

Book W.
2315

BOOK 2315

129

FIELD NOTES

2315

OF THE SURVEY OF THE

Subdivision Lines of T 73 N. R. 14 W.

2315

Of the G. S. R. Meridian,

In the State of Territory of Arizona

EXECUTED BY

Jose B. Wright

In the capacity of U. S. Surveyor..., under instructions dated Sept. 16, 1910,
issued by the United States Surveyor General to govern surveys included in
Group No. 9, which were approved by the Commissioner of the General Land
Office, Sept. 7th, 1910, pursuant to authority contained in the Act of
Congress dated February 2, 1899

Survey commenced May 8, 1911

Survey completed May 18, 1911

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For Catts, see Book B.

BOOK 2315

INDEX DIAGRAM.

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Note: For Dumbanes, see Book A, Group 10

Chains.

Survey commenced May 8., 1911, and executed with a W. & L. E. Gurley light mountain transit, special make, unnumbered, with Burt's patent solar attachment. The horizontal limb of the instrument is provided with two double verniers placed opposite to each other, and each reading to 1' of arc, which is also the least reading of the verniers of the latitude and declination arcs. Since it is impracticable to proceed to the Cor. of secs. 5, 6, 31 & 32, on the S. bdy. of T. 23 N., R. 14 W., in time to make a solar observation this p.m., I proceed as follows :-

At a point near my camp, at the corner of Tps. 23 & 24 N., Rs. 14 and 15, W., I examine and test carefully all the adjustments of my transit and solar apparatus. Finding all parts of my instrument in correct adjustment as to tests; then, in order to test the solar apparatus, by comparing the results of observations on the sun, for meridians, made during p.m. & a.m. hours, respectively, with a true meridian established by Polaris observation, I proceed as follows :-

At 4h p.m., l.m.t., I set off $17^{\circ}0'N.$ on the decl. arc, and $35^{\circ}25'N.$ on the lat. arc, and determine a meridian with the solar, and mark a point in the meridian thus determined by a cross on a fixed stone 5 chs. N. of my station. May 8, 1911.

May 9, 1911. At 4h. 26m. a.m., l.m.t., I observe Polaris at Eastern Elongation, in accordance with instructions in the "Manual", and mark the line thus determined by a tack in a stake driven firmly in the ground 5 chs. N. of my station.

At 8h a.m., l.m.t., I set off the azimuth of Polaris, $1^{\circ}26'$ to the West, and mark the true meridian thus determined by a cross on the fixed stone 5 chs. N. of my station, which point falls .40 ins. E. of the point in the meridian as established by the solar on preceding evening.

Then I set off $17^{\circ}11'N.$ on the decl. arc, and $35^{\circ}25'N.$ on the lat. arc, and determine a meridian with the solar, and mark a point in the meridian thus determined by a cross on the fixed stone 5 chs. N. of my station, which point falls about .40 ins. E. of the point in the true meridian as established by observation of Polaris. The solar apparatus, by p.m. & a.m. hours observations, defines positions for meridians about $21''$ W., and $21''$ E., respectively, of the true meridian as established by Polaris observation. These errors being probably no greater than the usual or personal errors of observation, I conclude that my instrument is in adjustment.

From this mer., the N., S., E. & W. lines from this cor. are correct. The magnetic bearing of the true meridian at 8h a.m., is $N. 15^{\circ}25' W.$; the angle thus determined gives the magnetic declination as $15^{\circ}25' E.$

At 9h a.m., l.m.t., at the cor. of secs. 5, 6, 31 & 32, on the S. bdy. of T. 23 N., R. 14 W. as re-established by me, and heretofore described, I set off $17^{\circ}11'N.$ on the decl. arc and $35^{\circ}20'N.$ on the lat. arc, and determine a true meridian with the solar. Thence I run, as per instructions, $Var. 15^{\circ}25' E.,$

Chains.	<p>N. 0° 1' E., bet. secs. 31 & 32. Over broken, mts., stony, and, near foot of W. slope. 12.00 Wash, 20 lks. wide, course SW., near head, asc. grad. 36.00 Wash, 50 lks. wide, course W., asc. 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 31 in W., and S. 32 in E. half, raise a mound of stone 3 ft. base, 2 ft. high W. of cor. No bearings available. Pits impracticable. 42.00 Spur, brs. W. & E., desc. 50.00 Wash, 50 lks. wide, course WSW., asc. 62.00 Spur, brs. WNW. & ESE., desc. NE. slope. 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 29, 30, 31 & 32, marked on brass cap, T. 23 N., R. 14 W. in N. half, S. 30 in NW., S. 29 in NE., S. 32 in SE., and S. 31 in SW. quadrants, raise a mound of stone 3 ft. base, 2 ft. high W. of cor. No bearings available. Pits impracticable. Land, mts., broken. Soil, 3rd rate, stony, gravelly. Scattering palonegro, cacti, few cedars, pinon, sparse grass in places.</p>
	<p>West, on a random line, bet. secs. 30 & 31. 40.00 Set temp. $\frac{1}{4}$ sec. cor. 80.04 Intersect W. bdy. of Tp. at cor. of secs. 25, 30, 31 & 36, whence I run, East, on a true line, bet. secs. 30 & 31. Over rolling land, asc. grad. 38.50 Wash, 20 lks. wide, course SW., near head, foot of main W. slope of Peacock Mountains, brs. N. & S., asc. 40.02 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 30 in N., and S. 31 in S. half, dig pits 18x18x12 ins. E. & W. of cor. 3 ft. dist., and raise a mound of earth 3$\frac{1}{2}$ ft. base, 1$\frac{1}{2}$ ft. high W. of cor. Desc. grad. from cor. 52.47 Wash, 50 lks. wide, course SSW. 59.21 Wash, 50 lks. wide, course WSW., asc. steep. 68.00 Top of ridge, brs. WNW. & ESE., desc. grad. along N. slope. 75.00 Desc. NE. slope. 80.04 To cor. of secs. 29, 30, 31 & 32. Land, rolling, mts. Soil, 3rd rate, gravelly, stony, loose, dry. Scattering palonegro, cacti, few cedars pinons. sparse grass in places. At this cor. at noon, 1.m.t., I set off 17° 15' N. on the decl. arc, and observe the sun on the meridian. The resulting lat. is 35° 21' N.</p>

Chains.

N. 9° 1' E., bet. secs. 29 & 30.
 Over mts. land, desc.
 5.00 Main gulch, 100 lks. wide, course W., asc. prec. SW. slope, over barren granite ledges.
 24.08 Top of high, rocky granite spur, brs. W. & E., end 20 chs. to W., desc. NW. slope, through scattering pinon.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 30 in W., and S. 29 in E. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 43.00 Granite wash, 40 lks. wide, course WSW., asc.
 60.00 Point of spur, brs. W. & E., thence along foot of W. slope.
 78.00 Wash, 30 lks. wide, course W., asc.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 19, 20, 29 & 30, marked on brass cap,
 T. 23 N., R. 14 W. in N. half,
 S. 19 in NW.,
 S. 20 in NE.,
 S. 29 in SE., and
 S. 30 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor., from which,
 A pinon tree 6 ins. in diam. brs. N. 75° 12' E. 51 lks. dist., marked T. 23 N., R. 14 W., S. 20 B.T.
 A pinon tree 6 ins. diam. brs. S. 63° 50' E. 97 lks. dist., marked T. 23 N., R. 14 W. S. 29 B.T.
 A pinon tree 6 ins. diam. brs. S. 57° 30' W. 55 lks. dist., marked T. 23 N., R. 14 W. S. 30 B.T.
 Land, mts., broken.
 Soil, 3rd rate, stony, gravelly.
 Scattering palonegro, cedar, pinon, cacti, sparse grass.

West, on a random line, bet. secs. 19 & 30.
 40.00 Set temp. $\frac{1}{4}$ sec. cor. true
 80.00 Intersect W. bdy. of Tp. at a point 5 lks. S. of ^{true} cor. pt. of secs. 19, 24, 25 & 30, whence I run, S. 39° 53' E., on a true line, bet. secs. 19 & 30. from cor. point in wash, asc. grad. in wash.
 11.00 Leave wash, from N. 75° E., asc. grad. over broken land, through palonegro.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 19 in N., and S. 30 in S. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
 45.00 Leave valley, brs. N. & S., asc. foothills, through scattering pinon.
 60.00 Asc. steep SW. slope of high, rocky spur.
 76.00 Gulch, 50 lks. wide, course SW. asc. prec.
 80.00 To cor. of secs. 19, 20, 29 & 30.
 Land, rolling, mts.
 Soil, 3rd rate, gravelly, stony, loose, dry.
 Palonegro, scattering pinon, cacti, sparse grass.

Chains.

- N. $0^{\circ} 1'$ E., bet. secs. 19 & 20.
 Over mts. land, desc.
- .50 Gulch, 30 lks. wide, course WSW. asc. steep SW. slope.
 2.62 Top of spur, brs. SE. & NW., desc.
 5.00 Gulch, 50 lks. wide, course NW., near head, asc. SW. slope
 of ridge.
 22.10 Top of point of spur, brs. SE. & NW., desc. prec.
 25.00 Gulch, 50 lks. wide, course SW., asc.
 26.95 Top of spur, brs. W. & E., desc.
 33.00 Gulch, 30 lks. wide, course W., asc. steep S. slope, of
 high ridge.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 19 in W., and
 S. 20 in E. half,
 raise a mound of stone 2 ft base, $1\frac{1}{2}$ ft. high W. of cor.
 60.00 Top of highest spur, brs. W. & E., desc.
 High peak 30 chs. to E.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 26 ins. in
 the ground for cor. of sec. 17, 18, 19 & 20, marked on
 brass cap,
 T. 23 N., R. 14 W. in N. half,
 S. 18 in NW.,
 S. 17 in NE.,
 S. 20 in SE., and
 S. 19 in SW. quadrants,
 raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
 No bearings available. Pits impracticable.
 Land, mts., broken.
 Soil, 3rd rate, stony, gravelly, dry.
 Scattering palonegro, cacti, few cedars & pinons, sparse
 grass.

- N. $89^{\circ} 58'$ W., on a random line, bet. secs. 18 & 19.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 79.96 Intersect W. bdy. of Tp. at a point $2\frac{1}{2}$ lks. N. of cor. of
 secs. 13, 18, 19 & 24, whence I run,
 S. $89^{\circ} 59'$ E., on a true line, bet. secs. 18 & 19.
 Over rolling land, asc. grad., granite gravel.
 27.70 Top of S. end of knoll, brs. N. & S.,
 Low pass 4 chs. S.
 Butte 22 chs. S., desc. grad.
 39.98 Set an iron post 3 ft. long, 1 in. in diam, 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 18 in N., and
 S. 19 in S. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
 Asc. grad.
 65.00 Asc. steep NW. slope.
 79.96 To cor. of secs. 17, 18, 19 & 20.
 Land, rolling, mts.
 Soil, 3rd rate, gravelly, stony.
 Sparse undergrowth, good native grass.

May 9, 1911.

Subdivision of T. 23 N., R. 14 W.

Chains

- May 10, 1911.
 At 8h 00m a.m., l.m.t., at the cor. of secs. 17, 18, 19 & 20,
 I set off $17^{\circ}27'N$. on the decl. arc, and $35^{\circ}22\frac{1}{2}'N$. on the
 lat. arc, and determine a true meridian with the solar.
 Thence I run,
 N. $0^{\circ}1'E$., bet. secs. 17 & 18.
 Over mts. land, along stony, broken W. slope.
- 5.00 Gulch, 30 lks. wide, course W., near head, asc.
 - 34.00 Top of butte on spur, brs. W. & E., desc.
 - 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 18 in W., and
 $\frac{1}{4}$ S. 17 in E. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 - 41.55 Granite wash, 150 lks. wide, course NW.
 - 43.25 Wagon trail, brs. NW. & SE.
 Asc. steep.
 - 56.00 Spur, brs. W. & E., desc. NW. slope.
 - 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
 the ground for cor. of secs. 7, 8, 17 & 18, marked on
 brass cap,
 T. 23 N., R. 14 W. in N. half,
 S. 7 in NW.,
 S. 8 in NE.,
 S. 17 in SE., and
 S. 18 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- Land, mts.
 Soil, 3rd rate, gravelly, stony.
 Scattering palonegro, cacti, scrub oak., sparse grass.
-
- N. $89^{\circ}59'$ W., on a random line, bet. secs. 7 & 18.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 - 80.10 Intersect W. bdy. of Tp. at a point 5 lks. N. of cor. of
 secs. 7, 12, 13 & 18, whence I run,
 N. $89^{\circ}59'$ E., on a true line, bet. secs. 7 & 18.
 Over rolling, broken land, asc. grad.
 - 8.00 Wash, 20 lks. wide, course WNW.
 - 20.00 Old road, brs. NE. & SW.
 - 39.00 Wash, 50 lks. wide, course WSW.
 - 40.05 Set an iron post 3 ft. long, 1 in. in diam, 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 7 in N., and
 S. 18 in S. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 A small vacant house, brs. N. 1° W., about 24 chs. dist.
 - 48.00 Wash, 20 lks. wide, course WNW. asc. in branch of same.
 - 50.00 Dim road, brs. NW. & SE.
 - 72.00 Leave wash to N., asc. steep.
 - 80.10 To cor. of secs. 7, 8, 17 & 18.
 Land, rolling, mts.
 Soil, 3rd rate, gravelly, stony, loose, dry.
 Scattering palonegro, cacti, sparse grass.
-
- N. $0^{\circ}1'E$., bet. secs. 7 & 8.
 Over mts. land, desc., along W. slope.
- 3.00 Head of wash, or gulch, course W., asc.
 - 8.00 Low spur, brs. W. & E., desc.
 - 12.00 Head of wash, course WNW., asc.
 - 18.00 Low spur, brs. W. & E., desc.
 - 22.00 Gulch, 30 lks. wide, course W., near head, asc.
 - 25.40 Top of divide, brs. NW. & SE., desc. NE. slope.
 - 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 7 in W., and
 S. 8 in E. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 - 48.00 Foot of main slope, brs. NW. & SE., desc. grad. over
 heavily rolling land.

Chains.

80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 5, 6, 7 & 8, marked on brass cap,
 T. 23 N., R. 14 W. in N. half,
 S. 6 in NW.,
 S. 5 in NE.,
 S. 8 in SE., and
 S. 7 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 Land, mts., broken, rolling.
 Soil, 3rd rate, stony, gravelly, dry.
 Scattering palonegro, cacti, scrub oak, sparse grass.
 At this cor. at noon, ~~r.m.t.~~, I set off $17^{\circ}29'$ N. on the decl. arc, and observe the sun on the meridian.
 The resulting lat. is $35^{\circ}24'$ N.

S. $89^{\circ}59'$ W., on a random line, bet. secs. 6 & 7.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.14 Intersect W. bdy. of Tp. at point $6\frac{1}{2}$ lks. S. of cor. of secs. 1, 6, 7 & 12, whence I run,
 S. $89^{\circ}58'$ E., on a true line, bet. secs. 6 & 7.
 Over rough, mountainous broken land asc. prec. SW. slope.
 6.00 Top of rough granite spur, brs. W. & E., , asc. on same.
 40.07 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 6 in N., and
 S. 7 in S. half,
 raise a mound of stone 3 ft. base, 2 ft. high N. of cor.
 44.00 Top of dividing ridge, near N. end of Peacock mts., brs. NW. & SE., desc.
 47.00 Gulch, 50 lks. wide, course N., near head, asc. grad.
 54.00 Asc. steep.
 60.00 Top of granite spur, brs. NNW. & SSE., desc. steep.
 65.00 Foot of main slope, brs. NW. & SE., desc. grad.
 80.14 To cor. of secs. 5, 6, 7 & 8.
 Land, mts., broken, rolling.
 Soil, 3rd rate, stony, gravelly, dry.
 Scattering palonegro, cacti, scrub oak, sparse grass.

N. $0^{\circ} 1'$ E., on a random line, bet. secs. 5 & 6.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.14 Intersect N. bdy. of Tp. at a point 14 lks. E. of cor. of secs. 5, 6, 31 & 32, whence I run,
 S. $0^{\circ} 5'$ E., on a true line, bet. secs. 5 & 6.
 Over heavily rolling land, asc. grad.
 40.14 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 6 in W., and
 S. 5 in E. half,
 dig pits 18x18x12 ins. N. & S. of cor. 3 ft. dist., and
 raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 80.14 To cor. of secs. 5, 6, 7 & 8.
 Land, rolling.
 Soil, 3rd rate, gravelly, loose, dry.
 Sparse greasewood, cacti, palonegro, native grass.

May 10, 1911.

Chains.

- May 11, 1911.
 At 8^h a.m., l.m.t., at the cor. of secs. 4, 5, 32 & 33,
 on the S. bdy. of the Tp.,
 I set off 17°43' N. on the decl. arc, and 35°20' N. on the
 lat. arc, and determine a true meridian with the solar.
 Thence I run,
 N. 0° 1' E., bet. secs. 32 & 33.
 Over mts. land, asc. prec. S. slope, through
 scattering pinon.
- 20.00 Top of ridge, brs. W. & E., desc.
 32.00 Head of main gulch, course WNW., asc. SW. slope.
 39.50 Top of sharp spur, brs. W. & E., desc.
 40.00 Not having sufficient iron posts to complete the surveys
 in this district, I am compelled to use stones in places.
 Set a granite stone 24x10x6 ins. 18 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a
 mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.,
 from which,
 A pinon tree 6 ins. diam. brs. N.45°W. 25 lks. dist.,
 marked $\frac{1}{4}$ S. 32 B.T.
 A pinon tree 6 ins. diam. brs. N.36°E. 13 lks. dist.,
 marked $\frac{1}{4}$ S. 33 B.T.
 Thence along prec. W. slope, very stony, main divide.
- 52.00 Head of gulch, course W., asc.
 80.00 Set a granite stone 24x14x10 ins. 18 ins. in the ground
 for cor. of secs. 28, 29, 32 & 33, marked with 1 notches
 on S. and 4 notches on E. edges, and
 raise a mound of stone 5 ft. base, 2 ft. high W. of cor.
 No bearings available. Pits impracticable.
 Land, mountainous, rough.
 Soil, 3rd rate, very stony.
 Scattering pinon, cedar, .
-
- West, on a random line, bet. secs. 29 & 32.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.06 Intersect N. & S. line at cor. of secs. 29, 30, 31 & 32,
 whence I run,
 East, on a true line, bet. secs. 29 & 32.
 Over mts. land, desc. NE. slope.
- 6.00 Wash, 100 lks. wide, course NW., asc. prec. SW. slope,
 through scattering pinon, very broken land.
 35.10 Spur, brs. S. & N., thence along S. slope of main spur.
 40.03 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 29 in N., and
 $\frac{1}{4}$ S. 32 in S. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
- 41.00 Spur, brs. S. & N., thence along broken S. slope.
 75.00 High crag on ridge brs. North, 6 chs. dist. to top.
 80.06 To cor. of secs. 28, 29, 32 & 33.
 Land, mts., very rough.
 Soil, 3rd rate, stony.
 Scattering pinon, cedar, cacti.
 At this cor. at noon, l.m.t., I set off 17°45' N. on the
 decl. arc, and observe the sun on the meridian.
 The resulting lat. is 35°21' N.

Chains.

- N. 0° 1' E., bet. secs. 28 & 29.
Over mts. land, asc. prec.
- 5.00 Top of main spur, brs. W. & E., joins divide at 5 chs. to E., desc. prec.
- 18.00 Head of gulch, course WNW., thence along steep W. slope.
- 40.00 Top of spur, brs. WNW. & ESE.
Set a granite stone 24x15x8 ins., on bed-rock, in mound of stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- 48.50 Gulch, course W., near head, asc.
- 65.64 Asc. steep.
- 69.40 Spur, brs. W. & E., desc.
- 75.50 Gulch, 50 lks. wide, course WNW., asc. prec.
- 80.00 Set a granite stone 24x10x8 ins., 18 ins. in the ground for cor. of secs. 20, 21, 28 & 29, marked with 2 notches on S., and 4 notches on E. edges, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor. Impracticable to set iron post.
No bearings available. Pits. impracticable.
Land, mts., rough.
Soil, 3rd rate, stony, gravelly, dry.
Scattering pinon, palonegro, cacti.
-
- West, on a random line, bet. secs. 20 & 29.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.04 Intersect N. & S. line at point $2\frac{1}{4}$ lks. N. of cor. of secs. 19, 20, 29 & 30, whence I run, N. 89° 59' E., on a true line, bet. secs. 20 & 29.
Over mts. land, asc. steep, stony, SW. slope of Peacock mountains, through pinon & palonegro.
- 30.50 Gulch, 50 lks. wide, course WSW., asc. prec.
- 40.02 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 20 in N., and S. 29 in S. half,
raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
- 60.00 Round flat spur, brs. SW. & NE., desc.
- 66.00 Gulch, 50 lks. wide, course SW., near head, asc. prec.
- 80.04 To cor. of secs. 20, 21, 28 & 29.
Land, mts., rough. Soil, 3rd rate, stony.
Scattering pinon, cacti, palonegro, native grass.
-
- N. 0° 1' E., bet. secs. 20 & 21.
Over mts. land, asc.
- .80 Top of rise, desc.
- 3.80 Head of gulch, course S. 65° W., asc. prec.
- 7.22 Top of main divide, brs. N. 30° W., & S. 30° E., desc. steep NE. slope.
- 12.00 Head of gulch, course ENE., desc. grad. over broken ENE., slope of mountains.
- 28.06 Top of spur, brs. ENE. & WSW., desc.
Small house, vacant, brs. East, about 15 chs. dist.
- 33.00 Foot of steep descent, thence over rough E. slope.
- 40.00 Set a granite stone 24x18x18 ins., 18 ins. in ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- 40.67 Gulch, course ESE., asc. prec.
- 61.00 Top of high spur, brs. ENE. & WSW., desc.
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 16, 17, 20 & 21, marked on brass cap, T. 23 N., R. 14 W. in N. half,
S. 17 in NW.,
S. 16 in NE.,
S. 21 in SE., and
S. 20 in SW. quadrants,
raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
Land, mts. Soil, 3rd rate, stony.
Scattering palonegro, cacti, few pinons. May 11, 1911.

Chains.

May 12, 1911.
 at 8h a.m., l.m.t., at the cor. of secs. 16, 17, 20 & 21,
 I set off $17^{\circ}58'$ N. on the decl. arc, and $35^{\circ}23'$ N. on the
 lat. arc, and determine a true meridian with the solar.
 Thence I run,
 S. $89^{\circ}59'$ W., on a random line, bet. secs. 17 & 20 .
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.02 Intersect N. & S. line at cor. of secs. 17, 18, 19 & 20,
 whence I run,
 N. $89^{\circ}59'$ E., on a true line, bet. secs. 17 & 20.
 Over mts. land, asc. along NW. slope.
 30.00 Asc. prec. W. slope.
 40.01 Set a granite stone 30x16x6 ins., on bed-rock, in mound
 of stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
 47.50 Top of main divide, brs. NNW. & SSE., desc., steep E. slope.
 75.40 Gulch, 50 lks. wide, course ENE., near head, asc.
 80.02 To cor. of secs. 16, 17, 20 & 21.
 Land, mts., broken. Soil, 3rd rate, stony, dry.
 Scattering palonegro, cacti, few pinon, sparse grass.

N. $0^{\circ}1'$ E., bet. secs. 16 & 17.
 Over mts. land, desc.
 2.00 Gulch, 50 lks. wide, course ENE., asc.
 9.30 Top of ridge, brs. NE. & SW., desc.
 15.00 Gulch, 50 lks. wide, course NE., asc. prec.
 20.80 Top of high spur, brs. NE. & SW., desc.
 30.00 Head of gulch, course NE., asc.
 40.00 Set a granite stone 26x12x6 ins., 19 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 47.30 Spur, brs. NE. & SW., desc.
 56.00 Gulch, 30 lks. wide, course NE., asc.
 72.40 Spur, brs. NE. & SW., desc.
 80.00 Impracticable to set iron post.
 Set a granite stone 24x10x10 ins., 18 ins. in the ground
 for cor. of secs. 8, 9, 16 & 17, marked with 4 notches on
 S. & E. edges, and
 raise a mound of stone 5 ft. base, 2 ft. high W. of cor.
 Land, rolling, broken, mts.
 Soil, 3rd rate, stony, gravelly, dry.
 Scattering palonegro, cacti, few pinon, sparse grass.

S. $89^{\circ}59'$ W., on a random line, bet. secs. 8 & 17.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 79.98 Intersect N. & S. line at point $2\frac{1}{2}$ lks. N. of cor. of
 secs. 7, 8, 17 & 18, whence I run,
 N. $89^{\circ}58'$ E., on a true line, bet. secs. 8 & 17.
 Over mts. land, asc. broken W. slope.
 23.00 Top of divide, brs. NNW. & SSE., desc.
 32.00 Gulch, 50 lks. wide, course NE., near head, asc.
 39.99 Set a granite stone 26x14x7 ins., 19 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and
 raise a mound of stone 3 ft. base, 2 ft. high N. of cor.
 54.00 Top of peak, brs. NE. & SW., on spur, desc.
 73.00 Gulch, 30 lks. wide, course ENE., asc.
 79.98 To cor. of secs. 8, 9, 16 & 17.
 Land, mts., broken.
 Soil, 3rd rate, stony.
 Scattering palonegro, few pinon, cacti, sparse grass.
 At this cor. at noon, l.m.t., I set off $13^{\circ}0'$ N. on the
 decl. arc, and observe the sun on the meridian.
 The resulting lat. is $35^{\circ}23'$ N.

Chains.

- N. $0^{\circ} 1'$ E., bet. secs. 8 & 9.
Over mts. land, desc.
- 5.00 Gulch, 30 lks. wide, course ENE., asc.
9.30 Spur, brs. NE. & SW.
19.75 Spur, brs. NE. & SW., desc.
26.00 Gulch, 50 lks. wide, course NE., asc.
32.50 Spur, brs. NE. & SW., desc.
38.50 Gulch, 50 lks. wide, course NE., asc.
40.00 Set a granite stone 24x14x10 ins., 18 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
41.80 Spur, brs. NE. & SW., desc.
49.00 Foot of main slope, desc. grad.
80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 4, 5, 8 & 9, marked on brass cap,
T. 23 N., R. 14 W., in N. half,
S. 5 in NW.,
S. 4 in NE.,
S. 9 in SE., and
S. 8 in SW. quadrants,
dig pits 18x18x12 ins., in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of stone covered with earth 4 ft. base, 2 ft. high W. of cor.
Land, rolling, broken, mts.
Soil, 3rd rate, stony, gravelly.
Scattering palonegro, cacti, fair grass.
-
- S. $89^{\circ} 58'$ W., on a random line, bet. secs. 5 & 8.
40.00 Set temp. $\frac{1}{4}$ sec. cor.
79.92 Intersect N. & S. line at point 2 lks. S. of cor. of secs. 5, 6, 7 & 8, whence I run,
N. $89^{\circ} 59'$ E., on a true line, bet. secs. 5 & 8.
Over broken, rolling land, drains to NE., desc. grad.
39.96 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 5 in N., and
S. 8 in S. half,
dig pits 18x18x12 ins. E. & W. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high N. of cor.
79.92 To cor. of secs. 4, 5, 8 & 9.
Land, heavily rolling, broken.
Soil, 3rd rate, gravelly, dry, loose.
Sparse greasewood, palonegro, cacti, Good native grass.
-
- N. $0^{\circ} 5'$ W., on a random line, bet. secs. 4 & 5.
40.00 Set temp. $\frac{1}{4}$ sec. cor.
80.12 Intersect N. bdy. of Tp. at point 16 lks. W. of cor. of secs. 4, 5, 32 & 33, whence I run,
S. $0^{\circ} 2'$ W., on a true line, bet. secs. 4 & 5.
Over broken, rolling land, asc. grad.
11.68 Intersect centre of Atchison Topeka & Santa Fe R.R., brs. N. $64^{\circ} 59'$ W., & S. $64^{\circ} 59'$ E.
Mile post No. 493 brs. S. $64^{\circ} 59'$ E., 13.10 chs. dist.
20.00 Land becomes heavily rolling.
40.12 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 5 in W., and
S. 4 in E. half,
raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
67.12 Road, brs. NE. & SW.
80.12 To cor. of secs. 4, 5, 8 & 9.
Land, rolling, broken.
Soil, 3rd rate, gravelly, loose, dry, drains to NE.
Sparse greasewood, cacti, palonegro. Good native grass.
May 12, 1911.

Chains

May 13, 1911.

At 8h a.m., l.m.t., at the cor. of secs. 3, 4, 33 & 34,
on the S. bdy. of the Tp.,
I set off $18^{\circ}13'N$ on the decl. arc, and $35^{\circ}20'N$ on the
lat. arc, and determine a true meridian with the solar.
Thence I run,

N. $0^{\circ}2'E$, bet. secs. 33 & 34.

Over mts. land, desc. prec. NE. slope. dense scrub oak.

- 7.00 Gulch, course E., 80 lks. wide, asc.
32.00 Ridge, brs. E. & W., desc.
35.00 Gulch, 50 lks. wide, course ENE., asc.
40.00 Set a granite stone $24 \times 13 \times 12$ ins., 18 ins. in the ground
for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and
raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
42.00 Top of low divide, brs. ENE. & WSW., desc. NW. slope.
59.00 Foot, brs. NE. & SW., desc. grad.
61.00 Wash, 200 lks. wide, course NNE., asc. SE. slope.
68.00 Top of ascent, thence along steep W. slope, through dense
scrub oak.
80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
the ground for cor. of secs. 27, 28, 33 & 34, marked on
brass cap,

T. 23 N., R. 14 W. in N. half,

S. 28 in NW.,

S. 27 in NE.,

S. 34 in SE., and

S. 33 in SW. quadrants,

raise a mound of stone 3 ft. base, 2 ft. high W. of cor.

Land, mts., broken.

Soil, 3rd rate, stony.

Scattering palonegro, few pinon, dense scrub oak, cacti.

Fair grass in places.

West, on a random line, bet. secs. 28 & 33.

- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
79.98 Intersect N. & S. line at point $2\frac{1}{2}$ lks. S. of cor. of
secs. 28, 29, 32 & 33, whence I run,
S. $89^{\circ}59'$ E., on a true line, bet. secs. 28 & 33.
Over mts. land, asc. prec. W. slope.
7.40 Top of divide, brs. N. 10° W. & S. 10° E., desc. prec. E. slope.
through scattering pinon.
39.99 Set a granite stone $24 \times 12 \times 6$ ins., 18 ins. in the ground
for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and
raise a mound of stone 3 ft. base, 2 ft. high N. of cor.
No bearings available. Pits impracticable.
Cor. near head of gulch, course SSE., asc.
44.00 Top of SE. slope of spur, brs. SE. & NW., desc. through
dense scrub oak, palonegro, cedar.
77.90 Gulch, 50 lks. wide, course NNE., asc.
79.98 To cor. of secs. 27, 28, 33 & 34.
Land, mts., broken.
Soil, 3rd rate, stony, gravelly.
Scattering pinon, cedar, , dense scrub oak, palonegro.
At this cor. at noon, l.m.t., I set off $18^{\circ}15\frac{1}{2}'N$ on the
decl. arc, and observe the sun on the meridian.
The resulting lat. is $35^{\circ}21'N$.

Chains.	
	N. $0^{\circ} 2'$ E., bet. secs. 27 & 28. Over mts. land, along Steep W. slope of ridge.
15.67	Desc. NW. slope.
22.00	Wash, 150 lks. wide, course NNE., asc.
30.00	Top of rise, brs. NE. & SW., desc.
32.00	Wash, 50 lks. wide, course NE., asc.
33.00	Top of bluff, brs. NE. & SW.
35.00	Desc.
35.24	Cor XI of Mining claim, Hackberry South, Lot No. 37, brs. N. $50^{\circ} E.$, 3.34 chs. dist., which is a post, set in ground, properly marked. Cross S. line of claim.
40.00	Set a granite stone 30x18x10 ins., 10 ins. in ground, on bed-rock, in mound of stone, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 3 ft. base, 2 ft. high W. of cor. whence
41.20	U.S.L.M. No. 1, brs. N. $35^{\circ} 29' W.$, 16.54 chs. dist. Intersect N. line of Mining claim, Hackberry South, Lot No. 37, at a point whence, Cor. XI of said claim, brs. S. $40^{\circ} E.$ 4.58 chs. dist.. Asc. prec.
42.20	Top of prec. ascent brs. NE. & SW.
55.74	Road, to old Hackberry mine, brs. NE. & SW.
58.87	Top of bluff of ridge, brs. NE. & SW., desc. prec. U.S.L.M. No. 1, brs. S. $60^{\circ} 40' W.$, 11.06 chs. dist., which is a post, set in ground, marked and witnessed as described by the Surveyor General.
	Cor. No. 1 of Sunshine claim, brs. S. $71^{\circ} 55' W.$ 12.47 chs. dist.
	Cor. X of Hackberry South, Lot No. 37, brs. S. $72^{\circ} 18' W.$, 12.26 chs. dist.
61.00	Foot, brs. NE. & SW.
62.00	Gulch, 50 lks. wide, course NE., asc.
78.50	Top of bluff, 40 ft. high, brs. NE. & SW., desc.
80.00	Wash, 200 lks. wide, course E. cor. point in same. Asc.
81.90	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for witness cor. to cor. of secs. 21, 22, 27 & 28, marked on brass cap, W.C. N. of centre, T. 23 N., R. 14 W. in N. half, S. 21 in NW., and S. 22 in NE. quadrants, S 27 in SE. and S 28 in SW. Quadrants; raise a mound of stone 3 ft. base, 2 ft. high W. of cor. Land, rolling heavily, broken, mts. Soil, 3rd rate, gravelly. Scattering palonegro, greasewood, cacti, and other brush.
	From true cor. point I run,
	N. $39^{\circ} 59'$ W., on a random line, bet. secs. 21 & 28.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.04	Intersect N. & S. line at point $2\frac{1}{2}$ lks. S. of cor. of secs. 20, 21, 28 & 29, whence I run, S. $39^{\circ} 58'$ E., on a true line, bet. secs. 21 & 28. Over mts. land, asc. steep.
5.76	Top of main divide, brs. N. $20^{\circ} W.$ & S. $20^{\circ} E.$, low saddle is 2 chs. to S., head of gulches to NE. & W. Desc. prec. NE. slope.
21.00	Gulch, 50 lks. wide, course NE., asc. through dense pinon.
36.00	Spur, brs. NE. & SW., leave pinon, brs. N. & S., desc.
40.02	Set a granite stone 18x14x6 ins., 12 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
48.00	Junction of two gulches, from SW. & NW., 50 lks. wide, course NE., after junction., asc.
61.00	Spur, or ridge, brs. NE. & SW., desc.
72.00	Enter wash, from WSW., runs E.
80.04	To cor. point in wash, of secs. 21, 22, 27 & 28. Land, mts., broken. Soil, 3rd rate, stony, gravelly. Pinon, palonegro, few cedars, cacti, Sparse grass.

Chains.

N. 0° 2' E., bet. secs. 21 & 22.
 From cor. point in wash,
 Over mts. broken land, asc.

1.60 Top of bluff, brs. E. & W.
 1.90 Witness cor., as described.
 2.21 Ridge, brs. NE. & SW., desc.
 11.00 Wash, 80 lks. wide, course ENE., asc.
 15.00 Flat ridge, brs. NE. & SW., desc.
 34.75 Gulch, 150 lks. wide, course NE., asc.
 36.00 Top of flat, brs. NE. & SW., desc. grad. over broken land.
 40.00 Set a granite stone 18x14x12 ins., 12 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

68.80 Wash, 20 lks. wide, course ENE.
 75.25 Gulch, 50 lks. wide, course NE., asc.
 77.50 Ridge, brs. NE. & SW., desc.
 As cor. point will fall in wash, at
 78.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
 the ground for witness cor. to cor. of secs. 15, 16, 21 & 22,
 marked on brass cap,
 W.C. S. of centre.
 T. 23 N., R. 14 W., S. 15, S. 16, in N. half,
 S. 22 in SE., and
 S. 21 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

80.00 Wash, 80 lks. wide, course NE.
 Cor. point of secs. 15, 16, 21 & 22.
 Land, mts., broken,
 Soil, 3rd rate, stony, gravelly.
 Dense scrub oak, cedar, palonegro, and other brush.
 May 13, 1911.

May 14, 1911.

At 8h a.m., l.m.t., at the cor. pt. of secs. 15, 16, 21 & 22,
 I set off 18° 25' N. on the decl. arc, and 35° 22 $\frac{1}{2}$ ' N. on the
 lat. arc, and determine a true meridian with the solar.
 Thence I run,
 N. 89° 58' W., on a random line, bet. secs. 16 & 21.

40.00 Set temp. $\frac{1}{4}$ sec. cor.

80.12 Intersect N. & S. line at a point 2 $\frac{1}{2}$ lks. S. of cor. of
 secs. 16, 17, 20 & 21, whence I run,
 S. 89° 57' E., on a true line, bet. secs. 16 & 21.
 Over mts. land, asc. grad., very broken land.

23.00 NE. point of ridge, brs. NE. & SW., desc. grad.
 40.06 Set a granite stone 18x10x6 ins., 12 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.

45.70 Wash, 150 lks. wide, course NE..
 60.00 Gulch, 50 lks. wide, course N. 60° E.
 68.00 Gulch, 50 lks. wide, course NNE., asc.
 72.00 Low ridge, brs. NE. & SW., desc.
 77.00 Enter wash, from SW., desc. in same.
 80.12 To cor. point of secs. 15, 16, 21 & 22, in wash.
 Land, mts., broken., rolling.
 Soil, 3rd rate, stony, gravelly.
 No timber.
 Scattering palonegro, few cedars, cacti. Fair grazing.

Chains.

N. 0° 2' E., bet. secs. 15 & 16. from cor. point in wash. Over mts., broken land, asc.

3.00 Top of low ridge, brs. ENE. & WSW., desc. grad. over heavily rolling, broken land.

7.60 Wash, 50 lks. wide, course NE.

8.85 Road, brs. NE. & SW.

29.60 Wash, 50 lks. wide, course NE.

40.00 Set a granite stone 20x16x10 ins., 15 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

59.00 Wash, 25 lks. wide, course NE.

78.00 Wash, 80 lks. wide, course NE. asc.

80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 9, 10, 15 & 16, marked on brass cap,

T. 23 N., R. 14 W. in N. half,
S. 9 in NW.,
S. 10 in NE.,
S. 15 in SE., and
S. 16 in SW. quadrants,
dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.

Land, broken, mts., rolling.
Soil, 3rd rate, stony, gravelly, loose, dry.
Scattering palonegro, cacti. Fair grass.

N. 89° 57' W., on a random line, bet. secs. 9 & 16.

40.00 Set temp. $\frac{1}{4}$ sec. cor.

80.02 Intersect N. & S. line at a point 5 lks. N. of cor. of secs. 8, 9, 16 & 17, whence I run,
S. 89° 59' E., on a true line, bet. secs. 9 & 16.
Over mts., broken land, asc.

11.00 Top of flat ridge, brs. NE. & SW., desc. grad.

40.01 Cor. point for $\frac{1}{4}$ sec. cor. falls in wash, 60 lks. wide, course NE.

40.51 Set a granite stone 24x14x6 ins., 13 ins. in the ground for witness cor. to $\frac{1}{4}$ sec. cor., marked W.C. $\frac{1}{4}$ on N. face, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.

47.60 Wash, 60 lks. wide, course N. 60° E.

54.30 Wash, 40 lks. wide, course NE.

63.30 Wash, 30 lks. wide, course ENE.

80.02 To cor. of secs. 9, 10, 15 & 16.
Land, mts., broken, rolling.
Soil, 3rd rate, stony, gravelly.
Scattering palonegro, cacti, greasewood. Fair grass.

At noon, ~~1.44.4.~~, at this cor., I set off 18° 30' N. on the decl. arc, and observe the sun on the meridian.,
The resulting lat. is 35° 24' N.

N. 0° 2' E., bet. secs. 9 & 10.
Desc. grad., over heavily rolling land.

2.00 Wash, 25 lks. wide, course NE.

8.40 Wash, 30 lks. wide, course NE.

9.25 Old road, brs. NW. & SE.

15.25 Wash, 25 lks. wide, course ENE.

33.70 Wash, 15 lks. wide, course NE.

40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 9 in W., and
S. 10 in E. half,
raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

44.00 Wash, 90 lks. wide, course NE.

65.00 Wash, 30 lks. wide, course NE.

76.45 Wash, 40 lks. wide, course NE.

Chains.

- 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 3,4,9 & 10, marked on brass cap,
 T. 23 N., R. 14 W., in N. half,
 S. 4 in NW.,
 S. 3 in NE.,
 S. 10 in SE., and
 S. 9 in SW. quadrants,
 raise a mound of stone 2 ft. base, 1½ ft. high W. of cor.
 Land, broken, heavily rolling.
 Soil, 3rd rate, stony, gravelly, dry.
 Sparse greasewood, cacti, sage brush, palonegro.
 Good native grass.
-
- N. 89°59' W., on a random line, bet. secs. 4 & 9.
 40.00 Set temp. ¼ sec. cor.
 79.90 Intersect N. & S. line at a point 2¼ lks. N. of cor. of secs. 4, 5, 8 & 9., whence I run,
 East, on a true line, bet. secs. 4 & 9.
 Over heavily rolling land, desc. grad.
 39.95 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for ¼ sec. cor., marked on brass cap,
 ¼ S. 4 in N., and
 S. 9 in S. half,
 raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
 44.50 Wash, 50 lks. wide, course NE.
 49.00 Old road, brs. NW. & SE.
 79.90 To cor. of secs. 3,4,9 & 10.
 Land, rolling.
 Soil, 3rd rate, stony, gravelly.
 Scattering palonegro, tesseta, greasewood, sage brush, cacti. Good native grass.
-
- N. 0° 2' E., on a random line, bet. secs. 3 & 4.
 40.00 Set temp. ¼ sec. cor.
 80.10 Intersect N. bdy. of Tp. at cor. of secs. 3,4,33 & 34, whence I run,
 S. 0° 2' W., on a true line, bet. secs. 3 & 4.
 Over rolling land, asc. grad.
 40.10 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for ¼ sec. cor., marked on brass cap,
 ¼ S. 4 in W., and
 S. 3 in E. half,
 dig pits 18x18x12 ins. N. & S. of cor. 3 ft. dist., and
 raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
 43.05 Road, Hackberry to Kingman, brs. ESE. & WNW.,
 60.99 Telegraph line, brs. WNW. & ESE., parallel to R.R.
 61.79 Intersect centre line of single track of Atchison, Topeka, & Santa Fe R.R., brs. S. 55° 10' E., & N. 55° 10' W.,
 Mile post No. 492 brs. N. 55° 10' W., 90 lks. dist.
 62.71 Telegraph line, brs. WNW. & ESE., parallel to R.R.
 63.71 Wire fence, brs. WNW. & ESE., parallel to R.R.
 New wire fence in course of construction, on both sides of R.R. line.
 80.10 To cor. of secs. 3,4,9 & 10.
 Land, rolling.
 Soil, 3rd rate, gravelly, loose, dry.
 Sparse greasewood, tesseta, sage brush. Good native grass.
 May 14, 1911.

Chains.

- May 15, 1911.
 At 8h a.m., l.m.t., at the cor. of secs. 2, 3, 34 & 35,
 on the S. bdy. of the Tp.,
 I set off $13^{\circ}43'$ N. on the decl. arc, and $35^{\circ}20'$ N. on the
 lat. arc, and determine a true meridian with the solar.
 Thence I run,
 N. $0^{\circ}3'$ E., bet. secs. 34 & 35.
 Over mts., broken land, desc. steep.
- 9.00 Main wash, 250 lks. wide, course E., asc.
 20.00 Top of knoll, brs. E. & W., desc.
 24.00 Foot, brs. E. & W.,
 28.00 Asc. grad., over broken land.
 40.00 Set a granite stone $24 \times 14 \times 10$ ins., 18 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 60.00 Asc. steep S. slope.
 76.00 Top of main mountain ridge, brs. E. & W., desc. prec.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
 the ground for cor. of secs. 26, 27, 34 & 35, marked on
 brass cap,
 T. 23 N., R. 14 W., in N. half,
 S. 27 in NW.,
 S. 26 in NE.,
 S. 35 in SE., and
 S. 34 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
 Land, mts., broken.
 Soil, 3rd rate, stony, gravelly.
 Scattering cedar, few pinon, palonegro, cacti, greasewood,
 and other brush, sparse grass.
-
- West, on a random line, bet. secs. 27 & 34.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.02 Intersect N. & S. line at point $2\frac{1}{2}$ lks. N. of cor. of
 secs. 27, 28, 33 & 34, whence I run,
 N. $89^{\circ}59'$ E., on a true line, bet. secs. 27 & 34.
 Over very rough, mts., broken land, asc.
- 1.00 Top of ridge, brs. NNE. & SSW., desc. steep.
 5.00 Gulch, 50 lks. wide, course $N. 10^{\circ} E.$, asc. steep NW. slope.
 24.00 Top of W. end of spur, thence along N. side of crest of
 same.
 30.00 Head of gulch, course NNE., asc.
 35.00 Spur, brs. N. & S., desc.
 38.50 Head of gulch, course N.
 40.01 Set a granite stone $30 \times 14 \times 10$ ins., 10 ins. in ground, to
 bed-rock, in mound of stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on
 N. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft.
 high N. of cor., from which,
 A pinon tree 6 ins. diam., brs. $N. 33^{\circ}10' E.$ 64 lks. dist.,
 marked $\frac{1}{4}$ S. 27 B.T.
 No other tree available.
- 44.00 Top of ridge, brs. WSW. & E., thence on same.
 50.00 Desc. along N. side of ridge.
 60.00 Asc.
 69.50 Cross ridge, brs. NE. & SW., desc.
 73.00 Head of gulch, course ENE., asc.
 80.02 To cor. of secs. 26, 27, 34 & 35.
 Land, mts., rough.
 Soil, 3rd rate, stony.
 Scattering cedar, pinon, cacti, palonegro. Sparse grass.

Chains.

- N. $0^{\circ} 3'$ E., bet. secs. 26 & 27.
 Over mts. land, desc. through scattering cedar, pinon, dense scrub oak, palonegro.
- .70 Gulch, 30 lks. wide, course ENE., near head, asc.
 6.00 Spur, brs. ENE. & SW., desc.
 9.00 Gulch, 50 lks. wide, course E., near head, asc. steep.
 16.80 Top of high mountain, brs. E. & W., desc. prec.
 23.00 Gulch, 80 lks. wide, course NE., near head, asc.
 37.00 Spur, brs. ENE. & WSW., desc.
 40.00 Set a granite stone 24x14x10 ins., 8 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
 44.00 Head of gulch, course NE., asc.
 48.50 Spur, brs. NE. & SW., turns to S. at 6 chs. to W.; ends 20 chs. to NE., at low pass, desc. prec. Leave cedars.
 74.52 Road, brs. E. & W. foot of main slope, brs. E. & W. desc. grad.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 22, 23, 26 & 27, marked on brass cap,
- T. 23 N., R. 14 W. in N. half,
 S. 22 in NW.,
 S. 23 in NE.,
 S. 26 in SE., and
 S. 27 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- Land, mts., broken, rough.
 Soil, 3rd rate, stony, gravelly.
 Scattering cedar pinon, palonegro, cacti. Fair grass.
 At this cor., at noon, ~~1. m. t.~~, I set off $18^{\circ} 45'$ N. on the decl. arc, and observe the sun on the meridian.
 The resulting lat. is $35^{\circ} 22'$ N.
-
- S. $39^{\circ} 59'$ W., on a random line, bet. secs. 22 & 27.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.04 Intersect N. & S. line at a point 9 lks. N. of ^{true} cor. pt. of secs. 21, 22, 27 & 28, whence I run, N. $39^{\circ} 55'$ E., on a true line, bet. secs. 22 & 27.
 Over mts., broken, land, desc. in wash, through dense scrub cedar, oak, and palonegro.
- 20.00 Leave wash, turns to NE.
 30.00 Wash, 50 lks. wide, course NE. asc.
 35.00 Ridge, brs. NE. & SW., desc.
 37.00 Wash, 200 lks. wide, course NNE. leave dense undergrowth.
 40.02 Set a granite stone 36x14x8 ins., 10 ins. in the ground, on bed-rock, in mound of stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
 56.63 Knoll, brs. N. & S., desc. grad.
 71.25 Wash, 20 lks. wide, course NE., enter flat.
 73.65 Wash, 30 lks. wide, course NNE.
 80.04 To cor. of secs. 22, 23, 26 & 27.
 Land, mts., broken, rolling.
 Soil, 3rd rate, sandy, gravelly, stony.
 Cedar, pinon, palonegro, cacti, scrub oak. Fair grass.

Chains.

N. 0° 3' E., bet. secs. 22 & 23.
 Over heavily rolling land, desc. grad. near foot of
 W. slope of granite peak.

40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 22 in W., and
 S. 23 in E. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

45.50 Wash, 15 lks. wide, course NE.

61.00 Wash, 400 lks. wide, course NE.

80.00 Set an iron post 2 ins. in diam., 3 ft. long, 24 ins. in
 the ground for cor. of secs. 14, 15, 22 & 23, marked on
 brass cap,
 T. 23 N., R. 14 W., in N. half,
 S. 15 in NW.,
 S. 14 in NE.,
 S. 23 in SE., and
 S. 22 in SW. quadrants,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

Land, mts., rolling,
 Soil, 3rd rate, gravelly.
 Sparse greasewood, tesseta, cacti. Good native grass.
 May 15, 1911.

May 16, 1911.

At 8h a.m., l.m.t., at the cor. of secs. 14, 15, 22 & 23,
 I set off 18° 57' N. on the decl. arc, and 35° 22' N. on the
 lat. arc, and determine a true meridian with the solar.
 Thence I run,
 S. 89° 55' W., on a random line, bet. secs. 15 & 22.

40.00 Set temp. $\frac{1}{4}$ sec. cor.

80.00 Intersect N. & S. line at a point $2\frac{1}{4}$ lks. S. of ^{true} cor. pt. of
 secs. 15, 16, 21 & 22, whence I run,
 N. 89° 56' E., on a true line, bet. secs. 15 & 22.
 Over heavily rolling land,

1.50 Leav wash, asc. grad.

5.00 Wash, 25 lks. wide, course NE.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 15 in N., and
 S. 22 in S. half,
 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
 Top of rise, desc. grad.

64.50 Wash, 100 lks. wide, course NE.

80.00 To cor. of secs. 14, 15, 22 & 23.
 Land, rolling, broken.
 Soil, 3rd rate, gravelly.
 Scattering palonegro, tesseta, sage brush, cacti.,
 sparse grass, dense in places.

Chains

- N. $3^{\circ} 3'$ E., bet. secs. 14 & 15.
Over heavily rolling land, desc. grad.
- 16.00 Wash, 60 lks. wide, course NE.
22.18 Road, brs. N. $8^{\circ} 5'$ E. & S. $8^{\circ} 5'$ W.
26.40 Wash, 30 lks. wide, course ENE.
40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 15 in W., and $\frac{1}{4}$ S. 14 in E. half, dig pits 18x18x12 ins. N. & S. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- 46.10 Wash, 25 lks. wide, course ENE.
50.00 Wash, 20 lks. wide, course E.
66.00 Wash, 20 lks. wide, course NE.
76.60 Wash, 25 lks. wide, course ENE.
80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 10, 11, 14 & 15, marked on brass cap,
T. 23 N., R. 14 W., in N. half,
S. 10 in NW.,
S. 11 in NE.,
S. 14 in SE., and
S. 15 in SW. quadrants,
dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
- Land, rolling, broken.
Soil, 3rd rate, gravelly, loose, dry.
Sparse greasewood, cacti, tesseta. Fair native grass.

- S. $39^{\circ} 56'$ W., on a random line, bet. secs. 10 & 15.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
79.98 Intersect N. & S. line at a point 7 lks. S. of cor. of secs. 9, 10, 15 & 16, whence I run, N. $39^{\circ} 59'$ E., on a true line, bet. secs. 10 & 15.
Over heavily rolling land, desc. grad.,
- 2.50 Wash, 300 lks. wide, course NE.
10.25 Old road, brs. SE. & NW.
13.30 Wash, 15 lks. wide, course NE.
19.85 Wash, 25 lks. wide, course ENE.
35.00 Wash, 35 lks. wide, course NE.
39.99 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 10 in N., and $\frac{1}{4}$ S. 15 in S. half, dig pits 18x18x12 ins. E. & W. of cor. 3 ft. dist., and raise a mound of earth 4 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- 45.10 Wash, 25 lks. wide, course NE.
51.60 Wash, 50 lks. wide, course N. $6^{\circ} 5'$ E.
70.90 Wash, 35 lks. wide, course NE.
79.98 To cor. of secs. 10, 11, 14 & 15.
Land, heavily rolling, broken.
Soil, 3rd rate, sandy, gravelly, loose, dry.
Sparse greasewood, tesseta, mesquite, cacti. Fair grass.
at this cor., at noon, l.m.t., I set off $18^{\circ} 59'$ N. on the decl. arc, and observe the sun on the meridian.
The resulting lat. is $35^{\circ} 23'$ N.

- chains
- N. 0° 3' E., bet. secs. 10 & 11.
Over heavily rolling, broken land, desc. grad.
- 17.00 Wash, 150 lks. wide, course NE.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 10 in W., and S. 11 in E. half, dig pits 18x18x12 ins. N. & S. of cor. 5 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high W. of cor.
- 40.78 Wire fence, in course of construction, brs. NW. & SE.
- 41.70 Telegraph line, brs. NW. & SE.
- 42.64 Centre of Atchison Topeka & Santa Fe R.R., brs. N.55°11'W. & S.55°11'E.
- 43.47 Telegraph line, brs. NW. & SE. Parallel to R.R.
- 44.48 Wire fence, parallel to R.R.
- 69.38 Wash, 30 lks. wide, course NE.
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 2,3,10 & 11, marked on brass cap, T. 23 N., R. 14 W. in N. half, S. 3 in NW., S. 2 in NE., S.11 in SE., and S. 10 in SW. quadrants, dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Land, rolling, broken. Soil, 3rd rate, gravelly, dry. Sparse greasewood, cacti, tesseta. Good native grass.
-
- S. 39°59' W., on a random line, bet. secs. 3 & 10.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.00 Intersect N. & S. line at a point $2\frac{1}{4}$ lks. N. of cor. of secs. 3,4,9 & 10, whence I run, N. 39°50' E., on a true line, bet. secs. 3 & 10. Over rolling, broken land, drains NNE. desc. grad.
- .67 Wash, 20 lks. wide, course NNE.
- 9.23 Wash, 20 lks. wide, course NNE.
- 25.60 Wire fence, brs. NW. & SE., parallel to R.R.
- 24.95 Telegraph line, parallel to R.R.
- 26.30 Centre of A. T. & S. F. R.R., brs. N.55°11'W. & S.55°11'E.
- 27.52 Telegraph line, parallel to R.R.
- 29.00 Wire fence, parallel to R.R., new.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 3 in N., and S. 10 in S. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
- 40.50 Wash, 20 lks. wide, course NE.
- 57.62 Wash, 20 lks. wide, course NNE.
- 80.00 To cor. of secs. 2,3,10 & 11. Land, rolling, broken. Soil, 3rd rate, sandy, gravelly, dry. Sparse greasewood, tesseta, cacti. Good native grass.
-
- N. 0° 3' E., on a random line, bet. secs. 2 & 3.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.02 Intersect N. bdy. of Tp. at a point 2 lks. E. of cor. of secs. 2,3,34 & 35, whence I run, S. 0° 2' W., on a true line, bet. secs. 2 & 3. Over broken, rolling land. desc. grad.
- 8.00 Wash, 20 lks. wide, course WSW.
- 24.00 Wash, 30 lks. wide, course S.30°W. As cor. point will fall in wash, at
- 34.02 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for witness cor. to $\frac{1}{4}$ sec. cor., marked on brass cap, W.C. $\frac{1}{4}$ N. of centre, S. 2 in SE., and S.3 in SW. quadrants, raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
- 35.50 Enter Truxton wash, course N.20°W.
- 40.04 Point for $\frac{1}{4}$ sec. cor. in wash.
- 45.00 Leave main wash, course NNW.
- 58.20 Wash, 50 lks. wide, course NE., asc. grad.
- 63.70 Road, Hackberry to Music mtn., brs. NNW. & SSE.
- 75.20 Road, Hackberry to Kingman, brs. NW. & SE.
- 80.02 To cor. of secs. 2,3,10 & 11. Land, rolling, Soil, 3rd rate. May 16, 1911.

Chains.

May 17, 1911.

At 8h a.m., l.m.t., at the cor. of secs. 1, 2, 35 & 36,
on the S. bdy. of the Tp.,

I set off $19^{\circ}11'N.$ on the decl. arc, and $35^{\circ}20'N.$ on the
lat. arc, and determine a true meridian with the solar.
Thence I run,

N. $0^{\circ}3'E.$, bet. secs. 35 & 36.

Over mts., broken land, desc. through dense scrub oak,
palonegro, and scattering cedar.

13.00 Foot of main slope, brs. E. & W.

18.00 Main wash, 250 lks. wide, course ENE. asc. grad.

36.00 E. end of knoll, brs. E. & W., desc. grad.

40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 35 in W., and
 $\frac{1}{4}$ S. 36 in E. half,

raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

41.00 Old road, brs. ENE. & WSW.

42.00 Wash, 50 lks. wide, course E., asc. grad.

60.00 Top of East spur of mountain, brs. E. & W., foot is 4 chs.
to E., desc. grad. NE. slope, over very broken land.

79.60 Wash, 30 lks. wide, course ENE., asc.

80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
the ground for cor. of secs. 25, 26, 35 & 36, marked on
brass cap,

T. 23 N., R. 14 W., in N. half,

S. 26 in NW.,

S. 25 in NE.,

S. 36 in SE., and

S. 35 in SW. quadrants,

raise a mound of stone 3 ft. base, 2 ft. high W. of cor.

Land, mts., broken.

Soil, 3rd rate, gravelly, stony, loose, dry.

Scattering palonegro, few cedar, dense scrub oak.

Good native grass in places.

West, on a random line, bet. secs. 26 & 35.

40.00 Set temp. $\frac{1}{4}$ sec. cor.

80.02 Intersect N. & S. line at a point $2\frac{1}{2}$ lks. S. of cor. of
secs. 26, 27, 34 & 35, whence I run,

S. $39^{\circ}59'E.$, on a true line, bet. secs. 26 & 35.

Over mts. land, along steep N. slope, through dense
scrub oak, scattering pinon, cedar, and palonegro.

14.00 Top of turn, in ridge, brs. E. & SW., thence desc. on ridge.

22.00 Low gap on ridge, thence along S. crest of ridge. asc.

38.00 Top of ridge, brs. SE. & WNW., desc. NE. slope.

40.01 Set a granite stone 24x14x10 ins., 8 ins. in the ground
for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and
raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.,
from which,

A pinon tree 10 ins. diam. brs. S. $10^{\circ}E.$ 54 lks. dist.,
marked $\frac{1}{4}$ S. 35 B.T.

A pinon tree 10 ins. diam. brs. N. $57^{\circ}E.$ 106 lks. dist.,
marked $\frac{1}{4}$ S. 26 B.T.

60.00 Foot of main slope, brs. NW. & SE., desc. grad.

80.02 To cor. of secs. 25, 26, 35 & 36.

Land, mts., rough.

Soil, 3rd rate, stony, gravelly, dry.

Scattering pinon, cedar, scrub oak, palonegro, cacti.

Chains

East, bet. secs. 25 & 36.
 Over heavily rolling land, desc. grad., through dense scrub oak.

.40 Enter wash, course ENE.
 6.00 Leave wash, runs ENE.
 15.64 Old road, brs. N. & S.
 24.00 Wash, 20 lks. wide, course NE.
 29.40 Old road, brs. NNW. & SSE.
 36.00 Wash, 30 lks. wide, course NNE.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 25 in N., and S. 36 in S. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.

46.00 Intersect West bdy. of T. 23 N., R. 13 W., at a point, whence, cor. of secs. 30 & 31, brs. N. 0° 4' E., 9.50 chs. dist., as heretofore described.
 At the point of intersection, I set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for closing cor. of secs. 25 & 36, marked on brass cap,
 C.C., W. of centre, T. 23 N. in N., and S. 30, S. 31, R. 13 W., in E. half, S. 25 in NW., and S. 36, R. 14 W. in SW. quadrants, dig pits 24x18x12 ins. crosswise on each line N. and S. 3 ft. and west of post 7 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, west of cor.
 Land rolling; soil, 3rd rate, sandy, gravelly. Sparse palonegro, greasewood, tesseta, dense scrub oak. Good native grass.
 At this cor., at noon, ~~1.11.11~~, I set off 19° 13' N. on the decl. arc, and observe the sun on the meridian. The resulting lat. is 35° 21' N.

N. 0° 3' E., bet. secs. 25 & 26.
 Over broken land, drains E., desc. grad.

21.00 Wash, 20 lks. wide, course NE., Small house, vacant, and corral, brs. W. about 12 chs. dist.
 28.93 Wash, 30 lks. wide, course NE. asc. grad.
 30.85 Old road, brs. WNW. & ESE.
 40.00 Set a granite stone 24x10x8 ins., 18 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor. Cor. No. 1 of Sunshine Millsite, brs. N. 77° 19' W., 38.20 chs. dist.
 53.34 Top of barren granite ledge, 50 ft. high., desc. grad.
 56.04 Wash, 50 lks. wide, course NNE.
 66.15 Wash, 60 lks. wide, course NNE., turns to N.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 23, 24, 25 & 26, marked on brass cap,
 T. 23 N., R. 14 W. in N. half, S. 23 in NW., S. 24 in NE., S. 25 in SE., and S. 26 in SW. quadrants, raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
 Land, broken, heavily rolling. Soil, 3rd rate, stony, gravelly. Scattering palonegro, tesseta, mesquite, cacti, greasewood.

Chains	
	N. 89° 59' W., on a random line, bet. secs. 23 & 26.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.00	Intersect N. & S. line at a point $2\frac{1}{2}$ lks. S. of cor. of secs. 22, 23, 27 & 26, whence I run, S. 89° 58' E., on a true line, bet. secs. 23 & 26. Over mts., broken land, ,
82.20	Old road, brs. N. & S.
83.00	Asc. steep, stony SW. slope.
87.25	Top of spur from granite peak, brs. S. & N., desc. Top of high, rough, barren granite peak is N. 15 chs.
85.00	Thence along, barren, broken, stony SE. slope. desc.
40.00	Set a granite stone 30x14x10 ins., on bed-rock, in mound of stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone 3 ft. base, 3 ft. high N. of cor. Cor. No. 1 of Sunshine Millsite, brs. S. 5° E. Near spring. Ranch house of C. Ridenour, brs. N. 1° E., about 26 chs. dist.
60.00	Foot of main slope, brs. NNE. & SW., desc. grad. Cor. No. 1 of Sunshine Millsite, brs. S. 23° 53' W.
60.42	Road, brs. N. & S.
65.20	Wash, 200 lks. wide, course N.
74.10	Wash, 20 lks. wide, course N.
77.10	Road, N. & S.
80.00	To cor. of secs. 23, 24, 25 & 26. Land, rough, broken, mts. Soil, 3rd rate, stony. Scattering greasewood, tseseta, cacti. Fair grass in places.
	East, bet. secs. 24 & 25. Over broken, rolling land, granite gravel, desc. grad.
9.36	Wash, 20 lks. wide, course NNE.
13.42	Wash, 30 lks. wide, course N.
30.00	Asc. SW. slope. cross low divide, brs. NE. & SW.
37.00	Top of butte on granite ridge, brs. N. 1 ch. dist. Desc. SE. slope.
40.00	Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 24 in N., and S. 25 in S. half, raise a mound of stone 3 ft. base, 2 ft. high N. of cor.
43.00	Low gap, brs. E. & W., asc.
45.85	Intersect West bdy. of T. 23 N., R. 13 W., at a point, whence, cor. of secs. 19 & 30, on said bdy., brs. N. 0° 4' W., 9.35 chs. dist., as heretofore described. At the point of intersection, I Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for closing cor. of secs. 24 & 25, marked on brass cap, C.C., E. of centre, T. 23 N. in N., and S. 19, S. 30, R. 13 W., in E. half, R. 14 W. S. 25 in SW., and S. 24 in NW. quadrants, raise a mound of stone 3 ft. base, 2 ft. high W. of cor. <u>Land, rough, broken, mountainous. Soil, 3rd rate, stony.</u> <u>Scattering greasewood, tseseta, cacti. Fair grass in places.</u>
	N. 0° 5' E., bet. secs. 23 & 24. Over heavily rolling land, desc. grad.
8.00	Old road, brs. NNE. & SSW.
12.00	Granite wash, 80 lks. wide, course NNE.
13.04	Road, brs. NNE. & SSW.
35.70	Road, brs. NNE. & SSW.
40.00	Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 23 in W., and S. 24 in E. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
44.74	Wash, 50 lks. wide, course NNE.
72.42	Old road, brs. NE. & SW.

Chains.

30.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 13, 14, 23 & 24, marked on brass cap,
 T. 23 N., R. 14 W. in N. half,
 S. 14 in NW.,
 S. 13 in NE.,
 S. 24 in SE., and
 S. 23 in SW. quadrants,
 raise a mound of stone 4 ft. base, 3 ft. high W. of cor.
 U.S.C. & G.S.B.M., Elev. 3553.6 ft., brs. N. 31° 40' E. 23.70 chs.
 Soil, 3rd rate, gravelly, stony. Land, rolling.
 Scattering mesquite, tesseta, greasewood, cacti.
 I observe Polaris this night, at this cor. & check my line.
 May 17, 1911.

May 13, 1911.
 At 8h a.m., l.m.t., At the cor. of secs. 13, 14, 23 & 24,
 I set off 19° 24' N. on the decl. arc, and 35° 22½' N. on the lat. arc, and determine a true meridian with the solar.
 Thence I run,

N. 89° 58' W., on a random line, bet. secs. 14 & 23.
 40.00 Set temp. ¼ sec. cor.
 80.04 Intersect N. & S. line at cor. of secs. 14, 15, 22 & 23, whence I run,
 S. 89° 58' E., on a true line, bet. secs. 14 & 23.
 Over heavily rolling mts. land.
 13.00 Wash, 150 lks. wide, course N., asc. steep W. slope.
 25.00 Top of ridge, brs. N. & S. desc. grad. along N. slope of spur.
 40.02 Set a granite stone 24x12x8 ins., 18 ins. in the ground for ¼ sec. cor., marked ¼ on N. face, and raise a mound of stone 2 ft. base, 1½ ft. high N. of cor. Thence along N. slope of spur.
 54.45 Low rocky butte, brs. N. 10° E., about 20 chs. NE. point of spur, brs. NE. & WSW., desc.
 63.00 Foot of main slope, brs. N. & S., desc. grad.
 67.00 Wash, 40 lks. wide, course NNE.
 80.04 To cor. of secs. 13, 14, 23 & 24.
 Land, mts., rolling.
 Soil, 3rd rate, gravelly, stony.
 Scattering palonegro, cacti, few mesquite, tesseta.

East, bet. secs. 13 & 24.
 Over heavily rolling land, desc. grad.

7.60 Centre of Hackberry Street, brs. N. 13° 42' E., & S. 13° 42' W.
 9.00 Hackberry Post Office, and store of Wm. L. Kayser & Co., brs. North, 250 lks. dist.
 14.75 Shed on line.
 18.00 Enter Truxton wash, course NW.
 24.00 Leave wash, asc.
 24.98 Centre of A. T. & S.F. R.R., brs. N. 37° W. & S. 37° E., on 1° curve.
 Oil tanks of R.R., brs. N. 29° W., about 12 chs. dist.
 25.26 R.R. side track, parallel to main line.
 R.R. runs into sharp curve about 15 chs. SE., and turns to NE.
 25.60 Telegraph line, parallel to R.R. Western Union, and
 26.22 Telegraph line, parallel to R.R. Postal lines.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for ¼ sec. cor., marked on brass cap, ¼ S. 13 in N., and S. 24 in S. half,
 raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
~~45.73 Intersect W. bdy. of T. 23 N., R. 13 W. at point whence cor. of secs. 18 & 19, on said bdy. brs. N. 0° 5' W. 9.45 chs. At the point of intersection, I~~
 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for closing cor. of secs. 13 & 24, marked on brass cap, C.C., E. of centre; T. 23 N. in N., and S. 18, S. 19, R. 13 W. in E. half; S. 13 in NW, and S. 24, R. 14 W. in SW quadrant.

Chains.

45.73 Intersect East bdy. of T. 23 N., R. 13 W., at a point.
whence cor. of secs. 18 & 19, on said bdy.,
brs. N. $0^{\circ}5'$ W., 9.45 chs. dist., as heretofore described.

At the point of intersection, I
Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
the ground for closing cor. of secs. 18 & 24, marked on
brass cap,

C.C., E. of centre,
T. 23 N. in N., and
S. 18, S. 19, R. 13 W. in E. half,
S. 18 in NW., and
S. 24., R. 14 W., in SW. quadrants,

raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
Land, broken, rolling.

Soil, 3rd rate, gravelly.

Scattering greasewood, cacti, tesseta. Sparse grass.

N. $0^{\circ}3'$ E., bet. secs. 13 & 14.

Over broken, rolling land, desc. grad., through
Hackberry Village,

1.04 Road, brs. NW. & SE.

8.47 Road, brs. WNW. & ESE.

20.00 Enter overflow land, bottom, from Truxton wash,
brs. NW. & SE. N end of Village.

25.68 Road, brs. NNW. & SSE. Enter Truxton wash, course NNW.

36.62 Same road, from SSW., in same.

38.54 On long steel I beam trestle, 250 lks. from W. end,
Centre of A. T. & S.F. R.R., brs. N. $32^{\circ}50'$ W. & S. $32^{\circ}50'$ E.

40.00 Point for $\frac{1}{4}$ sec. cor. falls in Truxton wash, which follows
the line to end of this mile, therefore,

At a point 60 lks. to W. of line, on W. bank of wash,

Set a granite stone 24x10x10 ins., 18 ins. in the ground

for witness cor. to $\frac{1}{4}$ Sec. cor., marked W.C. $\frac{1}{4}$ on W. face,

raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.

2 Telegraph lines, parallel to R.R.

Thence in Truxton wash. .5 chs. wide.

70.00 Near E. edge of wash,

80.00 Point for cor. of secs. 11, 12, 13 & 14, falls in wash.

82.00 Leave wash, runs NNW., asc. abrupt 15 ft.

83.00 Top of N. bank, brs. NNW. & SSE.

Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in
the ground for witness cor. to cor. of secs. 11, 12, 13 & 14,
marked on brass cap,

W.C., N. of centre
T. 23 N., R. 14 W. in N., and
S. 13, S. 14, in S. half,
S. 11 in NW., and
S. 12 in NE. quadrants,

raise a mound of stone 2 ft. base, 2 ft. high W. of cor.

Land, broken, rolling. Soil, 3rd rate, stony, gravelly.

Scattering greasewood, tesseta, mesquite, cacti.

Chains	From true point for cor. of secs. 11, 12, 13 & 14, I run, N. 89° 58' W., on a random line, bet. secs. 11 & 14.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.04	Intersect N. & S. line at a point $2\frac{1}{2}$ lks. N. of cor. of secs. 10, 11, 14 & 15, whence I run, S. 89° 59' E., on a true line, bet. secs. 11 & 14. Over rolling, land, desc. grad.
5.50	Wash, 25 lks. wide, course ENE.
16.50	Wash, 30 lks. wide, course NE.
40.02	Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 11 in N., and S. 14 in S. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
51.51	Wire fence, brs. NW. & SE.
52.65	Telegraph line, parallel to R.R.
53.40	Centre of A. T. & S.F. R.R., brs. N. 32° 50' W. & S. 32° 50' E.
54.00	Telegraph line, brs. NW. & SE., parallel to R.R.
55.10	Wire fence, parallel to R.R.
60.23	Road, Hackberry to Kingman, brs. NW. & SE.
75.00	Enter Truxton wash, course NW.
80.04	To cor. point in wash, of secs. 11, 12, 13 & 14. Land, rolling., Soil, 3rd rate, sandy, gravelly. Scattering tesseta, greasewood, cacti, sparse grass.
	<hr/> From true point for cor. of secs. 11, 12, 13 and 14, I run, East, bet. secs. 12 & 13., from cor. point in wash.
.40	Leave Truxton wash, course NNW., asc. abrupt 15 ft., Asc. grad.
15.00	Asc. steep NW. slope. of mountain.
39.25	Top of granite hill, brs. ENE. & WSW., desc.
40.00	Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 12 in N., and S. 13 in S. half, raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
45.10	Intersect West bdy. of T. 23 N., R. 13 W., at a point, whence cor. of secs. 7 & 13, on said bdy., brs. N. 0° 15' W., 9.65 chs. dist., as heretofore described. At the point of intersection, I Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for closing cor. of secs. 12 & 13, marked on brass cap, C.C. E. of centre, T. 23 N. in N., and S. 7, S. 13, R. 13 W. in E. half, S. 12 in NW., and S. 13, R. 14 W. in SW. quadrants, raise a mound of stone 3 ft. base, 2 ft. high W. of cor. Land, lts., Soil, 3rd rate, stony. Sparse mesquite, tesseta, greasewood, cacti, native grass. At this cor., at noon, i.m.t., I set off 19° 26' N. on the decl. arc, and observe the sun on the meridian. The resulting lat. is 35° 23' N.
	<hr/> From true point for cor. of secs. 11, 12, 13 and 14, I run, N. 0° 5' E., bet. secs. 11 & 12. Over mts. broken land, along W. slope, asc. near foot.
3.00	with 23 corners. Leave Wash
25.00	Gulch, 30 lks. wide, course W.
35.00	Wash, 10 lks. wide, course WSW., asc.
40.00	Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S. 11 in W., and S. 12 in E. half, and raise a mound of stone 3 ft. base, 2 ft. high, W. of cor.
49.10	Rocky spur, brs. W. & E., desc.
54.00	Foot, brs. E. & W.
68.00	Wash, 50 lks. wide, course WSW.

Chains.

80.00 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for cor. of secs. 1,2,11 & 12, marked on brass cap,
 T. 23 N., R. 13 W., in N. half,
 S. 2 in NW.,
 S. 1 in NE.,
 S. 12 in SE., and
 S. 11 in SW. quadrants,
 raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor.
 Land, rolling, broken, mts.
 Soil, 3rd rate, stony, gravelly.
 Scattering palonegro, mesquite, tesseta, greasewood, cacti.
 Good native grass.

N. 89°59' W., on a random line, bet. secs. 2 & 11.
 40.00 Set temp: 1/4 sec. cor.
 80.02 Intersect N. & S. line at a point 2 1/2 lks. N. of cor. of secs. 2,3,10 & 11, whence I run, East, on a true line, bet. secs. 2 & 11.
 Over rolling land, desc. grad.
 7.30 Wash, 20 lks. wide, course NNE.
 7.60 Road, Hackberry to Kingman, brs. NW. & SE.
 10.64 Road, Hackberry to Music mountain, brs. NNW. & SSE.
 16.00 Enter Truxton wash, course NW.
 23.00 Leave wash, course NW., asc. grad.
 40.01 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for 1/4 sec. cor., marked on brass cap,
 1/4 S. 2 in N., and
 S. 11 in S. half,
 dig pits 18x18x12 ins. E. & W. of cor. 3 ft. dist., and raise a mound of stone covered with earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
 48.00 Asc. steep.
 52.00 Top of spur, brs. SW. & NE., ends 10 chs. to SW., desc.
 55.00 Foot, brs. NE. & SW., descend gradually.
 76.20 Wash, 20 lks. wide, course SW., descend gradually.
 80.02 To cor. of secs. 1,2,11 & 12.
 Land, rolling, mts. Soil, 3rd rate, gravelly, stony, sandy.
 Scattering greasewood, cacti. Good native grass.
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East, bet. secs. 1 & 12.
 Over rolling land, asc. grad., stony ground.
 32.00 Wash, 100 lks. wide, course WSW.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for 1/4 sec. cor., marked on brass cap,
 1/4 S. 1 in N., and S. 12 in S. half,
 raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor.
 44.87 Intersect West bdy. of T. 23 N., R. 13 W., at a point whence cor. of secs. 6 & 7, on said bdy, brs. N. 0°10' W. 10.58 chs. dist., as heretofore described, At the point of intersection, I
 Set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in the ground for closing cor. of secs. 1 & 12, marked on brass cap,
 C.C., E. of centre,
 T. 23 N. in N., and
 S. 6, S. 7, R. 13 W. in E. half,
 S. 1 in NW., and
 S. 12, R. 14 W. in SW. quadrants,
 raise a mound of stone 3 ft. base, 2 ft. high W. of cor.
 Land, rolling.
 Soil, 3rd rate, stony, gravelly.
 Scattering tesseta, greasewood, cacti. Good native grass.

Chains
 N. 0° 3' E., on a random line, bet. secs. 1 & 2.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.00 Intersect N. bdy. of Tp. at a point 7 lks. E. of cor. of
 secs. 1, 2, 35 & 36, whence I run,
 South, on a true line, bet. secs. 1 & 2.
 Over heavily rolling, broken land, desc.
 4.00 Foot of slope, brs. NE. & SW., desc. grad.
 10.00 Wash, 30 lks. wide, course WSW.
 30.00 Wash, 30 lks. wide, course W.
 40.00 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in
 the ground for $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S. 2 in W., and
 $\frac{1}{4}$ S. 1 in E. half,
 raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high W. of cor.
 48.60 Wash, 20 lks. wide, course WSW.
 52.50 Wash, 20 lks. wide, course WSW.
 57.10 Wash, 20 lks. wide, course WSW. asc.
 66.00 Top of long spur, brs. W. & E., turns SW. at 8 chs. w.
 desc. steep.
 72.00 Foot, brs. E. & W., desc. grad.
 77.60 Wash, 20 lks. wide, course WSW., asc.
 80.00 To cor. of secs. 1, 2, 11 & 12.
 Land, rolling, broken, mts.
 Soil, 3rd rate, gravelly, stony.
 Scattering palonegro, cacti, greasewood, tesseta, mesquite.
 Good native grass. May 18, 1911.

General Description.

T. 23 N., R. 14 W., is in general mountainous and broken, and valuable only for grazing purposes except small areas along Truxton Wash in the vicinity of Hackberry village, and northerly along the wash.

The soil along this wash is a rich sandy loam, and water is found at a depth of 30 to 50 ft., which could be pumped and used for irrigation.

There are several small springs in the Tp., furnishing water for stock.

There is some pinon and cedar timber in the higher parts of the Peacock Mountains.

C. Ridenour, in N. half of sec. 26 has substantial dwelling house and other valuable improvements, and cultivates a small tract of land, irrigating from a small spring.

A number of settlers are located in Hackberry Village, a post office and railroad station in sec. 13, and NW. $\frac{1}{4}$ of sec. 24

Those who have valuable dwellings and improvements, are Wm. L. Kayser & Co., Henry Bacon, Dan C. Bacon, William Grant, Chas. Ridenour, Tony Walters, Mrs. H. Grigg, Mrs. T.W. Phillips, Inus & Eperson, Wm. Cofer, Mrs. Hand, Chas. Maine, and William Gordon, Chas. Logan.

The Atchison, Topeka & Santa Fe Railroad Co., has built large oil tanks, water tanks, and pumping plant near Hackberry Station, which is one of the principal supply and watering stations on the line.

The locations of the various buildings, etc., are as shown on the supplemental plat accompanying, made from actual survey by me on morning of May 19, 1911.

Some of the land in the Peacock Mountains is valuable mineral land, being rich in silver and gold ore, but this district remains undeveloped, except the old Hackberry mine, near U.S.L.M. No. 1, in NE. $\frac{1}{4}$ of sec. 23, from which much valuable ore was taken years ago, but which has not been operated for ten years or more.

Jesse B. Wright
 U. S. Surveyor.

SUMMARY.

Topographical and Geological Features.
Tps. 18 to 27 N., Rs. 13 to 16 W., Ariz.
as surveyed under
Groups 9 & 10.

Mountains.

The mountain ranges trend north-northwest, nearly parallel with the edges of the cliffs and plateaus. On the NE. of this area lie the Grand Wash Cliffs, or the southern portion thereof.

At Mucic mountain, these cliffs divide, the upper portion, which is sedimentary, extending Eastward, and called the Yampai cliffs, and the lower, or crystalline portion continuing to the SSE., under the names of Cottonwood Cliffs, and Aquarius Cliffs, forming the SW. edge of the Truxton Plateau, which plateau is more definitely located and shown in T. 24 N., R. 13 W. plat. The general trend of the slope is WSW. into Hualpai Valley. The mean elevation of this plateau is 5800 ft. sea-level. The upper portion is a precipitous cliff, or scarp, about 1500 ft. in height, composed of nearly horizontal strata. Below this is a rugged, broken, mountainous slope, composed of crystalline or granitoid rocks, having a vertical range of 1000 ft. or more, not so steep as the higher portion.

The lower or foot hill belt consists of irregular hills and ridges of granite formation, with immense local deposits of talus, fanshaped, descending to the East edge of the Hualpai Valley.

The Cerbat Range, lying on the West of the Hualpai valley, extends nearly N. & S. Only the East foothills of this range extend into the surveyed area.

These foothills are mostly basaltic or volcanic, and covered in places with granitoid talus or sediment. The Cerbat range and the Grand Wash Cliffs are connected by a low divide, only about 300 ft. above the level of Red lake on the North.

The Peacock Mountains lie North-east of the Hualpai range, between them and the Cottonwood Cliffs, and interrupting the continuity between the Hualpai and Big Sandy Valleys.

The Northern portion of this range extends into the surveyed area, and also the East and West foothills. The formation is granitic, the Western slope being very steep, and rugged.

The Hualpai Mountains lie mostly to the South of the surveyed area, only the northern foothills and ridges extending into the surveyed area.

The formation is ancient granitoid or pre-Cambrian, inclined Easterly, making the West slope very steep.

Hualpai valley lies between the Grand Wash Cliffs on the east and north-east, and the Cerbat range on the west, extending to the Peacock and Hualpai mts. to the south.

This valley is mostly an undrained basin, about 50 miles long and 10 to 20 miles wide.

The lower portion, which has an elevation of about 3000 ft. above sea level, covering an area about 10 miles N. & S., and 6 miles E. & W., is known as Red Lake. This lake is a dry, barren mud flat, most of the time, owing to the evaporation or absorption of the flood waters.

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The principal drainage of the basin comes through Truxton wash, the bed of which is usually dry. In flood times during the rainy season, this basin contains water for periods varying from a few days to several months.

The drainage area of this basin is not great, as the higher plateau on the East drains away from Hualpai Valley into the Colorado River, while the drainage from the ranges to the West, north, and south is so small as to be negligible.

Truxton wash is usually dry, but at times contains floods of enormous volume, which spread out in the valley. From surface indications, the Hualpai Valley would seem to have an underground water supply, as it is an undrained basin. Much of this valley is very fertile.

The only wells in this valley are at Hackberry, in the extreme eastern edge, about 500 ft. above the lower part of the valley.

The wells sunk here struck solid granite at a depth of about 70 ft., and a limited supply of water is obtained. At Kingman, in the extreme SW. edge of the valley, about 60 wells have been sunk, which are from 100 to 200 ft. in depth, according to the difference in surface elevation, indicating that there is a general water level.

Abundance of good water is obtained from these wells for the uses of the town and railroad. The drainage at Kingman is away from the valley, through Kingman Pass.

The northern portion of the Big sandy valley lies in the southern portion of the lands surveyed, between the Aquarius cliffs on the East, and the Hualpai Mts. on the west.

Several streams of considerable size emerge from the the plateau on the east, through deep, narrow canyons, and discharge into the Sandy, the principal of which is Trout and Sycamore creeks.

But little of the land in the Sandy Valley is suitable for irrigation and cultivation.

Water is found at from 50 to 100 ft. in most parts of the valley in the lower portions near the River.

The Sandy River runs only during the rainy seasons, but has an underground flow throughout the year.

Jesse B. Wright
U.S. Surveyor.

APPROVAL.

BOOK 2316

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OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix Ariz March 25, 1912

The foregoing field notes of the survey of

the subdivisions of T 3 N. R 14 W,

G. S. R. Meridian, Arizona

executed by

Jesse D. Wright U.S. Surveyor

under his special instructions dated

Sept. 16

, 1910

, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank S. Ingalls

U. S. Surveyor General.