DEPARTMENT OF THE INTERIOR UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 488

RESULTS OF SPIRIT LEVELING IN NEVADA

1897 TO 1909, INCLUSIVE

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WASHINGTON
GOVERNMENT PRINTING OFFICE
1911



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RESULTS OF SPIRIT LEVELING IN NEVADA, 1897 TO 1909, INCLUSIVE.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Scope of the work.—All results of spirit leveling in Nevada previously published by the United States Geological Survey and all the results of later work are included in this report, rearranged by quadrangles. The elevations are based on preliminary heights of bench marks along the precise level line of the Coast and Geodetic Survey from San Diego via Barstow and Goffs, Cal., to Ogden, Utah, and on the precise line of the United States Geological Survey from Mohave, Cal., to Lida, Nev.

Personnel.—The field work previous to 1903 was done under the general direction of R. U. Goode, geographer; that for 1903 to 1906, inclusive, under E. M. Douglas, geographer; that for 1907 under R. B. Marshall, geographer; and the later work under T. G. Gerdine, geographer, under the general direction of R. B. Marshall, chief geographer. The names of the various levelmen are given in the introduction to each list. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, and D. H. Baldwin, topographer, and since 1907 under the general direction of E. M. Douglas, geographer.

Classification.—The elevations are classified as precise or primary according to the methods employed in their determination. For precise level lines instruments and rods of the highest grade are used, each line is run both forward and backward, and every precaution is taken to guard against error. The allowable divergence between the forward and the backward lines in feet is represented by the formula $0.017 \sqrt{D}$, in which D is the distance in miles between bench marks. For primary lines standard Y levels are used; lines are run in circuits or are closed on precise lines, with an allowable closing error in feet represented by $0.05 \sqrt{D}$, in which D is the length of the circuit in miles, sufficient care being given to the work to maintain this

standard. For levels of both classes careful office adjustments are made, the small outstanding errors being distributed over the lines.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or aluminum tablet (C and E, Pl. I), 3½ inches in diameter and one-quarter inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock in the wall of some public building, a bridge abutment, or other substantial masonry structure. The second form (F, Pl. I), used where masonry or rock is not available, consists of a hollow wrought-iron post 3½ inches in outer diameter and 4 feet in length. The bottom is spread out to a width of 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted over the top of the post, which is set about 3 feet in the ground. A third style of bench mark with abbreviated lettering (B and D, Pl. I) is used for unimportant points. This consists of a special copper nail 1½ inches in length driven through a copper washer seven-eighths inch in diameter. tablets as well as the caps on the iron posts are appropriately lettered, and where States have cooperated in the work the fact of such cooperation is indicated by the addition of the State name (G, Pl. I),

The numbers stamped on the bench marks described in the following pages represent the elevations to the nearest foot as determined by the levelman. These numbers are stamped with $\frac{3}{16}$ -inch steel dies on the tablets or post caps to the left of the word "FEET." The office adjustment of the notes and the reduction to mean sea level datum may so change some of the figures that the original markings are 1 or 2 feet in error. It is assumed that engineers and others who have occasion to use the bench-mark elevations will apply to the Director of the United States Geological Survey, at Washington, D. C., for the adjusted values, and will use the markings as identifications numbers only.

Datum.—All United States Geological Survey elevations are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides were eliminated. This level is not the elevation determined from the mean of the highest and the lowest tides, nor is it the half sum of the mean of all the high tides and the mean of all the low tides, which is called the half-tide level. Mean sea level is the average height of the water, all stages of the tide being considered. It is determined from observations made by means of tidal gages placed at stations where local conditions, such as long, narrow bays, rivers, and like features, will not affect the height of the water. To obtain even approximately correct results these observations must extend over at least one lunar month, and if accuracy is desired they must extend over several years. At ocean stations the half-tide level and the mean sea level usually differ but little. It is

assumed that there is no difference between the mean sea level as determined from observations in the Atlantic Ocean, the Gulf of Mexico, or the Pacific Ocean.

The connection with tidal stations for bench marks in certain areas that lie at some distance from the seacoast is still uncertain, and this fact is indicated by the addition of a letter or word to the right of the word "datum" on tablets or posts. For such areas corrections for published results will be made from time to time as the precise-level lines of the United States Geological Survey or other Government organizations are extended.

Topographic maps.—Maps of the following quadrangles wholly or partly in Nevada have been published by the United States Geological Survey up to July 1, 1911. Maps now in stock may be obtained for 5 cents each or \$3 a hundred on application to the Director of the Survey at Washington, D. C.:

*Amargosa region (Nev.-Cal.).¹
Ballarat (Cal.-Nev).¹
Bullfrog special.
Camp Mohave (Ariz.-Nev.-Cal.).
Carson.²
Carson Sink.
Disaster.
Ely special.
Furnace Creek (Cal.-Nev.).¹
Goldfield special.
Granite Range.
Kawich.
*Lake Tahoe and vicinity (Cal.-Nev.).²
Las Vegas (Nev.-Cal.).

Lida (Nev.-Cal.).¹
Long Valley.
Markleeville (Cal.-Nev.).
Paradise.
Pioche (Nev.-Utah).
Reno.
St. Thomas (Nev.-Ariz.).
Silver Peak (Nev.-Cal.).
Tonopah.
Tonopah mining.
Wabuska.
Wadsworth .
Wellington (Cal.-Nev.).

PRECISE LEVELING.

Lida 1° Quadrangle.

ESMERALDA COUNTY.

The elevations in the following list are a portion of the results of a spur line of precise levels run in the spring of 1905 by R. A. Farmer, and extend from the State line near Oasis east to Lida. For the results obtained in the continuation of this line, see Bulletin 342, "Results of Spirit Leveling in California."

The initial bench mark is an iron post stamped "2732 B," 0.4 mile south of Mohave and 25 feet north of milepost 382, the elevation of which is now accepted as 2,733.451 feet above mean sea level.

^{*} Out of print.

¹ Amargosa region map includes Kawich sheet and parts of Ballarat, Furnace Creek, and Lida sheets.

² Lake Tahoe and vicinity map includes Carson, Markleeville, Pyramid Peak, and Truckee sheets.

LIDA 1° QUADRANGLE.

State line east along road to Lida.

Forks of road to Oasis, 6 miles east of, 0.2 mile south of lone yucca tree, Feet.
30 feet north of road to Goldfield; iron post stamped "B F 1905 12 5306". 5, 306, 117
Forks of road to Oasis, 7 miles east of, near west end of Palmetto Canyon,
60 feet south of road to Goldfield, on highest point of rock 2 by 3 by 4
feet; chiseled circle; rock painted "U. S. G. S. B. M. 33" 5, 412. 82
Palmetto, 6 miles west of, 100 feet north of Goldfield road, on highest
point of 4 by 3 by 1 foot rock; hub; large bowlder 10 feet north painted
"U. S. G. S. B. M. 34"
Palmetto, 3 miles west of, 5 feet north of Goldfield road, at foot of rocky
cliff, in mass of scaly rock; tablet stamped "B F 1905 13 5884" 5,883.809
Palmetto, opposite saloon; iron post stamped "B F 1905 14 6168" 6, 168. 197
Palmetto, 2 miles east of, 0.5 mile north of deserted mill, 40 feet south of
Goldfield road, on highest point of rock 12 by 8 by 6 inches; hub 6, 345. 40
Indian Springs, 1.2 miles west of, 30 feet north of Goldfield road, 100 feet
west of point where road curves around spur of hill; iron post stamped
"B F 1905 15 6624"
Summit between Lida and Indian Springs, 10 feet north of Goldfield road;
iron post stamped "B F 1905 16 7409"
Lida, 3 miles west of, 30 feet north of Goldfield road; iron post stamped
"B F 1905 17 6869"
Lida, 1 mile west of, 50 feet north of Goldfield road, on highest point of
rock 4 by 2 by 1 foot; hub; rock painted "U.S.B.M. 47" and marked
by rock monument
Lida, west end of Main Street, 30 feet east of well; iron post stamped "B F
1905 18 6189"

PRIMARY LEVELING.

Furnace Creek, Kawich, Las Vegas, and Lida 1°, Silver Peak and White Mountain 30′ Quadrangles.

ESMERALDA, LINCOLN, AND NYE COUNTIES.

The elevations in the following list are based upon an elevation at Lida determined by precise leveling of the United States Geological Survey from Mohave, upon an elevation at Las Vegas determined in 1907 by the Coast and Geodetic Survey by precise leveling of 1906–7 from San Diego, Cal., and upon primary prism level lines in California from same sources.

The leveling in part of the Lida quadrangle and in the White Mountain quadrangle was done in 1897–98 by C. R. Smith and is republished from the appendix to the Nineteenth Annual Report of the Survey. These results, which were originally based on railroad datum, have been reduced 74.8 feet. Additional leveling was done in the Lida quadrangle in 1905 and 1907 by Homer Hadley and L. F. Biggs, respectively. The leveling in the Furnace Creek quadrangle was done by Ress Philips in 1905 and by Biggs in 1907, and that in the Kawich quadrangle by Philips in the same year. The leveling in the Las Vegas quadrangle was done by Biggs in 1907.

LAS VEGAS 1° QUADRANGLE.

Point 14.4 miles east of Amargosa east and southeast along Las Vegas & Tonopah Railroad to Las Vegas.

Amargosa, 14.4 miles east of, 10 feet north of milepost 60; iron post stamped "3628 B 1907"	
Amargosa, 18.4 miles east of, 12 miles west of Indian Springs, 10 feet north	
of milepost 56; iron post stamped "3576 B 1907"	635
Indian Springs, 8 miles west of, 10 feet north of milepost 52; iron post	
stamped "3431 B 1907"	212
Indian Springs, 4 miles west of, 10 feet north of milepost 48; iron post	
stamped "3279 B 1907"	613
Indian Springs, 0.2 mile west of, 10 feet north of milepost 44; iron post	
stamped "3135 B 1907"	888
Indian Springs, 3.5 miles east of, 10 feet north of milepost 40; iron post	
stamped "3148 B 1907"	644
Indian Springs, 7.5 miles east of, 10 feet north of milepost 36; iron post	
stamped "3084 B 1907"	230
Indian Springs, 11.5 miles east of, 10 feet north of milepost 32; iron post	
stamped 3062 B 1907"	704
Indian Springs, 15.5 miles east of, 10 feet north of milepost 28; iron post	
stamped "3029 B 1907"	916
Corn Creek, 0.6 mile west of, 10 feet north of milepost 24; iron post stamped	0.10
"2876 B 1907"	570
Corn Creek, 3.4 miles east of, 10 feet north of milepost 20; iron post stamped	0.0
"2779 B 1907"	900
Corn Creek, 7.4 miles southeast of, 10 feet north of milepost 16; iron post	000
stamped "2645 B 1907"	696
Las Vegas, 12 miles north of, 10 feet north of milepost 12; iron post stamped	
"2454 B 1907"	156
Las Vegas, 8 miles north of, 40 feet south of milepost 8; iron post stamped	
"2294 B 1907"	197
Las Vegas, 4 miles north of, 10 feet north of milepost 4; iron post stamped	
"2139 B 1907"	728
Las Vegas, 1 mile west of, 200 feet south of junction of Las Vegas & Tonopah	
Railroad and San Pedro, Los Angeles & Salt Lake Railroad, in base of	
telegraph pole; spike	74
Las Vegas, in front of station; top of rail	9
Las Vegas, 200 feet west of station; iron post stamped "2033 B 1907" (Coast	
and Geodetic Survey preliminary 1911 adjustment elevation adopted) 2,030,	832
Las Vegas, southwest corner of bank building, in side wall at foot of column;	
aluminum tablet stamped "2024 B 1907" (Coast and Geodetic Suvrey	
ardininum tablet stamped 2024 B 1307 (Coast and Geodetic Suviey	885
preliminary 1911 adjustment elevation adopted)	000
preliminary 1911 adjustment elevation adopted)	000
preliminary 1911 adjustment elevation adopted)	000
preliminary 1911 adjustment elevation adopted)	000
preliminary 1911 adjustment elevation adopted)	
preliminary 1911 adjustment elevation adopted)	
preliminary 1911 adjustment elevation adopted)	863
preliminary 1911 adjustment elevation adopted)	863 093
preliminary 1911 adjustment elevation adopted)	863 093
preliminary 1911 adjustment elevation adopted)	863 093 8
preliminary 1911 adjustment elevation adopted)	863 093 8

Las Vegas, 20.4 miles southwest of, 10 feet south of road, in bowlder; aluminum tablet stamped "3493 B 1907"	
Mountain Spring, 4.2 miles east of, 20 feet south of road, in bowlder; aluminum tablet stamped "4557 B 1907"	4, 555. 516
"5504 B 1907"	5, 501. 733
aluminum tablet stamped "4556 B 1907"	4, 554. 294
aluminum tablet stamped "3909 B 1907"	3, 907. 704
"3162 B 1907" Stump Springs, 200 feet south of, at junction of roads; iron post stamped "2809 B 1907"	
Stump Springs, 6.2 miles west of, 8 miles southeast of Manse, 20 feet north of road; iron post stamped "2929 B 1907"	
Manse, 40 feet south of post office, in front of ranch house; iron post stamped "2776 B 1907"	2, 774. 144
Pahrump, 20 feet north of hotel; iron post stamped "2668 B 1907"	2, 666. 053
Las Vegas south 15 miles along road to Searchlight. (Part of circuit to Barnwell, Cal.)	
Las Vegas, 3.7 miles south of, 50 feet west of spring, in base of mesquite; nail with aluminum tag stamped "1793"	
Las Vegas, 7.2 miles south of, 25 feet west of road, in base of mesquite; spike with aluminum tag stamped "1677"	1,674.97
aluminum tag stamped "1621"	1, 619. 10
Mesquite Spring, 25 feet north of pump, in base of mesquite tree; spike with aluminum tag stamped "1621"	1, 619. 08
Mesquite Spring, 25 feet north of pump, in lava rock buried flush with ground; aluminum tablet stamped "1621 B 1909 1"	
Mesquite Spring, 3.9 miles south of, 20 feet east of road, 300 feet north of road junction to Camp Fred Ellen, in bowlder, marked by rock cairn;	
aluminum tablet stamped "1746 B 1909 2"	1, 743. 438
FURNACE CREEK 1° QUADRANGLE.	
Pahrump northwest along road to point on State line west of Kings Spring.	•
Pahrump, 5.8 miles west of, 600 feet north of Sixmile Spring, west point of rock hill at entrance of cave, in ledge; aluminum tablet stamped "2566	
B 1907" Kings Spring, 6.6 miles east of, 20 feet south of road, in ledge; aluminum tablet stamped "2503 B 1907"	·
Kings Spring, 150 feet north of, in ledge; aluminum tablet stamped "2315 B 1907".	
Kings Spring, 4.4 miles west of, at junction of roads; iron post stamped "2172 B 1907"	
Kings Spring north toward Amargosa.	
Amargosa, 12.3 miles south of, 200 feet north of road, in ledge; aluminum tablet stamped "2488 B 1907"	2, 487. 859
Amargosa, 8 miles south of, in bed cf dry lake, 40 feet north of road; iron post stamped "2331 B 1907"	•

Point on State line near Daylight Springs, Cal., northeast along road to Bullfrog.	
Bullfrog, 4.6 miles south of, 20 feet east of road; iron post stamped "3560 B 1907"	Feet.
Bullfrog, 1.5 miles south of, 20 feet east of road; iron post stamped "3472 B 1907"	,
Bullfrog, southeast corner of Senator Stewart's land office; iron post stamped "3575 100".	
Bullfrog southeast along Las Vegas & Tonopah Railroad via Amargosa to point 14.4 miles east of Amargosa.	
Bullfrog, 4.6 miles southeast of, 1,000 feet southeast of South Bullfrog	
saloon, at junction of road; iron post stamped "3139 B 1907"	3, 138. 892
stamped "3002 B 1907"Bullfrog, 10.6 miles southeast of, 10 feet north of milepost 110; iron post	
stamped "2865 B 1907"	2, 865. 208
Bullfrog, 13.6 miles southeast of, 10 feet north of milepost 107; iron post stamped "2755 B 1907"	2, 754. 730
Bullfrog, 16.6 miles southeast of, 10 feet north of milepost 104; iron post	
stamped "2664 B 1907". Roses Wells, 1 mile northwest of, 10 feet north of milepost 101; iron post	
stamped "2575 B 1907"	2, 575. 595
stamped "2587 B 1907"	2, 586. 895
stamped "2582 B 1907"	2, 582. 655
Roses Wells, 8 miles southeast of, 10 feet north of milepost 92; iron post stamped "2648 B 1907"	2, 647. 790
Roses Wells, 12 miles southeast of, 10 feet east of milepost 88; iron post stamped "2658 B 1907"	2, 658. 462
Amargosa, 9.6 miles west of, 210 feet north of milepost 84; iron post stamped "2843 B 1907"	2,843.613
Amargosa, 5.6 miles west of, 10 feet north of milepost 80; iron post stamped "2762 B 1907"	2, 761. 073
Amargosa, 1.6 miles west of, 10 feet north of milepost 76; iron post stamped "2765 B 1907"	2,765.263
Amargosa, 700 feet east of station, foundation of water tank; point on southwest corner	
Amargosa, 2.4 miles east of, 10 feet north of milepost 72; iron post stamped "2840 B 1907"	2, 839. 557
Amargosa, 6.4 miles east of, 10 feet north of milepost 68; iron post stamped "3034 B 1907"	3, 033, 352
Amargosa, 10.4 miles east of, 10 feet north of milepost 64; iron post stamped "3320 B 1907"	3, 319. 275
Amargosa, 14.4 miles east of, 10 feet north of milepost 60; iron post stamped "3628 B 1907"	3, 627. 778
Point 2.2 miles northwest of Currie Well (Mud Springs) southeast to Bullfrog.	•
Mud Springs, 2.2 miles north of, 30 feet east of road, on south side of deep	
ravine; iron post stamped "25"	4, 394. 299
post stamped "26"	4, 401, 299
Mud Springs, 3 miles south of, on summit, 50 feet east of road, 12 feet south of telephone pole; iron post stamped "27"	4, 640. 530
Original, 0.5 mile southeast of, at forks of roads on small ridge between two ravines; iron post stamped "28"	3, 850. 413

12 SPIRIT LEVELING IN NEVADA, 1897 TO 1909.		
Bullfrog southeast 1.6 miles, thence northeast to Beatty.	•	
Beatty, 1.5 miles west of, 800 feet east of Beatty and Bullfrog and Beatty and Rhyolite roads, 15 feet south of road, in bowlder; aluminum tablet stamped "30"	Feet. 3, 546. 34	
Beatty, in ravine, 100 feet south of principal street, 500 feet north of Beatty Ice & Manufacturing Co. plant, in ledge; aluminum tablet stamped "31"	3, 309. 20	4
Road fork west of Beatty west via Montgomery-Shoshone Mine and Rhyolite to Bullfrog.		
Montgomery-Shoshone Mine, 100 feet north of boarding house, on summit, 200 feet south of road, in bowlder; aluminum tablet stamped "32" Rhyolite, under high black ledge, at foot of dump of Bullfrog Mining Co.	·	
tunnel, 30 feet south of bottom of wash; aluminum tablet stamped "33" Road forks 1.8 miles west of Bullfrog north to Goldbar, thence southwest to point 3.3	3, 679. 73	;O
miles west of Bullfrog.		
Goldbar, 2 miles east of, on summit 1 mile west of Buck Springs, 1.5 miles north of Original, 20 feet south of Goldbar road; iron post stamped "34 114"	4, 480. 19	98
KAWICH 1° QUADRANGLE.		
Point near Seattle Well to point 2.2 miles north of Mud Springs.		
Seattle Well, 5 miles south of, 30 feet south of large yucca stump, 10 feet east of road; iron post stamped "23"		
SILVER PEAK 30' QUADRANGLE (LIDA 1° QUADRANGLE).		
Point 13.5 miles southeast of Columbus southeast to Silver Peak.		
Columbus, 13.5 miles southeast of, 20 feet right of road on summit in sand- stone outcrop; bronze tablet stamped "5208"		
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96	3 39
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96	3 39
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 50	3 39 07
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 56 4, 297. 58	3 39 07 5
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 50 4, 297. 55 4, 728. 09	3 339 207 5
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 50 4, 297. 55 4, 728. 09	3 339 207 5
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 56 4, 297. 58 4, 728. 08 6, 102. 56 5, 966. 58	3 3 3 9 7 5 9 1 7 2
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 56 4, 297. 58 4, 728. 09 6, 102. 56 5, 966. 58 6, 634. 56	33 36 37 56 31 72 50
Columbus, 25.5 miles southeast of, at junction with Reese River road; iron post stamped "4996"	4, 838. 88 4, 920. 96 4, 307. 56 4, 297. 58 4, 728. 09 6, 102. 53 5, 966. 58 6, 634. 58 7, 278. 18 6, 172. 74	33 33 39 07 5 5 5 5 5 9 9 9 9 3 49

The Crossing northeast via Emigrant Pass to Columbus road.	Feet.
Benders Pass; iron post stamped "6145". The Crossing, 13 miles west of, at junction with Columbus road; top of iron	
post of guideboard marked "Fish Lake Valley 13 miles"	4, 961. 47
Dry Well northeast via Salt Well to Reese River road, thence south along latter to Silver Peak road.	
Salt Well; iron post stamped "4869"	
of its junction with Silver Peak road; iron post stamped "4841"	4, 767. 191
Dry Well south to northwest corner of T. 1 S., R. 38 E. (single spur line).	
T. 1 S., R. 38 E., northwest corner of; iron post stamped "5606"	5, 531. 255
Point near The Monocline northeast to northwest corner of T. 1 S., R. 40 E. (single spur line).	•
T. 1 S., R. 40 E., northwest corner of; iron post stamped "5453"	5, 377. 834
Point near The Monocline southeast across country to southeast corner of sec. 8, T. 2 S., R. 40 E., thence west to Silver Peak.	
T. 2 S., R. 40 E., southeast corner of sec. 8; iron post stamped "4346"	4, 271. 667
Fork west of Coyote Creek northeast to Blair mine and return.	
Blair mine, on Mineral Ridge, 1 mile north of Tarantula Springs, on summit of trail running from Valcadis's building; iron post stamped "7298"	
Point on Piper road at northwest corner of T. 4 S., R. 39 E. west via Cow Camp Springs to southeast corner of sec. 31, T. 3 S., R. 38 E. and return.	
T. 4 S., R. 39 E., northwest corner of; iron post stamped "4661"	
LIDA 1° QUADRANGLE (EAST HALF).	
Lida south via Stewart Mill to California-Nevada State line.	
Tule Spring, 300 feet south of saloon, at junction of roads, in large bowlder; tablet stamped "5607 B 1907 B"	5, 608. 447
82; top of post	3, 741. 714
Lida east along road to fork east of county line, thence southeast to Seattle Well.	
Lida, 1 mile east of, 100 feet north of creek, west end of canyon, 30 feet north of road, at foot of bluff, in limestone; aluminum tablet stamped "9"	•
Eagle City, 300 feet north of well, 125 feet north of road, in limestone ledge; aluminum tablet stamped "8"	•
Eagle City, 1.8 miles east of, 10 feet south of junction of Bullfrog-Lida roads, in large bowlder; aluminum tablet stamped "7"	
Eagle City, 4.8 miles east of, 12 feet north of road, on south side of Mount Jackson, at point where road makes sharp turn to left toward opposite	
side of valley, on small ridge; iron post stamped "10"	5, 031. 745
road; iron post stamped "11"	4, 887. 619
knoll with large bowlders on top, above wagon road; iron post stamped "12"	4, 774. 380

Eagle City, 13.8 miles southeast of, 20 feet east of small ravine, 10 feet north		
of road; iron post stamped "13 4771"		
Eagle City, 16.8 miles southeast of, 10 feet north of road, 50 feet west of small deep ravine, 300 feet north of large yucca tree in bottom of ravine;	•	
iron post stamped "14"	4, 738.	904
ledge; aluminum tablet stamped "15"	•	
summit; iron post stamped "16"		
Montana, stage station, 2 miles north of, 15 feet west of road; iron post stamped "18."		
Summerville, stage station, 150 feet north of well, at forks of road to Thorp's mill; iron post stamped "19"		834
Summerville, 3.2 miles south of, near south end of barren alkali flat; iron post stamped "20"	3, 945.	334
Summerville, 6.2 miles south of, 40 feet east of road, on edge of low ridge running parallel with road; iron post stamped "21"	3, 950.	
	-,	
Road junction east of Eagle City northeast to Goldfield.		
Wilsons Well, 4.7 miles south of, 12 feet west of road, 0.5 mile northwest of foot of Jackson Mountain, where dim road leads to east; iron post stamped "6"	5 100	126
Wilsons Well, 1 mile south of, 25 feet east of road; iron post stamped "5" Halfway station, 3.2 miles south of, 210 feet east of road, on south edge of		
small wash, in bowlder; aluminum tablet stamped "4"		
"3"	5, 559.	418
and stands in valley, in bowlder; aluminum tablet stamped "2"	5, 671.	710
point where wagon road intersects automobile road, 30 feet west of wash, in bowlder 3 by 3 by 2 feet; aluminum tablet stamped "1"	5, 524.	598
Goldfield, 1.8 miles southeast of, on first summit crossed by Goldfield-Lida road, 50 feet south of road, 10 feet northwest of telegraph pole; iron post		
stamped "B 1905 0 H"	6, 088.	891
and Columbia streets, in 6-foot stone post set 3 feet in ground; aluminum tablet stamped "B 1905 1 H"	5, 683.	841
Goldfield to Diamondfield and return.		
Goldfield, 2.4 miles north of, along Tonopah road, 75 feet east of road, in	•	
bowlder; aluminum tablet stamped "5493 B 1905 H"		
Diamondfield, No. 2 Daisy Bell mine, 160 feet south of southwest corner claim post, in highest surface of malpais rock; aluminum tablet stamped	0, 010.	001
"B 1905 4 H" Diamonfield, Loc Non Connaugh Lass mine, 200 feet west of claim post,		
on top of low ridge, in bowlder; aluminum tablet stamped "1905 H 5"	5, 815.	180

Point 1.8 miles south of Goldfield along south edge of malpais bluff, thence north to Goldfield ice factory and Goldfield.	
Goldfield, 1.8 miles south of, on west side of first large draw west of Goldfield-Lida trail, near mass of malpais rock, in bowlder; aluminum tablet stamped "1905 H 6"	1.
Goldfield, 1.7 miles northwest of, 50 feet south of road to city dump; iron post stamped "H 7 1905"	
station 1455, 100 feet west of center line of railroad; paint point on cropping bowlder marked "U. S. B. M." (Railroad elevation 5,701.04 feet)	
Goldfield north along Tonopah stage road to point near Gold Mountain Mining Co.'s plant.	
Goldfield, 4.7 miles north of, 20 feet east of road, 400 feet east of telephone line; iron post stamped "1 5346". 5, 344. 849 Goldfield, 8.7 miles north of, in forks of road, on north bank of deep ravine, 500 feet north of old well in bottom of ravine; iron post stamped "2 5114". 5, 112. 883 Ramseys Well, 150 feet southwest of, at southeast corner of restaurant; iron	
post stamped "3 4995" 4, 994. 175 Ramseys Well, 3.5 miles north of, 30 feet west of road, on north side of deep ravine; iron post stamped "4 5187" 5, 186. 134	
Ramseys Well, 5.5 miles north of, 0.2 mile south of forks of road to Klondike, 250 feet east of road, on west end of twin buttes; aluminum tablet stamped "5 5403"	
Gold Mountain Mining Co.'s plant, 1.3 miles south of, 30 feet south of road, in middle of valley, 1 mile south of summit; iron post stamped "6 5754" 5, 753. 238	
WHITE MOUNTAIN QUADRANGLE.	
WHITE MOUNTAIN QUADRANGLE. Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line.	
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to	
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line. The Crossing, 4 miles south of, at Silver Peak road junction; top of iron post of guideboard	
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line. The Crossing, 4 miles south of, at Silver Peak road junction; top of iron post of guideboard	
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line. The Crossing, 4 miles south of, at Silver Peak road junction; top of iron post of guideboard	9
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line. The Crossing, 4 miles south of, at Silver Peak road junction; top of iron post of guideboard	9
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line. The Crossing, 4 miles south of, at Silver Peak road junction; top of iron post of guideboard	9
Silver Peak road junction 4 miles south of The Crossing southwest via Fish Lake to McAfee ranch, thence southeast to State line. The Crossing, 4 miles south of, at Silver Peak road junction; top of iron post of guideboard	9

Searchlight, 8.6 miles west of, in base of milepost 14; spike with aluminum tag stamped "3965"	Feet. 3, 962. 97
Searchlight, 9.6 miles west of, in base of fourth telephone pole west of milepost 13; spike with aluminum tag stamped "4058"	
tag stamped "4146"	4, 144. 06
Searchlight, 11 miles west of, north edge of railroad right of way, 50 feet east of Nevada-California State line post, in bed rock; aluminum tablet stamped "4199 B 1909 17"	4, 197. 099
Stump Springs south to Culver ranch, near State line.	
Stump Springs, 4.7 miles southwest of, 100 feet north of junction of Stump Springs and Sandy roads; iron post stamped "2708 B 1909 54"	2, 705. 850
point of clay-colored butte; iron post stamped "2848 B 1909 53" Culver ranch, 500 feet north of house, 15 feet west of road; iron post stamped	
"2684 B 1909 52"	2, 682. 209
CAMP MOHAVE 1° QUADRANGLE.	
Point 15 miles southeast of Las Vegas along road south to Searchlight, thence southwest along Atchison, Topeka & Santa Fe Railway 5 miles to State line.	
Mesquite Spring, 6.4 miles south of, in road forks, at junction of Searchlight	
and Railroad Pass roads, in lava bowlder buried flush with ground; aluminum tablet stamped "2049 B 1909 3"	2, 046, 818
Mesquite Spring, 9.2 miles south of, east edge of road, on outcropping bowlder; painted "2408" chisel point	
Mesquite Spring, 10.7 miles south of, 50 feet east of road, on summit between	_,
Mesquite Spring and Dry Lake, in lava rock; aluminum tablet stamped "2617 B 1909 4"	9 615 909
Dry Lake, 2.5 miles north of north edge of, east edge of road, at point of	
rocks, in ledge; chisel point; rock painted "2102"	
Dry Lake, north edge of, 100 feet east of forks of Eldorado Canyon and Searchlight road, 50 feet north of well, in lava bowlder buried flush with	
ground; aluminum tablet stamped "1712 B 1909 5"	1, 709. 416
Dry Lake, south edge of, 40 feet south of road, in granite bowlder buried	
flush with ground; copper bolt stamped "U.S.G.S.B.M.1711 6"	
Dry Lake, 5.2 miles south of, 30 feet south of road, in granite bowlder 6 inches above ground; aluminum tablet stamped "2038 B 1909 7"	
Dry Lake, 9 miles south of, 1,000 feet south of series of small washes, in	
bunch grass plot 25 feet east of road, in bowlder, 6 inches above ground;	
aluminum tablet stamped "2348 B 1909 8"	
bowlder 12 inches above ground; aluminum tablet stamped "2735 B 1909 9".	
Dry Lake, 15.5 miles south of, 13.9 miles north of Searchlight, 15 feet east	
of road, in granite bowlder 4 inches above ground; aluminum tablet	0.040 555
stamped "2949 B 1909 10"	
spike with aluminum tag stamped "3115"	3, 112. 62
Searchlight, 10.7 miles north of, in forks of road, at junction of Nelson and Searchlight roads, in granite bowlder 3 inches above ground; aluminum	
tablet stamped "3165 B 1909 11"	
	·

¹ Part of a circuit from Barnwell in which an excessive error has been adjusted.

Searchlight, 7.2 miles north of, 20 feet west of road, at forks of wash, on north bank of wash, in bowlder 6 inches above ground; aluminum tablet stamped "3400 B 1909 12"	Feet. 3, 398.	
Searchlight, 2.2 miles north of, 50 feet east of road, 1,000 feet east of Search-		•
light mine, in bowlder; aluminum tablet stamped "3730 B 1909 13"	3,728.	479
Searchlight, 75 feet north of Atchison, Topeka & Santa Fe Railway station,		
2 feet from telephone pole; iron post stamped "3445 B 1909 14"	3, 443.	235
Searchlight, 0.5 mile west of, south edge of track, opposite milepost 22, in		
base of sign post; spike with aluminum tag stamped "3421"	3, 419.	41
Searchlight, 1.6 miles west of, in base of milepost 21; spike with aluminum		
tag stamped "3405"	3, 403.	49
Searchlight, 2.6 miles west of, in base of milepost 20; spike with aluminum		
tag stamped "3398"	3, 395.	83
Searchlight, 3.6 miles west of, 100 feet west of milepost 19, north edge of		
railroad right of way; iron post stamped "3430 B 1909 15"	3, 428.	460
Searchlight, 4.6 miles west of, in base of milepost 18; spike with aluminum		
tag stamped "3500"	3, 498.	48

Tonopah 1° Quadrangle.

ESMERALDA AND NYE COUNTIES.

The elevations in the following list are based upon an elevation at Lida determined by a spur line of precise leveling of the Geological Survey from Mohave, Cal. The connection with Lida was obtained through primary leveling in the Lida and Silver Peak quadrangles.

Most of the leveling was done in 1907 and 1908 by T. A. Green; that near Tonopah was done in 1905 by Ress Philips and that near Columbus in 1897 by C. R. Smith.

TONOPAH 1° QUADRANGLE.

Point near Gold Mountain Mining Co.'s plant north to Tonopah. Tonopah, 20 feet west of road, at corner of Boswell Street; iron post stamped Tonopah, at entrance to Nye & Ormsby Co. bank; cross cut in curbstone Tonopah, south side of Main Street, in southwest corner of Tonopah Banking Corporation building, at entrance to basement, in second stone above Tonopah west along wagon road to Montezuma Wells, thence north to San Antonio. Tonopah, 5.8 miles west of, 30 feet south of road; iron post stamped "5337 1907"..... 5,337.328 Tonopah, 11.9 miles west of, 0.7 mile east of Montezuma Wells, 30 feet north of road at junction with road running southeast toward railroad; iron Montezuma Wells, 5.3 miles north of, 30 feet west of road; iron post stamped Midway, on east side of road, at southwest corner of house occupied by

·		
Midway, 5 miles northeast of, east side of road; iron post stamped "5140 1907"	Feet. 5, 140. 325	;
San António, 0.6 mile west of, 20 feet south of road; iron post stamped "5384 1907"	•	
San Antonio, 40 feet southeast of corner of main building, in southeast corner of fence around house; iron post stamped "5406 1907"		
San Antonio west via Cloverdale and Cipac mine to Battle's well.		
Cloverdale, 12 miles southeast of, 30 feet south of road; iron post stamped "5376 1907"	5, 375. 954	Į
Cloverdale, 6 miles southeast of, 30 feet south of road, 0.8 mile west of road running southeast to Tonopah; iron post stamped "5508 1907"	5, 508. 241	Ĺ
Cloverdale, forks of road south of, in prong of forks forming Y; iron post stamped "5697 1907"		3
Lower Black Spring, 3.2 miles east of, 3.8 miles west of Cloverdale, 30 feet north of road; iron post stamped "5439 1907"		?
Cipac mine, 4 miles southwest of, 10 feet south of road; iron post stamped "5773 1907"	5, 772. 880)
Cipac mine, 9.2 miles west of, 30 feet south of road, 120 feet west of forks, in large outcrop of limestone rock; aluminum tablet stamped "6672 1907"	6 672 728	₹ ^{~~} :
Cipac mine, 15.2 miles west of, 10 feet north of road, on little hill between two drains; iron post stamped "6246 1907"	•	٠,
Battle's Well, 783 feet east of, 590 feet west of main forks, 25 feet south of road, in large oblong bowlder; aluminum tablet stamped "6240 1907"		3
San Antonio northeast along wagon road to point 2 miles west of Central.		
San Antonio, 6 miles northeast of, on east side of road; iron post stamped		
"5887 1907"	5, 887. 264	ŀ
"5887 1907"	• •	
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of	• •	
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907" Point near Central east to Manhattan and return. Manhattan, west end of town, on south side of road, 115 feet east of cabin	6, 225. 980)
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907" Point near Central east to Manhattan and return.	6, 225. 980 6, 904. 950)
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907" Point near Central east to Manhattan and return. Manhattan, west end of town, on south side of road, 115 feet east of cabin occupied by E. E. Teberg; iron post stamped "6905 1907"	6, 225. 980 6, 904. 950)
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907" Point near Central east to Manhattan and return. Manhattan, west end of town, on south side of road, 115 feet east of cabin occupied by E. E. Teberg; iron post stamped "6905 1907"	6, 225. 980 6, 904. 950 7, 021. 205)
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907" Point near Central east to Manhattan and return. Manhattan, west end of town, on south side of road, 115 feet east of cabin occupied by E. E. Teberg; iron post stamped "6905 1907" Manhattan, southeast corner of barber shop managed by Bruce Wood; iron post stamped "7021 1907" Point near Central north along wagon road to Ophir Canyon, thence west over Ophir Summit to Keough ranch, thence southwest via Union Canyon and Berlin to Goldyke, thence south and southeast to point near Cloverdale. Central, 7.6 miles northwest of, 20 feet east of road; iron post stamped "5742 1907"	6, 225. 980 6, 904. 950 7, 021. 205 5, 741. 915)) 5
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907"	6, 225. 980 6, 904. 950 7, 021. 205 5, 741. 915 5, 801. 766)) 5
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907"	6, 225. 980 6, 904. 950 7, 021. 205 5, 741. 915 5, 801. 766)) 5
San Antonio, 10 miles northeast of, 2 miles west of Central, at forks of road, 30 feet north of junction; iron post stamped "6226 1907"	6, 225. 980 6, 904. 950 7, 021. 205 5, 741. 915 5, 801. 766 5, 639. 813 5, 609. 186)) 5 3

Ophir Canyon, mouth of, north side of trail, 200 feet south of stream, in large flat granite rock 4 feet long and 5 feet wide; aluminum tablet stamped "6282 1907"	Feet	
Ophir Summit, 15 feet south of trail, on east side of divide, 35 feet north of large pile of rock; aluminum tablet stamped "10115 1907"	10, 115	
Gooding's ranch, 600 feet north of house occupied by George Gooding, north side of wagon road; iron post stamped "7430 1907"	7,430	. 423
Keough's ranch, southwest corner of fence around house occupied by George Keough; iron post stamped "6726 1907"	6, 726	637
50 feet north of wagon road, 75 feet northeast of divide, in rock; aluminum tablet stamped "7976 1907"	7, 976.	. 433
Union Canyon, at forks near mouth of, 40 feet north of junction, in rock; aluminum tablet stamped "6763 1907".	6, 763.	445
Berlin, 20 feet east of southwest corner of post office and The Nevada Co.'s store, on south side; iron post stamped "6683 1907"	6, 683.	496
"6131 1907"		525
50 feet north of where road starts down into draw; iron post stamped "6119 1907"		602
Berlin, 17.9 miles southwest of, 20 feet south of road, on west side of small draw; iron post stamped "6469 1907"	6, 469.	433
Goldyke, north side of store kept by W. Dee Jones, 20 feet west of northeast corner; iron post stamped "5886 1907"		473
30 feet east of junction; iron post stamped "5796 1907"		
"5930 1907" Black Springs, on west side of road at upper spring, in southeast corner of pasture fence; iron post stamped "5570 1907"		
Redlich south to Columbus.		
Redlich, 90 feet east of tracks, 300 feet north of milepost 7, 100 feet south of section house and post office, in rock embedded in ground; aluminum		
tablet stamped "4999 1907"		196
stamped "4828 1907"	4, 828.	586
Columbus southeast across Salt Marsh.		
Coaldale, 1 mile southwest of, 1 mile east of Columbus Salt Marsh, west of road near crossroads; iron post stamped "4671" (old railroad datum)	4, 595.	812
Goldyke northwest to point 2 miles west of Kelly's Well.		
Goldyke, 2.4 miles northwest of, 0.6 mile east of Everett's mine, 20 feet north of road, 100 feet west of road running south, at prospect hole, in rock; aluminum tablet stamped "5780"	5, 780.	218
Kelly's Well, 3.5 miles southeast of, 75 feet west of road, at point projecting west between two drains, in porphyry outcrop; aluminum tablet stamped "5258"		:
Kelly's Well, southeast corner of windmill, in plank; nail marked "4577".	4, 577.	45

Bridgeport 30' and Hawthorne 1° Quadrangles.

ESMERALDA COUNTY.

The elevations in the following list are based upon a bench mark at Bridgeport, Cal. The elevation used is 4 feet greater than that given in Bulletin 342, this correction being determined by leveling through Hawthorne, Nev., from Mohave, Cal. Allowance has been made for orthometric correction from Mohave, and a small correction has been applied at Mohave.

The leveling was done by C. M. Weston in 1909.

BRIDGEPORT 30' QUADRANGLE.

Point on State line at Bridgeport-Sweetwate	r stage road east to junction of East
Walker River and B	odie Creek.

Bridgeport, 13.7 miles northeast of, on California-Nevada State line, survey of 1873, 25 feet west of road; iron post stamped "5956"	5, 954. 665
"5895"	5, 893. 33
Sweetwater, 5 miles southeast of, at P. J. Conway's ranch, 30 feet northwest of northwest corner of house, at corner of fence; iron post stamped	
"5821"	5, 819. 581
Fletcher, 16.6 miles northwest of, on iron bridge over East Walker River,	•
at southeast corner; seventh outside bolt from bottom of east girder; painted white; marked "5773"	
Fletcher, 15.2 miles northwest of, 30 feet west of sharp bend in road at	
west end of cut-off, 5 feet south of and 3 feet above road, on ledge;	
chiseled square painted "5826"	
Fletcher, 14.4 miles northwest of, at summit in road, west of The Elbow,	
15 feet south of road; iron post stamped "5891"	
Fletcher, 13.6 miles northwest of, on east side of road, 75 feet east of	
deep draw and 125 feet south of bend in road, 10 feet from center of	
road, on 3-foot bowlder; chiseled square painted "5852"	5, 850, 35
Fletcher, 12.9 miles northwest of, on steep grade west of The Elbow,	
at ditch crossing, 8 feet north of road, on bowlder; chiseled square	
painted "5842"	
The Elbow, teaming station, 3 feet from southwest corner of John Cump-	
ton's house; iron post stamped "5631"	
· · · · · · · · · · · · · · · · · · ·	
Fletcher, 10 miles northwest of, at Wheeler's ranch, junction of Bodie	
Creek and East Walker River, 35 feet south of southwest corner of	
house; iron post stamped "5585"	0, 083, 704

HAWTHORNE 1° QUADRANGLE.

Hawthorne west along stage road to State line.

Hawthorne,	25	feet	north	\mathbf{of}	front	entra	ince	to	old	Esn	neralda	County
courthouse	e, ir	nor	theast	cor	ner on	east	side;	al	umir	um	tablet	stamped
"4326 1907	7.''											

"4326 1907."	
Original elevation before applying orthometric correction	4, 327. 084
Elevation after applying orthometric correction	4, 325. 609
Hawthorne, 0.5 mile west of, near telephone line from Hawthorne to	
county hospital, 50 feet east of pole nearest small building north of	•
line, on small bowlder; chiseled square painted "4394 O"	4, 392. 19

Hawthorne, 1.6 miles west of, 35 feet southeast of southeast corner of			
yard around county hospital, on granite bowlder, 9 inches above ground;]	Feet.	
chiseled circle painted "4591 O"	4, 5	589.	58
Hawthorne, 1.9 miles west of, 7 feet inside of east corner of fence around			
water tanks; iron post stamped "4643"	4, (641.	461
Hawthorne, 2.7 miles west of, 200 feet east of turn to Cory, 30 feet south			
of road, on rock; chiseled square painted "4800 O"	4, 1	798.	49
Hawthorne, 4.7 miles west of, on south side of north road to Lucky Boy,			
10 feet from center of road, at foot of slope, on bowlder; chiseled square			
painted "5302 O"	5.	300.	86
Hawthorne, 6.5 miles west of, 85 feet east of road, on point on ridge below	•		
which main road passes three times, 3 feet east of claim corner and			
3 feet southwest of scrub pine; point on ledge painted "O"; stake			
painted "6027"	6 (025.	75
Hawthorne, 7 miles west of, in lower part of town of Lucky Boy, about	٠, ٠	020.	
200 feet south of mine shaft, 12 feet above and on south side of main road,		•	
on point of ledge; aluminum tablet stamped "6226"	6 4	224	549
	0, 4	22 4 .	042
Hawthorne, 7.7 miles west of, 12 feet north of northeast corner of Lucky			
Boy reservoir; iron post stamped "6606".	6, 6	504.	698
Hawthorne, 8.6 miles west of, 20 feet south of short cut on main road,		- ·	^-
8 feet higher than road; point on bowlder painted "6849 W"	6, 8	847.	07
Hawthorne, 10.8 miles west of, 25 feet west of spout under road in first			
dry channel east of Summit stage station, on bowlder in ditch; chiseled			
square painted "7362 O"	7,	360.	68
Hawthorne, 11.4 miles west of, at Summit stage station, at southwest			
corner of house; iron post stamped "7511"	7,	509.	623
Hawthorne, 12.6 miles west of, 1.2 miles west of Summit stage station,			
12 feet south of road, and 17 feet north of telephone pole, on large gran-			
ite bowlder, 3 feet above ground; chiseled circle painted "7732 W"	7,7	730.	47
Hawthorne, 13.5 miles west of, 2.1 miles west of Summit stage station,			
south of road at summit, in base of telephone pole; spike painted			
"8008 O"	8, 0	006.	52
Hawthorne, 16.2 miles southwest of, at turn from Hawthorne-Bodie	·		
stage road to Yerington, 3 feet southeast of guide post and 15 feet			
from either of Y roads; iron post stamped "7145"	7.	143.	675
Fletcher, 3.9 miles east of, in Mud Spring Canyon, at foot of point of ridge on	,		
north side, 175 feet north of dry wash and 25 feet north of road; iron			
post stamped "6396"	6.	394.	682
Fletcher, on south side of road and about 75 feet northeast of northeast	,		
corner of house, just north of large spring; iron post stamped "6100"	6, (098.	348
Fletcher, 2.1 miles southwest of, 30 feet west of Bodie Creek, on south	-,		
side of road, on bowlder; chiseled square painted "6222"	6. 5	221.	07
Fletcher, 3.4 miles southwest of, 150 feet east of old toll house, 50 feet	-,-		
north of Bodie Creek, and 25 feet south of road, on large bowlder; chiseled			
square painted "6447"	6. 4	445.	84
Fletcher, 4.3 miles southwest of, in Bodie Creek Canyon, on south side	٠,		0.
of road, at top of 4-foot bowlder; chiseled square painted "6652"	6. (650.	24
Fletcher, 5.5 miles southwest of, at Del Monte stage station, at northwest	٠,		
corner of platform to old store; iron post stamped "6922"	6. 9	920.	603
Fletcher, 6.7 miles southwest of, in Bodie Creek Canyon, on north side	-, `	• •	
of road, on bowlder; chiseled square painted "7157"	7.	156.	12
Fletcher, 7.8 miles southwest of, in Bodie Creek Canyon, on north side of	, -		-
road, at foot of steeper grade, on bowlder; chiseled square painted		•	
	7.	420	37

Fletcher, 8.1 miles southwest of, on California-Nevada State line, survey

of 1873, 25 feet south of milepost 283, 300 feet east of old stone house Feet. at Sunshine, 15 feet north of road; iron post stamped "7524"
Del Monte to Aurora (spur line).
Aurora, 0.9 mile northwest of, 10 feet west of road, opposite 10-foot cut, on 3-foot bowlder; chiseled square painted "7246"
Junction of East Walker River and Bodie Creek southeast to Fletcher.
Fletcher, 8.7 miles northwest of, on Bodie Creek, 1.3 miles upstream from Wheeler's ranch, at west end of creek, on 4-foot bowlder; painted "5660". 5, 658. 40 Fletcher, 7.7 miles northwest of, on Bodie Creek, 2.3 miles upstream from Wheeler's ranch, on south edge of creek and 20 feet west of 10-foot bowlder, on 6-foot bowlder; chiseled square painted "5728"
Note.—For additional elevations in the Hawthorne quadrangle see following list.
Carson Sink and Hawthorne 1° Quadrangles.
ESMERALDA, CHURCHILL, AND NYE COUNTIES.
The elevations in the following list are based upon a bench mark established at Lida by precise leveling, connection with which was obtained through primary leveling in the Lida, Silver Peak, and Tonopah quadrangles. The leveling was done in 1907 and 1908 by T. A. Green, with the exception of that near Candelaria in the Hawthorne quadrangle, which was done in 1897 by C. R. Smith. The leveling by Smith was based on railroad datum; the bench marks are stamped 75 feet too high.
HAWTHORNE 1° QUADRANGLE.
Candelaria southeast to Columbus.
Feet. Candelaria, in brickwork of front of post office; bronze tablet

Candelaria, 2 miles south of, at Sodaville crossroads; top of iron post of

Candelaria, 5.75 miles south of, in quartz outcropping on right side of road

Battle's Well west to Mina.

Battle's Well, 5.95 miles west of, 10 feet south of road, in large limestone		
bowlder; aluminum tablet stamped "5040 1907"	5, 040. 09	7

Redlich north and west along Southern Pacific Railroad via Mina to Hawthorne.	
Tonopah Junction, 2. 96 miles southeast of, 70 feet east of tracks, 10 feet reet. north of milepost 3; iron post stamped "4584 1907"	23
Rhodes, in front of station signboard; top of rail	62
Sodaville, in front of station; top of rail (railroad elevation, 4,675 feet) 4,589.6 Mina, in front of station; top of rail	
side of Southern Pacific Railroad station; iron post stamped "4553 1907". 4, 553. 44 Mina, 6.01 miles north of, 40 feet west of tracks, 3 feet south of milepost	
123; iron post stamped "4464 1907" 4, 464. 72 Luning, in front of station; top of rail 4, 469. 8 Luning, 3.17 miles northwest of, 50 feet south of tracks, 6 feet south of mile-	
post 117; iron post stamped "4561 1907"	74
milepost 111; iron post stamped "4399 1907"	
Luning, 20.89 miles northwest of, 4.4 miles east of Hawthorne, 70 feet south of old railroad crossing, 10 feet south of wagon road, at forks of	
road; iron post stamped "4349 1907"	
Hawthorne along Southern Pacific Railroad to Schurz, thence along stage road east toward Rawhide.	
Hawthorne, 5.03 miles north of, 10 feet north of wagon road, iron post	~~
stamped "4133"	
92; iron post stamped "4117"	
"4114" 4,113.69 Walker, 6.59 miles north of, 40 feet east of railroad, 70 feet east of milepost 82; iron post stamped "4163" 4,162.65	
Gillis, in front of station; top of rail	
iron post stamped "4176" 4, 175. 77 Modoc, in front of station; top of rail 4, 116. 86 Modoc, 1.39 miles north of, 50 feet west of railroad, 15 feet west of milepost	75 3
72; iron post stamped "4113"	34
Schurz, 200 feet west of station, 60 feet south of railroad, at northeast corner of Nevada Mercantile & Supply Co.'s store; iron post stamped "4130" 4, 129. 72 Schurz, 4.96 miles east of, 25 feet south of road; iron post stamped "4159" 4, 158. 87	
Schurz, 10.01 miles east of, 15 feet east of road, at north end of alkali flat; iron post stamped "4057"	

Rawhide to point 1.8 miles west of Kelly's Well.

• • • • • • • • • • • • • • • • • • • •				
Rawhide, 5.02 miles southeast of, 30 feet south of road; iron post stamped "4300"		96		
Murphy's Well, 4.08 miles east of, 30 feet south of road, at dry lake; iron post stamped "4109"				
Hot Springs, 30 feet east of spring, in depression in ground; iron post stamped "4131"				
Warner's Well, in east end of casing around well; top of iron bolt marked "4260"				
Warner's Well, 1.0 mile east of, 40 feet south of road; iron post stamped "4263"	•			
Warner's Well, 6.04 miles east of, 30 feet south of road; iron post stamped "4366"				
Warner's Well, 11.07 miles east of, 20 feet south of road; iron post stamped "4577"				
Schurz north toward Stinking Spring.				
Schurz, 300 feet northwest of slaughterhouse, 20 feet south of road; iron post stamped "4130"		65		
Note.—For additional elevations in the Hawthorne quadrangle see preceding list.				
CARSON SINK QUADRANGLE.				
Point 10.0 miles east of Schurz to Rawhide.				
Schurz, 10.0 miles east and 4.69 miles north of, at summit, 10 feet west of road, in center of divide; iron post stamped "4624"	4, 624. 1	.88		
iron post stamped "4453"	4, 452. 9)18		
"4921"	•			
spike marked "5276"	•			
Point near Eagleville north via Bermond stage station and Mountain Well to Stillwater.	,			
Monte Cristo, 3.38 miles north of, 5 feet north of road, at point where road				
makes sharp bend to northwest, in large granite bowlder; aluminum tablet stamped "4936"	4, 936. 1	.95		
Eagleville, 3.03 miles north of, 10 feet east of road; iron post stamped "5370"				
Eagleville, 8.08 miles north of, 30 feet east of road, on east side of wash, in oblong rock; aluminum tablet stamped "4710"				
Frenchman's Spring, 30 feet west of forks, 50 feet northwest of signboard reading "Green Springs"; in rock; aluminum tablet stamped "4397". Bermond, 2.46 miles south of, 20 feet west of road, on old dry lake bed;				
iron post stamped "4155"	4, 154. 9	58		
"4163"	4, 162. 7	93		

•	
Bermond, 2.55 miles northwest of, 30 feet east of road; iron post stamped "4249"	
Bermond, 7.64 miles northwest of, 40 feet east of road, in large oblong	•
bowlder; aluminum tablet stamped "4611"	
wash, 300 feet south of point where road parts to go up wash and over hill,	
in limestone rock; aluminum tablet stamped "5312"	5, 311. 991
wash, in large brown bowlder 4 feet by 3 feet by 3 feet; aluminum tablet	
stamped "5051"	5, 050. 777
aluminum tablet stamped "4341"	4, 341. 109
Stillwater, 1.69 miles east of, at junction with road running northeast, at signboard reading "Lovelock 65 miles—Wonder 40 miles," 5 feet south	
of signboard; iron post stamped "3906"	3, 906. 513
Stillwater, in southeast corner of hotel kept by Charles P. Cirac, on east side; aluminum tablet stamped "3912"	3, 911. 812
Stillwater, Cirac's hotel, at front entry; top of stone doorsill	3, 909. 51
Stillwater west toward Fallon (double spur line).1	•
Stillwater, 1.66 miles west of, 1,000 feet west of Dalton's house, 40 feet north	
of road, 50 feet west of second-class road running north; iron post stamped "3904.755—Feb. 20, 1908" (Reclamation Service elevation 3904.755 feet).	3, 908. 290
Stillwater, 2.66 miles southwest of, 40 feet west of road; point on top of wooden hub driven in ground; marked "3909.28" (Reclamation Service	
elevation 3909.28 feet)	3, 913. 07
Stillwater, 3.77 miles southwest of, 100 feet north of road; point on top of wooden hub driven in ground; marked "3911.96" (Reclamation Service	•
elevation 3911.96 feet)	3, 915. 59
Stillwater, 6.59 miles southwest of, 40 feet north of road, 40 feet south of house; iron post stamped "3921.6 datum S. P." (Reclamation Service	
elevation 3921.6 feet)	
Point near Schurz northeast via Allen Spring, Junction, and Salt Well to Stillwater.	
Schurz, 5.6 miles northeast of, 10 feet north of road; iron post stamped "4340"	4 940 519
Schurz, 10.58 miles northeast of, at top of divide, 10 feet east of road; iron	·
post stamped "4798"	4, 797. 874
30 feet east of forks, in black rock; aluminum tablet stamped "4134"	4, 133. 908
Allen Spring, at forks of road, 30 feet west of road junction; iron post stamped "4017"	4. 016. 662
Allen Spring, 5.79 miles northeast of, 30 feet west of road, 250 feet south of	·
point where road goes up to rim of old lake; iron post stamped "3936" Junction, 5 miles south of, about 2 miles west of main road to Schurz, 15	
feet east of road; iron post stamped "3916"	3, 915. 693
Junction, in center of forks of road, 5 feet west of signboard reading "Regent 26 miles"; iron post stamped "3937"	3, 937. 277
Salt Well, at northeast corner of Petersen's road house; iron post stamped "3964"	9 064 945
Stillwater, 10.12 miles south of, 30 feet east of road; iron post stamped	
"4038"	4, 037. 834
where road joins sandy road running north to Stillwater; iron post	
stamped "3953"	3, 953. 435

¹ Bench marks set by the United States Reclamation Service.

Bermond stage station east and north to IXL Canyon, thence west to Cox Canyon and south to Stillwater.

Fairview, 1 mile north of, at forks of road, 30 feet southeast of road junction; iron post stamped "4431"	Feet. 4, 430. 753
of four corners; iron post stamped "4250" 4	l, 250. 315
Fairview, 10.24 miles north of, at junction with road running southwest to Mountain Well Road, 10 feet east of road junction; iron post stamped	
"4091"	1, 091. 495
north of dim road running east; iron post stamped "3902"	3, 901. 929
south of dim road running northeast; iron post stamped "3756" 3	3, 756. 553
	3, 591. 360
IXL Canyon signboard, at forks of road, 50 feet south of, on west side of road, in granite rock; chiseled hole; rock marked "3532"	3, 531. 75
IXL Canyon signboard, 2.1 miles west of, 30 feet north of road, 300 feet east of mouth of canyon, in large flat granite bowlder; aluminum tablet	٠
stamped "4023"	1, 023. 310
IXL Canyon and Cox Canyon, summit at head of, 125 feet north of trail, on top of divide, in limestone rock; aluminum tablet stamped "6873".	3 873 031
Cox Canyon, 600 feet west of Wilson's and Kelker's houses, 40 feet south of	,, 070. 001
road, in large limestone bowlder; aluminum tablet stamped "5288" 5	5, 288. 523
Cox Canyon, at forks of Stillwater-Shady Run road, 5 feet north of sign-board, at northwest angle of forks; iron post stamped "3978"	2 077 820
Desert Well, 70 feet southwest of, on west side of road, iron post stamped	1, 01.1. 000
"3939"	3, 939. 412
Desert Well, 5.03 miles southwest of, 60 feet west of road; iron post stamped "3893"	3, 893. 553
Stillwater, 3.67 miles northeast of, 50 feet southeast of crossroads; iron post	,
stamped "3897.9 S. P." (Reclamation Service bench mark) 3	3, 901. 180

Ely Special Quadrangle.

WHITE PINE COUNTY.

The elevations in the following list are based on a bench mark of the Nevada Northern Railroad, near Ely.

The leveling was done in 1906 by Fred McLaughlin.

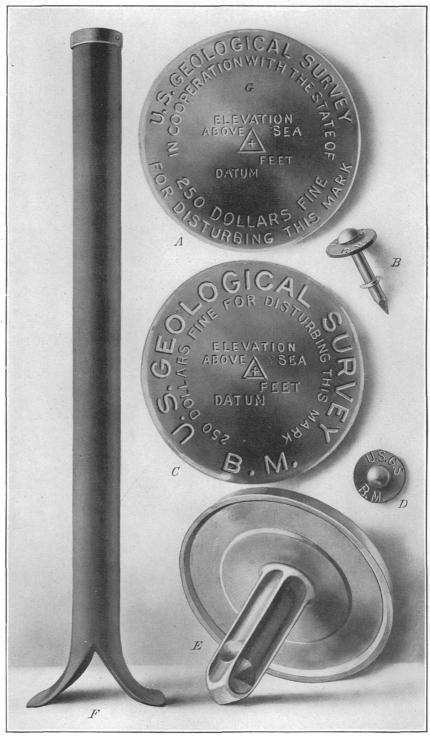
Ely to Lane City.

Copper Flat, 1 mile southeast of, 15 feet east of Pittsburg claim post, in

Ely, in northeast corner of foundation of courthouse; aluminum tablet	Feet			
stamped "6421"	420. 749			
Ely, 3 miles west of, 300 feet north of Watsons Spring and 150 feet north of				
Siliman's house, in large rock; aluminum tablet stamped "6596" 6,	595. 845			
Lane City, in base of flagpole; spike	553. 808			
Lane City to point 1 mile south of Copper Flat.				
Ely, 6 miles west of, 30 feet west of road, in granite rock; aluminum tablet				
stamped "6766"	765. 762			

granite rock north of road forks; aluminum tablet stamped "7169"...... 7, 169. 063

U. S. GEOLOGICAL SURVEY BULLETIN 488 PLATE I



GEOLOGICAL SURVEY BENCH MARKS.

A, Tablet used in cooperating States. The State name is inserted at G. B and D, Copper temporary bench mark, consisting of a nail and copper washer. A, C, and E, Tablets for stone or concrete structures. F, Iron post used where there is no rock.

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