UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Principal Facts for 163 Gravity Stations in the Cherry Creek Range and vicinity, Elko and White Pine Counties, Nevada

by

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Abstract

Principal facts, reduction procedures and accuracies for 163 gravity stations located in and around the Cherry Creek Range, Elko and White Pine counties, Nevada, are reported. The stations were established in July, 1986, as part of a mineral resource appraisal by the U.S. Geological Survey of a Bureau of Land Management wilderness study area. Included in this report are survey and reduction procedures, equipment used, estimates of uncertainties and listings of reduced Bouguer anomaly and Airy isostatic residual anomaly values.

Introduction

The 163 stations which are described in this report were established by the authors in and around the Cherry Creek Range, Nevada (fig. 1). These data were collected to help assess the mineral resource potential of the Goshute Canyon Wilderness study area.

The Gravity Survey

The gravity survey lies in the southeastern part of the Elko 1° by 2° sheet (fig. 1). The primary topographic features include the Cherry Creek Range, the Dolly Varden Mountains, and the Steptoe and Butte valleys. The gravity stations were established in July, 1986. A plot of gravity station locations is shown in Figure 2.

All gravity stations were referenced to the primary base station at Ely, Ely A, ACIC base number 0390-2 (Jablonsky, 1974) and are on the IGSN71 gravity datum. The gravity stations were established on single day closed traverses involving driving, hiking, and helicopter landings. Each traverse began and ended at a primary or secondary base. All gravity stations were located on USGS spot elevations on 1:24,000 scale maps. LaCoste and Romberg gravity meters G614 and D-26 were used in this survey and were calibrated prior to and after the field season on the Mt. Hamilton calibration loop (Barnes and others, 1969).

Reduction Procedures

Standard gravity corrections (Dobrin, 1976) were made on all of the gravity data including: (a) the Earth tide, (b) The instrument drift, (c) the free-air, (d) the latitude, (e) the Bouguer, (f) the curvature, (g) the terrain, and (h) the isostatic.

Observed gravity values were obtained from gravity meter readings using calibration constants provided by the manufacturer and secondary correction factors established by the USGS. The secondary calibration factors used were 1.000380 for G614 and 1.000999 for D-26. Observed gravity values at each station were then adjusted to the base station value assuming a linear drift between the first and last reading of each day.

The observed gravity base datum is the International Gravity Standardization Network of 1971 (Morelli, 1974). Free-air gravity anomalies were computed using the 1967 Geodetic Reference System formula for theoretical gravity at sea level (International Association of Geodesy, 1971). A standard reduction density of 2.67 g/cm^3 was used to determine the Bouguer and isostatic anomalies.

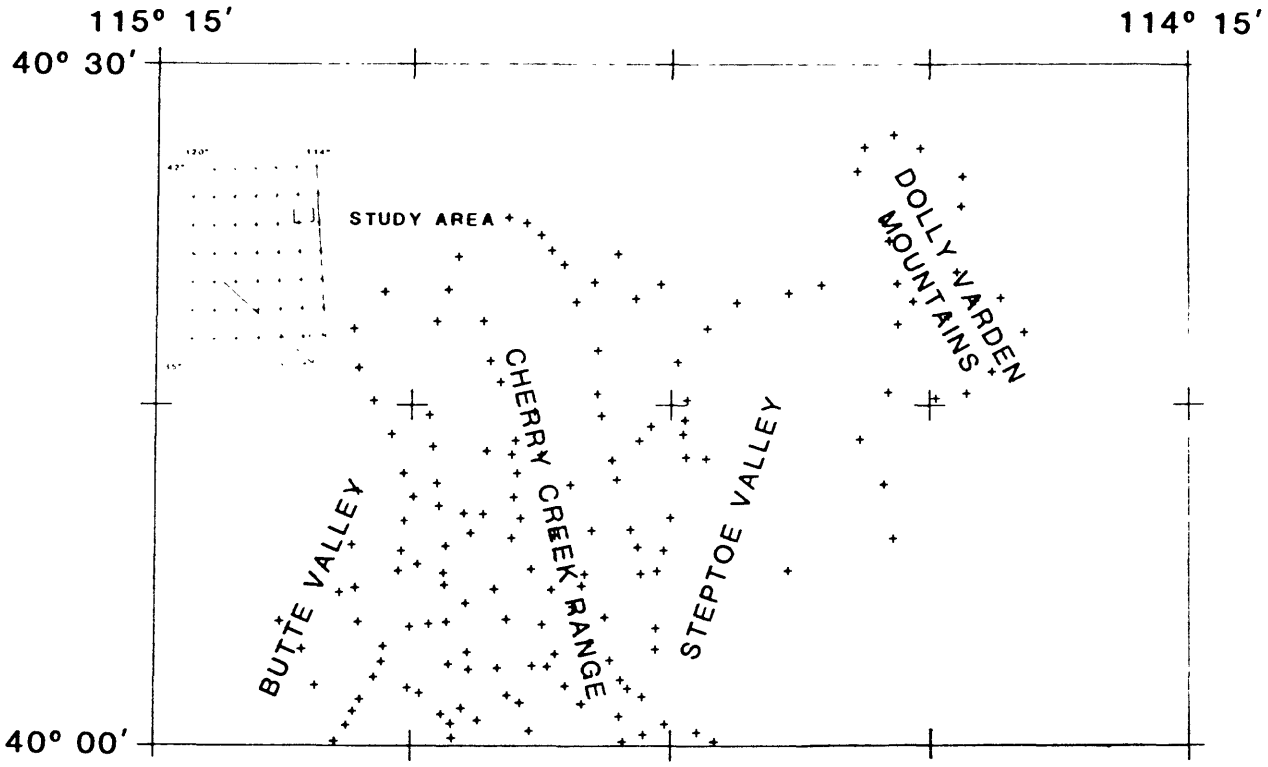

Figure 1.--Index map of gravity survey

+ gravity station
SCALE 1:100,000

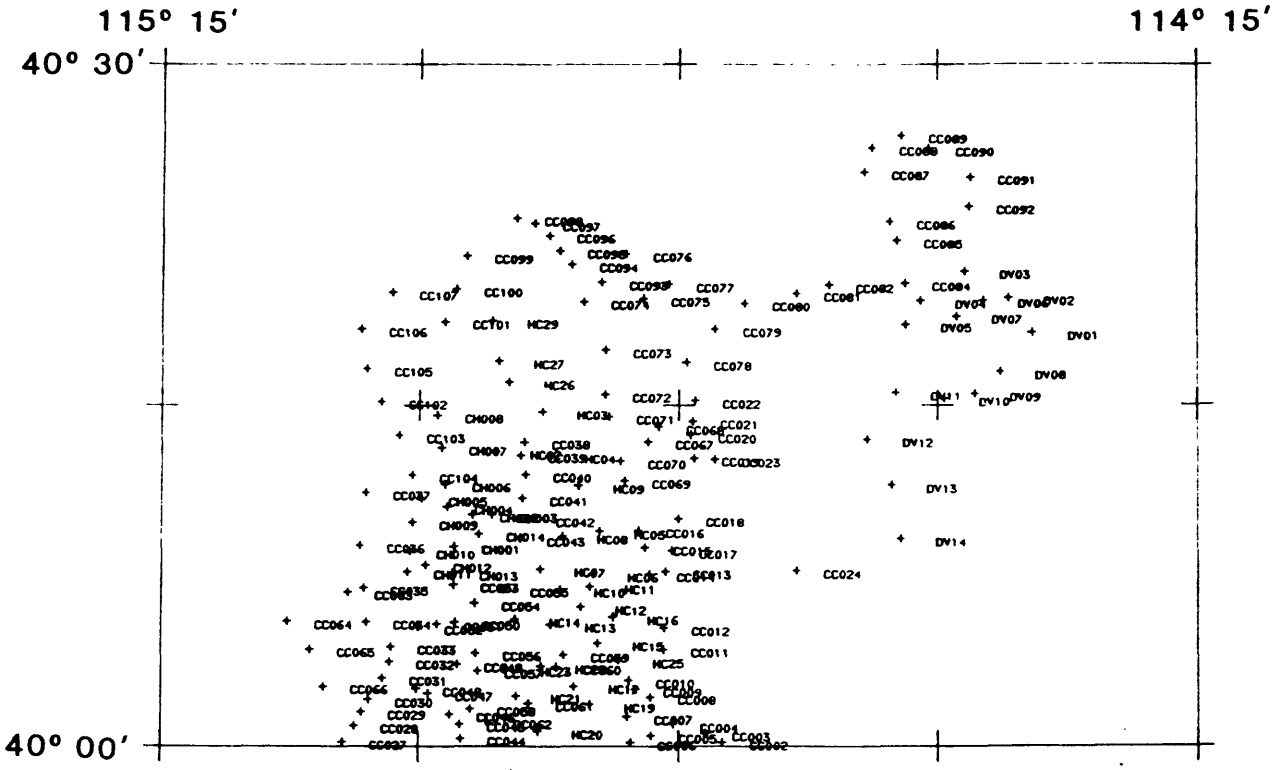

Figure 2.--Plot of gravity station locations

\+ gravity station
SCALE 1:100,000

Terrain corrections were calculated for the region extending radially from each station to 166.7 km. Inner zone terrain corrections extend from the station to a distance of 590 meters (zones A-D). Zones A and B (0-63 m) of Hayford-Bowie system (1912) were estimated in the field using tables based on slope, cone, and broken-slope elevation models. Terrain corrections for Hayford-Bowie zones C and D (63-590 m) were calculated using templates and 1:24,000 scale topographic maps. Outer zone terrain corrections extending from the outer edge of zone D (590 m) to a radial distance of 166.7 km were calculated using a program by Plouff (1977) and a digital elevation model produced from topographic contour maps at a scale of 1:250,000 by the Defense Mapping Agency (available from the Department of Interior, U.S. Geological Survey, National Cartographic Information Center, 507 National Center, Reston, VA 22092).

Finally, a broad regional anomaly based on the gravitational effect of Airy isostatic roots (Simpson and others, 1983) was added to the Bouguer anomaly values. The Airy isostatic model assumes a sea level crustal thickness of 25 km, a surface load density of 2.67 g/cm^3 and a density contrast at depth of 0.4 g/cm^3. The isostatic residual anomaly emphasizes the gravity effects of density distribution in the upper crust (Simpson and others, 1986). Bouguer anomaly and isostatic residual gravity values for each station are listed in Table 3.

Accuracy of Data

The uncertainties in Bouguer anomaly values for individual stations can be estimated by using the accuracy codes listed in Table 2. After correction for tides, repeat readings of the Lacoste and Romberg gravity meters at bases yield closures within 0.05 mGal; thus the uncertainty in observed gravity values is less than 0.1 mGal. The elevation error is based on a Bouguer vertical gradient of 0.06 mGal/ft which corresponds to an assumed density of 2.67 g/cm^3. Photogrammetric spot elevations are accurate to about 1/4 the contour interval, or about 10 ft, introducing an uncertainty of about 0.6 mGal to the Bouguer anomaly. The latitude error is based on a value of 1.45 mGal/min at latitude 37°N. Photogrammetric locations are accurate to about 80 feet, the north-south component of which results in a possible gravity error of about 0.02 mGal.

Terrain corrections may potentially be the largest source of error in the reduction of gravity data. Generally the uncertainty of the inner zone terrain corrections are thought to be about 10% and the uncertainty of outer zone terrain corrections are thought to be about 5%. Out of 163 stations, there are only 28 stations with a total terrain correction greater than 10 mGal. The maximum value is 39.2 mGal (station HC17) with an inner zone terrain correction of 6.3 mGal and an outer zone terrain correction of 32.9 mGal. Thus the uncertainty of the terrain correction associated with this station is 2.2 mGal and is probably positive (too high). However, most terrain correction uncertainties are considered to be less than 1.0 mGal in ranges and less than 0.5 mGal in valleys. Thus complete Bouguer anomaly values have a maximum uncertainty of about 3 mGal but are believed to be generally less than 1 mGal.

Acknowledgments

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GRAVITY BASE STATION

NAME SLBN	STATE Nevada
LATITUDE 39° 47.82'	LONGITUDE 114° 44.46'
ELEVATION 1855 m (est.)	
OBSERVED GRAVITY 979,551.92	

LOCATION DESCRIPTION:

SLBN is located on the Ely 1° x 2° and the Schellbourne 7.5' topographic maps. It is directly south of the historical monument on U.S. Route 93 across from the Schellbourne Inn about 62 km north of Ely.

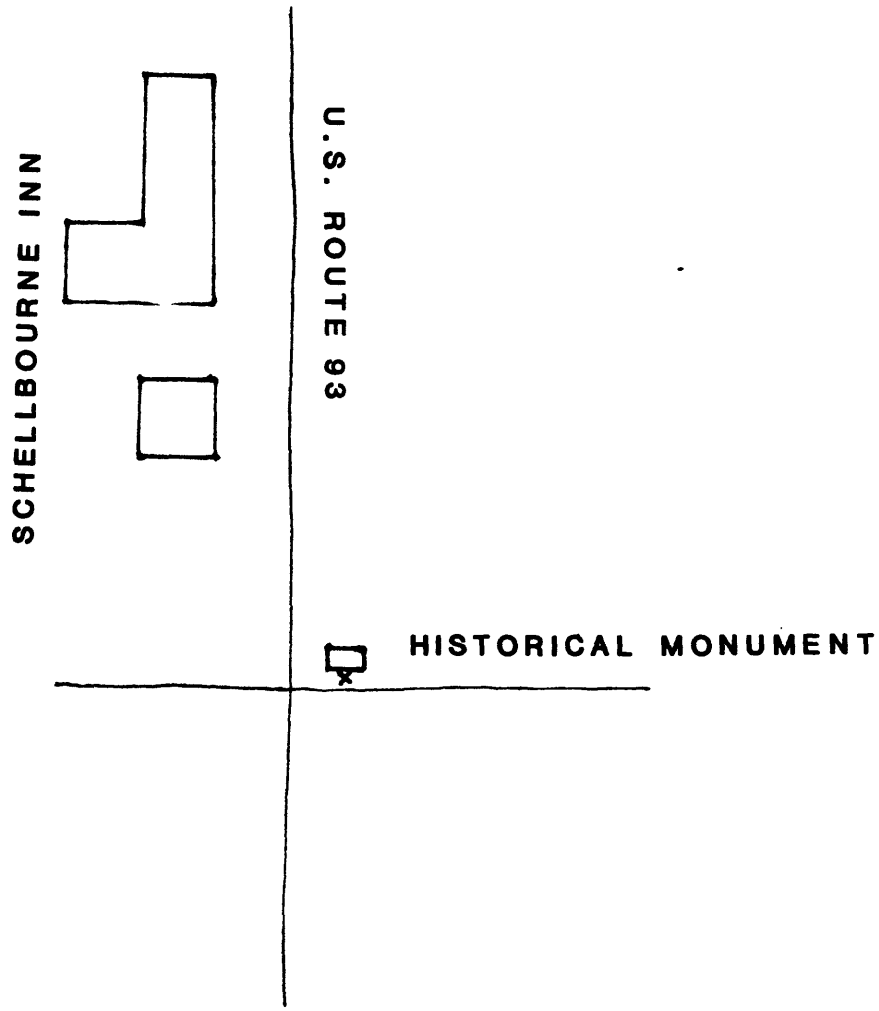

Table 1.--DATA FORMAT

Item	Explanation of Columns in the Principal Facts Table Description
STATION NAME	Station Identification CC = In and around the Cherry Creek Range, Meter G614 CH = In and around the Cherry Creek Range, meter D-26 HC = In the Cherry Creek Range, Helicopter stations, meter G614 DV = In and around the Dolly Varden Range
LAT and LONG	Latitude and longitute in degrees and decimal mintes, digitzed by computer from 1:24,000 scale maps
ELEV	Elevation in feet.
AC	One letter and three digits indicating elevation, location, and observed gravity accuracy (see table 2 for explantation).

The remaining columns contain gravity valus in miligals (mGal) to the nearest 0.01 mGal.

OG	Observed gravity relative to the IGSN-71 datum.
FAA	Free-air anomaly.
SBA	Simple Bouguer anomaly.
ITC	Inner zone terrain correction, lower case d indicates inner zone terrain correction calculated to the D ring of the Hayford-Bowie system or 590 m.
TC	Total terrain correction to a radial distance of 166.7 km.
CBA	Complete Bouguer anomaly for crustal densitv of 2.67 g/cm^3
ISO	Isostatic residual anomaly values assuming an Airy model for isostatic compensation of topographic loads. This model assumes a crustal thickness at sea level of 25 km, a topographic density load of 2.67 g/cm^3 and a density contrast across the base of the model crust of 0.4 g/cm^3.

Table 2--ACCURACY CODE

GENERAL LOCATION CODE (1st digit)
(vertical and horizontal)

Code	Station Location Method (vertical and horizontal)
	A) Survey marks (vertical) - Topographic Maps (horizontal)
	1) Base plate directly on bench mark
B	a) USGS or USC&GS (NGS) level-line bench mark.
M	b) Level line bench marks other than a) such as USCE, BPR, CDH, private companies, etc.
V	c) Vertical angle bench marks (VABM) in U.S. Geological control system.
+	d) Benchmark or surveyed location known to 0.1 foot.
	2) Base plate near bench mark.
N	a) USGS or USC&GS level-line bench mark.
E	b) Level-line bench marks other than a) such as USCE, BPR
H	c) VABM.
P	3) Base plate on or near other reference marks (such as stakes, paint, etc.) that have been surveyed by the group doing the gravity survey or other known people.
X	4) Near well-defined marks, such as 1/4 section marks, 1/8 section markers, wells, windmills, and other property boundary markers.
D	5) Near assumed location of any of the above marks that was not found or destroyed.
	B) Topographic Map locations (vertical and horizontal)
F	1) Black spot elevations - field checked.
G	2) Brown spot elevations (black spot elevations on metric maps) and elevations taken off original manuscripts - photogrammetrically determined.
W	3) Blue lake elevations.
R	4) Lake or reservoir elevations determined from leveling to bench marks, and water level is determined from gauging stations.
S	5) Sea level elevations.
C	6) Contour line interpolation.
Q	7) River gradient interpolation.
m	8) Map elevations.
	C) Air Photographs (vertical and horizontal)
T	1) Elevations determined by U.S. Geological Survey National Mapping Division by Kelsh plotter or least squares computer system.
K	2) Elevations determined by other groups by Kelsh plotter or least squares computer system.
L	3) Elevations determined by Laser methods.
J	4) Elevations determined by other methods.
	D) Altimetry (vertical) - Topographic Maps (horizontal)
A	1) Good control (Leap frog, double loop, two or more altimeters, etc.).
Y	2) Poor control.
	E) Special sources
Z	1) Elevations determined by methods such as mobile elevation recorders - horizontal control from topographic maps.
I	2) Other special sources.
	F) Unknown Elevation Sources
U	1) Elevation data sources unknown (this would include reference marks with unknown ties).

Table 2.--(cont.) ELEVATION ACCURACY CODE (2ND DIGIT)
(Relative to 1929 USC&GS mean sea level datum)

Code	Elevation Accuracy (ft)	Typical types of Elevation Data	Approx. Gravity Effect (mGal)
1	0.2	On leveled bench marks	0.01
2	0.3	Beside bench marks	0.02
3	1	Transit and good alidade surveys	0.05
4	2	VABM's and most black map elevations	0.1
5	4	Black elevations on old maps, good photogrammetry	0.2
6	10	Brown elevations and normal photogrammetry on 20 ft contour interval maps	0.5
7	20	Brown elevations on 80 ft contour interval maps, good altimetry	1.0
8	40	Contour interpolation data from 50 ft contour-interval map	2.0
9	80	Poor altimetry; data from 200 ft contour-interval maps	5.0
0	>80	Altimetry in very bad weather or equipment failures>	5.0

LATITUDE ACCURACY CODE (3RD DIGIT)
(Lat. gravity effect based on mean value of 1.45 mGal/min at Latitude 37°)

Code	Latitude Accuracy (min)	Equivalent Distance Accuracy (ft)	Typical Map Measurement Requirements in inches	Approx. Gravity Effect (mGal)
1	.0075	42	Triangulation or special survey data	0.01
2	.015	84	0.04 (1:24,000) map with special location care	0.02
3	.04	210	0.10 (1:24,000) normal survey; 0.04 (1:62,500) map	0.05
4	.07	420	0.21 (1:24,000) map; 0.08 (1:62,500) normal survey	0.1
5	.14	840	0.42 (1:24,000) map; 0.16 (1:62,500) map	0.2
6	.35	2,100	0.4 (1:62,500) map; 0.1 (1:250,000) map	0.5
7	.70	4,200	0.8 (1:62,500) map; 0.2 (1:250,000) map	1.0
8	1.4	8,400	1.6 (1:62,500) map; 0.4 (1:250,000) map	2.0
9	3.40			5.0
0	>3.40		>5.0	

OBSERVED GRAVITY ACCURACY (4TH DIGIT)
(relative to local base)

Code	Observed Gravity Accuracy mGal	Suggested types of Gravity Measurements
1	0.01	Local surveys with special meters
2	0.02	Multiple readings with LaCoste and Romberg meters
3	0.05	Average Lacoste and Romberg, and Multiple Worden gravity data
4	0.1	LaCoste and Romberg gravity data with small vibrations. Most USGS Worden gravity meter data
5	0.2	Gravity data from loops with closure errors this large
6	0.5	" " " " " " " " "
7	1.0	" " " " " " " " "
8	2.0	" " " " " " " " "
9	5.0	" " " " " " " " "
0	>5.0	" " " " " " " " "

Table 3.–*Principal facts for gravity stations, Cherry Creek, Nevada*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC 2.67	CBA 2.67	ISO
CC001	39	59.79	114	41.44	5893.4	979587.90	n233	-26.67	-227.68	0.01	d	0.93	-228.24	-22.61
CC002	40	0.19	114	42.48	5851.4	979585.56	g633	-33.55	-233.13	4.96	d	5.14	-229.47	-23.73
CC003	40	0.59	114	43.49	5851.7	979582.98	g633	-36.70	-236.28	0.00	d	0.76	-237.01	-31.17
CC004	40	0.97	114	45.34	5857.0	979587.65	g633	-32.09	-231.86	0.00	d	1.05	-232.30	-26.20
CC005	40	0.49	114	46.57	5872.7	979590.84	g633	-26.71	-227.01	0.00	d	1.43	-227.07	-20.65
CC006	40	0.18	114	47.76	5997.4	979594.09	g633	-11.29	-215.84	0.02	d	1.97	-215.36	-8.67
CC007	40	1.31	114	47.97	6040.0	979596.94	g633	-6.10	-212.11	0.05	d	2.32	-210.29	-3.83
CC008	40	2.19	114	46.63	5977.7	979600.68	g633	-9.56	-213.46	0.00	d	1.96	-213.00	-6.97
CC009	40	2.52	114	47.46	6118.8	979598.18	g633	9.74	-207.95	0.04	d	3.17	-206.28	-0.19
CC010	40	2.91	114	47.88	6259.8	979593.86	g633	9.09	-204.41	0.17	d	4.67	-201.25	4.81
CC011	40	4.26	114	45.87	5921.9	979608.77	g633	-8.75	-211.73	0.03	d	2.49	-210.73	-5.35
CC012	40	5.20	114	45.84	5931.8	979612.64	g633	-6.36	-208.67	0.07	d	3.07	-207.09	-1.96
CC013	40	7.66	114	45.78	6092.5	979609.76	g633	2.19	-205.61	0.03	d	1.91	-205.20	-0.74
CC014	40	7.56	114	46.70	6361.5	979598.66	g633	16.54	-200.43	0.11	d	3.13	-198.81	5.85
CC015	40	8.73	114	46.92	6345.1	979599.72	g633	14.33	-202.09	0.14	d	2.66	-200.94	3.47
CC016	40	9.51	114	47.32	6368.1	979600.04	g633	15.65	-201.55	0.06	d	2.45	-200.61	3.68
CC017	40	8.59	114	45.41	6010.5	979612.05	g633	-4.58	-209.58	0.01	d	1.38	-209.70	-5.55
CC018	40	10.01	114	45.01	6017.1	979614.29	g633	-3.83	-209.06	0.04	d	0.91	-209.64	-5.96
CC019	40	12.67	114	44.12	5958.0	979620.71	g633	-6.92	-210.13	0.02	d	0.51	-211.11	-8.37
CC020	40	13.70	114	44.32	5889.1	979631.04	g633	-4.59	-205.45	0.02	d	0.49	-206.45	-3.93
CC021	40	14.32	114	44.19	5836.6	979638.89	g633	-2.60	-201.67	0.03	d	0.52	-202.63	-0.31
CC022	40	15.22	114	44.07	5905.5	979638.97	g633	2.61	-198.81	0.03	d	0.42	-199.58	2.16
CC023	40	13.64	114	42.94	5844.2	979631.77	g633	-6.52	-205.84	0.01	d	0.48	-206.85	-4.38
CC024	40	7.71	114	38.21	5879.3	979616.46	g633	-11.20	-211.72	0.00	d	0.36	-212.85	-10.19
CC026	39	56.74	114	57.88	6656.8	979547.55	g633	9.25	-217.79	0.06	d	1.81	-217.50	-9.14
CC027	40	0.31	115	4.42	6248.0	979567.88	g633	-13.98	-227.08	0.01	d	0.43	-228.16	-20.05
CC028	40	0.93	115	3.76	6248.0	979568.06	n233	-14.87	-227.97	0.01	d	0.42	-229.06	-21.07
CC029	40	1.53	115	3.35	6247.7	979566.99	n233	-16.86	-229.95	0.01	d	0.42	-231.04	-23.14
CC030	40	2.07	115	2.94	6249.0	979565.94	n233	-18.59	-231.73	0.02	d	0.44	-232.80	-25.00
CC031	40	3.03	115	2.12	6251.3	979574.43	n233	-11.31	-224.52	0.00	d	0.48	-225.55	-17.93
CC032	40	3.73	115	1.71	6259.2	979582.62	n233	-3.42	-216.90	0.02	d	0.55	-217.86	-10.38
CC033	40	4.39	115	1.61	6270.7	979580.12	n233	-5.82	-219.70	0.00	d	0.52	-220.69	-13.34
CC034	40	5.48	115	3.06	6286.1	979586.45	g633	0.34	-214.06	0.00	d	0.43	-215.14	-7.95
CC035	40	6.96	115	3.34	6335.3	979589.88	g633	6.20	-209.88	0.01	d	0.46	-210.93	-4.01
CC036	40	8.84	115	3.46	6443.6	979587.26	g633	10.95	-208.82	0.10	d	0.82	-209.51	-2.97
CC037	40	11.18	115	3.12	6597.8	979578.47	g633	13.18	-211.85	0.09	d	1.13	-212.24	-6.21
CC038	40	13.42	114	53.94	7408.1	979544.58	g633	52.10	-200.57	2.01	d	6.38	-195.69	8.75
CC039	40	12.82	114	54.15	8149.6	979497.10	g633	75.18	-202.78	0.81	d	5.36	-198.88	5.68
CC040	40	11.97	114	53.84	8638.5	979464.54	g633	89.81	-204.83	1.87	d	9.76	-196.47	8.21
CC041	40	10.92	114	54.03	9626.0	979384.71	g633	104.30	-224.02	5.10	d	28.01	-197.26	7.61
CC042	40	9.99	114	53.65	9566.9	979387.63	g633	103.05	-223.25	3.70	d	26.16	-198.35	6.69
CC043	40	9.13	114	54.18	8677.8	979451.99	g633	85.18	-210.80	2.95	d	13.25	-198.95	6.45
CH001	40	6.79	114	57.97	6522.3	979585.45	g633	16.62	-205.84	0.42	d	1.69	-205.66	0.49
CC044	40	0.38	114	57.57	6486.2	979565.24	g633	5.51	-215.72	0.02	d	1.67	-215.56	-7.77
CC045	40	1.00	114	57.62	6463.3	979566.87	g633	4.06	-216.39	0.02	d	1.56	-216.34	-8.65
CC046	40	1.43	114	58.21	6391.1	979572.32	g633	2.09	-215.89	0.01	d	1.28	-216.12	-8.45
CC047	40	2.34	114	59.46	6289.4	979579.49	g633	-1.65	-216.16	0.00	d	0.88	-216.79	-9.18
CC048	40	2.55	115	0.15	6269.7	979579.36	g633	-3.94	-217.78	0.00	d	0.72	-218.57	-10.96
CC049	40	3.61	114	57.80	6437.0	979570.78	g633	1.62	-217.92	0.02	d	1.48	-217.96	-10.74
CC050	40	5.46	114	57.92	6407.5	979576.02	g633	1.35	-217.19	0.01	d	1.47	-217.24	-10.38

Table 2.–*Principal facts for gravity stations, Cherry Creek, Nevada–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC 2.67	CBA 2.67	ISO
CC0 51	40	5.39	114	58.94	6318.9	979576.06	gCS3	-6.84	-222.36	0.01	d	1.05	-222.82	-15.84
CC0 52	40	5.25	115	0.06	6263.1	979573.84	gCS3	-14.09	-227.70	0.00	d	0.74	-228.47	-21.38
CC0 53	40	7.10	114	58.01	6391.1	979586.88	gCS3	8.23	-209.75	0.06	d	1.55	-209.72	-3.19
CC0 54	40	6.29	114	56.78	6673.2	979571.56	gCS3	20.62	-206.98	0.07	d	2.20	-206.30	0.25
CC0 55	40	6.90	114	55.14	7329.4	979532.55	gCS3	42.36	-207.62	0.33	d	4.34	-204.79	1.37
CC0 56	40	4.12	114	56.72	6624.0	979564.64	gCS3	12.30	-213.63	0.03	d	2.26	-212.88	-5.88
CC0 57	40	3.35	114	56.61	6584.6	979564.01	gCS3	9.12	-215.47	0.03	d	2.51	-214.47	-7.32
CC0 58	40	1.69	114	57.02	6473.1	979565.91	gCS3	3.00	-217.78	0.02	d	2.04	-217.25	-9.73
CC0 59	40	4.04	114	51.64	8313.6	979474.53	gCS3	81.07	-202.49	1.19	d	8.29	-195.64	10.58
CC0 60	40	3.50	114	52.09	8392.4	979467.04	gCS3	81.77	-204.47	2.09	d	9.83	-196.07	10.32
CC0 61	40	1.90	114	53.66	7828.1	979499.11	gCS3	63.20	-203.79	0.61	d	6.17	-199.10	7.89
CC0 62	40	1.13	114	56.07	6699.5	979554.34	gCS3	13.54	-214.96	0.08	d	3.12	-213.36	-5.85
CH0 01	40	8.79	114	57.97	6522.3	979585.48	gCS3	16.65	-205.81	0.42	d	1.69	-205.63	0.52
CC0 63	40	6.77	115	4.16	6358.3	979586.80	gCS3	5.56	-211.31	0.01	d	0.44	-212.38	-5.40
CC0 64	40	5.49	115	7.67	6463.3	979575.52	gCS3	6.04	-214.40	0.03	d	0.50	-215.42	-8.18
CC0 65	40	4.27	115	6.34	6387.8	979573.05	gCS3	-1.71	-219.58	0.00	d	0.42	-220.67	-13.21
CC0 66	40	2.65	115	5.57	6292.7	979574.94	gCS3	-6.35	-220.96	0.02	d	0.59	-221.89	-14.16
CC0 67	40	13.41	114	46.79	6055.1	979615.16	gCS3	-4.63	-211.08	0.02	d	0.81	-211.77	-8.61
CC0 68	40	14.06	114	46.16	5941.6	979623.44	gCS3	-7.80	-210.45	0.01	d	0.67	-211.27	-8.42
CC0 69	40	11.69	114	48.13	6309.1	979605.67	gCS3	12.49	-202.70	0.02	d	1.42	-202.78	1.11
CC0 70	40	12.56	114	48.38	6289.4	979609.20	gCS3	12.87	-201.64	0.02	d	1.32	-201.83	1.89
CC0 71	40	14.51	114	49.03	6148.3	979614.81	gCS3	2.32	-207.38	0.03	d	1.54	-207.34	-3.99
CC0 72	40	15.49	114	49.26	6106.9	979622.78	gCS3	5.14	-203.22	0.03	d	1.59	-203.13	0.02
CC0 73	40	17.43	114	49.24	6158.1	979626.69	gCS3	10.79	-199.24	0.02	d	1.00	-199.75	2.90
CC0 74	40	19.55	114	50.51	6391.1	979618.79	gCS3	21.63	-196.36	0.04	d	0.86	-197.01	5.37
CC0 75	40	19.68	114	47.04	6017.1	979635.41	gCS3	2.90	-202.32	0.01	d	0.43	-203.39	-1.79
CC0 76	40	21.65	114	48.09	6102.4	979638.83	gCS3	11.41	-196.72	0.01	d	0.47	-197.76	3.60
CC0 77	40	20.30	114	45.60	5902.2	979648.76	gCS3	4.54	-196.77	0.01	d	0.36	-197.90	3.20
CC0 78	40	16.89	114	44.61	5786.7	979651.78	gCS3	1.78	-195.59	0.04	d	0.49	-196.58	5.15
CC0 79	40	18.36	114	42.90	5767.7	979657.65	gCS3	3.68	-193.04	0.01	d	0.37	-194.15	6.75
CC0 80	40	19.48	114	41.21	5816.9	979644.35	gCS3	-6.67	-205.07	0.02	d	0.35	-206.20	-6.07
CC0 81	40	19.91	114	38.20	6023.6	979627.99	gCS3	-4.24	-209.68	0.03	d	0.67	-210.51	-11.39
CC0 82	40	20.27	114	36.32	6440.3	979612.78	gCS3	19.17	-200.49	0.10	d	1.70	-200.30	-1.89
CC0 84	40	20.35	114	31.88	7086.6	979579.06	gCS3	46.07	-195.64	0.68	d	3.04	-194.11	2.71
CC0 85	40	22.23	114	32.37	7001.3	979584.09	gCS3	40.28	-198.51	0.33	d	2.82	-197.21	-0.72
CC0 86	40	23.06	114	32.75	6978.3	979585.41	gCS3	38.18	-199.83	0.97	d	3.63	-197.72	-1.32
CC0 87	40	25.27	114	34.23	5869.4	979657.77	gCS3	3.07	-197.11	0.26	d	0.94	-197.66	-1.21
CC0 88	40	26.34	114	33.79	5734.9	979673.18	gCS3	4.35	-191.35	0.13	d	0.62	-192.21	3.84
CC0 89	40	26.88	114	32.09	5666.0	979673.48	gCS3	-2.73	-195.98	0.03	d	0.42	-197.04	-1.76
CC0 90	40	26.30	114	30.53	5725.1	979667.99	gCS3	-1.80	-197.07	0.01	d	0.41	-198.14	-3.32
CC0 91	40	25.03	114	28.09	5682.4	979669.63	gCS3	-2.29	-196.10	0.01	d	0.41	-197.17	-3.05
CC0 92	40	23.73	114	28.16	5839.9	979651.74	gCS3	-3.44	-202.62	0.02	d	0.51	-203.60	-9.11
HC01	39	57.97	114	53.75	520.0	979289.02	gCS3	111.82	-246.99	4.97	d	38.75	-209.31	-1.85
HC02	40	12.97	114	55.61	9466.5	979394.97	gCS3	96.72	-226.23	5.43	d	28.64	-198.87	5.76
HC03	40	14.72	114	52.88	9215.9	979421.39	gCS3	96.81	-217.52	4.08	d	20.98	-197.87	5.93
HC04	40	12.79	114	52.46	8874.7	979446.23	gCS3	92.47	-210.22	2.17	d	14.97	-196.63	7.60
HC05	40	9.46	114	49.37	8792.7	979439.06	gCS3	82.54	-217.35	4.45	d	21.70	-197.04	7.50
HC06	40	7.56	114	49.96	9652.2	979381.22	gCS3	106.27	-220.94	3.02	d	24.64	-197.55	7.46
HC07	40	7.76	114	53.02	9540.7	979387.57	gCS3	103.82	-221.59	4.03	d	21.96	-200.90	4.56
HC08	40	9.24	114	51.71	7240.8	979546.44	gCS3	44.45	-202.51	1.33	d	4.95	-199.07	6.04

Table 2.–*Principal facts for gravity stations, Cherry Creek, Nevada–Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC 2.67	CBA 2.67	ISO
HC09	40	11.47	114	50.79	7608.3	979539.75	g033	58.98	-200.52	2.06	d	6.82	-195.20	9.17
HC10	40	6.88	114	51.87	8602.4	979458.42	g033	87.86	-205.54	2.36	d	9.87	-197.08	8.50
HC11	40	7.03	114	50.12	193.6	979337.04	g033	115.72	-231.95	5.50	d	36.04	-197.05	8.07
HC12	40	6.12	114	50.64	331.4	979329.69	g033	122.66	-229.71	7.35	d	36.33	-194.49	10.92
HC13	40	5.35	114	52.40	377.3	979325.83	g033	124.27	-229.67	6.10	d	33.01	-197.76	8.08
HC14	40	5.58	114	54.46	8943.6	979435.21	g033	88.63	-216.40	2.71	d	16.01	-201.76	4.45
HC15	40	4.55	114	49.64	9570.2	979380.71	g033	104.53	-221.88	6.34	d	29.51	-193.64	12.03
HC16	40	5.68	114	48.79	9343.8	979403.22	g033	104.09	-214.60	3.40	d	21.62	-194.28	11.00
HC17	40	2.66	114	51.05	275.6	979324.34	g033	117.22	-233.25	6.29	d	39.17	-195.20	11.05
HC18	40	3.22	114	49.54	8146.3	979391.05	g033	-16.91	-294.76	5.10	d	14.21	-282.01	-75.92
HC19	40	1.85	114	50.13	8848.4	979417.93	g033	77.96	-223.84	7.34	d	23.02	-202.20	4.22
HC20	40	0.67	114	53.13	9511.2	979360.00	g033	104.03	-220.37	3.16	d	19.84	-201.80	5.20
HC21	40	2.25	114	54.38	9045.3	979408.16	g033	86.06	-222.42	5.01	d	19.98	-203.80	3.08
HC22	40	3.53	114	52.96	410.1	979312.77	g033	116.99	-238.07	6.15	d	37.86	-201.30	5.02
HC23	40	3.43	114	54.97	7687.0	979505.89	g033	54.46	-207.72	1.01	d	7.33	-201.88	4.96
HC24	39	59.79	114	52.27	8418.6	979451.45	g033	74.16	-212.98	2.95	d	10.30	-204.11	3.06
HC25	40	3.79	114	48.50	8008.5	979480.42	g033	58.66	-214.49	6.55	d	16.93	-199.03	6.77
HC26	40	16.04	114	54.83	9232.3	979426.20	g033	101.19	-213.69	1.62	d	16.82	-198.20	5.59
HC27	40	16.95	114	55.42	8946.9	979446.35	g033	93.18	-211.97	3.12	d	16.79	-196.55	7.14
HC28	40	16.00	114	55.50	8310.4	979470.56	g033	56.04	-227.41	2.93	d	11.76	-217.09	-13.59
HC29	40	16.72	114	55.80	8133.2	979503.92	g033	71.66	-205.72	3.21	d	11.48	-195.70	7.69
CC0 93	40	20.40	114	49.46	6208.0	979628.20	n233	12.57	-199.17	0.02	d	0.59	-200.09	1.87
CC0 94	40	21.19	114	51.19	6303.5	979623.50	n233	15.67	-199.33	0.01	d	0.76	-200.08	2.04
CC0 95	40	21.79	114	51.91	6427.8	979630.44	n233	23.40	-195.83	0.09	d	0.80	-196.55	5.57
CC0 96	40	22.48	114	52.52	6374.3	979618.38	n233	15.28	-202.13	0.06	d	0.72	-202.92	-0.84
CC0 97	40	23.01	114	53.36	6315.0	979630.10	n233	10.63	-204.75	0.00	d	0.55	-205.71	-3.58
CC0 98	40	23.26	114	54.40	6239.2	979624.83	n233	7.87	-204.93	0.00	d	0.55	-205.88	-3.63
CC0 99	40	21.57	114	57.29	6112.2	979639.61	g033	3.23	-205.24	0.05	d	1.06	-205.68	-2.56
CC1 00	40	20.10	114	57.88	6043.3	979633.17	g033	2.50	-203.62	0.11	d	1.93	-203.18	0.35
CC1 01	40	16.69	114	58.53	6282.8	979616.37	g033	10.31	-203.97	0.06	d	1.61	-203.87	0.06
CC1 02	40	15.19	115	2.21	6178.5	979603.80	n233	-6.86	-217.59	0.02	d	0.86	-218.23	-13.10
CC1 03	40	13.70	115	1.16	6233.9	979593.91	n233	-9.32	-221.94	0.08	d	0.98	-222.46	-17.08
CC1 04	40	11.95	115	0.41	6370.7	979580.61	n233	-7.16	-224.45	0.02	d	0.85	-225.11	-19.42
CC1 05	40	16.63	115	3.09	6144.7	979615.56	n233	-0.41	-209.99	0.01	d	0.85	-210.64	-5.77
CC1 06	40	16.36	115	3.40	6200.1	979621.71	n233	8.38	-203.09	0.01	d	0.63	-203.97	0.52
CC1 07	40	19.97	115	1.61	6220.5	979622.51	g033	8.69	-203.47	0.04	d	0.71	-204.27	-0.29
DV01	40	18.18	114	24.52	5613.5	979660.77	g033	-7.43	-196.89	0.01	d	0.54	-199.82	-5.24
DV02	40	19.71	114	25.89	5800.5	979658.83	g033	5.93	-191.90	0.05	d	0.67	-192.72	1.96
DV03	40	20.86	114	28.43	6079.4	979631.23	g033	2.83	-204. 2	0.05	d	0.95	-205.07	-9.68
DV04	40	19.58	114	30.98	6765.1	979597.59	g033	35.53	-195.21	1.08	d	2.58	-194.15	2.58
DV05	40	18.55	114	31.82	7309.7	979560.66	g033	51.30	-196.01	0.88	d	3.73	-195.79	1.51
DV06	40	19.59	114	27.36	6086.0	979638.54	g033	12.64	-194.93	0.09	d	1.01	-195.42	-0.09
DV07	40	18.91	114	26.88	6715.9	979599.30	g033	33.61	-195.45	1.31	d	2.85	-194.12	2.00
DV08	40	16.47	114	26.39	5876.0	979644.44	g033	3.45	-196.96	0.04	d	0.80	-197.65	-1.73
DV09	40	15.50	114	27.84	6007.2	979638.91	g033	11.70	-193.19	0.03	d	0.89	-193.80	3.03
DV10	40	15.30	114	29.62	6161.4	979631.26	g033	18.84	-191.31	0.03	d	0.99	-191.83	5.73
DV11	40	15.56	114	32.42	6689.6	979594.10	g033	30.93	-197.23	1.22	d	2.21	-196.54	1.91
DV12	40	13.51	114	34.05	6414.0	979608.12	g033	22.10	-196.66	0.09	d	0.74	-197.44	2.20
DV13	40	11.48	114	32.66	6148.3	979615.02	g033	7.04	-202.66	0.03	d	0.52	-203.64	-3.50
DV14	40	9.12	114	32.12	6164.7	979612.33	g033	9.40	-200.86	0.74	d	1.31	-201.05	-0.62

Table 3.—*Principal facts for gravity stations, Cherry Creek, Nevada—Continued*

STATION NAME	LAT deg	LAT min	LON deg	LON min	ELEV ft	OG mGal	AC	FAA mGal	SBA mGal	ITC mGal		TC 2.67	CBA 2.67	ISO
CH001	40	8.79	114	57.97	6522.3	979585.52	g633	16.69	-205.77	0.42	d	1.69	-205.59	0.56
CH002	40	10.20	114	56.91	6748.7	979574.96	g633	25.30	-204.88	0.04	d	1.96	-204.43	1.26
CH003	40	10.20	114	55.80	7099.7	979557.84	g633	41.17	-200.98	0.11	d	2.23	-199.27	6.25
CH004	40	10.55	114	58.38	6460.0	979585.12	g633	7.82	-212.52	0.02	d	1.27	-212.76	-6.95
CH005	40	10.91	114	59.87	6312.3	979583.57	g633	-8.15	-223.44	0.00	d	0.88	-224.07	-18.16
CH006	40	11.54	114	58.51	6469.8	979583.07	g633	5.21	-215.45	0.02	d	1.37	-215.60	-10.00
CH007	40	13.15	114	58.72	6469.8	979587.26	g633	7.01	-213.65	0.03	d	1.55	-213.62	-8.37
CH008	40	14.57	114	58.95	6597.8	979584.90	g633	14.57	-210.46	0.48	d	1.79	-210.19	-5.25
CH009	40	9.87	115	0.40	6292.7	979583.51	n233	-8.51	-223.13	0.00	d	0.76	-223.85	-17.72
CH010	40	8.58	115	0.57	6276.2	979580.43	n233	-11.22	-225.28	0.00	d	0.70	-226.09	-19.64
CH011	40	7.69	115	0.71	6266.4	979577.75	n233	-13.49	-227.22	0.00	d	0.66	-226.07	-21.43
CH012	40	7.98	114	59.61	6309.1	979578.16	g633	-9.51	-224.69	0.00	d	0.84	-225.36	-18.86
CH013	40	7.62	114	58.08	6387.8	979589.62	g633	9.89	-207.98	0.16	d	1.67	-207.83	-1.40
CH014	40	9.36	114	56.52	6765.1	979572.42	g633	25.55	-205.18	0.04	d	2.01	-204.69	1.15
CH001	40	8.79	114	57.97	6522.3	979585.52	g633	16.69	-205.77	0.42	d	1.69	-205.59	0.56