 25.50	545.0		979572.43	979676.76	0.20	-18.59	-0.23	-53.06	-71.68	-70.50	
:.c1m=040	34	3.07	-115 25.54	2245.0		979439.33	979652.81	1.76	-76.57	-0.84	-2.33	-77.98	-73.16	
:.n1c+265	34	8.27	-115 25.54	1995.0		979484.13	979660.09	4.67	-68.04	-0.76	-8.31	-72.44	-68.36	
:1c1c+061	34	15.28	-115 25.57	764.0		979545.40	979669.90	0.35	-26.06	-0.32	-52.64	-78.67	-77.01	
:4c1m=sw1	34	24.32	-115 25.58	632.0		979569.84	979682.59	0.14	-21.56	-0.27	-53.29	-74.97	-73.59	
:.c1m=038	34	4.61	-115 25.72	1960.0		979460.63	979654.97	1.29	-66.85	-0.75	-9.98	-76.29	-72.07	
:.c0m=065	34	9.97	-115 25.77	1520.0		979499.76	979662.47	4.39	-51.84	-0.60	-19.73	-67.79	-64.73	
:1c1c+050	34	13.69	-115 25.80	1012.0		979531.06	979667.67	0.57	-34.52	-0.42	-41.42	-75.78	-73.59	

## BOUGUER GRAVITY DATA

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SHEEPHOLE-San Bernardino Co., CA  
 BLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION IDENTIFICATION proj	L O C A T I O N S LATITUDE deg min	L O C A T I O N S LONGITUDE deg min	E L E M E N T S ELE (in ft)	O B S E R V E D GRAVITY	T H E O R E T I C A L GRAVITY	T E R R A I N BOUGUER CURV	S P E C I A L BOUGUER CURV	F R E E AIR	A N O M A L I E S COMPLETE-BOUGUER SPEC	F I E L D S d1=2.67 d2=2.50		
											STATION sta-id	L O C A T I O N S LATITUDE deg min
:m1cs029	34 15.40	-115 25.80	758.7	979546.17	979670.07	0.37	-25.88	-0.32	0.00	-52.53	-78.36	-76.71
:4c1m-nw2	34 24.62	-115 25.91	641.0	979569.97	979683.01	0.13	-21.86	-0.27	0.00	-52.74	-74.74	-73.34
:4070	34 5.90	-115 25.94	1803.0	979473.19	979656.77	0.68	-61.49	-0.70	0.00	-14.00	-75.51	-71.59
:1c1c+060	34 14.68	-115 26.14	910.0	979537.63	979669.06	0.49	-31.04	-0.38	0.00	-45.83	-76.75	-74.79
:c0m=067	34 11.42	-115 26.16	1350.0	979519.18	979664.49	2.43	-46.04	-0.54	0.00	-18.33	-62.49	-59.68
:c0m=066	34 10.18	-115 26.19	1600.0	979495.64	979662.76	3.15	-54.57	-0.63	0.00	-16.62	-68.67	-65.36
:c1c+269	34 4.01	-115 26.23	2160.0	979447.61	979654.13	1.18	-73.67	-0.81	0.00	-3.36	-76.66	-71.99
:1c1c+051	34 13.48	-115 26.25	1115.0	979526.71	979667.38	0.70	-38.03	-0.46	0.00	-35.79	-73.58	-71.17
:c0m=053	34 6.54	-115 26.30	1920.0	979467.66	979657.66	0.83	-65.49	-0.74	0.00	-9.41	-74.80	-70.64
:c1cs039	34 20.75	-115 26.32	540.0	979575.77	979677.57	0.20	-18.42	-0.23	0.00	-51.00	-69.45	-68.28
:c1cs040	34 21.25	-115 26.32	540.0	979574.57	979678.27	0.20	-18.42	-0.23	0.00	-52.91	-71.36	-70.18
:m1cs030	34 16.25	-115 26.35	710.9	979549.15	979671.26	0.33	-24.25	-0.30	0.00	-55.24	-79.46	-77.92
:c0m=085	34 8.62	-115 26.50	1960.0	979471.11	979660.58	1.61	-66.85	-0.75	0.00	-5.11	-71.10	-66.90
:K43	34 27.73	-115 26.65	759.0	979577.20	979687.38	0.56	-25.89	-0.32	0.00	-38.78	-64.42	-62.79
:1c1c+052	34 13.27	-115 26.66	1271.0	979521.73	979667.09	0.82	-41.64	-0.50	0.00	-30.50	-71.82	-69.19
:c1cs038	34 20.72	-115 26.70	540.0	979575.93	979677.53	0.20	-18.42	-0.23	0.00	-50.81	-69.25	-68.08
:c1c+059	34 13.95	-115 26.74	1111.0	979527.22	979668.04	0.72	-37.89	-0.46	0.00	-36.32	-73.94	-71.55
:m1cs032	34 17.06	-115 26.89	688.3	979551.56	979672.40	0.30	-23.48	-0.29	0.00	-56.09	-79.56	-78.06
:c0m=068	34 11.40	-115 26.90	1560.0	979502.46	979664.47	1.93	-53.21	-0.62	0.00	-15.27	-67.16	-63.86
:c1c+053	34 12.97	-115 27.04	1338.0	979516.29	979666.66	1.03	-45.64	-0.54	0.00	-24.52	-69.67	-66.79
:c1c+058	34 13.27	-115 27.22	1319.0	979518.02	979667.09	1.01	-44.99	-0.53	0.00	-25.00	-69.50	-66.67
:c0m=069	34 10.94	-115 27.28	1670.0	979494.48	979663.82	4.64	-56.96	-0.65	0.00	-12.26	-65.23	-61.86
:c1c+054	34 12.67	-115 27.37	1454.0	979511.32	979666.24	1.31	-49.59	-0.58	0.00	-18.16	-67.02	-63.91
:c1cs037	34 20.68	-115 27.43	540.0	979573.78	979677.48	0.24	-18.42	-0.23	0.00	-52.90	-71.31	-70.13
:NDLNC164	34 28.45	-115 27.50	788.0	979578.92	979688.38	0.32	-26.88	-0.33	0.00	-35.34	-62.23	-60.52
:c1cs033	34 18.00	-115 27.55	712.0	979554.30	979673.72	0.19	-24.28	-0.30	0.00	-52.44	-76.84	-75.28
:c1c+057	34 12.73	-115 27.58	1488.0	979508.78	979666.33	1.46	-50.75	-0.59	0.00	-17.59	-67.47	-64.29
:c1c+268	34 4.22	-115 27.60	2130.0	979447.93	979654.42	1.20	-72.65	-0.80	0.00	-6.15	-78.40	-73.80
:c1c+055	34 12.43	-115 27.73	1574.0	979503.00	979665.91	1.83	-53.69	-0.62	0.00	-14.86	-67.33	-63.99
:4071	34 6.47	-115 27.88	2170.0	979450.21	979657.57	0.79	-74.01	-0.81	0.00	-3.25	-77.29	-72.58
:c1c+056	34 12.23	-115 28.01	1670.0	979496.93	979665.63	2.21	-56.96	-0.65	0.00	-11.62	-67.02	-63.49
:c1cs036	34 20.70	-115 28.15	540.0	979569.92	979677.50	0.28	-18.42	-0.23	0.00	-56.78	-75.15	-73.98
:c0m=079	34 9.78	-115 28.16	2610.0	979432.20	979662.20	4.27	-89.02	-0.94	0.00	15.48	-70.21	-64.75
:c0m=070	34 11.55	-115 28.22	1810.0	979485.77	979664.68	4.11	-61.73	-0.70	0.00	-8.66	-66.98	-63.27
:c1m-014	34 19.05	-115 28.27	670.0	979559.15	979675.19	0.16	-22.85	-0.28	0.00	-53.01	-75.99	-74.53
:n1c+281	34 7.78	-115 28.31	2438.0	979433.52	979659.40	1.99	-83.15	-0.89	0.00	3.43	-78.63	-73.40
:c0m=072	34 12.07	-115 28.41	1740.0	979489.97	979665.41	3.76	-59.35	-0.68	0.00	-11.77	-68.04	-64.46
:c0m=052	34 8.39	-115 28.50	2110.0	979457.22	979660.26	1.33	-71.97	-0.80	0.00	-4.57	-76.01	-71.46
:4084	34 0.55	-115 28.51	1483.0	979479.93	979649.30	0.71	-50.58	-0.59	0.00	-29.87	-80.33	-77.12
:c0m=143	34 4.41	-115 28.57	2100.0	979451.00	979654.69	1.15	-71.62	-0.79	0.00	-6.17	-77.44	-72.90

SHFEPHOLF-San Bernardino Co., CA  
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STATION ID	STATION proj	L O C A T I O N		E L E (in ft)	S T	O B S E R V E D	T H E O R E T I C A L	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 min	L O N G I T U D E deg min					T E R R A I N	B O U G U E R CURV			C O M P L E T E	B O U G U E R S P E C	
:c0m=071	34	11.69	-115 28.60	1840.0		979481.78	979664.88	3.75	-62.76	-0.71	0.00	-10.02	-69.74	-65.94
:NDLNC163	34	29.50	-115 28.60	818.0		979576.31	979689.86	0.19	-27.90	-0.34	0.00	-36.60	-64.66	-62.87
:2m1c+077	34	6.68	-115 28.69	2258.0		979441.60	979657.86	0.80	-77.01	-0.84	0.00	-3.88	-80.94	-76.03
:c1cs035	34	20.72	-115 28.78	540.0		979567.03	979677.53	0.26	-18.42	-0.23	0.00	-59.70	-78.09	-76.92
:c0m=073	34	12.75	-115 28.87	1710.0		979493.35	979666.36	4.04	-58.32	-0.67	0.00	-12.16	-67.11	-63.62
:c1c+267	34	3.94	-115 28.95	2060.0		979452.92	979654.03	1.53	-70.26	-0.78	0.00	-7.35	-76.86	-72.44
:c0m=083	34	10.25	-115 29.01	2720.0		979425.66	979662.86	3.13	-92.77	-0.97	0.00	18.63	-71.98	-66.21
:2m1c+076	34	6.73	-115 29.05	2257.0		979442.89	979657.93	0.77	-76.98	-0.84	0.00	-2.76	-79.81	-74.90
:c0m=051	34	8.62	-115 29.11	2290.0		979446.17	979660.58	0.98	-78.11	-0.85	0.00	0.98	-76.99	-72.03
:2m1c+095	34	10.84	-115 29.12	2891.0		979416.45	979663.68	3.66	-98.60	-1.02	0.00	24.67	-71.29	-65.18
:2m1c+094	34	10.73	-115 29.23	2847.0		979419.29	979663.53	3.16	-97.10	-1.00	0.00	23.53	-71.42	-65.38
:c1cs034	34	20.70	-115 29.32	540.0		979566.02	979677.50	0.33	-18.42	-0.23	0.00	-60.68	-79.00	-77.84
:c1c+282	34	9.00	-115 29.33	2490.0		979432.67	979661.11	1.64	-84.93	-0.91	0.00	5.76	-78.44	-73.07
:c0m=074	34	13.75	-115 29.35	1630.0		979501.96	979667.76	3.80	-55.59	-0.64	0.00	-12.48	-64.91	-61.58
:2m1c+093	34	10.57	-115 29.47	2770.0		979423.38	979663.30	2.59	-94.48	-0.98	0.00	20.60	-72.27	-66.35
:c0m=076	34	14.49	-115 29.52	1420.0		979516.58	979668.80	3.41	-48.43	-0.57	0.00	-18.65	-64.24	-61.34
:4083	34	2.14	-115 29.53	1652.0		979476.60	979651.52	0.54	-56.35	-0.65	0.00	-19.53	-75.98	-72.38
:2m1c+075	34	6.80	-115 29.55	2246.0		979443.41	979658.03	0.76	-76.60	-0.84	0.00	-3.37	-80.05	-75.17
:N150	34	30.40	-115 29.60	818.0		979578.04	979691.13	0.17	-27.90	-0.34	0.00	-36.14	-64.22	-62.43
:2m1c+092	34	10.31	-115 29.83	2667.0		979429.47	979662.95	1.93	-90.96	-0.96	0.00	17.37	-72.62	-66.89
:N177	34	2.80	-115 30.00	1780.0		979471.35	979652.44	0.65	-60.71	-0.69	0.00	-13.66	-74.41	-70.55
:m1c+074	34	6.85	-115 30.05	2225.0		979444.43	979658.10	0.77	-75.89	-0.83	0.00	-4.40	-80.34	-75.51
:2m1c+091	34	10.01	-115 30.11	2556.0		979434.99	979662.52	1.56	-87.18	-0.93	0.00	12.87	-73.67	-68.16
:c1m-012	34	22.03	-115 30.20	580.0		979566.02	979679.37	0.21	-19.78	-0.25	0.00	-58.79	-78.61	-77.34
:2m1c+097	34	9.88	-115 30.25	2516.0		979435.27	979662.34	1.43	-85.81	-0.91	0.00	9.58	-75.72	-70.29
:c1c+266	34	5.90	-115 30.30	2490.0		979429.63	979656.77	2.53	-84.93	-0.91	0.00	7.06	-76.25	-70.94
:2m1c+073	34	6.90	-115 30.30	2212.0		979445.93	979658.17	0.78	-75.45	-0.83	0.00	-4.19	-79.68	-74.87
:4082	34	3.36	-115 30.41	1830.0		979466.02	979653.22	0.61	-62.42	-0.71	0.00	-15.07	-77.58	-73.60
:c0m=050	34	7.35	-115 30.41	2100.0		979450.89	979658.80	0.72	-71.62	-0.79	0.00	-10.39	-82.09	-77.52
:2m1c+098	34	9.70	-115 30.49	2448.0		979436.70	979662.09	1.31	-83.49	-0.90	0.00	4.86	-78.22	-72.93
:c0m=094	34	17.92	-115 30.52	985.0		979548.84	979673.60	0.54	-33.60	-0.41	0.00	-32.11	-65.57	-63.44
:2m1c+072	34	6.92	-115 30.56	2193.0		979446.42	979658.20	0.78	-74.80	-0.82	0.00	-5.51	-80.35	-75.58
:N176	34	3.60	-115 30.60	1890.0		979462.82	979653.55	0.64	-64.46	-0.73	0.00	-12.97	-77.51	-73.40
:c1c+265	34	6.25	-115 30.65	2390.0		979436.66	979657.26	2.13	-81.52	-0.88	0.00	4.19	-76.07	-70.96
:2m1c+090	34	9.60	-115 30.67	2403.0		979439.99	979661.95	1.30	-81.96	-0.88	0.00	4.06	-77.48	-72.29
:h1c+286	34	12.41	-115 30.67	2970.0		979408.82	979665.88	5.04	-101.30	-1.04	0.00	22.27	-75.02	-68.83
:2m1c+070	34	6.97	-115 30.80	2167.0		979448.31	979658.27	0.79	-73.91	-0.81	0.00	-6.14	-80.07	-75.36
:c1c+263	34	4.91	-115 30.86	2065.0		979451.87	979655.39	1.01	-70.43	-0.78	0.00	-9.29	-79.49	-75.02
:2m1c+089	34	9.52	-115 30.86	2392.0		979442.10	979661.84	1.64	-81.58	-0.88	0.00	5.25	-75.58	-70.43
:c0m=093	34	17.22	-115 30.86	1140.0		979537.28	979672.63	0.81	-38.88	-0.47	0.00	-28.11	-66.65	-64.19

SHEEPHOLE-San Bernardino Co., CA  
 RLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION IDNIFICATION	L LATITUDE	C LONGITUDE	A deg	T min	I deg	N min	S ELE	G OBSERVED	R THEORETICAL	T TERRAIN	C CORRECT	O BOUGUER	C CURV	S SPECIAL	F FREE	A COMPLETE	N BOUGUER	S SPEC
proj	sta-id	deg	min	deg	min	(in ft)	ST							AIR	d1=2.67	d2=2.50	FIELDS	
:c0m=095	34	18.56	-115	30.88		930.0		979553.58	979674.50	0.64	-31.72	-0.39	0.00	-33.44	-64.91	-62.91		
:2m1c+101	34	9.30	-115	30.90		2330.0		979444.90	979661.53	1.16	-79.47	-0.86	0.00	2.52	-76.65	-71.61		
:c0m=07A	34	15.77	-115	30.97		1340.0		979525.24	979670.59	1.26	-45.70	-0.54	0.00	-19.30	-64.29	-61.42		
:c1m-011	34	23.55	-115	31.16		605.0		979565.39	979681.50	0.48	-20.63	-0.26	0.00	-59.20	-79.61	-78.32		
:2m1c+071	34	7.00	-115	31.22		2126.0		979451.48	979658.31	0.81	-72.51	-0.80	0.00	-6.86	-79.36	-74.75		
:2m1c+08A	34	9.32	-115	31.22		2298.0		979446.49	979661.55	1.35	-78.38	-0.85	0.00	1.08	-76.80	-71.85		
:4081	34	4.70	-115	31.27		2000.0		979455.22	979655.09	0.60	-68.21	-0.76	0.00	-11.76	-80.14	-75.78		
:p1c+262	34	1.76	-115	31.28		1677.0		979481.11	979650.98	1.19	-57.20	-0.66	0.00	-12.14	-68.80	-65.19		
:c1m-10b	34	21.35	-115	31.31		670.0		979561.92	979678.41	0.26	-22.85	-0.28	0.00	-53.47	-76.34	-74.89		
:c1c+264	34	5.74	-115	31.33		2140.0		979451.68	979656.55	1.16	-72.99	-0.80	0.00	-3.59	-76.22	-71.60		
:2m1c+102	34	8.75	-115	31.33		2169.0		979449.92	979660.76	0.80	-73.98	-0.81	0.00	-6.83	-80.82	-76.11		
:c0m=086	34	12.23	-115	31.34		2400.0		979449.57	979665.63	2.26	-81.86	-0.88	0.00	9.67	-70.81	-65.68		
:2m1c+069	34	6.98	-115	31.45		2090.0		979453.71	979658.28	0.83	-71.28	-0.79	0.00	-7.99	-79.23	-74.70		
:c0m=096	34	18.68	-115	31.56		965.0		979551.47	979674.67	1.18	-32.91	-0.40	0.00	-32.43	-64.56	-62.52		
:2m1c+087	34	9.11	-115	31.63		2216.0		979449.57	979661.27	1.11	-75.58	-0.83	0.00	-3.26	-78.56	-73.77		
:c0m=049	34	9.42	-115	31.66		2290.0		979446.31	979661.70	2.37	-78.11	-0.85	0.00	0.00	-76.58	-71.70		
:c1m-10a	34	23.03	-115	31.70		645.0		979564.10	979680.77	0.41	-22.00	-0.27	0.00	-56.00	-77.86	-76.47		
:c0m=087	34	13.99	-115	31.72		2070.0		979474.22	979668.09	2.51	-70.60	-0.78	0.00	0.82	-68.05	-63.67		
:2m1c+06A	34	6.67	-115	31.73		2059.0		979453.15	979657.85	0.89	-70.23	-0.78	0.00	-11.04	-81.15	-76.69		
:p1c+261	34	1.63	-115	31.75		1752.0		979477.81	979650.80	1.33	-59.76	-0.68	0.00	-8.20	-67.31	-63.54		
:c0m=056	34	7.25	-115	31.75		2010.0		979457.81	979658.66	0.59	-68.56	-0.76	0.00	-11.79	-80.52	-76.14		
:407A	34	6.49	-115	31.86		2037.0		979453.34	979657.59	0.54	-69.48	-0.77	0.00	-12.66	-82.37	-77.93		
:c0m=08A	34	14.4A	-115	31.87		1950.0		979484.22	979668.78	1.92	-66.51	-0.75	0.00	-1.15	-66.48	-62.32		
:NDLNC111	34	11.72	-115	31.90		2410.0		979447.60	979664.91	1.57	-82.20	-0.88	0.00	9.36	-72.15	-66.96		
:c0m=121	34	17.80	-115	31.92		1175.0		979534.97	979673.44	0.82	-40.08	-0.48	0.00	-27.94	-67.68	-65.15		
:2m1c+103	34	8.10	-115	31.93		2004.0		979457.40	979659.85	0.61	-68.35	-0.76	0.00	-13.96	-82.46	-78.10		
:c0m=067	34	6.28	-115	31.95		2015.0		979452.61	979657.30	0.71	-68.73	-0.77	0.00	-15.17	-83.95	-79.57		
:c1m-010	34	25.10	-115	32.05		665.0		979574.99	979683.68	0.25	-22.68	-0.28	0.00	-46.13	-68.85	-67.40		
:2m1c+086	34	8.92	-115	32.06		2110.0		979455.03	979661.00	0.85	-71.97	-0.80	0.00	-7.50	-79.42	-74.84		
:c0m=089	34	16.68	-115	32.11		1360.0		979523.70	979671.87	0.56	-46.39	-0.55	0.00	-20.24	-66.61	-63.66		
:2m1c+066	34	5.92	-115	32.12		1983.0		979453.86	979656.80	0.64	-67.63	-0.76	0.00	-16.42	-84.17	-79.86		
:c0m=097	34	19.59	-115	32.13		915.0		979555.26	979675.95	0.57	-31.21	-0.38	0.00	-34.62	-65.64	-63.66		
:N175	34	6.05	-115	32.15		1996.0		979453.71	979656.98	0.66	-68.08	-0.76	0.00	-15.53	-83.71	-79.37		
:p1c+260	34	3.04	-115	32.20		1992.0		979456.62	979652.77	1.35	-67.94	-0.76	0.00	-8.79	-76.14	-71.86		
:c0m=04A	34	10.19	-115	32.23		2390.0		979441.10	979662.77	1.87	-81.52	-0.88	0.00	3.12	-77.41	-72.28		
:2m1c+065	34	5.53	-115	32.29		1931.0		979457.76	979656.26	0.77	-65.86	-0.74	0.00	-16.87	-82.70	-78.51		
:2k1c+421	34	13.09	-115	32.36		2132.0		979466.33	979666.84	1.45	-72.72	-0.80	0.00	0.02	-72.05	-67.46		
:2m1c+104	34	7.67	-115	32.45		1936.0		979459.25	979659.25	0.51	-66.03	-0.74	0.00	-17.46	-83.73	-79.51		
:2m1c+064	34	5.1A	-115	32.47		1928.0		979458.55	979655.77	0.77	-65.76	-0.74	0.00	-15.88	-81.60	-77.42		
:2m1c+085	34	8.70	-115	32.47		2000.0		979459.94	979660.69	0.68	-68.21	-0.76	0.00	-12.64	-80.93	-76.58		



SHPEPHOLF-San Bernardino Co., CA  
 RLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION ID	STATION proj	L O C A T I O N S		E L E ST (in ft)	G R A V I T Y		C O R R E C T I O N S		F R E E A I R	A N O M A L I E S			
		LATITUDE deg min	LONGITUDE deg min		OBSERVED THEORETICAL	TERRAIN BOUGUER CURV	SPECIAL	COMPLETE-BOUGUER d1=2.67 d2=2.50		SPEC FIELDS			
:c0m=098	34	20.44	-115 32.51	870.0	979557.16	979677.14	0.71	-29.67	-0.36	0.00	-38.14	-67.46	-65.59
:m1c+063	34	4.85	-115 32.63	1924.0	979460.06	979655.30	0.67	-65.62	-0.74	0.00	-14.27	-79.96	-75.78
:NDLNC153	34	11.02	-115 32.79	2407.0	979445.58	979663.94	2.95	-82.10	-0.89	0.00	8.03	-72.00	-66.90
:c0m=091	34	14.47	-115 32.84	1770.0	979494.51	979668.77	2.09	-60.37	-0.68	0.00	-7.77	-66.74	-62.99
:2m1c+084	34	8.57	-115 32.85	1929.0	979460.50	979660.51	0.58	-65.79	-0.74	0.00	-18.57	-84.52	-80.32
:c0m=099	34	20.44	-115 32.85	910.0	979554.67	979677.14	0.80	-31.04	-0.38	0.00	-36.87	-67.48	-65.53
:2m1c+062	34	4.40	-115 32.93	1922.0	979462.17	979654.67	0.61	-65.55	-0.74	0.00	-11.72	-77.40	-73.22
:2k1c+420	34	12.98	-115 32.93	2025.0	979474.56	979666.68	1.63	-69.07	-0.77	0.00	-1.65	-69.86	-65.51
:c0m=102	34	12.71	-115 32.95	2060.0	979471.82	979666.30	1.36	-70.26	-0.78	0.00	-0.72	-70.40	-65.97
:c0m=092	34	13.83	-115 33.02	1970.0	979481.38	979667.87	1.08	-67.19	-0.75	0.00	-1.19	-68.06	-63.80
:c0m=090	34	15.29	-115 33.08	1640.0	979502.08	979669.91	1.11	-55.94	-0.64	0.00	-13.58	-69.05	-65.52
:c0m=120	34	19.75	-115 33.18	1100.0	979540.36	979676.17	0.53	-37.52	-0.45	0.00	-32.34	-69.78	-67.40
:2k1c+419	34	12.95	-115 33.19	1998.0	979476.42	979666.64	1.13	-68.15	-0.76	0.00	-2.29	-70.07	-65.75
:1A94	34	0.79	-115 33.23	1670.0	979485.40	979649.63	1.27	-56.96	-0.65	0.00	-7.15	-63.49	-59.91
:2k1c+418	34	12.82	-115 33.25	2006.0	979475.28	979666.45	1.08	-68.42	-0.76	0.00	-2.49	-70.60	-66.26
:1895	34	0.21	-115 33.32	1500.0	979494.39	979648.82	0.88	-51.16	-0.60	0.00	-13.34	-64.21	-60.97
:2m1c+078	34	8.36	-115 33.32	1864.0	979462.20	979660.21	0.54	-63.58	-0.72	0.00	-22.68	-86.44	-82.38
:c1m+009	34	26.23	-115 33.34	655.0	979581.15	979685.27	0.52	-22.34	-0.28	0.00	-42.51	-64.60	-63.20
:2k1c+417	34	12.62	-115 33.37	2026.0	979473.38	979666.17	1.11	-69.10	-0.77	0.00	-2.23	-70.99	-66.62
:2k1c+401	34	4.48	-115 33.41	1915.0	979461.92	979654.79	0.81	-65.31	-0.73	0.00	-12.74	-77.98	-73.83
:c0m=116	34	25.18	-115 33.47	830.0	979569.53	979683.79	0.68	-28.31	-0.35	0.00	-36.19	-64.16	-62.38
:2k1c+416	34	12.47	-115 33.50	2014.0	979473.29	979665.97	0.95	-68.69	-0.77	0.00	-3.24	-71.75	-67.39
:c0m=115	34	25.37	-115 33.58	790.0	979570.32	979684.05	0.86	-26.94	-0.33	0.00	-39.43	-65.84	-64.16
:c0m=034	34	5.51	-115 33.63	1960.0	979460.69	979656.23	2.06	-66.85	-0.75	0.00	-11.18	-76.72	-72.55
:2k1c+434	34	10.28	-115 33.64	2016.0	979458.63	979662.90	0.74	-68.76	-0.77	0.00	-14.65	-83.43	-79.05
:2k1c+435	34	11.14	-115 33.65	2075.0	979461.82	979664.10	0.74	-70.77	-0.78	0.00	-7.11	-77.93	-73.42
:c0m=100	34	21.51	-115 33.67	915.0	979554.37	979678.64	0.50	-31.21	-0.38	0.00	-38.20	-69.29	-67.31
:N202	34	8.80	-115 33.70	1850.0	979464.63	979660.83	0.46	-63.10	-0.71	0.00	-22.19	-85.54	-81.50
:2k1c+422	34	13.42	-115 33.70	1860.0	979483.75	979667.30	0.73	-63.44	-0.72	0.00	-8.60	-72.02	-67.98
:2m1c+079	34	8.14	-115 33.71	1842.0	979463.78	979659.91	0.63	-62.83	-0.71	0.00	-22.87	-85.77	-81.77
:NDLNC152	34	12.56	-115 33.75	1990.0	979475.85	979666.09	0.80	-67.87	-0.76	0.00	-3.07	-70.90	-66.58
:1A93	33	59.64	-115 33.79	1391.0	979500.15	979648.02	0.73	-47.44	-0.56	0.00	-17.03	-64.31	-61.30
:c1c+259	34	2.48	-115 33.80	2268.0	979444.38	979651.99	2.47	-77.36	-0.84	0.00	5.71	-70.02	-65.20
:2m1c+080	34	8.02	-115 33.88	1838.0	979464.99	979659.73	0.69	-62.69	-0.71	0.00	-21.87	-84.57	-80.58
:c0m=035	34	6.08	-115 33.94	1990.0	979457.59	979657.02	1.69	-67.87	-0.76	0.00	-12.26	-79.20	-74.93
:2k1c+415	34	12.34	-115 33.97	1972.0	979473.53	979665.78	0.70	-67.26	-0.75	0.00	-6.77	-74.08	-69.80
:2k1c+402	34	4.63	-115 34.00	1868.0	979467.10	979655.00	1.28	-63.71	-0.72	0.00	-12.19	-75.34	-71.32
:k0m=043	34	8.83	-115 34.03	1832.0	979465.60	979660.87	0.58	-62.48	-0.71	0.00	-22.95	-85.58	-81.59
:2m1c+081	34	7.87	-115 34.15	1852.0	979466.28	979659.52	0.78	-63.17	-0.71	0.00	-19.05	-82.15	-78.13
:2k1c+414	34	12.23	-115 34.15	1927.0	979474.24	979665.63	0.75	-65.72	-0.74	0.00	-10.14	-75.85	-71.67



SHEEPHOLE-San Bernardino Co., CA  
 RLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION	L	U	C	A	T	I	O	N	S	G	R	A	V	I	T	C	O	R	R	E	C	T	I	O	N	S	T	E	R	R	A	I	N	O	M	A	L	I	E	S	F	R	E	E	A	I	R	C	O	M	P	L	E	T	E	S
IDENTIFICATION	deg	min	deg	min	deg	min	deg	min	(in ft)	ORSERVED	THEORETICAL	TERRAIN	BOUGUER	CURV	SPECIAL	FREE	COMPLETE-BOUGUER	SPEC	FIELDS																																					
:2k1c+426	34	15.55	-115	35.93	1334.0	979507.56	979670.28	0.45	-45.50	-0.54	0.00	-37.24	-82.83	-79.92																																										
:2k1c+410	34	11.30	-115	35.98	1951.0	979467.08	979664.33	0.63	-66.54	-0.75	0.00	-13.74	-80.40	-76.16																																										
:N203	34	11.00	-115	36.00	1930.0	979468.34	979663.91	0.71	-65.83	-0.74	0.00	-14.03	-79.89	-75.70																																										
:.c0m=037	34	8.06	-115	36.09	1600.0	979484.84	979659.79	2.66	-54.57	-0.63	0.00	-24.45	-76.99	-73.65																																										
:.c0m=040	34	10.55	-115	36.10	2060.0	979457.47	979663.28	1.70	-70.26	-0.78	0.00	-12.05	-81.39	-76.98																																										
:.c0m=138	34	3.08	-115	36.15	2150.0	979449.88	979652.83	0.95	-73.33	-0.81	0.00	-0.72	-73.91	-69.25																																										
:.n1c+277	34	9.86	-115	36.17	2989.0	979386.94	979662.31	16.14	-101.95	-1.04	0.00	5.74	-81.10	-75.57																																										
:1890	33	59.89	-115	36.20	1525.0	979493.24	979648.38	0.89	-52.01	-0.60	0.00	-11.69	-63.42	-60.12																																										
:2k1c+427	34	16.30	-115	36.23	1220.0	979513.52	979671.33	0.41	-41.61	-0.50	0.00	-43.05	-84.75	-82.09																																										
:4076	34	5.74	-115	36.31	1714.0	979470.75	979656.55	0.56	-58.46	-0.67	0.00	-24.58	-83.15	-79.42																																										
:.c0m=055	34	6.66	-115	36.32	1520.0	979484.08	979657.84	0.60	-51.84	-0.60	0.00	-30.78	-82.63	-79.33																																										
:.c1m=007	34	23.96	-115	36.37	780.0	979568.75	979682.08	0.36	-26.60	-0.33	0.00	-39.96	-66.53	-64.84																																										
:2k1c+409	34	11.10	-115	36.43	2016.0	979462.93	979664.05	0.79	-68.76	-0.77	0.00	-11.50	-80.23	-75.86																																										
:2k1c+428	34	17.10	-115	36.49	1110.0	979519.60	979672.45	0.37	-37.86	-0.45	0.00	-48.44	-86.38	-83.97																																										
:.c0m=137	34	3.47	-115	36.64	2075.0	979452.57	979653.38	1.58	-70.77	-0.78	0.00	-5.64	-75.61	-71.16																																										
:.c0m=031	34	9.29	-115	36.64	1590.0	979487.28	979661.52	2.19	-54.23	-0.63	0.00	-24.68	-77.34	-73.99																																										
:.c0m=032	34	8.78	-115	36.75	1600.0	979483.31	979660.80	2.12	-54.57	-0.63	0.00	-26.99	-80.07	-76.69																																										
:.n1c+253	34	4.70	-115	36.77	1952.0	979459.81	979655.09	1.53	-66.58	-0.75	0.00	-11.68	-77.47	-73.28																																										
:h1c+275	34	11.05	-115	36.82	2060.0	979459.45	979663.98	0.94	-70.26	-0.78	0.00	-10.77	-80.87	-76.40																																										
:2k1c+408	34	10.88	-115	36.85	2085.0	979458.20	979663.74	0.94	-71.11	-0.79	0.00	-9.43	-80.39	-75.87																																										
:.n1c+284	34	21.47	-115	36.92	886.0	979554.46	979678.59	0.36	-30.22	-0.37	0.00	-40.78	-71.01	-69.08																																										
:1889	33	59.58	-115	36.94	1500.0	979495.71	979647.94	0.57	-51.16	-0.60	0.00	-11.14	-62.32	-59.06																																										
:N416	34	27.88	-115	37.05	620.0	979581.10	979687.59	0.08	-21.15	-0.26	0.00	-48.16	-69.49	-68.13																																										
:2m1c+025	34	17.81	-115	37.07	981.0	979527.74	979673.45	0.40	-33.46	-0.41	0.00	-53.43	-86.89	-84.76																																										
:.c0m=144	34	5.03	-115	37.08	1800.0	979465.96	979655.55	1.17	-61.39	-0.70	0.00	-20.29	-81.21	-77.33																																										
:2k1c+407	34	10.57	-115	37.18	2079.0	979457.79	979663.30	1.23	-70.91	-0.79	0.00	-9.97	-80.44	-75.95																																										
:2m1c+024	34	17.00	-115	37.20	1097.0	979519.17	979672.31	0.47	-37.42	-0.45	0.00	-49.95	-87.35	-84.97																																										
:2m1c+026	34	18.62	-115	37.20	891.0	979535.03	979674.59	0.37	-30.39	-0.37	0.00	-55.74	-86.13	-84.20																																										
:.k1c+280	34	8.12	-115	37.30	1472.0	979493.04	979659.88	0.85	-50.21	-0.59	0.00	-28.38	-78.32	-75.14																																										
:.c0m=029	34	9.93	-115	37.34	1590.0	979485.71	979662.41	2.25	-54.23	-0.63	0.00	-27.14	-79.75	-76.40																																										
:2m1c+027	34	19.42	-115	37.35	808.0	979545.14	979675.70	0.37	-27.56	-0.34	0.00	-54.56	-82.09	-80.34																																										
:2m1c+023	34	16.43	-115	37.39	1214.0	979511.71	979671.52	0.53	-41.41	-0.49	0.00	-45.61	-86.98	-84.35																																										
:.c0m=123	34	23.50	-115	37.42	660.0	979572.21	979681.43	0.49	-22.51	-0.28	0.00	-47.14	-69.44	-68.02																																										
:3k1m0s11	34	8.18	-115	37.44	1381.0	979499.11	979659.96	0.69	-47.10	-0.55	0.00	-30.95	-77.92	-74.93																																										
:.c1m=006	34	22.54	-115	37.46	705.0	979567.99	979680.09	0.27	-24.05	-0.30	0.00	-45.78	-69.85	-68.32																																										
:2m1c+022	34	16.00	-115	37.50	1307.0	979506.25	979670.91	0.58	-44.58	-0.53	0.00	-41.72	-86.25	-83.41																																										
:2m1c+028	34	20.15	-115	37.58	751.0	979554.28	979676.73	0.33	-25.61	-0.32	0.00	-51.81	-77.41	-75.78																																										
:.c0m=106	34	13.42	-115	37.61	1870.0	979483.13	979667.30	1.02	-63.78	-0.72	0.00	-8.27	-71.75	-69.71																																										
:.c0m=082	34	14.45	-115	37.62	1640.0	979497.61	979668.74	0.89	-55.94	-0.64	0.00	-16.87	-72.56	-69.01																																										
:3k1m0s10	34	8.48	-115	37.67	1357.0	979500.31	979660.38	0.78	-46.28	-0.55	0.00	-32.43	-78.47	-75.54																																										



BOUGUER GRAVITY DATA

SHEEPHOLE-San Bernardino Co., CA  
RLM Desert Lands Wilderness Study  
Meter ID: 0 Date: 03/04/82

STATION	L O C A T I O N S	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	
IDFNITATION	LATITUDE LONGITUDE	OBSERVED THEORETICAL	TERRAIN BOUGUER CURV SPECIAL	COMPLETE-BOUGUER SPEC	
proj sta-id	deg min deg min (in ft)			d1=2.67 d2=2.50 FIELDS	
:2k1c+007	34 5.87 -115 39.82	979480.13	0.54	-51.06 -0.59	-35.79 -86.90 -83.64
:2m1c+036	34 17.66 -115 39.82	979514.24	0.66	-40.45 -0.48	-47.44 -87.71 -85.15
:3k1m=146	34 4.65 -115 39.91	979475.92	1.66	-56.62 -0.65	-22.96 -78.57 -75.03
:3k1m+005	34 8.47 -115 39.91	979494.41	0.56	-42.40 -0.50	-49.03 -91.37 -88.68
:2k1c+011	34 5.42 -115 39.92	979479.46	0.63	-52.83 -0.61	-30.94 -83.75 -80.39
:c1c+273	34 12.26 -115 39.92	979351.97	13.82	-126.20 -1.20	34.27 -79.31 -72.08
:NDLNC109	34 28.25 -115 40.03	979561.63	0.13	-20.60 -0.26	-69.66 -90.38 -89.06
:2k1c+010	34 5.80 -115 40.10	979480.68	0.57	-50.61 -0.59	-36.37 -87.00 -83.78
:c0m=105	34 14.93 -115 40.13	979484.79	2.18	-61.73 -0.70	-14.38 -74.63 -70.79
:3k1m+004	34 8.49 -115 40.19	979494.14	0.59	-41.64 -0.50	-51.40 -92.95 -90.31
:c0m=025	34 10.93 -115 40.27	979465.27	4.91	-64.12 -0.72	-21.71 -81.64 -77.82
:2m1c+016	34 17.02 -115 40.27	979505.77	0.79	-45.94 -0.54	-39.87 -85.56 -82.65
:2k1c+006	34 6.23 -115 40.40	979482.84	0.54	-47.72 -0.56	-42.80 -90.53 -87.49
:m1m-dsb	34 6.49 -115 40.46	979657.59	0.52	-46.59 -0.55	-45.46 -92.08 -89.11
:c1c+272	34 12.79 -115 40.58	979351.10	13.21	-127.56 -1.21	36.42 -79.14 -71.78
:c0m=024	34 11.00 -115 40.64	979473.00	3.79	-60.03 -0.68	-25.36 -82.29 -78.66
:3k1m+003	34 8.48 -115 40.66	979494.33	0.54	-40.89 -0.49	-53.27 -94.11 -91.51
:c1m-003	34 18.23 -115 40.72	979514.07	0.67	-41.78 -0.50	-44.74 -86.35 -83.70
:c0m=132	34 3.64 -115 40.76	979460.59	3.36	-67.53 -0.75	-6.79 -71.71 -67.58
:2m1c+015	34 17.10 -115 40.78	979503.34	0.81	-47.78 -0.56	-37.33 -84.86 -81.84
:k0m=005	34 6.62 -115 40.94	979485.42	0.53	-45.23 -0.53	-47.63 -92.86 -89.98
:3k1m+002	34 8.49 -115 41.01	979494.03	0.53	-40.42 -0.48	-54.90 -95.27 -92.70
:3k1m+015	34 7.38 -115 41.04	979487.46	0.45	-42.12 -0.50	-55.21 -97.39 -94.70
:3k1m+019	34 8.05 -115 41.04	979491.72	0.52	-40.38 -0.48	-56.69 -97.03 -94.47
:3k1m+014	34 7.20 -115 41.05	979487.40	0.44	-42.67 -0.51	-53.52 -96.25 -93.53
:3k1m+016	34 7.55 -115 41.05	979488.27	0.46	-41.54 -0.49	-56.24 -97.81 -95.17
:3k1m+017	34 7.71 -115 41.05	979489.46	0.47	-41.07 -0.49	-56.59 -97.67 -95.06
:3k1m+018	34 7.88 -115 41.05	979490.38	0.48	-40.76 -0.49	-56.75 -97.52 -94.92
:3k1m+020	34 8.21 -115 41.05	979492.80	0.52	-40.25 -0.48	-56.21 -96.42 -93.86
:3k1m+021	34 8.36 -115 41.06	979493.42	0.52	-40.35 -0.48	-55.51 -95.82 -93.26
:3k1m+022	34 8.55 -115 41.06	979494.32	0.54	-40.38 -0.48	-54.79 -95.11 -92.54
:3k1m+023	34 8.71 -115 41.06	979495.06	0.60	-40.49 -0.48	-53.99 -94.36 -91.78
:3k1m+024	34 8.87 -115 41.06	979495.54	0.61	-40.79 -0.49	-52.89 -93.56 -90.97
:3k1m+025	34 9.04 -115 41.07	979495.68	0.64	-41.41 -0.49	-51.29 -92.55 -89.92
:3k1m+026	34 9.20 -115 41.07	979495.75	0.71	-42.12 -0.50	-49.47 -91.38 -88.71
:3k1m+032	34 9.37 -115 41.07	979495.88	0.74	-42.94 -0.51	-47.32 -90.03 -87.31
:3k1m+033	34 9.53 -115 41.07	979496.09	0.78	-43.79 -0.52	-44.98 -88.51 -85.74
:3k1m+034	34 9.69 -115 41.07	979492.90	0.88	-44.68 -0.53	-45.95 -90.28 -87.46
:c0m=014	34 15.27 -115 41.08	979479.03	3.19	-64.12 -0.72	-14.03 -75.68 -71.76
:3k1m+035	34 9.85 -115 41.09	979496.05	0.97	-45.09 -0.53	-41.90 -86.55 -83.71



ROUGHER GRAVITY DATA

SHEEPHOLE-San Bernardino Co., CA  
 RLM Desert Lands Wilderness Study  
 Meter ID: 0 Date: 03/04/82

STATION	L U C A T I O N S	G R A V I T Y	T E R R A I N	C O R R E C T I O N S	A N O M A L I E S	F R E E	C O M P L E T E	S P E C						
IDENTIFICATION	LATITUDE	LONGITUDE	ELE	ST	OBSERVED	THEORETICAL	TERRAIN	BOUGUER	CURV	SPECIAL	AIR	d1=2.67	d2=2.50	FIELDS
proj	deg	min	deg	min	(in ft)									
:.c0m=150	34	2.57	-115	42.96	1985.0	979461.22	979652.12	2.00	-67.70	-0.76	0.00	-4.19	-70.65	-66.42
:3k1m0s43	34	9.24	-115	42.96	1178.0	979496.07	979661.45	0.54	-40.18	-0.48	0.00	-54.57	-94.69	-92.13
:.c0m=128	34	4.21	-115	42.99	2100.0	979451.04	979654.41	3.14	-71.62	-0.79	0.00	-5.85	-75.13	-70.72
:1R21	34	0.37	-115	43.02	1958.0	979467.67	979649.05	0.61	-66.78	-0.75	0.00	2.79	-64.13	-59.86
:.m1m-001	34	15.34	-115	43.12	2214.0	979460.35	979669.98	1.73	-75.51	-0.83	0.00	-1.39	-76.00	-71.25
:3k1m0s12	34	9.73	-115	43.14	1237.0	979497.90	979662.13	0.60	-42.19	-0.50	0.00	-47.87	-89.97	-87.29
:3k1m0s44	34	9.28	-115	43.16	1180.0	979496.30	979661.50	0.54	-40.25	-0.48	0.00	-54.21	-94.40	-91.84
:.c0m=129	34	4.61	-115	43.18	2250.0	979444.15	979654.97	2.22	-76.74	-0.84	0.00	0.81	-74.55	-69.75
:.c1m-A17	34	12.29	-115	43.18	1840.0	979475.55	979665.71	1.50	-62.76	-0.71	0.00	-17.10	-79.07	-75.12
:N134	34	12.00	-115	43.25	1723.0	979480.11	979665.30	1.32	-58.77	-0.67	0.00	-23.13	-81.25	-77.55
:N135	34	13.80	-115	43.25	2307.0	979449.39	979667.83	2.01	-78.68	-0.85	0.00	-1.45	-78.98	-74.05
:.m0m=147	34	6.96	-115	43.27	1240.0	979490.66	979658.26	0.52	-42.29	-0.50	0.00	-50.95	-93.23	-90.54
:3k1m0s36	34	9.33	-115	43.36	1177.0	979495.97	979661.57	0.54	-40.14	-0.48	0.00	-54.89	-94.97	-92.42
:638P7	34	3.37	-115	43.45	1947.5	979463.45	979653.23	0.52	-66.42	-0.74	0.00	-6.60	-73.25	-69.01
:3k1m0s137	34	9.37	-115	43.54	1180.0	979496.27	979661.63	0.51	-40.25	-0.48	0.00	-54.36	-94.58	-92.01
:1R17	34	3.59	-115	43.67	1945.0	979463.07	979653.54	1.11	-66.34	-0.74	0.00	-7.53	-73.50	-69.30
:3k1m0s38	34	9.42	-115	43.73	1181.0	979496.56	979661.70	0.50	-40.28	-0.48	0.00	-54.04	-94.31	-91.74
:3k1m0s45	34	9.46	-115	43.92	1183.0	979496.90	979661.75	0.50	-40.35	-0.48	0.00	-53.58	-93.91	-91.34
:1R20	34	1.10	-115	43.95	1952.0	979467.67	979650.06	0.61	-66.58	-0.75	0.00	1.21	-65.50	-61.26
:.c0m=127	34	4.92	-115	43.95	1650.0	979481.56	979655.40	1.71	-56.28	-0.65	0.00	-18.64	-73.85	-70.34
:N133	34	10.50	-115	44.00	1293.0	979496.84	979663.21	0.65	-44.10	-0.52	0.00	-44.74	-88.71	-85.91
:3k1m0s46	34	9.51	-115	44.11	1184.0	979497.28	979661.82	0.50	-40.38	-0.48	0.00	-53.17	-93.54	-90.97
:1R1A	34	2.74	-115	44.18	1885.0	979467.63	979652.35	0.64	-64.29	-0.72	0.00	-7.42	-71.80	-67.70
:N143	34	26.75	-115	44.35	607.0	979571.49	979686.00	0.48	-20.70	-0.26	0.00	-57.41	-77.89	-76.58
:.c0m=149	34	4.08	-115	44.48	1910.0	979466.46	979654.23	1.32	-65.14	-0.73	0.00	-8.11	-72.67	-68.56
:N144	34	28.70	-115	44.50	593.0	979563.99	979686.73	0.27	-20.23	-0.25	0.00	-68.96	-89.17	-87.88
:.m0m=009	34	9.95	-115	44.66	1221.0	979497.23	979662.44	0.52	-41.64	-0.50	0.00	-50.35	-91.97	-89.32
:1R19	34	1.89	-115	44.70	1892.0	979471.65	979651.16	0.64	-64.53	-0.73	0.00	-1.56	-66.18	-62.06
:1R16	34	3.64	-115	44.90	1843.0	979471.45	979653.61	0.83	-62.86	-0.71	0.00	-8.81	-71.55	-67.55
:.c0m=148	34	7.31	-115	45.29	1275.0	979488.56	979658.74	0.42	-43.49	-0.52	0.00	-50.25	-93.83	-91.06
:NDLNC177	34	16.88	-115	45.30	2262.0	979459.45	979672.15	1.31	-77.15	-0.84	0.00	0.06	-76.62	-71.74
:NDLNC160	34	26.51	-115	45.32	691.0	979571.92	979685.66	0.68	-23.57	-0.29	0.00	-48.74	-71.92	-70.44