

NEW MEXICO.

TRIANGULATION STATIONS.

Canonlargo, Luera Spring, Pelona, Pinonville, and Reserve quadrangles.

SOCORRO COUNTY.

In 1915 C. B. Kendall extended triangulation from stations Jordan, Tularosa, and Fox eastward over the Pelona quadrangle. Mr. Kendall occupied five new stations and located six points by intersections, all based on North American datum.

For work of 1913-14, in this locality see Bulletin 644 B.

DIVIDE, SOCORRO COUNTY, N. MEX. (Not occupied.)

In T. 4 S., R. 15 W., sec. 14, on the highest point of a low, timbered ridge between Patterson Canyon and Tularosa River. It is about 8 miles west and 3 miles north of Horse Springs and 3.5 miles northeast of a point on the Continental Divide where the Magdalena and Reserve stage road branches northeast to Luna and Jewett Ranger Station. It is on or very near the Continental Divide.

Signal and station mark: Flag in top of pine tree.

[Latitude 33° 57' 53.05". Longitude 108° 22' 14.22'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Patterson.....	36 44 55	216 41 53	4.14532	8.683
Fox.....	112 14 15	292 02 28	4.52276	20.706
Horse.....	266 38 15	86 46 26	4.35431	14.050

ELK, SOCORRO COUNTY, N. MEX. (Not occupied.)

In T. 8 S., R. 15 W., sec. 31, on summit of Elk Mountain, which is a well-known and very prominent mountain about 3 miles west of the old O-Bar-O ranch.

Station mark and signal: Flag in highest tree on summit.

[Latitude 33° 34' 19.96". Longitude 108° 25' 13.42'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Tularosa.....	128 42 39	308 36 31	4.26942	11.555
Pelona.....	248 35 14	68 45 46	4.49929	19.617
O-Bar-O.....	256 16 06	76 19 47	4.01316	6.405
Indian.....	271 27 56	91 41 29	4.57869	23.552

FOX, SOCORRO COUNTY, N. MEX.

In or near sec. 4, T. 3 S., R. 18 W., on the highest point of "The Fox" Mountain, a high, round, bare peak overlooking the country for miles in every direction. Several canyons head against the peak: Perry Lawson on the southeast, American on the northwest, and Des Meter on the northeast. It is about 3 miles west of Jewett Gap and 10 miles northwest of Jewett Ranger Station and H. N. ranch. It is an excellent natural

triangulation station, as it overlooks the American, Salt Lake, and Agua Frio valleys and the Johnson Basin. It is easily ascended by following a Forest Service trail from Jewett Gap.

Signal: A cairn 4 feet high, around which was built a quadripod of poles. A bushy pine tree was set over center.

Station mark: A bronze triangulation tablet set in a 6 by 8 by 24 inch stone buried in ground, over which was built a cairn 4 feet high.

[Latitude 34° 04' 40.51". Longitude 108° 42' 17.41".]

To station—	Azimuth.	Back azimuth.	Distance.	
			<i>Log. meters.</i>	<i>Miles.</i>
Pinon.....	239 03 10	59 11 01	4.41162	16.031
Horse.....	281 44 03.14	102 03 28.50	4.7371852	33.926
Divide.....	292 02 28	112 14 15.	4.52276	20.706
Patterson.....	316 26 26.00	136 34 36.56	4.5151502	20.347
Whiterocks.....	26 17 06.92	206 05 49.17	4.8514387	44.135
Turner Peak.....	56 21 22	236 09 59	4.57648	23.434
Escadillo.....	69 30 17.81	249 16 18.98	4.6139437	25.544
Apache.....	331 33 50	151 36 39	4.21161	10.115
Tularosa.....	345 02 13.01	165 06 30.19	4.6630428	28.602

HORSE, SOCORRO COUNTY, N. MEX.

In T. 4 S., R. 12 W., sec. 7, on the more northern and higher of the two peaks of Horse Mountain, a well-known and very prominent landmark. It is 7 miles northwest of Horse Springs and 3.5 miles north of Gutierrez's ranch, both on the Magdalena and Reserve stage road. An old cairn 4 feet high was found on the summit and was probably a point used by the Wheeler Survey. The cairn was removed and the new station built in the same place.

Signal: Cairn.

Station mark: Standard bronze tablet in 8 by 8 inch stone, set 2 feet in the ground, over which was built a cairn 8 feet high with a pine tree in the center.

[Latitude 33° 58' 35.22". Longitude 108° 07' 34.90".]

To station—	Azimuth.	Back azimuth.	Distance.	
			<i>Log. meters.</i>	<i>Miles.</i>
O-Bar-O.....	22 09 25.74	202 03 13.55	4.6604700	28.433
Tularosa.....	51 34 24.38	231 19 21.91	4.7267775	33.123
Mayberry.....	56 12 23	236 07 53	4.17545	9.307
Patterson.....	68 05 40.82	247 54 28.59	4.5233970	20.737
Divide.....	86 43 26	266 38 15	4.35431	14.050
Fox.....	102 03 28.50	281 44 03.14	4.7371852	33.926
Pinon.....	128 12 39	308 01 16	4.59874	24.666
Luera.....	305 52 13	126 00 32	4.45327	17.645
Shaw.....	339 45 11	159 46 00	4.35338	14.020
Indian.....	346 59 14.56	167 03 03.02	4.6728718	29.256
Pelona.....	356 20 19.58	176 21 05.70	4.5240023	20.766

INDIAN, SOCORRO COUNTY, N. MEX.

In T. 9 S., R. 11 W., sec. 6, on the highest and most southwestern of the Indian Peaks, at the head of Kennedy Canyon, about 4 miles northeast of the North Star Ranger Station, and about 4 miles south of Juan Garcia's ranch on Railroad Canyon. The North Star Ranger Station road to the Adobe passes about 0.7 mile north of station. A ranger trail leads from this road to station, which is used as a fire-lookout station by the U. S. Forest Service.

Station mark: Bronze tablet in solid rock on highest point of peak.

Signal: Lone pine tree 25 feet high with flags and targets. Tree stands 8.2 feet distant, true azimuth 261° 19', from station mark.

[Latitude 33° 33' 46.06". Longitude 108° 00' 43.89".]

To station—	Azimuth.	Back azimuth.	Distance.	
			<i>Log. meters.</i>	<i>Miles.</i>
Jordan.....	44 18 28.35	224 11 23.00	4.4564516	17.775
Elk.....	91 41 29	271 27 56	4.57869	23.552
O-Bar-O.....	97 12 52.76	277 02 55.26	4.4483591	17.446
Tularosa.....	103 44 30.54	283 25 45.37	4.7315100	33.486
Pelona.....	145 59 56.36	325 56 54.66	4.1794729	9.393
Horse.....	167 03 03.02	346 59 14.56	4.6728718	29.256
Shaw.....	173 38 18	353 36 17	4.39552	14.448
Luera.....	203 05 53	23 09 20	4.50226	19.752

JORDAN, SOCORRO COUNTY, N. MEX.

On highest point of Black Mountain, at head of Jordan Canyon, Eastwater Creek, and Long Canyon; it is about 7 miles northwest from D D Bar ranch and about 16 miles north of the X S X ranch, both on the eastern fork of Gila River.

Station mark: A bronze triangulation tablet cemented in rock.

Signal: A live pine tree about 40 feet high, true azimuth 187° 17', distant 9.5 feet from station.

[Latitude 33° 22' 40.94". Longitude 108° 13' 36.90".]

To station—	Azimuth.	Back azimuth.	Distance.	
			<i>Log. meters.</i>	<i>Miles.</i>
Chalk (R).....	33 42 57.21	213 38 05.59	4.3943663	15.407
Mogollon (R).....	71 01 50.16	250 49 43.88	4.5584409	22.480
Deer (R).....	241 20 31.33	61 35 37.65	4.6837430	29.998
Juan (R).....	261 45 02.44	82 06 13.86	4.7799314	37.435
Diamond (R).....	294 43 12.77	114 55 49.24	4.5940740	24.402
Black (R).....	353 19 59.57	173 22 07.33	4.7185815	32.503
Copperas (R).....	355 29 08.60	175 29 57.87	4.4713362	18.395
Tularosa (K).....	135 40 17.18	315 28 40.74	4.6666789	28.842
O-Bar-O (K).....	161 42 56.13	341 40 06.59	4.4023472	15.693
Pelona (K).....	199 08 09.12	19 12 13.84	4.5435475	21.722
Indian (K).....	224 11 23.00	44 18 28.35	4.4564516	17.775

R=Robertson in 1911; K=Kendall in 1915.

LUERA, SOCORRO COUNTY, N. MEX. (Not occupied.)

On highest point of Luera Mountain.

Station mark and signal: Highest tree on summit.

[Latitude 33° 49' 34.68". Longitude 107° 52' 40.74".]

To station—	Azimuth.	Back azimuth.	Distance.	
			<i>Log. meters.</i>	<i>Miles.</i>
Indian.....	23 09 20	203 05 53	4.50226	19.752
Pelona.....	51 24 57	231 17 26	4.42768	16.635
Horse.....	126 00 32	305 52 13	4.45327	17.645

MAYBERRY, SOCORRO COUNTY, N. MEX. (Not occupied.)

In T. 5 S., R. 14 W., sec. 2; a low, sharp, isolated peak on the Plains of San Agustin, 2.25 miles southwest of Horse Springs, 3 miles northeast of the T U T ranch or Patterson ranch, and 1 mile south of the Magdalena and Reserve stage road.

Signal: Cairn.

Station mark: Standard bronze tablet in solid rock, over which was built a cairn 8 feet high with a pine tree in center.

[Latitude 33° 54' 04.54". Longitude 108° 15' 29.54".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
O-Bar-O.....	7 57 49	187 56 07	4.53639	21.368
Patterson.....	77 23 28	257 16 14	4.27803	11.786
Horse.....	236 07 53	56 12 23	4.17545	9.307
Pelona.....	329 41 08	149 46 24	4.46184	17.996

O-BAR-O (O—O), SOCORRO COUNTY, N. MEX.

In T. 8 S., R. 14 W., near southwest corner of sec. 20, on the highest point of O-Bar-O Mountain, which is at the head of Y Canyon and is 7.5 miles south of the Y ranch and 3 miles northeast of the old O-Bar-O (O—O) ranch.

Signal: Pole quadrupod and cairn.

Station mark: Standard bronze tablet in solid rock, over which was built a pole quadrupod and cairn.

[Latitude 33° 35' 39.20". Longitude 108° 18' 44.20".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Elk.....	76 19 47	256 16 06	4.01316	6.405
Tularosa.....	110 34 32.16	290 25 44.93	4.4181336	16.274
Mayberry.....	187 56 07	7 57 49	4.53639	21.368
Horse.....	202 03 13.55	22 09 25.74	4.6604700	28.433
Shaw.....	229 40 04	49 49 05	4.51650	20.410
Pelona.....	244 55 57.48	65 02 54.09	4.3302125	13.291
Indian.....	277 02 55.26	97 12 52.76	4.4483591	17.446
Jordan.....	341 40 06.59	161 42 56.13	4.4023472	15.993

PATTERSON, SOCORRO COUNTY, N. MEX.

In T. 5 S., R. 16 W., sec. 24, on the highest point of a timbered ridge, which is the divide between Gavino Canyon and Tularosa Creek. It is 3.5 miles west of the Dark Canyon ranch, 5 miles east of Aragon post office, and 4 miles east of the Magdalena and Reserve stage road.

Signal: Flags and target in a forked pine tree, which was trimmed to within 15 feet of the top and is 19.5 feet, true azimuth 203° 48', from station. Summit around station was cleared so that sights were obtained in all directions.

Station mark: Standard bronze tablet in boulder at highest point of ridge.

[Latitude 33° 51' 49.48". Longitude 108° 27' 39.52".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Tularosa.....	27 22 56.27	207 19 04.74	4.3678863	14.496
Fox.....	136 34 36.56	316 26 26.00	4.5151502	20.347
Pinon.....	179 27 31	359 27 23	4.56820	22.990
Divide.....	216 41 53	36 44 55	4.14532	8.683
Horse.....	247 54 28.59	68 05 40.82	4.5233970	20.737
Mayberry.....	257 16 14	77 23 28	4.27803	11.786
Pelona.....	302 05 08.03	122 17 03.69	4.5926712	24.323

PINON, SOCORRO COUNTY, N. MEX. (Not occupied.)

The highest peak of the Datil Range, in Socorro County, N. Mex. It was sparsely timbered on top and has been cleared, leaving a small signal tree near the top. Observations were taken at the highest point and were reduced to the tree. Some of the trees growing on the side are about as high as the top of the mountain and might be mistaken for the signal tree from some directions. The mountain is easiest climbed from the southeast. Station was published by the Wheeler Survey under the name of Alamocita.

[Latitude 34° 11' 50.54". Longitude 108° 27' 53.20". (Kendall's value).]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Square Mesa (B).....	188 26 44.1	3 33 02.9	5.0589054	.....
Taylor (B).....	213 55 50.8	34 25 07.8	5.1450548	.....
Crofton (B).....	151 52 40.8	331 30 29.0	5.0989330	.....
Ords Peak (B).....	75 00 27.5	254 22 08.7	5.0378288	.....
Tularosa (B).....	10 11 31.6	190 07 46.8	4.7681763	.....
Fox (K).....	59 11 01	239 03 10	4.41162	16.031
Horse (K).....	308 01 16	128 12 39	4.59874	24.668
Patterson (K).....	359 27 23	179 27 31	4.56820	22.990

B=Bulletin 122, K=by Kendall in 1915.

PELONA, SOCORRO COUNTY, N. MEX.

In T. 7 S., R. 12 W., sec. 29, on the highest point of Pelona Mountain, which is very prominent and is 9 miles southeast of the Fullerton ranch, 6 miles northwest of Juan Garcia ranch, and 5 miles west of Farris sheep camp and the lake at the head of Shaw Canyon.

Station mark: Standard bronze tablet in solid rock.

[Latitude 33° 40' 32.72". Longitude 108° 03' 12.06".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Jordan.....	19 12 13.84	199 08 09.12	4.5435475	21.722
O-Bar-O.....	65 02 54.09	244 55 57.48	4.3302125	13.291
Elk.....	68 45 46	248 35 14	4.49929	19.617
Tularosa.....	90 18 02.65	270 02 17.79	4.6424129	27.275
Patterson.....	122 17 03.69	302 05 08.03	4.5926712	24.323
Mayberry.....	149 46 24	329 41 08	4.46184	17.998
Horse.....	176 21 05.70	356 20 19.58	4.5240023	20.766
Shaw.....	205 01 29	25 03 32	4.12854	8.354
Luera.....	231 17 26	51 24 57	4.42768	16.635
Indian.....	325 56 54.66	145 59 56.36	4.1794729	9.393

SHAW, SOCORRO COUNTY, N. MEX. (Not occupied.)

In T. 6 S., R. 12 W., sec. 14, approximately highest point on the smooth, hard ridge lying between the mouth of Shaw Canyon and the next canyon east and extending into the Plains of San Agustin. It is 3 miles south and 1 mile east of Crawford ranch on the Magdalena and Mogollon road and can be best approached from the south.

Station mark and signal: Cairn 8 feet high.

[Latitude 33° 47' 08.22". Longitude 108° 02' 30.92".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Pelona.....	25 03 32	205 01 29	4.12854	8.354
O-Bar-O.....	49 49 05	229 40 04	4.51650	20.410
Horse.....	159 46 00	339 43 11	4.35338	14.020
Indian.....	353 36 17	173 38 18	4.39552	14.448

TULAROSA (EAGLE PEAK), SOCORRO COUNTY, N. MEX.

Station is on the highest peak of the Tularosa Mountains, locally known as Eagle Peak, under which name it was occupied by the Wheeler Survey. It is in T. 7 S., R. 17 W., sec. 22, approximately, and is at the head of Long Canyon on the north and Salthouse Canyon on the south. Both canyons head in a saddle about one-fourth of a mile west of the station. The Forest Service trail from Tularosa Ranger Station to Nigrito Ranger Station crosses the mountains through the saddle. There is a ranger cabin in saddle, from which a trail and telephone line lead east uphill to station. Station is about 11 miles east of Reserve and 15 miles south and 4 miles west of Aragon on the Magdalena public road.

Signal: A pole set over tablet and carrying flags; around the pole was erected a quadripod with white cloth around top, and between this and the flag were placed pine boughs. Three targets of red cloth were placed on the sides of quadripod north, south, and west.

Station mark: A bronze triangulation tablet in a 6 by 8 by 24 inch stone set in ground, over which is erected a cairn 5 feet high.

[Latitude 33° 40' 36.94". Longitude 108° 34' 36.04".]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Mogollon.....	2	04	17.05	182	03	42.39	4.6532044	27.961
Bearwallow.....	18	40	08	198	37	06	4.42536	16.547
Pleasant.....	38	59	06.02	218	47	07.16	4.7289620	33.290
Sunset.....	44	43	04.81	224	21	35.98	4.9358163	53.601
Whiterocks.....	66	09	32.71	245	54	03.26	4.6758515	29.458
Brushy Mountain.....	80	18	32	260	04	26	4.60118	29.804
Box.....	120	26	48.54	300	18	50.28	4.4098781	15.907
Escadillo.....	120	54	03.64	300	35	52.42	4.7685262	36.465
Fox.....	165	06	30.19	345	02	13.01	4.6630428	28.602
Apache.....	172	16	04	352	14	35	4.48336	18.911
Patterson.....	207	19	04.74	27	22	56.27	4.3678863	14.496
Horse.....	231	19	21.91	51	34	24.38	4.7267775	33.123
Pelona.....	270	02	17.79	90	18	02.65	4.6424129	27.275
Indian.....	283	25	45.37	103	44	30.54	4.7315100	33.486
O-Bar-O.....	290	25	44.93	110	34	32.16	4.4181336	16.274
Elk.....	308	36	31	128	42	39	4.26942	11.555
Jordan.....	315	28	40.74	135	40	17.18	4.6666789	28.842

Animas Peak, Antelope Wells, Big Hatchet Peak, Camel Mountain, Canutillo, Cienega Springs, Columbus, Dog Mountain, Hachita, Hermanas Mount Riley, Noria, Playas Pratt, Victorio, and Walnut Wells quadrangles.

DONA ANA, GRANT, AND LUNA COUNTIES.

During the year 1917 George T. Hawkins, C. L. Nelson, and B. H. Yoakum extended triangulation over the above-named quadrangles. Ninety-six stations were located on North American datum based upon Hermanas. Near, and South Base of the U. S. Coast and Geodetic Survey.

ANIMAS, GRANT COUNTY, N. MEX.

On the northern of the two highest points on the Animas Mountains. The point is partly cleared of timber and is about 1 mile north of a rounded summit which is probably a little higher. Station can best be reached from the Double Adobe ranch house and spring on the north or from Gray's ranch on the west side of the range.

Station mark: Bronze tablet in solid rock on highest point of peak, 120 feet from signal; true azimuth from mark to signal, 121° 20'.

Signal: Two large pine trees with branches interlaced forming oval top.

[Latitude 31° 34' 48.64". Longitude 108° 47' 09.36".]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Corner.....	36	16	51.99	216	10	26.51	4.5184567	20.502
Rocky.....	45	43	54.20	225	39	08.90	4.3037073	12.504
Baldy.....	130	43	22.65	310	38	48.40	4.2593789	11.291
Gray.....	158	06	13.07	338	01	50.16	4.5469847	21.894
North Animas.....	213	40	53.57	33	44	07.60	4.2444633	10.910
O. K.....	288	25	48.10	108	30	37.57	4.1869407	9.556
Lang.....	354	35	13.92	174	36	03.18	4.4221204	16.424

ANIMAS MILL, GRANT COUNTY, N. MEX. (Not occupied.)

Windmill half a mile south of Animas station on El Paso & Southwestern R. R., on the west side of mail road, and near two small red-roofed houses.

Station mark: Well.

Signal: Windmill over well.

[Latitude 31° 56' 07.33". Longitude 108° 48' 22.40".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Gray.....	58 39 02	238 35 21	4. 10930	7. 992
Playas.....	252 52 18	72 56 39	4. 13829	8. 544
North Animas.....	334 20 43	154 24 41	4. 43901	17. 075

ANTELOPE, GRANT COUNTY, N. MEX. (Not occupied.)

On a sharp peak about 4 miles northwest of Pratt station on the El Paso & Southwestern R. R.

Station mark: None.

Signal: Bamboo cone covered with white cloth.

[Latitude 31° 57' 22.75". Longitude 108° 57' 15.58".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Playas.....	266 17 34	86 26 41	4. 43447	16. 898
North Animas.....	316 13 29	136 22 03	4. 57390	23. 295
Gray.....	341 25 43	161 26 44	3. 97844	5. 913

APACHE, GRANT COUNTY, N. MEX.

On a prominent, rocky peak three-fourths of a mile south of corner of secs. 16, 17, 20, and 21, T. 29 S., R. 14 W., and 10 miles southeast of Hachita.

Station mark: Bronze tablet.

Signal: Built of juniper brush over center.

[Latitude 31° 46' 14.37". Longitude 108° 16' 45.15".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Big Hatchet.....	37 01 44.72	216 57 59.11	4. 2738092	11. 672
Little Hatchet.....	115 36 53.69	295 31 23.91	4. 2611557	11. 337
Rica.....	175 18 39.11	355 18 26.04	3. 9016708	4. 955
Near.....	256 35 2.73	76 38 20.48	3. 9652408	5. 736
Cabin.....	339 48 00.92	159 50 05.81	4. 2587584	11. 275

BALDY, GRANT COUNTY, N. MEX.

On the east summit of a double peak, about 20 miles southwest of Animas railroad station and 6 miles nearly west from the Hatfield ranch in the Animas Valley.

Station mark: Cross cut in solid rock.

Reference mark (1): Arrow 8 feet E., pointing to center.

Reference mark (2): Arrow 10.3 feet S., pointing to center.

Signal: Built of juniper brush over station.

[Latitude 31° 41' 13.25". Longitude 108° 55' 43.24".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Rocky.....	1 20 12.52	181 20 00.53	4. 4134567	16. 099
Gray.....	181 39 27.29	1 39 39.37	4. 3190780	12. 955
X—T.....	239 36 55	59 40 46	4. 12549	8. 295
North Animas.....	263 14 19.00	83 22 08.07	4. 3741838	14. 707
Animas.....	310 38 48.40	130 43 22.65	4. 2593789	11. 291
Mill.....	326 28 40	146 30 39	4. 03383	6. 717

BIG HAT, GRANT COUNTY, N. MEX. (Not occupied.)

Station is near center of low, flat-topped mountain, locally known as Hat Top, which is 4 miles southwest of Campbell's well, $4\frac{1}{2}$ miles north of international boundary, and 2 miles east of Dog Springs.

Station mark and signal: Built of yucca stalks and juniper brush over large flat rock.

[Latitude $31^{\circ} 23' 51.60''$. Longitude $108^{\circ} 15' 15.70''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Sycamore.....	91 44 29	271 43 05	3.81388	4.048
Big Hatchet.....	152 35 32	332 31 01	4.47269	18.452
Cabin.....	189 07 36.	9 08 54	4.39160	15.309

BIG HATCHET, GRANT COUNTY, N. MEX.

On highest point of the Big Hatchet Mountains, locally known as Big Hatchet Peak. About 4 miles south and 4 miles west of Dallas Hatchet headquarters ranch. To reach station from the headquarters ranch, take old wood road to the head of Thompson Canyon, then follow main ridge to the right.

Station mark: Bronze tablet set in solid rock on highest point, 9 feet south of signal, true azimuth from mark to signal, is $190^{\circ} 42'$.

Signal: Cairn.

[Latitude $31^{\circ} 38' 07.26''$. Longitude $108^{\circ} 23' 54.43''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Hylo.....	35 07 35.11	215 01 21.13	4.5165727	20.414
Walnut Wells.....	47 45 21	227 41 45	4.16779	9.144
O. K.....	63 28 25.52	243 21 09.31	4.3901385	15.258
North Animas.....	107 40 10.26	287 31 16.72	4.4483934	17.448
Little Hatchet.....	167 16 44.63	347 15 01.31	4.3702262	14.574
Rica.....	204 51 33.06	24 55 05.85	4.4031134	15.720
Apache.....	216 57 59.11	37 01 44.72	4.2738092	11.672
Near.....	229 45 16.16	49 52 01.23	4.4242331	16.504
Sheridan.....	309 21 46	129 24 43	4.06240	7.174
Cabin.....	276 31 58.91	96 37 48.67	4.2478538	10.995
Big Hat.....	332 31 01	152 35 32	4.47269	18.452
Sycamore.....	344 37 40.50	164 40 02.74	4.4332433	16.850
Pierce.....	347 01 47	167 03 16	4.30350	12.498

BORDER, GRANT COUNTY, N. MEX.

Station is on northwest and lower apex of rocky, double peak on east side of Playas Valley, 2 miles east of Antelope Wells and half a mile north of the United States and Mexico boundary line. It is one-fourth of a mile east of quarter section corner between secs. 17 and 20.

Station mark: Bronze tablet in solid rock under center of signal.

Signal: Quadripod of bamboo poles covered with white cloth.

[Latitude $31^{\circ} 20' 26.43''$. Longitude $108^{\circ} 28' 54.27''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Lang.....	90 35 52	270 27 16	4.41860	16.291
Hylo.....	117 48 14	297 44 38	4.09392	7.714
Sycamore.....	246 35 38	66 39 56	4.21619	10.222

BORDERLAND, EL PASO COUNTY, TEX. (Not occupied.)

Sighted from two stations only. Center of galvanized water tank at Borderland Inn, which is 3 miles south of Canutillo post office, Tex.

Station mark: Center of tank.

Signal: Same.

[Latitude 31° 53' 07.80". Longitude 106° 35' 46.48".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Canutillo.....	118 03 20	298 00 34	3.97069	5.799
North Franklin.....	258 45 50	78 49 06	3.99647	6.154

BOUNDARY MONUMENT NO. 2, DONA ANA COUNTY, N. MEX.

[Latitude 31° 47' 01.642" (C); 31° 47' 01.644". Longitude 106° 32' 13.111" (C); 106° 32' 13.120."]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Mastodon.....	92 22 26.04	272 18 25.66	4.0797654	7.466
Canutillo.....	138 32 20.23	318 27 41.92	4.3206237	13.001
Mesa (C).....	278 00 40	98 06 55.60	4.277837	.....
North Franklin.....	197 20 00.88	17 21 23.64	4.1409799	8.597
(C)	197 19 56.8	17 21 19.60	4.141011	8.597

C= data by U. S. Coast and Geodetic Survey.

BOUNDARY MONUMENT NO. 10, DONA ANA COUNTY, N. MEX. (Not occupied.)

A monument on the United States and Mexican boundary line about 2 miles south of Mount Riley, a station on the El Paso & Southwestern R. R. Sighted from two stations only.

Station mark: Stone monument.

Signal: Same.

[Latitude 31° 47' 01.16". Longitude 107° 04' 43.00".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Rat.....	105 42 23	285 38 49	4.04582	6.905
Riley.....	185 23 45	5 24 15	4.19978	9.834

BOUNDARY MONUMENT NO. 67, GRANT COUNTY, N. MEX. (Not occupied.)

A concrete post of about 4 feet base and 12 feet high, on a small elevation near the middle of Animas Valley, on United States and Mexico boundary.

[Latitude 31° 19' 56.18". Longitude 108° 51' 48.44".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Corner.....	94 12 23	274 08 29	4.07706	7.401
Rocky.....	153 08 08	333 05 54	4.17773	9.356
Lang.....	263 21 13	83 24 46	4.00765	6.324

BRUSH, GRANT COUNTY, N. MEX. (Not occupied.)

On a comparatively low bald hill about 10 miles northeast of Hachita.

Station mark: Cairn of 7-foot base and 6 feet high.

Signal: Same.

[Latitude 31° 59' 28.85". Longitude 108° 14' 39.96".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Rica.....	13 25 26	193 24 07	4.23010	10.555
W.....	298 30 34	118 35 19	4.20728	10.015
Near.....	345 42 32	165 44 38	4.36260	14.321

BUM, GRANT COUNTY, N. MEX. (Not occupied.)

On a foothill of the Little Hatchet Mountains, on the east side of Playas Valley, and 1½ miles north of road leading from Hachita through pass to Playas Valley.

Station mark and signal: Cairn.

[Latitude 31° 51' 05.28". Longitude 108° 30' 44.61".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
North Animas.....	45 53 55	225 48 36	4.34670	13.806
Playas.....	132 23 14	312 18 19	4.29703	12.313
Little Hatchet.....	280 55 37	.....	3.75766	3.5556

CABIN, LUNA COUNTY, N. MEX.

At Lone Cabin ranch, in Hachita Valley, 4 miles southeast of Richen's ranch and one-fourth of a mile west of the United States and Mexico boundary line. Lone Cabin ranch proper has a small adobe house, one windmill and pump, one mill tower (no pump), earth water tank, and several cottonwood trees.

Station mark: A 4-inch iron well casing under center of signal.

Signal: Windmill tower.

[Latitude 31° 37' 01.41". Longitude 108° 12' 47.43".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Big Hat.....	9 08 54	189 07 36	4.39160	15.309
Sycamore.....	23 23 36.38	203 20 10	4.4195581	16.327
Sheridan.....	58 34 11	238 31 19	4.00658	6.309
Big Hatchet.....	96 37 48.67	276 31 58.91	4.2478538	10.995
Apache.....	159 50 05.81	339 48 00.92	4.2587584	11.275

CLIFF, GRANT COUNTY, N. MEX. (Not occupied.)

On a high rocky peak 7 or 8 miles southeast of Animas station, on El Paso & South-western R. R.

Station mark: Tablet in solid rock.

Signal: Cairn over tablet.

[Latitude 31° 52' 44.23" Longitude 108° 42' 13.94".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Gray.....	88 50 01	268 43 06	4.31540	12.845
Playas.....	.....	18 36 47	4.03612	6.753
North Animas.....	353 14 23	173 15 07	4.27070	11.584

CLOVERDALE, GRANT COUNTY, N. MEX. (Not occupied.)

On a sharp rocky peak near the Arizona and New Mexico State line and 5 miles northwest of Cloverdale postoffice. Sighted from two points only.

[Latitude 31° 25' 46.42". Longitude 109° 02' 38.62".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Rocky.....	255 40 04	75 43 29	4.02921	6.646
Corner.....	331 58 41	152 00 25	4.05051	6.980

CONE, LUNA COUNTY, N. MEX.

On a cone-shaped peak about 6½ miles north of Hermanas, a station on the El Paso & Southwestern R. R., and 2½ miles east from Gibson's ranch.

Station mark: Cairn of 8-foot base and 6 feet high on highest point of peak.

Signal: Same.

[Latitude 31° 57' 17.66". Longitude 108° 01' 28.02".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
W.....	61 08 56.78	241 06 43.02	3.8799030	4.713
Cedar.....	96 34 06.96	276 29 06.83	4.1756713	9.312
Hermanas.....	336 40 24.82	153 42 50.42	4.2627836	11.380

CORNER, GRANT COUNTY, N. MEX.

On a low hill, about 1 mile northeast of point where Arizona and New Mexico corner on the United States and Mexico boundary, about 8 miles southwest of Cloverdale post office, and one-third of a mile north of international boundary post No. 70.

Station mark: Bronze tablet in solid rock.

Signal: Cairn of 6-foot base, 6½ feet high, 6½ feet from center. True azimuth from mark to signal, 78° 46'.

[Latitude 31° 20' 24.40". Longitude 108° 59' 18.97".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Cloverdale.....	152 00 25	331 58 41	4.05051	6.980
Rocky.....	202 03 50.60	22 05 31.06	4.1320684	8.422
Animas.....	216 10 26.51	36 16 51.99	4.5184567	20.502
Lang.....	269 09 05.21	89 16 18.48	4.3428206	13.683
Monument No. 67.....	274 08 29	94 12 23	4.07706	7.401

COX, DONA ANA COUNTY, N. MEX. (Not occupied.)

On southwest peak of the Mount Riley group. Sighted from two stations.

Station mark: None.

Signal: Juniper tripod.

[Latitude 31° 54' 51.53". Longitude 107° 04' 57.37".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Riley.....	235 30 17	55 30 54	3.35514	1.408
Jim.....	314 48 15	134 51 03	4.06898	7.283

DEMING SOUTH BASE, GRANT COUNTY, N. MEX.

A U. S. Coast & Geodetic Survey station, about 15 miles S. 15° W. from Deming, a town on the Southern Pacific R. R., 1½ miles S. 83° E. from the Midway switch on the Deming branch of the El Paso & Southwestern R. R., 1½ miles N. 75° E. from the ranch house and windmills of R. W. Yeargins, and on F. W. Schweiyer's ranch.

The marking at this station is very similar to that at Deming north base. The reference mark is 16.58 meters from the station in azimuth 10° 53'. Schweiyer's house is about 300 meters from the station in azimuth 79° 54'.

[Latitude 32° 03' 00.447". Longitude 107° 50' 14.406".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Wart.....	17 38 24	197 37 17	4. 03796	6. 781
Yellow.....	49 17 43	229 15 27	3. 94870	5. 521
Waterloo.....	288 31 56.38	108 37 58.37	4. 2764627	11. 744
Chloride.....	327 15 31.81	147 18 48.58	4. 2564169	11. 214
McLaurin.....	346 22 44	166 24 04	4. 22519	10.436
Skewed.....	349 56 23	169 56 51	3. 81104	4. 022
Hermanas (C. & G. S.).....	20 55 37.59	200 52 07.15	4. 4669480	.....
Red (C. & G. S.).....	164 23 37.80	344 21 52.88	4. 2833279	.....
Cooks (C. & G. S.).....	190 28 52.33	10 32 16.41	4. 7387455	.....
Florida (C. & G. S.).....	249 26 45.28	69 33 28.14	4. 3269967	.....

DIVISION, LUNA COUNTY, N. MEX.

On low hill, 7 miles west of Columbus and 1 mile south of El Paso & Southwestern R. R.

Station mark: Iron bench-mark post.

Signal: Bamboo cone covered with white cloth over center.

[Latitude 31° 47' 27.52". Longitude 107° 44' 04.52".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Hermanas.....	93 53 57.23	273 47 12.66	4. 3062921	12. 579
Chloride.....	180 10 50.59	0 10 51.45	4. 1319300	8. 419
Stiles.....	263 08 21.57	83 12 11.69	4. 0633681	7. 190

CAMEL, LUNA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. On a high hill, called Camel Mountain, 2 miles west of Birchfield's lower ranch.

Station mark: Cairn.

Signal: Same.

[Latitude 31° 47' 34.85". Longitude 107° 18' 00.57".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Glorious.....	86 23 12	266 20 49	3. 91078	5. 060
Yoakum.....	167 38 02	346 36 10	4. 37996	14. 904

CANUTILLO, DONA ANA COUNTY, N. MEX.

Four miles west of Canutillo, Tex., railroad station and post office, 2 miles north of main road from El Paso, Tex., to Deming, N. Mex. (Borderland Highway), on top of Mesa Bluff at a point where a long narrow ridge from mesa projects farthest east into sand hill, 20 feet southwest of sharp rock edge of bluff. To reach station from the east by road, take wood-haulers' road from foot of sand hills on west side of

river valley and follow it west past an old, vacant, adobe house to foot of projecting point of mesa, which can be climbed on foot only at this point.

Station mark: Bronze tablet cemented in top of cement post, 5 inches square at top and 7 inches square at bottom, 2 feet long, and cased with 1-inch boards, which is set in ground with 2 inches projecting.

Signal: Quadripod of lumber 14 feet high and set in ground 2 feet. Instrument stand (tripod of lumber 12 feet high) is centered over station. Mark inside of signal.

[Latitude 31° 55' 30.42". Longitude 106° 41' 00.46".]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Strauss.....	13	08	08	193	07	37	3.83723	4.265
Crossing.....	48	13	30.50	225	11	32.86	3.8948118	4.875
Mill.....				247	22	55	3.96200	5.689
Mada.....	108	02	55.75	283	00	55.55	3.7977941	3.901
North Franklin.....	277	45	22.83	97	51	24.54	4.2587468	11.274
Borderland.....	298	00	34	118	03	20	3.97069	5.799
Monument No. 2.....	318	27	41.92	138	32	20.23	4.3206237	13.001
Mastodon.....	352	59	04.48	172	59	41.95	4.1845234	9.503

CEDAR, LUNA COUNTY, N. MEX.

On the highest peak in Cedar Mountain Range, about 10 miles northeast of the town of Hachita and 3 miles northwest of the Bud Williams ranch.

Station mark: Cross cut in ledge.

Reference marks: (1) Arrow pointing to center, 14.6' west; (2) arrow pointing to center, 9.3' southeast; (3) arrow pointing to center, 11.5' north.

Signal: Juniper brush and white flag over center.

[Latitude 31° 58' 12.97". Longitude 108° 10' 54.99".]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Near.....	0	40	02.15	180	39	57.48	4.3009734	12.426
Rica.....	34	48	24.83	214	45	06.66	4.2373251	10.732
Little Hatchet.....	60	59	41.05	240	51	05.28	4.4674460	18.230
Vista.....	92	22	09.90	272	13	25.03	4.4157178	16.183
Cone.....	276	29	06.83	96	34	06.96	4.1756713	9.312
W.....	303	00	48.30	123	03	34.50	3.9930447	6.115

CHLORIDE, LUNA COUNTY, N. MEX.

On a high rocky peak in the Tres Hermanas Mountains. Azimuth from mark to signal, 256° 48', distance 7.15 feet.

Station mark: Bronze tablet in solid rock.

Signal: A cairn 7 feet northeast from tablet.

[Latitude 31° 54' 47.45". Longitude 107° 44' 02.89".]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Division.....	0	10	51.45	180	10	50.59	4.1319300	8.419
Lava.....	53	54	48	233	51	23	4.10240	7.866
Hermanas.....	58	58	32.91	238	51	46.78	4.3732499	14.676
McLaurin.....	78	55	11	258	53	14	3.77210	3.677
Wart.....	110	08	48	290	04	25	4.14348	8.046
Skewed.....	135	38	21	315	35	27	4.09100	7.662
Deming South Base.....	147	18	48.58	327	15	31.81	4.2564169	11.214
Waterloo.....	221	42	24.69	41	45	09.37	4.0890761	7.628
Parks Mill.....	265	41	05	85	46	18	4.19237	9.677
Lone Mill.....	298	06	50	118	09	39	3.97971	5.929
Stiles.....	316	45	06.44	136	48	56.10	4.2228349	10.380

CRATER, DONA ANA COUNTY, N. MEX.

Five miles east of Philips Wells and ranch house, 2 miles northeast of a large depression known as Kilbourne Hole, three-fourths of a mile south of road from Philips Wells to Afton, a station on the Southern Pacific R. R., 3 miles north of road from Lanark to Mount Riley, on west end of a low lava ridge, on south edge of rim of an old crater.

Station mark: Bronze tablet cemented in rock on edge of rim.

Signal: Cairn of lava rock, 7 feet high. True azimuth from mark to signal, 7 feet distant, $231^{\circ} 22'$.

[Latitude $32^{\circ} 01' 00.62''$. Longitude $106^{\circ} 56' 35.93''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Jim.....	13 55 53.55	193 54 15.62	4.3058676	12.567
Riley.....	48 17 08.02	228 13 20.13	4.1803068	9.411
Lanark.....	293 32 16	113 36 32	4.11244	8.050
Sand.....	313 51 22.72	133 54 03.44	4.0434330	6.867
Herrington.....	329 34 15.06	149 37 40.63	4.3047132	12.533
Hunt.....	339 09 40	159 12 24	4.18300	9.470
Hunt Windmill.....	342 50 39	162 51 42	4.02369	6.562

CROSSING, DONA ANA COUNTY, N. MEX.

Two miles north and 3 miles west of Strauss, a station on the Southern Pacific R. R., 1 mile west of railroad crossing on main El Paso and Deming automobile road, 1,000 feet south of an old road leading from the above crossing to Noria and to Herrington's ranch, on main dividing sand ridge running southeasterly from above-mentioned old road. Station is on a sand bank slightly above general elevation, between two large bunches of mesquite, and nearer the west bunch. Azimuth from mark to signal $255^{\circ} 05'$, distance 5.1 feet.

Station mark: Iron bench-mark post, set in ground with 8 inches projecting above general level. The post is in the center of and covered 18 inches by a pile of sand, thrown up for elevating instrument.

Signal: Pieces of 2 by 4 inch lumber, spliced and bearing cross vanes, size 3 by 5 feet, covered with black cloth; the whole being 25 feet high and set 3 feet in the ground.

[Latitude $31^{\circ} 52' 40.68''$. Longitude $106^{\circ} 44' 43.07''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Midway.....	31 36 25.42	211 34 52.87	3.9446633	5.470
Herrington.....	76 49 38.93	256 46 47.73	3.9422414	5.440
Mill.....	123 06 37	303 05 44	3.49418	1.939
Sand.....	125 45 33.88	305 41 57.45	4.1222548	8.234
Mada.....	179 01 31.72	359 01 29.30	3.8556734	4.457
Canutillo.....	228 11 32.86	48 13 30.50	3.8946118	4.875
Wieson.....	320 13 35	140 15 17	3.89846	4.913
Mastodon.....	322 10 22.53	142 12 57.40	4.1002078	7.826

DEAN, LUNA COUNTY, N. MEX. (Not occupied.)

Windmill at Dean's ranch, about 7 miles east of Columbus.

Station mark: Well.

Signal: Windmill over well.

[Latitude $31^{\circ} 50' 35.13''$. Longitude $107^{\circ} 31' 06.83''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Truck.....	267 52 52	87 57 01	4.09369	7.710
Glorious.....	295 45 30	115 49 42	4.14441	8.665

FLAT, LUNA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. About 5 miles east of Columbus and half a mile north of road.

Station mark: White signal.

Signal: Same.

[Latitude $31^{\circ} 49' 13.77''$. Longitude $107^{\circ} 31' 48.23''$.]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Yoakum.....	218	33	16	38	38	42	4.41430	16.131
Glorious.....	284	35	36	104	40	09	4.14933	8.764

GLORIOUS, LUNA COUNTY, N. MEX.

On hill about 2 miles southeast of Arena, a station on the El Paso & South-western R. R.

Station mark: Bronze tablet.

Signal: White.

[Latitude $31^{\circ} 47' 18.13''$. Longitude $107^{\circ} 23' 09.46''$.]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Stiles.....	94	28	58.83	274	21	47.67	4.3342866	13.416
Flat.....	104	40	09	284	35	36	4.14933	8.764
Dean.....	115	49	42	295	45	30	4.14441	8.665
Waterloo.....	132	57	25.25	312	49	07.43	4.5288744	21.000
P. B. M.....	142	56	02	322	52	37	4.22914	10.531
Mesquite.....	161	21	44	341	19	14	4.36899	14.532
Truck.....	178	39	52	358	39	54	3.81430	4.052
Yoakum.....	186	07	57.25	6	08	48.85	4.3799923	14.905
Potrillo.....	227	17	33.07	47	22	39.88	4.3177819	12.916
Rat.....	262	16	21.46	82	22	30.19	4.2688755	11.541
Camel.....	266	20	49	86	23	12	3.91078	5.060

GRAY, GRANT COUNTY, N. MEX.

On high rocky peak, about 8 miles southwest of Animas station on El Paso & South-western R. R., 4 miles southwest of Pratt station and 4 miles southeast of Rodeo station.

Station mark: Cross cut in solid rock.

Reference marks: (1) Arrow pointing to center, 12.5 feet southwest; (2) arrow pointing to center, 15.2 feet west.

Signal: Built of Juniper brush over center.

[Latitude $31^{\circ} 52' 29.87''$. Longitude $108^{\circ} 55' 20.30''$.]

To station—	Azimuth.			Back azimuth.			Distance.	
	°	'	"	°	'	"	Log. meters.	Miles.
Baldy.....	1	39	39.37	181	39	27.29	4.3190780	12.955
Twin.....	40	21	55	220	20	04	3.93161	5.308
Antelope.....	161	26	44	341	25	43	3.97844	5.913
Animas Mill.....	238	35	21	58	39	02	4.10930	7.992
Playas.....	245	55	35.33	66	03	40.88	4.4217121	16.408
Cliff.....	268	43	06	88	50	01	4.31540	12.845
North Animas.....	308	15	06.66	128	22	44.89	4.4648111	18.120
Animas.....	338	01	50.16	158	06	13.07	4.5469947	21.894

HACHITA TANK, GRANT COUNTY, N. MEX. (Not occupied.)

Center of iron water tank (railroad property), about 100 yards east of Hachita railroad station.

Station mark: Center of tank.

Signal: Center of tank.

[Latitude $31^{\circ} 55' 06.43''$. Longitude $108^{\circ} 19' 12.12''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Little Hatchet.....	55 57 19	235 53 06	4.18161	9.440
Vista.....	117 37 56	287 33 53	4.16579	9.102
Rica.....	339 09 44	159 10 48	3.95571	5.611

HERMANAS, LUNA COUNTY, N. MEX.

A Coast and Geodetic Survey station, on the highest of four hills, 3 miles S. 5° E. from Hermanas, a station and junction point on the El Paso & Southwestern R. R.

Reference mark: A cross cut in top of large high boulder, 11.68 meters from station, in azimuth $349^{\circ} 10'$.

Station mark: Disk cemented in solid rock.

[Latitude $31^{\circ} 48' 11.58''$. Longitude $107^{\circ} 56' 52.33''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
W.....	133 28 47.56	313 24 08.55	4.2818464	11.890
Prospect.....	136 21 57	316 18 31	4.17251	9.744
Cone.....	156 42 50.42	336 40 24.82	4.2627836	11.380
Yellow.....	189 44 54	9 46 01	4.34042	13.608
Wart.....	202 48 49	22 51 08	4.26531	11.446
Chloride.....	238 51 46.78	58 58 32.91	4.3732499	14.676
Lava.....	244 39 01	64 43 10	4.04407	6.877
Division.....	273 47 12.66	93 53 57.23	4.3062921	12.579
Cooks.....	194 03 30.85	14 10 26.11	4.9231609	.....
Florida.....	221 00 37.83	41 10 49.94	4.6645871	.....
North Franklin.....	265 01 33.23	85 47 36.65	5.1401966	.....

HERRINGTON, DONA ANA COUNTY, N. MEX.

Four miles north-northeast of Noria, a station on the El Paso & Southwestern R. R., 25 miles west of El Paso, $3\frac{1}{2}$ miles northeast of Herrington's ranch house and well, 1 mile east of an old road running from Herrington's ranch to Lanark, 1 mile south of an east-west fence line crossing this road, on highest part of dividing ridge having a general direction of northeast and southwest, on top of a sand bump which is about 3 feet higher than the general elevation in the immediate vicinity.

Station mark: Iron bench-mark post set in ground with about 4 inches projecting.

Signal: Lumber spliced, with cross vanes 3 by 5 feet covered with white cloth at top, the whole being about 16 feet high and set 3 feet in the ground.

[Latitude $31^{\circ} 51' 35.78''$. Longitude $106^{\circ} 50' 07.33''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Noria.....	.....	202 00 59	3.82391	4.142
Jim.....	81 37 17.18	261 32 14.40	4.1832661	9.476
Hunt.....	123 20 09	303 18 33	3.75864	3.564
Crater.....	149 37 40.63	329 34 15.06	4.3047132	12.533
Sand.....	167 03 44.68	347 02 59.68	3.9995908	6.208
Crossing.....	256 46 47.73	76 49 38.93	3.9422414	5.440
Midway.....	324 33 12.05	144 34 30.53	3.8293445	4.195

HOWE'S WINDMILL, GRANT COUNTY, N. MEX. (Not occupied.)

About halfway between Gray's ranch and Hatfield ranch. Belongs to Mr. Howe and is near his house, which has a tin roof.

Station mark: Well.

Signal: Windmill tower over well.

[Latitude 31° 36' 20.58". Longitude 108° 51' 56.77".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Rocky.....	21 17 56	201 16 05	4.25823	11.261
Baldy.....	146 30 39	326 28 40	4.03383	6.718
North Animas.....	236 05 46	56 11 36	4.32500	13.133

HUNT, DONA ANA COUNTY, N. MEX. (Not occupied.)

Station is 2½ miles southeast of Hunt's ranch (East Well), 1 mile north of east-west fence, and 2 miles northwest of a gate in this fence at an old road from Lanark to Herrington's ranch and to Noria; it is in center of highest sand ridge in this vicinity.

Station mark: A 2 by 4 inch scantling, 18 feet long, set in ground 3 feet, braced with guy wires, and having cross vanes of black cloth, 3 by 5 feet, at top.

Signal: Same.

[Latitude 31° 53' 18.11". Longitude 106° 53' 09.70".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Crater.....	159 12 24	339 09 40	4.18300	9.470
Sand.....	201 11 28	21 12 19	3.84892	4.388
Herrington.....	303 18 33	123 20 09	3.75864	3.564

HUNT WINDMILL, DONA ANA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. A windmill at Hunt's ranch, about 5 miles north of Noria.

Station mark: Well.

Signal: Windmill over well.

[Latitude 31° 55' 32.97". Longitude 106° 54' 37.32".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Riley.....	90 03 57	269 59 07	4.15902	8.961
Crater.....	162 51 42	342 50 39	4.02369	6.562

HYLO, GRANT COUNTY, N. MEX.

On a high rocky peak 2 miles east of Culberson's ranch and about 2 miles north of United States and Mexico border.

Station mark: Bronze tablet set in solid rock.

Signal: A cairn 7 feet high, having a 6-foot base, 9.5 feet southeast of tablet. True azimuth from mark to signal, 331° 57'.

[Latitude 31° 23' 34.26". Longitude 108° 35' 49.90".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Lang.....	70 02 00.32	249 57 00.42	4.2096112	10.068
Lone Tree.....	114 47 55	294 42 29	4.26001	11.307
O. K.....	168 58 48.69	348 57 47.43	4.2094189	10.064
Big Hatchet.....	215 01 21.13	35 07 35.11	4.5165727	20.414
Sycamore.....	268 18 33.87	88 27 08.34	4.4166613	16.218
Border.....	297 44 38	117 48 14	4.09392	7.714

JIM, DONA ANA COUNTY, N. MEX.

Three miles north of Potrillo station on the El Paso & Southwestern R. R., on top of a sharp-pointed, cone-shaped peak, the last prominent point but one on the East Potrillo Mountains, 1 mile north of the extreme southern point of the range. An old wagon road runs north and south on the west side of the peak about one-fourth of a mile from the foot. An old east and west road also runs up to the foot of the range a little north of the peak.

Station mark: Cross cut in rock 2 feet by 2 feet, on the highest point on the peak.

Signal: Tripod of juniper branches over mark.

[Latitude $31^{\circ} 50' 23.28''$. Longitude $106^{\circ} 59' 41.11''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Rat.....	80 14 35.78	260 08 22.09	4.2767470	11.752
Potrillo.....	111 09 17.34	291 02 00.61	4.3672929	14.476
Cox.....	134 51 03	314 48 15	4.06898	7.283
Riley.....	145 59 33.04	325 57 23.53	4.0613496	7.156
Crater.....	193 54 15.62	13 55 53.55	4.3058676	12.567
Sand.....	226 58 23.61	47 02 41.77	4.2443810	10.908
Herrington.....	261 32 14.40	81 37 17.18	4.1832661	9.476
Noria.....	287 01 58	107 06 12	4.12221	8.233
Restless.....	320 21 37	140 21 53	3.09012	0.765

LANARK, DONA ANA COUNTY, N. MEX. (Not occupied.)

Center of water tank at Lanark railroad station.

Station mark: Center of tank.

Signal: Same.

[Latitude $31^{\circ} 58' 12.37''$. Longitude $106^{\circ} 49' 03.65''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Sand.....	57 38 07	237 36 48	3.66540	2.873
Crater.....	113 36 32	293 32 16	4.11244	8.050
Mada.....	294 21 11	114 23 26	3.86798	4.580

LANG, GRANT COUNTY, N. MEX.

On the highest peak of the San Luis Mountains, between San Luis Pass and Mexican boundary. Is 4 miles south of the road, 1 mile north of international boundary monument No. 65, and 4 miles northeast of Lang ranch in the Animas Valley. Top of peak was cleared of scattered trees except one juniper tree.

Station mark: Bronze tablet in cone-shaped rock projecting 1 foot above ground, 10 feet northeast of signal.

Signal: Juniper tree. True azimuth from mark to signal, $27^{\circ} 47'$.

[Latitude $31^{\circ} 20' 34.24''$. Longitude $108^{\circ} 45' 26.04''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Monument No. 67.....	83 24 46	263 21 13	4.00765	6.324
Corner.....	89 16 18.48	269 09 05.21	4.3428206	13.683
Rocky.....	125 58 55.18	305 53 21.70	4.3198431	12.978
Animas.....	174 36 03.18	354 35 13.92	4.4221204	16.424
O. K.....	209 26 03.32	29 30 02.61	4.3914180	15.303
Hyla.....	249 57 00.42	70 02 00.32	4.2096112	10.068
Border.....	270 27 16	90 35 52	4.41860	16.291

LAVA, LUNA COUNTY, N. MEX. (Not occupied.)

On low hill about 4 miles east of Hermanas railroad station.

Station mark: Cairn.

Signal: Same.

[Latitude 31° 50' 45.19". Longitude 107° 50' 31.99".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Hermanas.....	64 43 10	244 39 01	4.04407	6.877
Wart.....	110 08 48	290 04 25	4.14348	8.646
Chloride.....	233 51 23	53 54 48	4.10240	7.866

LITTLE HATCHET, GRANT COUNTY, N. MEX.

On the highest one of a group of peaks about 10 miles southwest of Hachita and 2 miles south of road leading through a pass from Hachita to Playas Valley.

Station mark: Bronze tablet under cairn.

Signal: Cairn having a 4½-foot base and 6 feet high.

[Latitude 31° 50' 30.04". Longitude 108° 27' 10.86".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
O.	26 22 38.79	206 17 04.46	4.5773508	23.480
North Animas.....	56 21 02.72	236 13 51.04	4.4137585	16.110
Cliff.....	99 57 18	279 48 31	4.38193	14.972
Bum.....		280 55 37	3.75766	3.556
Playas.....	125 31 09.34	305 24 21.73	4.3958269	15.459
Vista.....	178 29 49.88	358 29 41.80	4.1848965	9.511
Hachita Tank.....	235 53 06	55 57 19	4.18161	9.440
Cedar.....	240 51 05.28	60 59 41.05	4.4674460	18.230
Rica.....	269 41 35.90	89 46 52.92	4.1986729	9.818
Apache.....	295 31 23.91	115 36 53.69	4.2611557	11.337
Big Hatchet.....	347 15 01.31	167 16 44.63	4.3702262	14.574

LONE TREE, GRANT COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. A lone tree on south slope of a bald knob in the Animas Mountains, 3 miles north of road leading through San Luis Pass, and 7 or 8 miles northwest of Culberson's ranch.

Station mark: Lone tree.

Signal: Same.

[Latitude 31° 27' 41.66". Longitude 108° 46' 15.61".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
O. K.....	238 17 13	58 21 38	4.19766	9.795
Hylo.....	294 42 29	114 47 55	4.26001	11.307

MADA, DONA ANA COUNTY, N. MEX.

Station is 1½ miles east and 1 mile north of Vevay switch on Southern Pacific R. R., one-fourth of a mile southeast of the Hall & Primm ranch and windmill, on top of ridge on east side of draw. To reach station by road from Vevay, take road east across railroad to adobe house and windmill, thence north to the Hall & Primm ranch (visible from this point).

Station mark: Iron bench-mark post set in ground.

Signal: Lumber with cross vanes of black cloth, 3 by 5 feet, at top; the whole being 17 feet high and set 3 feet in ground. Signal is braced with two sets of four guy wires. Azimuth from mark to signal, $328^{\circ} 55'$; distance 5 feet.

[Latitude $31^{\circ} 56' 33.51''$. Longitude $106^{\circ} 44' 47.71''$.]

To station—	Azimuth.	Back azimuth.	Distances.	
	° ' "	° ' "	Log. meters.	Miles.
Mill.....	24 29 57	204 29 07	3.77873	3.730
Sand.....	93 04 50.00	273 01 15.83	4.0272048	6.615
Lanark.....	114 23 26	294 21 11	3.86798	4.580
Canutillo.....	288 00 55.55	108 02 55.75	3.7977941	3.901
Crossing.....	359 01 29.30	179 01 31.72	3.8556734	4.457

McLAURIN, LUNA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. On low hill 4 miles southeast of White House ranch.

Station mark: Cairn.

Signal: Cairn.

[Latitude $31^{\circ} 54' 10.47''$. Longitude $107^{\circ} 47' 43.83''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
South Base.....	166 24 04	346 22 44	4.22519	10.436
Chloride.....	258 53 14	78 55 11	3.77210	3.677

MASTODON, DONA ANA COUNTY, N. MEX.

Three miles southeast of Mastodon railroad station, one-fourth of a mile north of United States and Mexico boundary line, 1,650 feet northwest of boundary monument No. 4, on sand bank 10 feet high, slightly higher than other sand banks in vicinity, about 600 feet south of another sand bank distinguished by being covered with green brush. Signal can be seen from Wilson's windmill tower at Mastodon.

Station mark: Bronze tablet set in top of cement post 8 inches in diameter and 3 feet long under center of signal.

Signal: Quadripod of lumber 12 feet high, set in ground 3 feet and covered with white cloth.

[Latitude $31^{\circ} 47' 17.58''$. Longitude $106^{\circ} 39' 49.46''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Midway.....	101 16 39.69	281 12 32.54	4.0996602	7.816
Crossing.....	142 12 57.40	322 10 22.53	4.1002078	7.826
Canutillo.....	172 59 41.95	352 59 04.48	4.1845234	9.503
North Franklin.....	231 41 39.59	51 47 03.14	4.3124625	12.759
Monument No. 2.....	272 18 25.66	92 22 26.04	4.0797654	7.466

MESQUITE, LUNA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. On windmill tower at Mesquite ranch.

Station mark: Windmill tower.

Signal: Same.

[Latitude $31^{\circ} 59' 17.53''$. Longitude $107^{\circ} 27' 54.17''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Yoakum.....	260 24 05	80 27 28	4.00768	6.324
Glorious.....	341 19 14	161 21 44	4.36899	14.532

MIDWAY, DONA ANA COUNTY, N. MEX.

Six miles west of Mastodon and $4\frac{1}{2}$ miles east of Noria, stations on the El Paso & Southwestern R. R., on south side of wagon road and railroad, 700 feet southeast of milepost 21 on above railroad, $1\frac{1}{2}$ miles southwest of Herrington's lower ranch and windmill (Thompson, present tenant), near east side of a flat sand ridge running northwest and southeast, on top of a sand bump which is about 4 feet higher than the general elevation of the immediate vicinity. Azimuth from mark to signal, $170^{\circ} 05'$, distance 5.35 feet.

Station mark: Iron bench-mark post set in ground and projecting 4 inches above the surface.

Signal: Lumber with cross vanes of black cloth 3 by 4 feet at top, the whole being 16 feet high and set 3 feet in ground; it is braced with four guy wires.

[Latitude $31^{\circ} 48' 37.21''$. Longitude $106^{\circ} 47' 38.49''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Noria.....		232 00 59	3.82391	4.142
Herrington.....	144 34 30.53	324 33 12.04	3.8293445	4.195
Crossing.....	211 31 52.87	31 36 25.42	3.9446633	5.470
Wilson.....	261 39 38	31 42 52	3.99036	6.077
Mastodon.....	281 12 32.54	101 16 39.69	4.0996602	7.816

MILL, DONA ANA COUNTY, N. MEX. (Not occupied.)

Center of windmill tower, 2 miles southwest of Vevay switch on Southern Pacific R. R. between Strauss and Lanark. Only windmill in vicinity on west side of railroad.

Station mark: Center of windmill.

[Latitude $31^{\circ} 53' 36.02''$. Longitude $106^{\circ} 46' 22.52''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Mada.....	204 29 07	24 29 57	3.77873	3.730
Canutillo.....	247 22 55		3.96200	5.689
Crossing.....	303-05 44	123 06 37	3.49418	1.939

LONE MILL, LUNA COUNTY, N. MEX. (Not occupied.)

A tall windmill about 3 miles north of Columbus and half a mile east of road leading from Columbus to Deming. There is a masonry reservoir near this mill, but no house.

Station mark; well.

Signal: Windmill over well.

[Latitude $31^{\circ} 52' 21.32''$. Longitude $107^{\circ} 38' 42.66''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Chloride.....	118 09 39	298 06 50	3.97971	5.929
Waterloo.....	179 00 03	358 59 58	4.13560	8.491
Stiles.....	338 30 20	158 31 06	3.91635	5.125

NEAR, LUNA COUNTY, N. MEX.

A station of the U. S. Coast and Geodetic Survey. Five miles in a direct line S. 33° W. from Victorio, a station on the El Paso & Southwestern R. R., on a high rocky peak, the more eastern one of two peaks in that vicinity, and about 1 mile west-northwest of the Sierra Rica mines. The reference mark, a cross cut in the rock, is 4.11 meters from the station in azimuth 116° 30'.

Station mark: Disk cemented into solid rock.

[Latitude 31° 47' 23.753". Longitude 108° 11' 03.884'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Big Hatchet.....	49 52 01.23	229 45 16.16	4.4242331	16.504
Apache.....	76 38 20.48	256 35 20.73	3.9652408	5.736
Rica.....	121 08 04.75	301 04 51.75	4.0509915	6.988
Brush.....	165 44 38	345 42 32	4.36260	14.321
Cedar.....	180 39 57.48	0 40 02.15	4.3009734	12.426
W.....	210 06 15.67	30 09 16.13	4.2283026	10.511
Prospect.....	224 41 16	44 45 19	4.23602	10.700
Florida (C. & G. S.).....	235 19 06.8	55 36 49.4	4.806230	.....
Hermanas (C. & G. S.).....	266 10 31.9	86 18 00.5	4.351190	.....

NORIA, DONA ANA COUNTY, N. MEX. (Not occupied.)

Center of farthest west and newest one of three well derricks at Noria, a station on the El Paso & Southwestern R. R., about 25 miles west of El Paso, Tex. The derrick is on south side of track, about 300 feet west of water tower, and is 70 feet high.

Station mark: Center of well derrick.

[Latitude 31° 48' 16.99". Longitude 106° 51' 39.46'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Jim.....	107 06 12	287 01 58	4.12221	8.233
Herrington.....	202 00 59	.....	3.82391	4.142
Midway.....	263 43 38	.....	3.81171	4.028

NORTH ANIMAS, GRANT COUNTY, N. MEX.

On a high bald peak of the Animas Mountains, in T. 30 S., R. 18 W., half a mile southeast of quarter corner between secs. 8 and 9. On a sharp ridge of range north of Animas Peak, 1 mile east of spring and small cabin on the Bakers' holdings known as their West ranch. Three miles south of road from Animas Valley through the pass to the Playas Valley and Hachita.

Station mark: Bronze tablet in solid rock.

Signal: Bamboo cone covered with white cloth over station mark.

[Latitude 31° 42' 42.86". Longitude 108° 40' 50.56'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Animas.....	33 44 07.60	213 40 53.57	4.2444633	10.910
Mill.....	56 11 36	236 05 46	4.32500	13.133
Baldy.....	83 22 08.07	263 14 19.00	4.3741838	14.707
X T Ranch.....	108 26 33	288 22 34	4.10135	7.847
Gray.....	128 22 44.89	308 15 06.66	4.4648110	18.120
Twin.....	112 13 36	292 04 07	4.48696	19.068
Antelope.....	136 22 03	316 13 29	4.57390	23.295
Animas Mill.....	154 24 41	334 20 43	4.43901	17.075
Cliff.....	173 15 07	353 14 23	4.27070	11.584
Playas.....	182 31 47.19	2 32 12.80	4.4601648	17.927
Vista.....	215 24 17.00	35 31 21.47	4.5617433	22.651
Bum.....	225 48 36	45 53 55	4.34670	13.806
Little Hatchet.....	236 13 51.04	56 21 02.72	4.4137585	16.110
Road.....	271 51 58	91 57 10	4.19471	9.729
Big Hatchet.....	287 31 16.72	107 40 10.26	4.4483934	17.448
O. K.....	346 03 27.15	166 05 03.26	4.3025068	12.470

O. K., GRANT COUNTY, N. MEX.

On high oval-shaped peak on east spur of the Animas Range on the west side of the Playas Valley north of Walnut Creek. Two miles west of Seven K's ranch house occupied by Mr. Tullous. This peak has a rock cliff 200 feet high on west side near summit.

Station mark: Bronze tablet in large flat rock near center of top, 6 feet east of signal.

Signal: Cairn 8 feet high. Azimuth from mark to signal, $88^{\circ} 44'$.

[Latitude $31^{\circ} 32' 10.44''$. Longitude $108^{\circ} 37' 47.26''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Lang.....	29 30 02.61	209 26 03.32	4.3914180	15.303
Lone Tree.....	58 21 38	238 17 13	4.19766	9.795
Animas.....	108 30 37.57	288 25 48.10	4.1869407	9.556
North Animas.....	166 05 03.26	346 03 27.15	4.3025068	12.470
Little Hatchet.....	206 17 04.46	26 22 38.79	4.5773508	23.480
Road.....	209 42 51	29 46 26	4.33912	13.567
Big Hatchet.....	243 21 09.31	63 28 25.52	4.3901385	15.258
Walnut Wells.....	264 20 41	84 24 21	4.04643	6.915
Pierce.....	287 56 07	108 04 51	4.44493	17.309
Sycamore.....	297 22 53.93	117 32 30.72	4.5168441	20.427
Hylo.....	348 57 47.43	168 58 48.69	4.2094190	10.064

PARK'S MILL, LUNA COUNTY, N. MEX. (Not occupied.)

A windmill about 10 miles northeast of Columbus, 150 feet west of G. E. Park's adobe house, and 200 feet north of east and west road.

Station mark: Well.

Signal: Windmill over well.

[Latitude $31^{\circ} 55' 25.10''$. Longitude $108^{\circ} 34' 11.79''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Chloride.....	85 46 18	265 41 05	4.19237	9.677
Waterloo.....	137 26 47	317 24 19	4.03608	6.752

P. B. M., LUNA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. Near permanent bench mark near junction of road running east from school and diagonal road northeast.

Station mark: Flag on yucca.

Signal: Same.

[Latitude $31^{\circ} 54' 37.04''$. Longitude $107^{\circ} 29' 38.26''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Yoakum.....	231 00 00	51 04 17	4.21563	10.208
Glorious.....	322 52 37	142 56 02	4.22914	10.531

NORTH FRANKLIN, EL PASO COUNTY, TEX.

A station of the U. S. Coast and Geodetic Survey near the U. S. Geological Survey station of the same name. It is 10 miles direct or 16 miles by road and trail north of El Paso and on the highest peak of the Franklin Mountains, which is smooth and rather pointed in appearance and has a red color. The station is marked with a U. S. Geological Survey bench-mark disk, stamped with the elevation, 7,141 feet, and cemented

into a drill hole in the solid rock. The reference mark is the highest point of the upper one of two outcropping rocks on the north side of the ridge, 0.48 meter from the south point and 0.47 meter from the west point of the rock. The top of this rock is about 3 feet above the top of the lower rock, which has a precipitous face about 4 feet high on the north side. The reference mark is 14.61 meters from the station in azimuth $303^{\circ} 38'$. The U. S. Geological Survey station North Franklin, marked by a cairn, is 2.9 meters from this station in azimuth $174^{\circ} 05'$.

[Latitude $31^{\circ} 54' 10.436''$ C. & G. S.; $31^{\circ} 54' 10.406''$ G. S. Longitude $106^{\circ} 29' 36.241''$ C. & G. S.; $106^{\circ} 29' 36.251''$ G. S.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Monument No. 2 (G. S.).....	17 21 23.64	197 20 00.88	4.1409799	8.597
Monument No. 2 (C. & G. S.).....	17 21 19.6	197 19 56.8	4.141011	8.597
Mastodon.....	51 47 03.14	231 41 39.59	4.3124625	12.759
Strauss.....	77 51 29	257 45 16	4.30092	12.405
Borderland.....	78 49 06	258 45 50	3.99647	6.154
Canutillo.....	97 51 24.54	277 45 22.83	4.2587468	11.274
Corduna (C. & G. S.).....	261 22 44.70	81 53 47.77	4.9703636	.....
Black (C. & G. S.).....	285 39 50 29	106 22 18.42	5.1227252	.....
Quitman (C. & G. S.).....	311 08 58.10	131- 40 14.90	5.1012531	.....

G. S.=Geological Survey. C. & G. S.=Coast & Geodetic Survey.

PIERCE, GRANT COUNTY, N. MEX. (Not occupied.)

On a high rocky peak in northeast part of the Alamo Hueco Mountains, 1 mile northwest of Pierce's ranch house, 2 miles south of road between Playas Valley and Hachita Valley through the pass between Big Hatchet and Alamo Hueco mountains.

Station mark: Cairn 7 feet high.

Signal: Same.

[Latitude $31^{\circ} 27' 30.81''$. Longitude $108^{\circ} 22' 03.42''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
O. K.....	108 04 51	287 56 07	4.44493	17.309
Big Hatchet.....	167 03 16	347 01 47	4.30350	12.498
Sycamore.....	337 48 46	157 49 02	3.84978	4.397

PLAYAS, GRANT COUNTY, N. MEX.

On low rocky hill three-fourths of a mile north of El Paso & Southwestern R. R. and $3\frac{1}{2}$ miles nearly west of Playas railroad station.

Station mark: Bronze tablet in solid rock.

Signal: Bamboo cone covered with white cloth over center.

[Latitude $31^{\circ} 58' 18.67''$. Longitude $108^{\circ} 40' 02.06''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
North Animas.....	2 32 12.80	182 31 47.19	4.4601648	17.927
Cliff.....	18 36 47	.....	4.03612	6.753
Gray.....	66 03 40.88	245 55 35.33	4.4217121	16.408
Animas Mill.....	72 56 39	252 52 13	4.13829	8.544
Antelope.....	86 26 41	266 17 34	4.43447	16.898
Vista.....	267 26 24.41	87 33 04.71	4.2981079	12.344
Little Hatchet.....	305 24 21.73	125 31 09.34	4.3958269	15.459
Bum.....	312 18 19	132 23 14	4.29703	12.313

POTRILLO, DONA ANA COUNTY, N. MEX.

On high mountain 10 miles northeast of P O L ranch, owned by Mr. Birchfield.

Station mark: Aluminum tablet.

Signal: Rock cairn. Azimuth from mark to signal, 85° 43'; distance, 7.6 feet.

[Latitude 31° 54' 55.50". Longitude 107° 13' 28.08'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Glorious.....	47 22 39.88	227 17 33.07	4.3177819	12.916
Yoakum.....	127 34 45.74	307 30 29.68	4.2047073	9.955
Sag.....	207 22 02.70	27 23 49.62	4.0619016	7.166
Riley.....	265 36 49.00	85 41 56.60	4.1854698	9.524
Jim.....	291 02 00.61	111 09 17.34	4.3672929	14.476
Rat.....	344 59 17.98	165 00 20.44	4.0797594	7.466

PROSPECT, LUNA COUNTY, N. MEX. (Not occupied.)

A secondary station on sharp bald peak 2½ miles southwest from Gibson's ranch and 5 miles northwest from Hermanas station of El Paso & Southwestern R. R.

Station mark: Highest point of peak.

Signal: Pole cone covered with white cloth.

[Latitude 31° 54' 01.00". Longitude 108° 03' 23.00'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Near.....	44 45 19	224 41 16	4.23602	10.700
W.....	123 29 36	303 27 51	3.63753	2.697
Hermanas.....	316 18 31	136 21 57	4.17251	9.244

RAT, DONA ANA COUNTY, N. MEX.

On hill 1½ miles north of Monument, a station on El Paso & Southwestern R. R.

Station mark: Bronze tablet.

Signal: Cairn. Azimuth from mark to signal, 55° 45'; distance, 10.5 feet.

[Latitude 31° 48' 38.67". Longitude 107° 11' 29.75'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Glorious.....	82 22 30.19	262 16 21.48	4.2688755	11.541
Potrillo.....	165 00 20.44	344 59 17.98	4.0797594	7.466
Riley.....	223 37 14	43 41 18	4.24666	10.966
Jim.....	260 08 22.09	80 14 35.78	4.2767470	11.752
Restless.....	263 16 04	83 22 33	4.29126	14.151
Tank.....	266 42 12	86 45 40	4.01784	6.474
Monument No. 10.....	285 38 49	105 42 23	4.04582	6.905

RESTLESS, DONA ANA COUNTY, N. MEX.

Sighted from two stations only. On southernmost hill on ridge extending south-east from Mount Riley.

Station mark: Rock cairn.

Signal: Same.

[Latitude 31° 49' 52.48". Longitude 106° 59' 11.23'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Rat.....	83 22 33	263 16 04	4.29126	14.151
Riley.....	140 21 53	320 21 37	3.09012	0.765

RICA, GRANT COUNTY, N. MEX.

On a high bald peak about 7 miles southeast of Hachita and 1 mile east of the Apache mine.

Station mark: Bronze tablet in ledge under cairn.

Reference marks: Three arrows cut in solid rock and pointing to center.

Signal: Cairn of 6½-foot base, 6½ feet high.

[Latitude 31° 50' 32.40". Longitude 108° 17' 09.94".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Big Hatchet.....	24 55 05.85	204 51 33.06	4.4031134	15.720
Little Hatchet.....	89 46 52.92	269 41 35.90	4.1986729	9.818
Vista.....	133 17 36.86	313 12 11.12	4.3468926	13.812
Hachita Tank.....	159 10 48	339 09 44	3.95571	5.612
Brush.....	193 24 07	13 25 26	4.23010	10.555
Cedar.....	214 45 06.66	34 48 24.83	4.2373251	10.732
W.....	243 58 50.20	64 04 54.14	4.3041478	12.517
Near.....	301 04 51.75	121 08 04.75	4.0509915	6.988
Apache.....	355 18 26.04	175 18 39.11	3.9016708	4.955

RILEY, DONA ANA COUNTY, N. MEX.

Five miles southwest of Phillips ranch house and wells, on farthest east one of a group of high mountains known as the Mount Riley group, which is about 1 mile northwest of the north end of a lower range of mountains (East Potrillo Mountains).

Station mark: Bronze tablet cemented in rock flush with ground.

Signal: Quadripod of juniper branches wired together and placed over station mark.

[Latitude 31° 55' 33.19". Longitude 107° 03' 46.32".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Monument No. 10.....	5 24 15	185 23 45	4.19978	9.843
Tank.....	8 20 53	188 20 17	4.09005	7.645
Rat.....	43 41 18	223 37 14	4.24666	10.966
Cox.....	55 30 54	235 30 17	3.35514	1.480
Potrillo.....	85 41 56.60	265 36 49	4.1854698	9.524
Sag.....	132 20 36.06	312 17 14.99	4.1298851	8.380
South Blue.....	192 27 13	12 27 56	3.99629	6.161
Crater.....	228 13 20.13	48 17 08.02	4.1803068	9.411
Hunt Windmill.....	269 59 07	90 03 57	4.15902	8.961
Jim.....	325 57 23.53	145 59 33.04	4.0613496	7.156

ROAD, GRANT COUNTY, N. MEX. (Not occupied.)

Windmill in rear of small adobe house near middle of Playas Valley, on north side of main east and west road.

Station mark: Well.

Signal: Windmill.

[Latitude 31° 42' 25.94". Longitude 108° 30' 56.27".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
O. K.....	29 46 26	209 42 51	4.33912	13.567
Animas.....	61 03 50	240 55 12	4.46310	18.048
North Animas.....	91 57 10	271 51 58	4.19471	9.729

ROCKY, GRANT COUNTY, N. MEX.

On the higher of two pointed peaks, known as Black Point. On the west side of Animas Valley, 2 miles north of Cloverdale post office and north of Cloverdale Creek.

Station mark: Bronze tablet in solid rock, 10 feet north of signal; true azimuth from mark to signal, $348^{\circ} 23'$.

Signal: Live-oak tree.

[Latitude $31^{\circ} 27' 12.23''$. Longitude $108^{\circ} 56' 06.13''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Corner.....	22 05 31.06	202 03 50.60	4. 1320684	8. 422
Cloverdale.....	75 43 29	255 40 04	4. 02921	6. 646
Baldy.....	151 20 00.53	1 20 12.52	4. 4134567	16. 099
Howe's Mill.....	201 16 05	21 17 56	4. 25823	11. 261
Animas.....	225 39 08.90	45 43 54.20	4. 3037073	12. 504
Lang.....	305 53 21.70	125 58 55.18	4. 3198431	12. 978

SAG, DONA ANA COUNTY, N. MEX.

On summit of ridge of the West Potrillo Mountains.

Station mark: Bronze tablet. Azimuth from mark to signal, $59^{\circ} 09'$; distance 5.8 feet.

Signal: Cairn.

[Latitude $32^{\circ} 00' 27.96''$. Longitude $107^{\circ} 10' 06.10''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Potrillo.....	27 23 49.62	207 22 02.70	4. 0619016	7. 166
Yoakum.....	88 31 59.06	268 25 55.62	4. 2553837	11. 188
South Blue.....	267 07 01	87 11 05	4. 08352	7. 531
Crater.....	267 13 54.60	87 21 04.08	4. 1281106	8. 346
Riley.....	312 17 14.99	132 20 36.06	4. 1298851	8. 380

SAND, DONA ANA COUNTY, N. MEX.

Three miles west and 1 mile south of Lanark, a station on the Southern Pacific R. R., 3 miles northeast of Hunt's "East" well, 1 mile south of the main road running west from Lanark. An old trail, which leaves the main road about half a mile west of Lanark (barely visible), crosses the ridge on which the station is situated about 600 feet north of station. The station is one-fourth of a mile south of the north end of a very sandy ridge, about 600 feet south of a draw cutting into the ridge from the west. The sand ridge on which the station is located is very noticeable from a point on the main road west, in a slight draw running north and south across this road, about 3 miles west of Lanark.

Station mark: Standard iron post set on a slight rise of sand, with about 4 inches of the post projecting above ground.

Signal: Lumber tripod 20 feet high.

[Latitude $31^{\circ} 56' 51.91''$. Longitude $106^{\circ} 51' 32.50''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Hunt.....	21 12 19	201 11 28	3. 84892	4. 382
Jim.....	47 02 41.77	226 58 23.61	4. 2443810	10. 908
Crater.....	133 54 03.44	313 51 22.72	4. 0434330	6. 867
Lanark.....	237 36 48	57 38 07	3. 66540	2. 873
Mada.....	273 01 15.83	93 04 50	4. 0272048	6. 615
Crossing.....	305 41 57.45	125 45 33.88	4. 1222548	8. 234
Herrington.....	347 02 59.68	167 03 44.68	3. 9995908	6. 208

SHERIDAN, GRANT COUNTY, N. MEX.

On south side of Big Hatchet Mountains, about 1 mile north of south end of spur and on east side of Sheridan Canyon, one-fourth of a mile from trail in canyon from Mengus Tank.

Station mark: Cross cut in solid rock 5 feet northwest of signal; true azimuth from mark to signal, 308° 52'.

Signal: Built of juniper brush.

[Latitude 31° 34' 09.40''. Longitude 108° 18' 15.94'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Sycamore.....	5 17 28	185 16 52	4.00717	6.317
Hyla.....	54 56 13	234 48 21	4.53151	21.128
Big Hatchet.....	129 24 43	309 21 46	4.06240	7.174
Cabin.....	238 31 19	58 34 11	4.00658	6.309

SKEWED, LUNA COUNTY, N. MEX. (Not occupied.)

On low hill about 3 miles north of White House ranch.

Station mark: Cairn.

Signal: Same.

[Latitude 31° 59' 33.55''. Longitude 107° 49' 31.33'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Wart.....	47 46 50	227 45 21	3.77766	3.724
Deming South Base.....	169 56 51	349 56 23	3.81104	4.022
Chloride.....	315 35 27	135 38 21	4.09100	7.662

SOUTH BLUE, DONA ANA COUNTY, N. MEX. (Not occupied.)

South end of blue house 6 miles northeast of Mount Riley Peak. Sighted from two stations only.

Station mark: South end of blue house.

Signal: Same.

[Latitude 32° 00' 47.50''. Longitude 107° 02' 24.85'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Riley.....	12 27 56	192 27 13	3.99629	6.161
Sag.....	87 11 05	267 07 01	4.08352	7.531

STILES, LUNA COUNTY, N. MEX.

On a small hill 3 miles southeast of Columbus.

Station mark: Bronze tablet. Azimuth from station mark to signal, 55° 12'; distance, 5.7 feet.

Signal and reference mark: Cairn.

[Latitude 31° 48' 12.19''. Longitude 107° 36' 47.78'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Division.....	83 12 11.69	263 08 21.57	4.0633681	7.190
Chloride.....	136 48 56.10	316 45 06.44	4.2228349	10.380
Lone Mill.....	158 31 06	338 30 20	3.91635	5.125
Waterloo.....	171 19 45.94	351 18 40.44	4.3341102	13.411
Yoakum.....	227 15 49.38	47 23 53.45	4.5149834	20.339
Glorious.....	274 21 47.67	94 28 58.83	4.3342866	13.416

SYCAMORE, GRANT COUNTY, N. MEX.

On the more westerly apex of a double peak near south end of the Alamo Hueco Mountains; it is $1\frac{1}{2}$ miles northwest of Sycamore Springs and can best be reached from this place. Peak on which station is located will be noted as having a sharp, narrow summit and rocky bluffs near top.

Station mark: Bronze tablet in solid rock on highest point, 7 feet northwest of signal; true azimuth from mark to signal, $329^{\circ} 50'$.

Signal: Cairn 7 feet high.

[Latitude $31^{\circ} 23' 58.21''$. Longitude $108^{\circ} 19' 22.33''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Border.....	66 39 56	246 35 38	4.21619	10.222
Hoyo.....	88 27 08.34	268 18 33.87	4.4166613	16.218
O. K.....	117 32 30.72	297 22 53.93	4.5168441	20.427
Pierce.....	157 49 02	337 48 46	3.84978	4.397
Big Hatchet.....	164 40 02.74	344 37 40.50	4.4332433	16.850
Sheridan.....	185 16 52	5 17 28	4.00772	6.317
Cabin.....	203 20 10.00	23 23 36.38	4.4195581	16.327
Big Hat.....	271 43 05	91 44 29	3.81388	4.048

STRAUSS, DONA ANA COUNTY, N. MEX. (Not occupied.)^s

Center of galvanized-iron water tank at Strauss, a station on the Southern Pacific R. R.

Station mark: Center of tank.

Signal: Same.

[Latitude $31^{\circ} 51' 53.07''$. Longitude $106^{\circ} 41' 59.89''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Crossing.....	108 53 08	288 51 42	3.65636	2.812
Canutillo.....	193 07 37	13 08 08	3.83723	4.265
North Franklin.....	257 45 16	77 51 29	4.30092	12.405

TANK, DONA ANA COUNTY, N. MEX. (Not occupied.)

Sighted from two stations only. A large black water tank at Mount Riley station on El Paso & Southwestern R. R.

Station mark: Center of tank.

Signal: Same.

[Latitude $31^{\circ} 48' 57.93''$. Longitude $107^{\circ} 04' 54.22''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Rat.....	86 45 40	266 42 12	4.01784	6.474
Riley.....	188 20 17	8 20 53	4.09005	7.645

TRUCK, LUNA COUNTY, N. MEX.

On sand dune about 3 miles south of P O L ranch, owned by Birchfield.

Station mark: White signal.

Signal: Same.

[Latitude $31^{\circ} 50' 49.78''$. Longitude $107^{\circ} 23' 15.21''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Stiles.....	77 15 49	257 08 41	4.34071	13.616
Yoakum.....	188 53 57	8 54 52	4.24411	10.901
Glorious.....	358 39 54	178 39 52	3.81430	4.052

TWIN, GRANT COUNTY, N. MEX. (Not occupied.)

Sighted from two points only. The higher one of twin peaks about 5 miles south-east of Rodeo station on the El Paso & Southwestern R. R. and 5 miles northwest of the X T ranch.

Station mark: Cairn.

Signal: Same.

[Latitude $31^{\circ} 48' 58.48''$. Longitude $108^{\circ} 58' 50.66''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Gray.....	220 20 04	40 21 55	3.93161	5.308
North Animas.....	292 04 07	112 13 36	4.48696	19.068

VISTA, GRANT COUNTY, N. MEX.

On low rocky peak about 2 miles northwest from Vista station on the El Paso & Southwestern R. R. and three-fourths of a mile north of railroad.

Station mark: Cross cut in solid rock on highest point of peak.

Reference marks: (1) Arrow cut in solid rock 6 feet northeast of and pointing to center; (2) arrow cut in solid rock $4\frac{1}{2}$ feet northwest of and pointing to center.

Signal: Bamboo cone covered with white cloth.

[Latitude $31^{\circ} 58' 46.85''$. Longitude $108^{\circ} 27' 26.15''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
North Animas.....	35 31 21.47	215 24 17.00	4.5617433	22.651
Playas.....	87 33 04.71	267 26 24.41	4.2981079	12.344
Cedar.....	272 13 25.03	92 22 09.90	4.4157178	16.183
Hachita Tank.....	297 33 53	117 37 56	4.16579	9.102
Rica.....	313 12 11.12	133 17 36.86	4.3468926	13.812
Little Hatchet.....	358 29 41.80	178 29 49.88	4.1848965	9.511

W, LUNA COUNTY, N. MEX.

On bald peak, which is the highest point in the Cedar Mountain Range. Station is on the southeastern summit of a double peak and about 8 miles northwest from Hermanas, a station on the El Paso & Southwestern R. R. and $1\frac{1}{2}$ miles northwest from Gibson's ranch.

Station mark: Cross cut in solid rock.

Reference marks: (1) Cross cut in solid rock 29.5 feet south from center; (2) cross cut in solid rock 22.1 feet southwest from center; (3) cross cut in solid rock 8.9 feet east from center.

Signal: Cone built of juniper brush.

[Latitude $31^{\circ} 55' 18.78''$. Longitude $108^{\circ} 05' 40.87''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Near.....	30 09 06.13	210 06 15.67	4.2283026	10.511
Rica.....	64 04 54.14	243 58 50.20	4.3041478	12.517
Brush.....	118 35 19	298 30 34	4.20728	10.015
Cedar.....	123 03 34.50	303 00 48.30	3.9930447	6.115
Cone.....	241 06 43.02	61 08 56.78	3.8799030	4.713
Prospect.....	303 27 51	123 29 36	3.63753	2.697
Hermanas.....	313 24 08.55	133 28 47.56	4.2818464	11.890

WALNUT WELL, GRANT COUNTY, N. MEX. (Not occupied.)

Sighted from two points only. Station is windmill at Burkett's ranch, about 2 miles north of Walnut Wells post office in the Playas Valley, 3 miles north of Walnut Wells, and 1 mile south of adobe schoolhouse.

Station mark: Well.

Signal: Windmill over well.

[Latitude 31° 32' 45.85". Longitude 108° 30' 47.43".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
O. K.....	84 24 21	264 20 41	4.04643	6.915
Big Hatchet.....	227 41 45	47 45 21	4.16779	9.144

WART, LUNA COUNTY, N. MEX.

Stone monument, with pole in center, on top of a small hill half a mile southeast of Tomerlin railroad station.

Station mark: Cairn.

Signal: Same.

[Latitude 31° 57' 22.77". Longitude 107° 52' 20.34".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Hermanas.....	22 51 08	202 48 49	4.26531	11.446
Yellow.....	143 18 30	323 17 21	3.75903	3.568
Deming South Base.....	197 37 17	17 38 24	4.03796	6.781
Skewed.....	227 45 21	47 46 50	3.77766	3.724
Chloride.....	290 04 25	110 08 48	4.14348	8.646
Lava.....	346 54 12	166 55 09	4.09941	7.812

WATERLOO, LUNA COUNTY, N. MEX.

On a round hill 150 feet high, 2 miles northeast of Waterloo store.

Station mark: Bronze tablet in solid rock. Azimuth from mark to signal, 69° 27'; distance, 7.16 feet.

Signal and reference mark: Cairn.

Latitude 31° 59' 44.90". Longitude 107° 38' 51.74".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Chloride.....	41 45 09.37	221 42 24.69	4.0890761	7.628
Deming South Base.....	108 37 58.38	288 31 56.39	4.2764627	11.744
Yoskum.....	268 08 28.19	88 17 39.25	4.4363136	16.969
Glorious.....	312 49 07.43	132 57 25.25	4.5288744	21.000
Parks Mill.....	317 24 19	137 26 47	4.03608	6.752
Stiles.....	351 18 40.44	171 19 45.94	4.3311102	13.411
Lone Mill.....	358 59 58	179 00 03	4.13560	8.491

WILSON, DONA ANA COUNTY, N. MEX. (Not occupied.)

Center of A. Wilson's windmill at Mastodon, a station on El Paso & Southwestern R. R.

Station mark: Well.

Signal: Windmill over well.

[Latitude 31° 49' 23.12". Longitude 106° 41' 30.52".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Midway.....	81 42 52	261 39 38	3.99036	6.077
Crossing.....	140 15 17	320 13 35	3.89846	4.913

X T, GRANT COUNTY, N. MEX. (Not occupied.)

Windmill tower without wheel near small house, one-quarter of a mile east of the X T ranch, and 13 miles south of Animas railroad station.

Station mark: Well.

Signal: Windmill tower over well.

[Latitude 31° 44' 52.35". Longitude 108° 48' 25.73".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Baldy.....	59 40 46	239 36 55	4.12549	8.295
Gray.....	142 17 54	322 14 15	4.25085	11.071
North Animas.....	288 22 34	108 26 33	4.10135	7.847

YELLOW, LUNA COUNTY, N. MEX. (Not occupied.)

On low hill about 3 miles northwest of Tomerlin railroad station.

Station mark and signal: Bamboo cone covered with white cloth.

[Latitude 31° 59' 52.23". Longitude 107° 54' 31.03".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Hermanas.....	9 46 01	189 44 54	4.34042	13.608
Deming South Base.....	229 15 27	49 17 43	3.94870	5.521
Wart.....	323 17 21	143 18 30	3.75903	3.568

YOAKUM, LUNA COUNTY, N. MEX.

On hill about 4 miles northeast of Birchfield's Board ranch.

Station mark: Bronze tablet.

Signal: White quadripod over mark.

[Latitude 32° 00' 12.48". Longitude 107° 21' 31.83".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Glorious.....	6 08 48.85	186 07 57.25	4.3799923	14.905
Truck.....	8 54 52	188 53 57	4.24411	10.901
Flat.....	38 38 42	218 33 16	4.41430	16.131
Stiles.....	47 23 53.45	227 15 49.38	4.5149834	20.339
P. B. M.....	51 04 17	231 00 00	4.21563	10.208
Mesquite.....	80 27 28	260 24 05	4.00768	6.324
Waterloo.....	88 17 39.25	268 08 28.19	4.4363136	16.969
Sag.....	268 25 55.62	88 31 59.06	4.2553837	11.188
Potrillo.....	307 30 29.68	127 34 45.74	4.2047073	9.955
Camel.....	346 36 10	167 38 02	4.37996	14.904

NEW MEXICO AND TEXAS.

TRIANGULATION STATIONS.

Avis, Hope, Orange, and Queen quadrangles, N. Mex.; Salt Basin quadrangle, Tex.

EDDY AND OTERO COUNTIES, N. MEX., CULBERSON AND EL PASO COUNTIES, TEX.

In the spring of 1917 C. L. Nelson and B. H. Yoakum extended triangulation over above-named quadrangles, based on Coast and Geodetic Survey stations Black and Corduna, and connected them with stations Dry, Lewis, and Waldie, located in 1909. All positions given are on North American datum.

BATES, OTERO COUNTY, N. MEX.

About 6 miles from Otero and Chaves county line, on crest of Guadalupe Mountains, 30 miles by road northwest of Queen post office, 6 miles northwest of Indian Creek Ranger Station, 4 miles west of W. C. Bates's ranch house, near head of Little Dog Creek, 200 feet north of ranger road at a point where it reaches the crest of the range, on highest point of ridge, which is cleared of timber at this point.

Reference marks: Cross cut in large flat rock 56.21 feet west of station mark; also cross cut in small rock 51.1 feet southeast of station.

Station mark: Bronze bench-mark tablet cemented in rock flush with ground, 14.5 feet southwest of signal.

Signal: Several piñon trees lashed together and braced with poles and rock.

[Latitude 32° 23' 57.72". Longitude 105° 01' 22.67".]

To station—	Azimuth.	Back azimuth.	Distance.	
			<i>Log. meters.</i>	<i>Miles.</i>
Corduna.....	48 23 08.04	228 07 22.19	4.7943391	38.698
Waldie.....	87 56 03.13	267 43 20.40	4.5709838	23.138
Green.....	132 10 01.03	312 06 54.85	4.0874110	7.599
Childers.....	189 08 03.03	9 08 53.97	4.1930415	9.692
Hope.....	210 31 47	30 39 35	4.65095	27.817
Deadman.....	256 52 58	77 09 29	4.69458	30.756
Texas Hill.....	265 07 45	85 14 13	4.27823	11.792
Box.....	324 32 54.40	144 34 19.83	4.8569284	4.470

BOX, EDDY COUNTY, N. MEX.

Twenty-five miles by road northwest of Queen post office, on the head of north fork of Indian Creek, 1 mile west-northwest of Indian Creek Ranger Station, in the highest point of Guadalupe Mountain rim, between Little Dog Creek and the head of Indian Creek, on the most western point of timbered ridge on south side of Indian Creek. To reach station from Queen post office, take main road west about 4 miles to road forks, then take ranger road northwest to Indian tank and Indian Ranger Station, take first draw to left above Ranger Station, thence to point of first ridge on left, and to station. Coming in from the north via Bullis Spring, Sargent water tank, and Bates ranch, proceed to Indian Ranger Station and thence follow former route to station.

Reference marks: Cross cut in rock, distant 20 feet, in azimuth $164^{\circ} 20'$; second cross cut in rock, distant 15 feet, in azimuth $262^{\circ} 42'$.

Station mark: Bronze tablet cemented in rock, $4\frac{1}{2}$ feet southwest from signal tree; true azimuth from mark to signal, $227^{\circ} 34'$.

Signal: Live piñon tree braced with four poles.

[Latitude $32^{\circ} 20' 47.46''$. Longitude $104^{\circ} 58' 43.12''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Corduna.....	55 02 29.17	234 45 19.04	4.7918364	38.476
Waldie.....	96 15 10.75	276 01 03.16	4.6194232	25.869
Bates.....	144 34 19.83	324 32 54.40	3.8569284	4.470
Texas Hill.....	243 08 40	63 13 35	4.21810	10.267
Deadman.....	248 48 13	69 03 01	4.67375	29.316
Thayer.....	297 25 37	117 36 36	4.56152	22.640
Pickett.....	324 34 42.96	144 39 36.86	4.3961344	15.470
El Capitan.....	347 30 55.66	167 34 41.65	4.7132740	32.109

CHILDERS, CHAVES COUNTY, N. MEX.

Near Otero and Eddy county line, on eastern slope of Guadalupe Mountains, on last high ridge on this slope, 5 miles northeast of the Sargent tank (Prude Bros. range), 7 miles west of Childers ranch house and wells, on north side of Crooked Creek, a branch of Seven Rivers, 1 mile east of Childers & (Bob) Ware's earth tank on above creek. The ridge on which station is situated is bare except a few scattered piñon and juniper trees and has three distinct points or peaks, the station being on the middle and highest one. There is a wagon road in Crooked Creek Canyon from Hope and Lakewood, N. Mex., to Sargent tank. To reach station leave this house road at a point about 2 miles east of Childers Ware's tank and take low sloping ridge north to station.

Signal mark: Live juniper tree with branches added and braced with wire guys and poles on the north slope of peak.

Station mark: Bronze tablet cemented in large flat ledge on eastern slope of peak, 89.5 feet east of signal; true azimuth from mark to signal tree, $83^{\circ} 27'$.

[Latitude $32^{\circ} 32' 17.64''$. Longitude $104^{\circ} 59' 47.78''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Bates.....	09 08 53.97	189 08 03.03	4.1930415	9.692
Green.....	58 05 29.66	238 01 32.13	4.1334355	8.449
Prude.....	68 07 42.74	248 03 32.92	4.1164089	8.124
Lewis.....	131 56 26.07	311 52 06.64	4.2273193	10.487
Hope.....	221 11 52	41 18 52	4.48813	19.120
Deadman.....	275 13 11	95 28 53	4.66199	28.533
Texas Hill.....	310 00 48	130 06 26	4.33144	13.329

COFFELT, OTERO COUNTY, N. MEX.

A three-point station 1 mile north of El Paso, Hope, and Artesia automobile road, about 1.5 miles west-northwest of Coffelt tank. Station is in rock ledge in top of ridge, 0.5 mile west of head of canyon which empties just below Coffelt tank, about 3 miles east of Coffelt ranch house. Monument with base of 4 feet and $3\frac{1}{2}$ feet high bears west 5 feet from station mark.

Station mark: A cross cut in top of 3 by 5 foot rock in place.

[Latitude 32° 14' 43.96". Longitude 105° 18' 42.59".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Corduna.....	38 18 47	218 12 16	4.49257	19.316
Waldie.....	147 20 25	327 17 00	4.26929	11.552
El Capitan.....	312 32 18	132 46 37	4.76298	36.002

CORDUNA, OTERO COUNTY, N. MEX.

A Coast and Geodetic Survey station near the U. S. Geological Survey station of the same name. It is about 1½ miles north of the Texas and New Mexico boundary, 70 miles by road or 60 miles direct north of Sierra Blanca, a town at the junction of the Southern Pacific and Texas Pacific railroads, and about 3 miles northeast of San Antonio Peak, on the highest peak in the vicinity, known locally as Wind Mountain.

Reference mark: Cross cut in top of rock, 4.63 meters from station, in azimuth 157° 48'. The U. S. Geological Survey station Corduna, marked by a cairn, is 7.8 meters from the station in azimuth 170° 48'.

Station mark: Coast and Geodetic Survey tablet cemented in solid rock.

[Latitude 32° 01' 31.47". Longitude 105° 30' 57.02".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Waldie.....	192 53 06.28	12 56 13.14	4.6137880	25.535
Road.....	200 27 41	20 29 10	4.09990	7.821
Green.....	216 50 33.76	37 03 15.34	4.7934725	38.621
Coffelt.....	218 12 16	38 18 47	4.49257	19.316
Bates.....	228 07 22.19	48 23 08.04	4.7943391	38.698
Box.....	234 45 19.04	55 02 29.17	4.7918364	38.476
Pickett.....	256 35 39.27	76 57 39.38	4.8255854	41.585
Saunders.....	258 39 24	78 46 14	4.31563	12.852
El Capitan.....	283 18 31.23	103 39 19.83	4.80415960	39.853

DEADMAN, EDDY COUNTY, N. MEX. (Not occupied.)

About 16 miles west-northwest from Carlsbad and 12 miles southwest from Lakewood, towns on the Pecos River branch of the Atchison, Topeka & Santa Fe Ry.; on the highest ground south of the western entrance of the road leading through Deadmans Gulch. The station is about 10 paces east of the ledge at the west side of the bluff, at a point where the town of Lakewood shows over and to left tangent of hills 3 miles north, about 9 miles south of Seven Rivers School. North face of bluff has quite a prominent V-shaped gully one-third of the distance from top and visible from road. To reach station go from Carlsbad out Rocky Arroyo road 12 miles to Arroyo, then across to Fannings Gap, follow road southward close to foot of hills to second gap. Station is on south side. To reach it from Lakewood go to Pritchard's ranch (old Fanning place), then south along west foot of hills to Deadman's Gap, which is about 2 miles south of the first road passing around the foot of a steep hill with cairn. Stand for instrument needed. Wagon to foot of hill. Water at Nelson's or Pritchard's ranch. Mail and supplies at Lakewood.

Magnetic directions and distances at station: Lakewood, 12 miles, 29½° mag.; cairn on top of hill, 2 miles, 33° mag.; cement plant Oriental, 8 miles, 54½° mag.; White Flat Top, 6 miles, 142½° mag. Sighted from Thayer, Box, Childers, and Lewis stations. Can also be sighted from Turnegan, Texas Hill, Hope, Taylor, and possibly Crow.

Station mark: U. S. Geological Survey bronze bench-mark tablet cemented in solid rock under center of signal.

Signal: Quadripod of lumber 10 feet high, covered with black cloth, and having vanes of white cloth.

[Latitude 32° 29' 53.64". Longitude 104° 30' 36.08'".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Box.....	69 03 01	248 48 13	4.67375	29.316
Bates.....	77 09 29	256 52 58	4.69458	30.756
Childers.....	95 28 53	275 13 11	4.66199	28.533
Lewis.....	105 07 23	284 47 19	4.77999	37.440

DRY, CHAVES COUNTY, N. MEX.

On what is probably the highest point in divide between Pinon and Cornucopia creeks, about 10 miles southeast of Pinon post office. To reach the station follow the road from Pinon along Cornucopia Creek about 8 miles, then go east about 4 miles.

Signal: Small tree braced with four poles.

Station mark: Triangulation tablet cemented in solid rock level with surface of ground.

[Latitude 32° 30' 31.42". Longitude 105° 15' 28.89'".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Waldie.....	48 08 11.22	228 03 01.35	4.3068362	12.595
Lewis.....	219 27 09.30	39 31 16.66	4.2752124	11.710
Prude.....	277 19 21.53	97 23 37.49	4.0982526	7.791
Green.....	286 42 43.31	106 47 11.39	4.1337825	8.455

Values from the west from Bulletin 551.

[Latitude 32° 30' 31.56". Longitude 105° 15' 28.82'".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Waldie.....	48 08 25.61	228 03 15.71	4.3068756	12.596
Chatfield.....	99 56 38.50	279 48 32.77	4.3789399	14.869
Chimney.....	161 46 10.01	341 43 50.91	4.3323988	13.358
One Tree.....	163 51 29	343 49 11	4.38571	15.103
Lewis.....	219 27 19.98	39 31 27.36	4.2752213	11.710

GREEN, OTERO COUNTY, N. MEX.

On western rim of Guadalupe Mountains, 7 miles south of "Bullis Springs" (Prude Bros. ranch), 5 miles west of Sargent water tank and ranch house (which also belong to Prude Bros.), on extreme western end of a prominent high ridge practically bare of large timber on its north side, about 500 feet east of the edge of rim rock. To reach station from the north start from Sam Lewis's tank and ranch house (now belonging to Prude Bros.), which are near main automobile road leading west from Hope, N. Mex., take mountain road leading south to "Bullis Springs," thence on south up canyon to a point where wagon road strikes telephone line and turns east, leave road and follow flat open drains south across two low divides, and keeping about half a mile to east of Prude station cross two low ridges and two canyons, turn west in last canyon to rim then station is on top of ridge to south. To reach station from the south take range road from Queen post office via Indian Creek ranger station and Bates ranch to Sargent tank, thence, west up canyon to rim, and station is on ridge to south. No road from Sargent tank, but horses or light wagon can be taken within a quarter of a mile of station.

Station mark: Bronze bench-mark tablet cemented in rock set in ground, 24 feet northeast of signal; true azimuth from mark to signal, 59° 52'.

Reference mark: A 40-penny spike in root of signal tree, 23.05 feet west of station.

Signal: Live piñon tree trimmed of lower branches and braced with wire guys.

[Latitude 32° 28' 24.11". Longitude 105° 07' 09.79".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Corduna.....	37 03 15.34	216 50 33.76	4.7034725	38.621
Waldie.....	71 12 16.76	251 02 39.40	4.4731309	18.471
Dry.....	106 47 11.39	286 42 43.31	4.1337825	8.455
Prude.....	165 37 34.82	345 37 22.61	3.3784870	1.485
Childers.....	238 01 32.13	58 05 29.66	4.1334355	8.449
Bates.....	312 06 54.85	132 10 01.03	4.0874110	7.599

HOPE, EDDY COUNTY, N. MEX. (Not occupied.)

Two miles west of Hope, on west edge of Rio Penasco Valley, 1 mile west of main wagon road from Hope to Pinon post office and to El Paso, Tex., 1 mile west of wind mill, and water tank above road on a low point of ridge plainly visible southwest from Hope, N. Mex. Sighted from Bates, Childers, and Lewis stations; can also be seen from Elk, Crow, Deadman, Texas Hill, and probably Taylor. Probably would be necessary to use heliotrope signal for Elk and Taylor lines.

Reference mark: Bronze bench-mark tablet cemented in large boulder, 3 feet northeast of signal.

Signal: Tripod of lumber and wire braces, covered with white cloth and anchored with pile of rock.

[Latitude 32° 44' 48.58". Longitude 104° 46' 49.28".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Bates.....	30 39 35	210 31 47	4.65095	27.817
Childers.....	41 18 52	221 11 52	4.48813	19.120
Lewis.....	70 13 51	250 02 30	4.54286	21.688

LEWIS, CHAVES COUNTY, N. MEX.

On peak on divide between Pinon and Fourmile creeks, about 1 mile N. 64° E. from S. W. Lewis's ranch, and 15 miles east by wagon road from Pinon post office.

Signal: Tree braced with four poles.

Station mark: Triangulation tablet cemented in stone level with surface of ground.

[Latitude 32° 38' 23.59". Longitude 105° 07' 49.44".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Dry.....	39 31 16.66	219 27 09.30	4.2752124	11.710
Hope.....	250 02 30	70 13 51	4.54286	21.688
Deadman.....	284 47 19	105 07 23	4.77999	37.440
Childers.....	311 52 06.64	131 56 26.07	4.2273193	10.487
Prude.....	358 25 59.20	178 26 08.31	4.2083454	10.039

Values from west from Bulletin 551.

[Latitude 32° 38' 23.72". Longitude 105° 07' 49.34".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Dry.....	39 31 27.36	219 27 19.98	4.2752213	11.710
Chatfield.....	73 43 57.04	253 31 42.94	4.5686960	23.017
Chimney.....	107 29 15.77	287 22 48.42	4.2922695	12.179
One tree.....	115 13 14	295 06 46	4.31588	12.800
Elk.....	158 48 12	338 43 13	4.59802	24.625
Pajarita.....	157 06 55	336 57 08	4.85651	44.685

PICKETT, EDDY COUNTY, N. MEX.

Near Eddy and Otero county line, 6 miles west of Queen post office, 1 mile north of El Paso and Carlsbad automobile road, 0.75 mile north of Michael Iribarne's ranch house and water tanks, 0.5 mile east of Pickett's dugout, on north end of prominent bare ridge, locally known as Pickett Hill.

Signal: Live piñon tree braced with poles.

Reference marks: (1) Cross cut in rock flush with ground, in azimuth $172^{\circ} 14' 12''$, distant 40.55 feet; (2) cross cut in rock flush with ground, in azimuth $285^{\circ} 50' 32''$, distant 39.75 feet from station mark.

Station mark: Bronze tablet cemented in solid rock flush with ground; true azimuth from mark to signal, $337^{\circ} 00'$, distance 3.7 feet.

[Latitude $32^{\circ} 09' 48.46''$. Longitude $104^{\circ} 49' 32.42''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
El Capitan.....	6 14 50.57	186 13 43.94	4.4820098	18.852
Corduna.....	76 57 39.38	256 35 39.27	4.8255854	41.585
Box.....	144 39 36.86	324 34 42.96	4.3961344	15.470
Texas Hill.....	180 44 04	0 44 00	4.44336	17.247
Thayer.....	259 00 34	79 06 38	4.26127	11.340

PRUDE, OTERO COUNTY, N. MEX.

On western rim of Guadalupe Mountains, on highest point near northern end of main range, 6 miles south of Bullis Springs, 3 miles south of junction of mountain rim road with forestry telephone line from Pinon post office to Carlsbad, on west summit of a prominent wooded peak, the first one south of a prominent bare peak on the mountain rim. Peak is partly cleared of timber on top. Signal can be seen from a distance of about 1 mile to north, south, or east, but can not be seen from foot of peak. Station is almost due east of Wood's tank, in Crow Flat, but can not be very well reached from that place on account of steep rocky bluff.

Signal: Live piñon tree with lower branches trimmed and additional branches lashed in top and braced with wire.

Station mark: Bronze bench-mark tablet cemented in rock set in ground, 7.5 feet south of signal; true azimuth from mark to signal, $191^{\circ} 30'$. Reference mark: A 40-penny nail driven in root of signal tree, 7.95 feet north of station.

[Latitude $32^{\circ} 29' 39.29''$. Longitude $105^{\circ} 07' 32.52''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Waldie.....	66 38 43.10	246 29 17.76	4.4771887	18.644
Dry.....	97 23 37.49	277 19 21.53	4.0982526	7.791
Lewis.....	178 26 08.31	358 25 59.20	4.2083454	10.039
Childers.....	248 03 32.92	68 07 42.74	4.1164089	8.124
Green.....	345 37 22.61	165 37 34.82	3.3784870	1.485

ROAD, OTERO COUNTY, N. MEX.

A three-point station, about 5 miles northeast of Corduna, about 3 miles southwest of Shiloh tank, 950 feet southeast of road to Shiloh tank, and about 5 miles southeast of Brown's ranch. A rock monument 4 feet long, and 4 feet high bears southeast 7 feet.

Station mark: A cross chiseled in top of rock 1 foot by 2 feet, set flush with ground.

[Latitude $32^{\circ} 07' 54.27''$. Longitude $105^{\circ} 28' 09.17''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Corduna.....	20 29 10	200 27 41	4.09990	7.821
Waldie.....	189 35 30	9 37 03	4.45738	17.813
El Capitan.....	294 41 50	115 01 12	4.80194	39.381

SAUNDERS, OTERO COUNTY, N. MEX.

A three-point station, 5 miles east of A. Griffin's ranch house, $1\frac{1}{2}$ miles northwest of Saunder's ranch house, 160 feet southwest of road between Griffin's ranch and Orange post office, on top of hill, in exposed rocky ledge; a rock monument 3 feet high bears west 3 feet from station mark.

Station mark: Cross cut in rock in place.

[Latitude $32^{\circ} 03' 42.92''$. Longitude $105^{\circ} 18' 03.92''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Corduna	78 46 14	258 39 24	4.31563	12.852
El Capitan	294 17 52	114 31 48	4.66016	28.413
Black	344 59 10	165 04 01	4.74932	34.886

TEXAS HILL, EDDY COUNTY, N. MEX. (Not occupied.)

About 35 miles by road north of Queen post office, 40 miles by road west-southwest of Lakewood, on east slope of Guadalupe Mountains, on prominent, high, bare ridge, known locally as Texas Hill, half a mile north of a point where wagon road from Queen post office to Hope crosses the ridge. Texas Hill is bare of timber except a few scattered piñon and juniper trees. Water at tank 3 miles southwest of station, also at Acre tank, 6 miles east on Lakewood road. Sighted from Thayer, Pickett, Bates, Box, Prude, Green, and Childers stations. Can be seen also from Hope, Deadman, and Turnegan stations.

Signal: Quadripod 7 feet high with tree top in center 12 feet high.

Reference mark: Bronze bench-mark tablet cemented in solid rock 10 feet west of signal. Point computed is signal.

[Latitude $32^{\circ} 24' 49.46''$. Longitude $104^{\circ} 48' 19.04''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Pickett	0 44 00	180 44 04	4.44336	17.247
Box	63 13 35	243 08 40	4.21810	10.267
Bates	85 14 13	265 07 45	4.27823	11.792
Childers	130 06 26	310 00 48	4.33144	11.329
Thayer	324 07 21	144 13 29	4.47652	18.615

THAYER, EDDY COUNTY, N. MEX.

Seven miles east of Queen post office, 1 mile S. 75° W. of Thayer's ranch house, three-fourths of a mile N. 35° W. of an old, vacant ranch house on Thayer's holding, half a mile S. 18° W. of road fork leading to Thayer's ranch; on south side of main road from Queen post office to Carlsbad, on top of farthest west one of several prominent cone peaks in the immediate vicinity. Good water at Thayer's ranch.

Signal: Small piñon tree cut with branches left in top and braced with four poles.

Station mark: Bronze tablet cemented in rock flush with ground under center of signal.

[Latitude $32^{\circ} 11' 40.92''$. Longitude $104^{\circ} 38' 08.45''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Pickett	79 06 38	259 00 34	4.26127	11.340
Box	117 36 36	297 25 37	4.56152	22.640
Texas Hill	144 13 29	324 07 21	4.47652	18.615

WALDIE, OTERO COUNTY, N. MEX.

On prominent point on dividing ridge between Sacramento flats and Cornucopia Creek. A deep saddle is just east of station. Waldie's ranch (horse camp) about 8 miles distant bears S. 77° W. Warren's ranch is about 6 miles distant, N. 68° W. Station is about 15 miles south of Pinon post office.

Signal: Tripod 8 feet high made of lumber.

Station mark: Triangulation tablet cemented in stone level with surface of ground.

[Latitude 32° 23' 11.91". Longitude 105° 25' 06.41'']

To station—	Azimuth.	Back azimuth.	Distance.	
			Log. meters.	Miles.
Road.....	9 37 03	189 35 30	4.45738	17.813
Corduna.....	12 56 13.14	192 53 06.28	4.6137880	.....
Dry.....	228 03 01.35	48 08 11.22	4.3068362	12.595
Prude.....	246 29 17.76	66 38 43.10	4.4771897	18.644
Green.....	251 02 39.40	71 12 16.76	4.4731309	18.471
Bates.....	267 43 20.40	87 56 03.13	4.5709838	23.138
Box.....	276 01 03.16	96 15 10.75	4.6194232	25.869
El Capitan.....	316 03 39.25	136 21 27.64	4.8811708	47.263
Croffelt.....	327 17 00	147 20 25	4.26929	11.552

Values from west from Bulletin 551.

[Latitude 32° 23' 12.05". Longitude 105° 25' 06.43'']

To station—	Azimuth.	Back azimuth.	Distance.	
			Log. meters.	Miles.
Pumpkin.....	93 11 48.24	272 56 45.62	4.6443584	27.397
Prather.....	103 25 53	283 19 31	4.28170	11.888
Culp.....	128 41 51.20	308 31 20.48	4.5935160	24.371
Jeffries.....	143 19 30	323 12 05	4.55803	22.458
Chatfield.....	154 16 56.59	334 14 01.73	4.2919620	12.171
Chimney.....	193 46 04.99	13 48 56.80	4.5436095	21.725
Dry.....	228 03 15.71	48 08 25.61	4.3068756	12.596

BLACK, EL PASO COUNTY, TEX.

A Coast and Geodetic Survey station 30 miles direct and 35 miles by road N. 23° E. from Sierra Blanca, a town at the junction of the Southern Pacific and the Texas & Pacific railroads, and on the highest and most southern point of the southeast end of a small range of isolated mountains, known locally as the Black Mountains but having the name Sierra Prieta Mountains on the U. S. Geological Survey map of this region. The station is about 400 meters south of the U. S. Geological Survey triangulation station Salt, which is marked by a large rock on a very rough peak of about the same height as the one described above. The reference mark, a galvanized nail driven into a crevice in a rock 6 inches below its top and on the opposite side of the rock from the station, is 3.39 meters from the station in azimuth 82° 54'.

Station mark: Disk cemented in solid rock.

[Latitude 31° 34' 21.90" (U. S. G. S.), 31° 34' 21.899" (C. & G. S.). Longitude 105° 08' 52.36" (U. S. G. S.), 105° 08' 52.357" (C. & G. S.).]

To station—	Azimuth.	Back azimuth.	Distance.	
			Log. meters.	Miles.
Saunders.....	165 04 01	344 59 10	4.74932	34.886
El Capitan.....	217 32 17.67	37 41 21.67	4.6494444	27.720
Diablo (C. & G. S.).....	331 47 53.41	151 55 11.47	4.6732551	.....
Eagle (C. & G. S.).....	355 15 34.54	175 17 31.54	4.8601711	.....
Quitman (C. & G. S.).....	35 20 58.54	215 10 05.53	4.7592565	.....

EL CAPITAN, CULBERSON COUNTY, TEX.

The highest point in Texas. It is about 50 miles direct and 65 miles by road southwest of Carlsbad, N. Mex., a town on the Pecos River, 8 miles south of New Mexico and Texas State line, on farthest south and highest point of the main range of the Guadalupe Mountains, known locally as Guadalupe Peak. The peak is cone-shaped in appearance, and has a double top, and a perpendicular rock bluff about 1,000 feet high on the southwest side. To reach station go to Glover's ranch at mouth of Pine Canyon, $1\frac{1}{2}$ miles west of Frijole post office. Pine Springs at mouth of Pine Canyon is known throughout the surrounding country and furnishes an abundant supply of good water. Mountain can best be climbed, on foot only, at a point about 1 mile south of Pine Spring, going up the second ridge north of the flatiron-shaped point known as Signal Point. The station is near the center of the extreme top of the peak.

Signal: Cairn 6 feet high with piñon tree in center, the whole being about 10 feet high.

Station mark: Bronze tablet cemented in solid rock, near east edge of bluff, 15 feet from monument; true azimuth from tablet to signal $123^{\circ} 21'$.

[Latitude $31^{\circ} 53' 29.27''$. Longitude $104^{\circ} 51' 38.05''$.]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Black.....	37 41 21.67	217 32 17.67	4.4694444	27.720
Corduna.....	103 39 19.83	283 18 32.23	4.8041596	39.583
Saunders.....	114 31 48	294 17 52	4.66016	28.413
Road.....	115 05 02	294 41 50	4.80194	39.381
Coffelt.....	132 46 37	312 32 18	4.76298	36.002
Waldie.....	136 21 27.64	316 03 39.25	4.8811708	47.263
Box.....	167 34 41.65	347 30 55.66	4.7132740	32.109
Pickett.....	186 13 43.94	6 14 50.57	4.4820098	18.852

