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EXTERIORS  
Book "B"  
FIELD NOTES

BOOK 2500

BOOK 2500

OF THE SURVEY OF THE

SOUTH, WEST and NORTH BDRS.

of

T. 22 N. ~ R. 20 W.

of the Gila and Salt River Base & Meridian,

In the State of Arizona

EXECUTED BY

William B. Kimmel, U.S. Surveyor

and

H. N. Bradstreet, U.S. Transitman

In the capacity of U.S. Surveyor, under instructions dated April 24, 1913,

issued by the United States Surveyor General to govern surveys included in

Group No. 27, which were approved by the Commissioner of the General Land

Office, May 7, 1913, pursuant to authority contained in the Act of

Congress dated August 24, 1912

Survey commenced May 28, 1913

Survey completed June 6, 1913

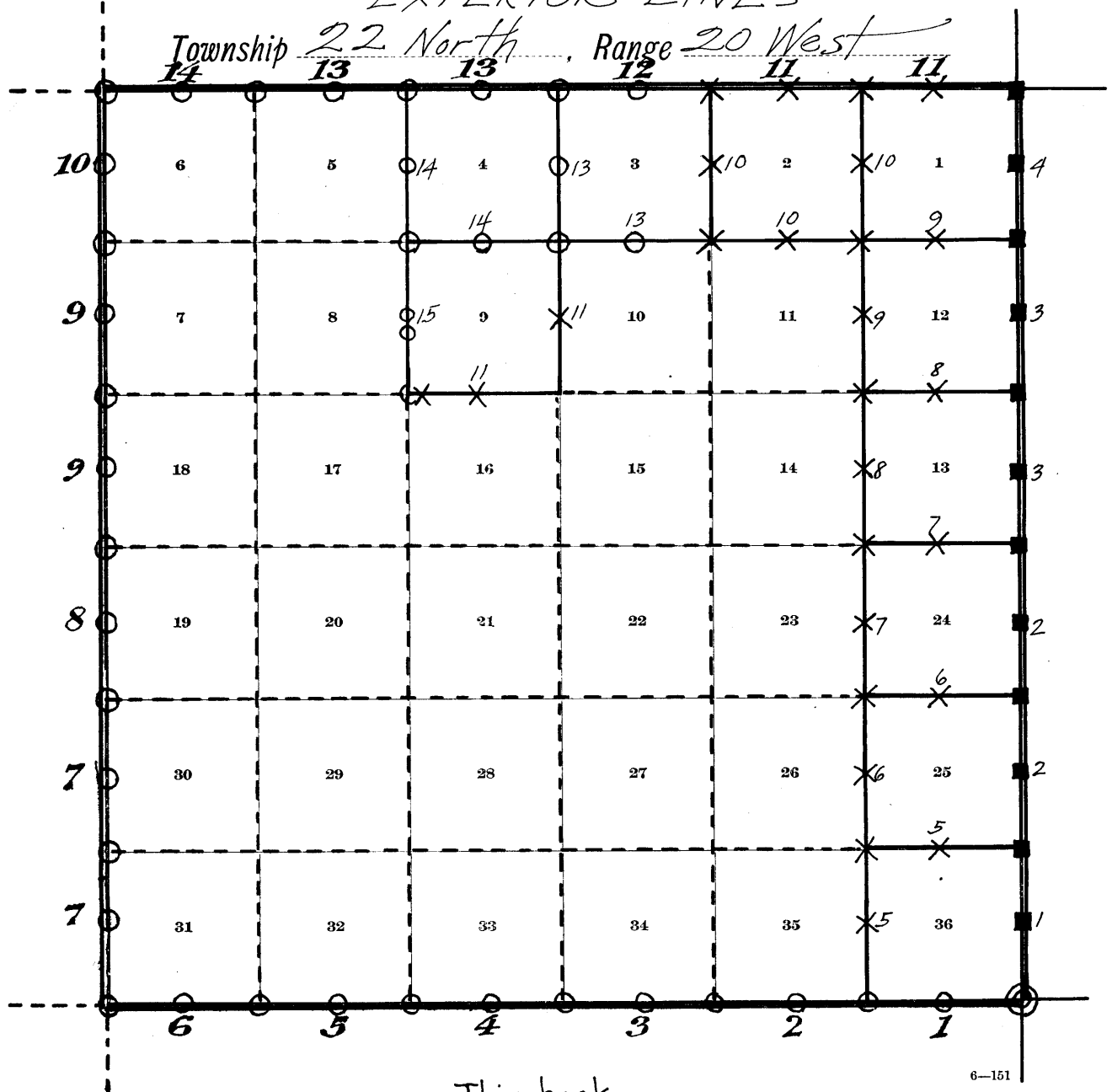
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BOOK 2500

# INDEX DIAGRAM.

EXTERIOR LINES

Township 22 North, Range 20 West



6-151

- This book.
- Book "A"
- Unsurveyed
- X Corners set by Kimmel
- " " " Bradstreet
- " re-established by Kimmel
- ◎ Original Corner.

Survey commenced May 28, 1913, and executed with Young and Sons Light Mountain Transit, #7695, with Smith Solar Attachment. The horizontal limb of the Transit has two double verniers, placed opposite to each other, and reading by estimation, to 30" of arc, which is also the least count of the verniers of the vertical circle and the latitude and declination arcs. All measurements on rolling ground were obtained by the use of a two chain tape and clinometer unless otherwise stated.

The transit was examined, tested by me on the true meridian at Phoenix, Arizona, found correct, and approved by the Surveyor General of Arizona, Nov. 27, 1912.

I examine the adjustments of the transit, and correct all errors; then, to test the solar apparatus, by comparing its indications, resulting from solar observations made during a.m. and p.m. hours, with a meridian determined by observations on Polaris, I proceed as follows:

At my camp, in <sup>Sec 36</sup> T. 22N., R20W., latitude 35° 18' N., longitude 114° 21' W. W., I observe Polaris at 9h. 23m. p.m., l.m.t. and mark a point in the line thus determined by a tack in a hub, 5 chs N. of my station.

I obtain the azimuth of my line as follows:

L.m.t. observation	9h 23m p.m.
Astron. Utime U.C. Polaris, May 27, 1913	
Greenwich meridian 2h. 06.1m.	
Difference in time for long. <u>1.2m.</u>	
L.m.t. upperculmination my station	2h 04.9m
Hour angle of Polaris	1h 42m
Azimuth corresponding to hour angle	0° 06' E

May 29, 1913: AT 7h. <sup>0m</sup> a.m., l.m.t. I turn off the azimuth of Polaris, 0° 06' to the East, and mark the meridian thus determined by a tack in a hub, 5 chs. North of my station.

At 7h. 05m. a.m., l.m.t., I set off 35° 18' N. on the lat. arc, 21° 36½' N. on the decl. arc, and mark a point in the meridian determined with the solar, by a pencil cross on the hub already set, 5 chs. north of my station; this mark falls 0.3 ins. east of the meridian established by Polaris observation.

It set off 21° 37½' N. on the decl. arc, and at 11h. 57m. a.m. observe the sun on the meridian and obtain on the lat. arc the reading 35° 18' N. which agrees with my other data.

At 5h. 06m. p.m., l.m.t., I set off 35° 18' N. on the lat. arc, 21° 40' N. on the decl. arc, and determine with the solar a meridian. A point in the line thus obtained coincides with the point given by the a.m. observation.

The solar apparatus, by a.m. and p.m. observations defines positions for meridians about 0' 16" east of the meridian established by Polaris observations; therefore I conclude that the adjustments of the transit are satisfactory.

May 29, 1913

May 30, 1913. At the cor. of Tps. 21 & 22N., Rs. 19 & 20 W., which is a sandstone, firmly set, 10X10 X 8 ins. above ground, marked and witnessed as described by the surveyor general, I set off 35° 15' N. on the lat. arc, 21° 45½' N. on the decl. arc, and at 7h. 30m. a.m., l.m.t., I determine a meridian with the solar.

Thence I run, as per instructions,

West, on true line, on south bdy. of the Tp. bet. secs. 1 and 36, ascending S.E. slope over rough, rocky ground.

3.00 Low hill, 40 ft. above cor. Desc. west slope

6.00 Wash, course S.E., 60 lks wide, 4 ft deep, 50 ft. below hill. Thence over rolling land.

11.00 Wash, 60 lks. wide, 4 ft deep, course S. Asc slightly.

- Chains
- 16.00 Top of low rocky hill.
- 18.00 Head of gulch, course south. Asc slight east slope.
- 30.00 Asc. N.E. slope of conical hill.
- 36.00 Top of hill, 100 ft. high; desc. N.W. slope. 1½ chs N of line, Spring at the junction of two washes, courses ENE and ESE.
- 38.00 Wash, 15 lks wide, 15 ft deep, course NE. Asc. E slope.
- 40.00 Set an iron post, 3 ft long, 1 in. in diam., 26 ins in the ground, for ¼ cor, marked on brass cap, 1913; ¼ S36 in N and S1 in S half, and raise a mound of stone, 2 ft base, 1½ ft. high, N of cor. No trees available; pits impracticable.
- 48.00 Ridge, brs. N & S, 200 ft above wash. Desc SW slope.
- 53.50 Gulch, course S. 80 ft. below ridge. Asc SE slope, 32 ft.
- 58.40 Rocky spur ridge, extends 2 chs SW. Des. SW slope, 80 ft.
- 63.00 Canyon, 1 ch wide, course S. Asc E. slope, 90 ft.
- 68.00 Top of conical hill. Desc W slope, 70 ft.
- 72.00 Gulch, course South. Asc. E slope. Enter scat. scrub cedar brs. N & S.
- 78.00 Rocky ridge. 150 ft above gulch, brs. N & S and extends 4 chs S. Desc SW slope 30 ft to
- 80.00 Set an iron post, 3 ft long, 3 ins. diam., 24 ins in the ground, for cor of secs. 35, 36, 1 & 2, marked on brass cap, 1913; T22N in N, T21N in S, & R20W in W. half; S35 in NW, S36 in NE, S1 in SE, and S2 in SW, quadrant; from which  
 A cedar, 5 ins. diam., brs. N43¼° E., 24 lks. dist., marked T22NR20WS36BT.  
 A cedar, 5 in. diam., brs. S70° E, 52 lks. dist., marked T21NR20WS1BT.  
 A cedar, 5 ins. diam., brs. S 57¾° W., 12 lks dist, marked T21NR20WS2BT.  
 A cedar, 5 ins. diam., brs. N33¾° W, 31 lks dist, marked T22NR20WS35BT.  
 Land rolling and hilly.  
 Soil rocky 4th rate.  
 Timber scattering scrub cedar.  
 Undergrowth; catclaw.

- West on true line on Southbdy. of Tp., bet. secs. 35 & 2., Over rolling land
- 2.00 Leave cedar timber, bears N. & S.
- 6.00 Gulch, course SE.
- 110.25 Wash, 10 lks. wide, course NE. Asc. steep NE slope, 320 ft.
- 20.00 Hill. 2 chs S to highest rocky point. 6 chs. N of line to canyon, course E. Desc NW slope, 50 ft.
- 27.00 Gulch, NE. Asc SE slope, 350 ft to
- 40.00 Set an iron post, 3 ft long, 1 in. diam., 26 ins. in the ground for ¼ cor, marked on brass cap, 1913; ¼ S35 on N and S2 on South half, and raise a mound of stone 2, ft base 1½ ft high, N of cor. Pits impracticable.
- 41.00 End of ascent, ridge 5 chs wide, brs. N & S. Thence over level land.
- 46.00 Desc W. Slope of ridge.
- 54.00 Gulch, W.
- 63.00 Leave gulch, course NW.
- 78.00 Wash, course W., 10 lks wide.
- 79.60 Canyon, 2 chs wide, course S, 360 ft below top of ridge. Asc E. Slope.
- 80.00 Set an iron post, 3 ft long, 3 ins. diam., 24 ins. in the ground, for cor of secs. 34, 35, 2 & 3, marked on brass cap, 1913; T22N in N, T21N in S, & R20W in W half;

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S34 in NW  
 S35 in NE  
 S2 in SE and  
 S3 in SW quadrant, from which  
 A cedar, 8 ins. diam., brs. S29° E, 77 lks. dist., marked  
 T21NR20WS2BT  
 A cedar, 5 ins diam., brs. S55½° W, 54 lks. dist., marked  
 T21NR20WS3BT.  
 No other trees available. Raise a mound of stone, 2 ft.  
 base, 1½ ft high, wof cor. Pits impracticable.  
 Land, rolling and mountainous .  
 Soil, loose rocks, and rocky 4th rate. Subsoil ledge  
 rock.  
 No timber.  
 Undergrowth, grease ood and catclaw.  
 Mountainous land, 70. chs.  
 At this corner, I set off 21° 46½' N on the decl. arc;  
 and atlh. 57¼ m. a.m., l.m.t., observe the sun on the  
 meridian; the resulting lat. is 35° 15½' N. or within  
 ½' of the proper lat.

West, on true line, on South boundary of Tp., bet. secs  
 34 & 3.  
 3.00 Asc. SE slope through scat. scrub cedar, over rocky ground.  
 Spur ridge, NW & SE; extends 3 chs. SE. 35 ft. above cor.  
 Desc. SW slope.  
 8.00 Wash, 10 lks wide, course S. 20 ft. below ridge . Asc.  
 over rolling land.  
 10.00 Low ridge, brs. N & S.  
 13:00 Gulch, course SE. Asc NE slope, 100 ft.  
 18.00 Top of hill. Desc SW slope; 30 ft.  
 20.00 Hand of gulch, course SE. Asc E slope, 350 ft.  
 32.00 Slope changes to NE.  
 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, 1913;  
 ¼ S34 on N: and  
 S3 on S half,  
 and raise a mound of stone, 2 ft. base, 1½ ft. high,  
 N of cor: Pits impracticable.  
 42.00 End of ascent, 65 ft. above <sup>1 sec</sup> cor. Along N. slope.  
 53.00 Rocky ridge, N & S; desc. steep SW slope.  
 71.00 Precipice, 30 ft. high.  
 78.30 Gulch, course N. 650 ft below ridge. Asc. NE slope, 30  
 ft.  
 79.00 Spur ridge, extends 1 ch N. Desc 40 ft to  
 80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins.  
 in the ground for cor. of secs. 33, 34, 3 & 4,  
 marked on brass cap, 1913;  
 T22N in N  
 T21N in S and  
 R20W in W half;  
 S33 in NW  
 S34 in NE  
 S3 in SE, and  
 S4 in SW quadrant;  
 and raise a mound of stone, 2 ft. base, 1½ ft. high, W  
 of cor. Pits impracticable.  
 Land, mountainous.  
 Soil. loose rocks and rocky 4th rate.  
 Undergrowth, cactus catclaw and greasewood.  
 Timber, scat. cedar.  
 Mountainou land, 60 chs.

May 30, 1913.

May 31, 1913: At 8h. a.m., l.m.t. I set off 35° 15' N. on  
 the lat. arc, 21° 54' N. on the decl. arc, and deter-  
 mine a meridian with the solar at the cor. of secs.  
 33, 34, 3 & 4, above described.

Thence I run,  
 West <sup>on true line</sup> bet. secs 33 & 4, on S. bdy. of Tp.  
 0.10 Enter gulch, 60 lks. wide, course NW.

Chains.	
0.70	Leave gulch, course NW; asc. NE slope, 40 ft.
4.00	Ridge, brs. SE & NW; desc SW slope, 35 ft.
5.06	At this point it becomes evident that I will be unable to measure portions of this mile by the usual methods of chaining or triangulation, so I begin to check my stadia against the measurements of my chainmen, using a Gurley Philadelphia rod with two targets as a stadia rod.
5.06	First Stadia point. Rod reading, 2.906 ft; vertical angle $-8^{\circ}$ . Rod reading is the mean of three readings.
7.00	End of desc. Head of gulch, course S <sup>w</sup> . Along S slope.
10.72	First point stadiaed to. Here I stadia again, the mean of three rod readings being 4.389; vertical angle, $-6^{\circ}$ .
11.00	Desc. W slope.
16.00	Gulch, course N. 160 ft below ridge. Asc NE slope, 60ft.
19.32	Second point stadiaed to. Here I stadia again, the mean of three rod readings being 4.345 ft and the vertical angle $2^{\circ}$ .
20.00	Spur ridge, extends 3 chs. NW. Desc. NW slope, 130 ft.
25.50	Canyon, course N. Asc. exceedingly steep NE slope, over loose slate slide rock.
29.47	Third point stadiaed to. The three equations from which I determined my stadia constant are:- $K \ 2.906 \cos 8^{\circ} + .95 \cos 8^{\circ} = 5.66 \times .66$ $K \ 4.389 \cos 6^{\circ} + .95 \cos 6^{\circ} = 8.60 \times .66$ $K \ 4.345 \quad + .95 \quad = 10.15 \times .66$
	The average of these three determinations gives 130.49 for the value of K, which is the value used in the following stadia shots.
31.50	Spur ridge, extends 2 chs N, and ends in high mountain on South, the main chain of which bear E & W. Desc. NW slope, 130 ft.
35.00	Canyon, 30 lks. wide, course N. Asc. rocky NE slope, 40 ft.
36.00	Top of perpendicular precipice, down which we cannot chain. The 40 ch. point being inaccessible, I set an iron post, 3ft. long, 1 in. diam., 26 ins. in the ground, for witness cor. to secs. 33 & 4, marked on brass cap, 1913; $\frac{1}{4}$ sec. cor. of WC $\frac{1}{2}$ in E half, S33 in NW, and S 4 in SW quadrant, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
36.03	Stadia point; mean of three rod readings, 3.600 ft.; vertical angle, $-12^{\circ}$ ; computed dist., 6.82 chs. Topography between stadia points, approximate. 95 ft. below cor.
38.00	Canyon, course NW. About 150 ft. below cor.
40.00	Box canyon, course N. Asc NE slope
42.85	Stadia point. Impossible to chain from here. Stadia again. Mean of three rod readings, 8.302ft; vertical angle, $-9^{\circ}$ ; computed dist., 16.02 chs.
43.00	Spur ridge extends 4 chs. NW. Desc SW slope.
46.00	Canyon, course NW. Asc. NE slope.
48.00	Spur ridge extends 3 chs. N <sup>w</sup> . Ends in perpendicular precipice. Desc. SW slope.
50.00	Canyon, course N. Asc NE slope.
58.87	Stadia point, 170 ft below last point. Asc. 20 ft. to N. high, side pinnacle of rock, 40 ft high.
61.35	Succession of bare ledges and precipices, over which I cannot chain. Mean of three rod readings, 1.830 ft; vertical angle, $-10^{\circ}$ ; computed dist., 3.52 chs.; desc.
62.00	Head of gulch, SW, about 70 ft below stadia pt. Asc. SE slope.
64.87	Stadia point, 40 ft below last one. Base of a perpendicular granite pinnacle, 125 ft. high, extending about 2 chs. N of line and 2 $\frac{1}{2}$ chs South line. To pass this obstacle, I run traverse as follows:- S48 $^{\circ}$ 30' W, 3.78 chs, which brings the line through a

Chains.

- 67.70 break between the pinnacles of rock.  
End of traverse line, 2.50 chs. South of Boundary line.  
Thence I run West.
- 80.00 Desc very steep, rocky SW slope, 210 ft.  
Run North, 2.50 chs.  
Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 32, 33, 4 & 5, marked on brass cap, 1913;  
T22N in N  
T21N in S, and  
R20W in W half;  
S32 in NW,  
S33 in NE,  
S4 in SE, and  
S5 in SW quadrant;  
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.  
Land mountainous.  
Soil loose rock.  
No timber.  
Undergrowth, greasewood and catclaw.  
Mountainous land, 80 chs.

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- 5.74 West, on true line, on S. bdy of Tp., bet secs 32 & 5.  
7.00 Along N slope, over very rocky ground. 10 chs N to canyon,  
14.00 2 chs S to ridge, brs. E & W.  
16.40 East side of rock point, 75 ft. high.  
16.41 Top of rock; desc NW. slope, 150 ft.  
End of desc; thence along N slope.  
East rock of Split Rock brs. due N about 7 chs dist.  
Base and E side of granite ridge, with perpendicular sides, 50 ft high, over which we cannot climb. To pass obstacle, offset as follows:-  
North, 2.96 chs., into canyon, 100 ft below.  
West on N side of canyon, 5.02 chs.  
South 2.96 chs to south side of Canyon, regaining sec. line. at
- 21.43  
Cloudy at noon.  
May 31, 1913.  
June 2, 1913: At this point I set off 35° 15' N on the lat arc, 22° 11' N on the decl. arc, and 8h. 45m. a.m., l.m.t., I determine a meridian with the solar Thence I run, continuing measurement, on true line,  
West, on S. bdy of Tp., descending SW. slope, through dense greasewood undergrowth, 50 ft.  
27.00 Enter Split Rock Wash, course SW.  
31.00 Main channel of wash.  
32.00 Leave wash. Asc slight SE. slope.  
40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in ground, for 1/4 sec. cor., marked on brass cap, 1913;  
S32 in N  
S5 in S half,  
and raise a mound of stone, 2 ft. base, 1 1/2 ft high, N of cor. Pits impracticable.
- 51.00 South end of low ridge; desc. slightly into Split Rock Wash.
- 61.00 Leave main channel, course NW.
- 77,30 Asc. E. slope of rocky point of hill, 90 ft. Leave undergrowth, *brs NW & SE*
- 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 31, 32, 5 & 6, marked on brass cap, 1913;  
T22N in N,  
T21N in S,  
R20W in W half;  
S31 in NW,  
S32 in NE,  
S5 in SE, and

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Chains	<p>S6 in SW quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W of cor. Pits impracticable. Land mountainous and rolling. Soil rocky 4th rate. Decomposed granite. No timber. Dense greasewood undergrowth, 56 chs.</p>
<p>0.50 8.00 15.00 17.95 26.00 33.00 35.50 36.95 40.00  43.00 44.00 46.00 54.00  61.00 66.75 73.00 75.00 77.19 79.49</p>	<p>West, on true line, on S. bdy. of Tp, bet. secs. 31 &amp; 6. Asc. slightly from cor., over very rough ground, no undergrowth. Top of conical hill. Canyon 6 chs. N. Desc. NW slope, 160 ft. End of desc. Thence over level land. Enter dense grease- wood, brs. NE &amp; SW. Asc. NE slope of hill, 50 ft. Spur ridge extends 3 chs. NE. Desc. W slope, 85 ft. End of desc. Level land. Wash 3 chs wide, course NW. Asc. E slope of spur ridge, 60 ft. Spur ridge extends 2½ chs. N. Desc W. slope, 45 ft. Set an iron post, 3 ft long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap, 1913; ¼ S31 on N, and S6 on S half, and raise a mound of stone, 2 ft. base, 1½ ft. high, N of cor. Pits impracticable. Thence across level land. Asc. low ridge. Low spur ridge, extends NE. Desc slight NW slope. Wash, 1 ch wide, course NE. Asc. SE slope of conical hill. Top of ascent, south slope of hill, 140 ft. above wash. Desc. W slope, 135 ft. Gulch, course N. Thence over rolling land. Gulch, NE. Asc. NE slope, 120 ft. Rocky ridge, brs., SE &amp; NW. Des. SW slope, 45 ft. Canyon, 2 chs. wide; course N. Asc E slope of hill, 100 ft. Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor of Tps 21 &amp; 22N, Rs. 20 &amp; 21 W, marked on brass cap, 1913; T22N in N. R20W in E, T21N in S, and R21W in W half; S36 in NW, S31 in NE, S6 in SE, and S1 in SW quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, S. of cor. Pits impracticable. Split Rock Brs. N84° 43'E. Highest Jagged Peak south of Split Rock brs. S70° 38'E Mill at the Frisco Mine brs. S53° 11'E South edge of highest peak in Black Mountains brs. N.60° 21'E. At this cor., I set off 22° 11½' N on the decl. arc, and at 11h. 57½ m. a.m., l.m.t., I observe the sun on the meridian; the resulting lat. is 35° 14½' N. which is within ½' of the correct lat. Land, rolling. Soil, granite gravel. No timber. Undergrowth, Greasewood.</p>



Chains.	From the cor. of Tps 21 and 22N, Rs 20 & 21W, set by me and hereinbefore described, I run, as per instructions, North, <sup>on a true line</sup> bet. secs. 31 & 36.
	Desc very rocky N. slope of ridge, course N, 300ft.
8.00	Head of gulch, course W. Continue desc.
26.50	Wash, 1 ch wide, course NW.
27.00	Low spur ridge, extends 1 ch NW
28.00	Enter wash, 2 chs wide, course NW.
30.00	Leave wash, asc. SW slope, 40 ft.
34.00	Gulch, course NW.
38.00	Ridge, brs. SE & NW. Desc. NW slope.
40.00	Set an iron post, 3 ft. long, 1 in, diam., 26 ins in the ground, for $\frac{1}{4}$ sec. cor., marked on brass cap, 1913; $\frac{1}{4}$ S36 in W, and S31 in E half, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W of cor. Pits impracticable.
42.00	Enter wash, 8 chs wide, 45 ft below ridge, course NW.
50.00	Leave bed of wash.
52.50	Asc. S slope, 85 ft.
61.00	Ridge, brs. SE & NW; desc NE slope, 125 ft.
66.00	In gulch, course N.
70.00	Gulch, course W. Asc SE slope, 90 ft.
73.00	Rock cliff, 30 ft high, 30 lks. wide.
78.00	Ridge, brs. E & W. Desc N slope, 75 ft.
79.10	Gulch, course NE.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor of secs. 25, 30 31 & 36, marked on brass cap, 1913; T22N in N half; R21W S25 in NW, R20W S30 in NE, S31 in SE, and S36 in SW quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W of cor. Pits impracticable. Land rolling and mountainous. Soil rocky, 4th rate. No timber. Undergrowth, greasewood brush. Mountainous land, 25 chs.
	<hr/> <sup>on a true line</sup> North, bet. secs. 25 & 30:
	Desc. N. slope over loose rocks, 45 ft.
3.00	Gulch, course W., asc SE slope, 35 ft.
5.00	End of asc., thence over level land.
10.00	Wash, course SW. 1 ch wide. Asc SE slope of conical cinder hill, 145 ft high.
18.00	On slope of hill, 4 chs E of highest point. Desc NE slope
22.00	Gulch, SE., 60 ft. below top of hill. Asc SW slope, 110 ft.
25.60	W end of spur ridge. Continue asc.
28.00	Asc. SE slope.
29.50	Ridge, NE & SW; desc NW slope, 50 ft.
35.00	Gulch, NE.
36.00	Gulch, SE. Asc SE slope, 40 ft.
38.50	End of ascent, low pass between two rocky points. Desc NW slope, 35 ft.
40.00	Set an iron post, 3 ft. long, 1 in diam., 26 ins. in the ground, for $\frac{1}{4}$ sec cor., marked on brass cap, 1913; $\frac{1}{4}$ S25 in W and S30 in E half, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

June 2, 1913.

June 3, 1913.

At this point I set off  $35^{\circ} 16' N$  on the lat, arc, $22^{\circ} 18\frac{1}{2}' N$  on the decl, arc, and at 9h<sup>0m</sup> a.m., l.m.t.,

I determine a meridian with the solar.

Thence I run, continuing measurement,

254 BOOK 2500	Chains.	<p>on a true line North, <math>\Delta</math> bet. secs 25 &amp; 30. Desc NW slope, cover ledges of solid granite, covered with loose burnt granite clinker. 44.00 End of desc, 50 ft. below cor. Thence along rolling N slope. 44.50 Gulch, course W. 46.50 Gulch, course W. 49.00 Gulch, course W. 52.50 Gulch, course SW. Asc. rolling SW slope, 75 ft. 58.00 Gulch, course SW. Asc S slope. 61.00 Rocky point of hill, thence along W slope. 64.00 Gulch, course W., asc. SW slope, 70 ft. 66.50 Spur ridge, extends 50 lks W desc NW slope, 45 ft. 68.50 Gulch, course W; asc. SW slope, 40 ft. 69.00 Ridge, E &amp; W. Desc NW slope, 120 ft. 71.00 Gulch, course NW. 72.00 Low ridge, brs. NW &amp; SE. Desc N slope 74.00 Gulch, course W. 76.00 Gulch, course W. 78.00 Gulch, course W. 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. to secs. 19, 24, 25 &amp; 30, marked on brass cap, 1913; T22N in N half; R21W S24 in NW, R20W S19 in NE, S30 in SE, and S25 in SW quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W of cor. Pits impracticable. Land rolling. Soil granite ledges and burnt granite clinker. No timber, or underbrush.</p>
		<p>on a true line North, <math>\Delta</math> bet. secs 19 &amp; 24. Desc. over steep granite ledges covered with burnt clinker. 5.00 Enter wash 4½ chs. wide, course W. 40 ft. below sec cor. 9.50 Leave wash. Thence over rolling land through dense grease-wood undergrowth. 15.00 Enter wash, 2 chs wide, course SW. 17.00 Leave wash. Thence over level land. 37.00 Enter gulch, course SW. 39.90 Leave gulch, course WSW. Asc S slope, 10 ft. 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground for ¼ sec. cor, marked on brass cap, 1913; ¼ S24 on W, and S 19 in E half, and raise a mound of stone, 2 ft. base 1½ ft. high, W of cor. Pits impracticable. Asc ridge, Brs N &amp; S. 47.00 Head of gulch, course SE. Asc. SW slope. 51.00 Top of conical granite hill, 110 ft above ¼ sec. cor. Desc: NW slope, 40 ft. 54.00 Gulch, SW.; asc SE slope, 58.75 Gulch, W. Asc SW slope. 63.50 End of ascent, 60 ft above first gulch. Conical granite hill. Desc. NW slope, 130 ft. 67.50 Gulch, W. Thence along rolling W slope. 75.00 Gulch, course W. Asc. SE slope, 60 ft. 80.00 Set an iron post, 3 ft. long, 3 ins diam., 24 ins. in the ground, for cor. of secs. 13, 18, 19 &amp; 24, marked on brass cap, 1913; T22N in N half; R21W S13 in NW, R20W S18 in NE, S19 in SE, and S24 in SW quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W of cor. Pits impracticable. Land rolling and mountainous.</p>

Chains.

Soil, decomposed granite on level and inwashes, 3rd rate; granite ledges and burnt granite clinker on slopes. No timber. Undergrowth, dense greasewood on level. Mountainous land 40 chs. At this cor., I set off  $22^{\circ} 19' N$  on the decl. arc, and at 11h 58m. a.m., l.m.t., I observe the sun on the meridian; the resulting lat is  $35^{\circ} 17\frac{1}{2}' N$  which is correct. C.1' greater than the correct lat.

on a true line

North, bet. secs. 13 & 18.

- 5.00 Asc. SE slope, over bare granite ledges.
- 8.00 Ridge, NE & SW; 60 ft above cor. Desc NW. slope, 50 ft.
- 8.00 Gulch, course SW; asc SE slope, 30 ft.
- 9.00 Low ridge, brs. NE & SW. Desc NW slope, 30 ft.
- 12.00 Gulch, course SW; asc SE slope, 70 ft.
- 16.00 Ridge, brs. NE & SW. Thence along W slope.
- 18.00 Gulch, course SW; asc SE slope, 120 ft.
- 21.00 Asc on SW slope of ridge, brs. N & S.
- 24.00 Top of ascent, pass in mountain. 4 chs. West a perpendicular granite peak, 100 ft above pass. 10 chs E another granite peak, same height. Desc very steep N slope. 260 ft.
- 28.00 Desc in gulch, course N.
- 38.50 Leave gulch, course NNW.
- 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor., marked on brass cap, 1913;  $\frac{1}{4} S 13$  in W, and  $S 18$  in E half; and raise a mound of stone, 2 ft. base,  $1\frac{1}{2}$  ft. high, W of cor. Pits impracticable. Continue desc, 150 ft.
- 49.00 Wash 10 fks wide, course NW.
- 54.00 Canyon, with wash in bottom, 2 chs. wide, course W. Asc. S slope, 100 ft.
- 65.00 Head of gulch, course SW. Continue asc of S slope of high mountain, 210 ft to cor.
- 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor of secs. 7, 12, 13 & 18, marked on brass cap, 1913; T22N in N half; R21W S12 in NW, R20W S7 in NE, S18 in SE, and S 13 in SW quadrant; and raise a mound of stone, 2 ft. base,  $1\frac{1}{2}$  ft. high, W of cor. Pits impracticable. Land mountainous. Soil burnt granite,  $\frac{1}{2}$  to 3 ins. thick, over granite ledges. No timber. Undergrowth, scattering greasewood. Mountainous land, 80 chs.

June 3, 1913.

June 4, 1913: At 8h. 10m. a.m., l.m.t., I set off  $35^{\circ} 18\frac{1}{2}' N$  on the lat arc,  $22^{\circ} 25\frac{1}{2}' N$  on the decl. arc, and determine a meridian with the solar at the cor of secs. 7, 12, 13 & 18. Thence I run, North, bet. secs. 7 & 12.

Asc very steep slope of mountain, covered with slide rock.

- 11.25 Top of conical mountain, 340 ft. above cor. Desc. NE slope, 425 ft.
- 14.00 Precipice, 30 ft. high; brs. SE & NW.
- 21.00 Gulch, course NE.
- 28.00 Gulch, course NE.
- 38.00 End of desc; enter draw, 16 chs. wide, course W.
- 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec cor., marked on brass cap  $\frac{1}{4} S 12$  in W, and S7 in E. half,

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		and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W of cor. Pits impracticable.
54.00		Leave drayn, asc SW slope, 45 ft.
61.00		Gulch, course SW. Continue asc, 125 ft.
70.00		Ridge, brs. E & W. Desc. N slope, 150 ft.
75.00		Head of gulch, course NNW.
80.00		Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 1, 6, 7 & 12, marked on brass cap, 1913; T22N in N half; R21W S 1 in NW, R20W S6 in NE, S7 in SE, and S12 in SW quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W of cor. Pits impracticable. Land, rolling and mountainous. Soil, rocky, 4th rate. Undergrowth, greasewood and catclaw. No timber. Mountainous land, 50. chs. At this cor., I set off $22^{\circ}26\frac{1}{2}'$ N. on the decl. arc, and at 11h 58m a.m., l.m.t., I observe the sun on the meridian; the resulting lat. is $35^{\circ}19\frac{1}{2}'$ N which is only $0\frac{1}{2}'$ greater than the correct lat. on a true line.
		North, bet. secs. 1 & 6. Desc. NW slope, 40 ft, over malpais rocks, through greasewood undergrowth.
4.00		4 chs. due east, a white granite pinnacle, 60 ft. high.
10.00		Gulch, course NW.
13.00		Gulch, course W. Asc SW slope, 225 ft.
20.00		Gulch, SW. Asc. S slope.
28.00		Ridge, brs. E & W; desc. NE slope, 260 ft.
40.00		Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked on brass cap, 1913; $\frac{1}{4}$ S1 in W, and S6 in E half, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft high, W of cor. Pits impracticable.
44.00		End of desc. Gulch, course NW; 30 lks. wide, 15 ft. deep. 8 chs W in gulch, a spring. Asc. S slope.
53.00		Ridge, brs. NE & SW, 110 ft above gulch. Desc NW slope 25 ft.
56.00		Gulch, course SW, asc S slope, 110 ft.
62.50		End of asc. Thence along W slope.
68.00		Desc. NE slope, 100 ft.
74.00		Burns Spring wash, course W.
79.00		Leave wash, asc. S slope, 30 ft.
80.00		Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 22 & 23N, Rs. 20 & 21 W, marked on brass cap, 1913; T23N in N, R20W in E, T22N in S, and R21W in W half; S36 in NW, S31 in NE, S6 in SE, S1 in SW quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, S of cor. Pits impracticable. Land rolling and mountainous. Soil rocky 4th rate. No timber. Undergrowth, greasewood.

June 4, 1913.

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Chains. June 5<sup>1913</sup> At 7h. 48m a.m., l.m.t., I set off 35° 20' N. on the lat. arc, 22° 32' N. on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 22 & 23N, Rs. 21 & 20 W, hereinbefore described.

Thence I run, as per instructions East, on a random line, along the N. bdy of T22N, R20W, setting a temporary  $\frac{1}{4}$  sec. cor at 39 chs, and thereafter section and  $\frac{1}{4}$  sec. cors at inter vals of 40 chs; and at 478.65 chs., intersect the East boundary of T23N, R20W, 54 lks. N. of the cor. of Tps. 22 & 23N, Rs. 19 & 20W, recently re-established & described in Book A. The falling answers to a correction of 0° 04', or 9 lks S. per mile, counting from the NW. cor of the Tp; therefore I run N 89° 56' <sup>on a true line</sup> W. bet. secs 1 & 36.

Desc. rocky W. slope 50 ft. through dense undergrowth. Wash, 10 lks. wide, course SW., cont. rolling, slopes S.

6.15 Wash, 10 lks. wide, course S, asc. rocky NE slope 290 ft.

14.00 Spur ridge, brs. NW. & SE.. asc. SE slope.

27.50 Rocky spur ridge, brs. N & S., desc. SW slope, 35 ft.

29.40 Head of gulch, course S., asc. SE slope, 225 ft.

36.00 Change slope Asc E slope.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor, marked on brass cap, 1913;  $\frac{1}{4}$  S36 in N, and S1 in S half, from which A cedar, 8 ins. diam., brs. S30° W., 92 lks dist., marked  $\frac{1}{4}$  S1 BT. No other trees within limits. Raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

June 5, 1913.  
June 6, 1913: at 8h. <sup>0m</sup> a.m., l.m.t., I set off 35° 20' N. on the lat. arc, 22° 39' N. on the decl. arc, and determine a meridian with the solar at the  $\frac{1}{4}$  sec. cor. of secs. 1 & 36 <sup>above described</sup>

41.35 Rocky ridge, brs. N & S., desc. W. slope 225 ft.

51.50 Gulch, course SW., Asc. SE. slope, 75 ft.

55.25 Spur ridge, brs. N & S., desc. SW slope 80 ft.

60.00 Gulch, course S., asc E slope, 60 ft.

64.00 Spur ridge, brs. N & S., desc W slope 135 ft.

68.25 Gulch course S, asc E slope 80 ft.

74.00 Spur ridge, brs. N & S., desc. SW slope 70 ft.

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for the cor. of secs 35, 36, 1 & 2, marked on brass cap, 1913; T23N in N, T22N in S, and R20W in W half; S 35 in NW, S36 in NE, S1 in SE, and S2 in SW quadrant; from which A cedar, 8 ins. diam., brs. S79° W, 50 lks dist., marked T22N R20W S2BT. No other trees within limits, raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Land mountainous. Soil, rocky 4th rate. Undergrowth, scrub cedar, catclaw, &c.

June 6, 1913.

<sup>on a true line</sup>  
N 89° 56' W. bet. secs 2 & 35.  
desc rocky SW. slope 140 ft. through dense undergrowth.

12.00 Wash 15 lks. wide, course NW.

14.50 Wash 12 lks wide, course NE.

15.00 Asc SE slope 240 ft.

28.50 Rocky spur ridge, brs. NE and SW., desc W slope 180 ft.

39.80 Draw, course S, asc SE slope, 125 ft.

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, 1913;  $\frac{1}{4}$  S35 in N and S2 in S half, from which A cedar, 10 ins in diam., brs. N21° 30'E. 69 lks dist

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Chains

marked  $\frac{1}{4}$  S35 BT.  
 A cedar, .6 ins. diam., brs. S33°W, 112 lks dist.,  
 marked  $\frac{1}{4}$  S2BT.  
 Cloudy at noon.  
 45.00 Change slope, asc E slope.  
 52.70 Rocky ridge, brs. N and S. desc. W. slope 100 ft.  
 60.00 Draw, course NW, asc NE slope 75 ft.  
 73.80 Spur ridge, brs. N and S., desc. W slope 65 ft.  
 78.00 Gulch, course N; asc NE slope 25 ft.  
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins in  
 the ground for cor of secs. 2, 3 34 and 35,  
 marked on brass cap, 1913;  
 T23N in N,  
 T22N in S,  
 R20W in W half;  
 S 34 in NW,  
 S 35 in NE,  
 S2 in SE, and  
 S3 in SW quadrant, from which  
 A cedar, 6 ins. diam., brs. N70° 45'E 115 lks dist.,  
 marked T23N R20W S35 BT.  
 No other trees within limits, raise a mound of stone  
 2 ft. base, 1½ ft. high, N of cor. Pits impracticable.  
 Land mountainous.  
 Soil rocky 4th rate.  
 Undergrowth, scrub cedar, catclaw, &c

June 6, 1915.

23.00 N89° 56' <sup>on a true line</sup> W bet secs. 3 and 34.  
 30.60 On rocky N. slope through scattering cedar and dense  
 38.00 undergrowth.  
 40.00 Gulch, course N. Asc. NE slope, 125 ft.  
 Rocky ridge, brs. N & S. Desc W slope, 250 ft.  
 Foot of desc, thence over level land.  
 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, 1913;  
 $\frac{1}{4}$  S34 on N and  
 S3 on S half;  
 dig pits, 18 X 18 X 12 ins., E. and W. of post, 3 ft.  
 dist., and raise a mound of earth, 3½ ft. base, 1½ ft  
 high, N. of cor.  
 At this point I set off 35°20' N on the lat. arc, 22°  
 39' N on the decl. arc, and at 9h. 0m. a.m., 1.m.t., June 6,  
 I determine a meridian with the solar at the  $\frac{1}{4}$  sec. cor  
 of secs. 3 & 34.  
 47.35 Road, Burns Spring to Chloride, brs N & S.  
 47.85 Wash, 10 lks. wide, course N.  
 48.50 Asc rocky E slope, 220 ft.  
 63.00 Rocky ridge, 4 chs long, brs. N & S. Desc W slope,  
 265 ft.  
 78.00 Foot of desc., thence across level land.  
 80.00 Set an iron post, 3 ft. long, 3 ins diam., 24 ins. in the  
 ground, for cor of secs. 3, 4, 33 & 34, marked on brass  
 cap, 1913;  
 T23N in N,  
 T22N in S, and S33 in NW, S34 in NE, S3 in SE, S4 in SW. quadrant;  
 R20W in W half; from which  
 A cedar, 6 ins. dia., brs N13¾° E., 125 lks. dist.,  
 marked T23NR20WS34BT.  
 A cedar, 8 ins. in dia., brs. S34½° E, 41 lks dist.,  
 marked T22N R20W S3 BT.  
 A cedar, 6 in. in diam., brs. S71½° W., 193 lks. dist.,  
 marked T22N R20W S4 BT.  
 A cedar, 7 ins. diam., brs. N44° W., 283 lks. dist.,  
 marked T23N R20W, S33 BT.  
 Land level and mountainous.  
 Soil on level good sandy loam, 2nd rate; rocky on hills,  
 4th rate.  
 Timber, scattering scrub cedar.

3 in NW  
4 in NE  
SE  
in SW  
quadrant

Chains.

BOOK 259  
2500

Undergrowth, greasewood and catclaw.  
Mountainous land, 50 chs.

on a true line

N89° 56' W bet secs 33. & 4.

Over level land, scattering cedar and undergrowth.

12.00 Wash, 30 lks wide, 3 ft. deep, course N.

14.00 Asc. slight E slope, 35 ft.

18.00 Ridge, NE & SW. Desc NW slope, 35 ft.

22.00 Draw, SW. Asc SE slope, 20 ft.

25.00 Round point of hill, desc SW slope, 30 ft.

34.00 Enter gulch, course W.

40.00 Set an iron post on N. bank of gulch, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec cor, marked on brass cap, 1913;

S33 in N, and

S4 in S half;

and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$  ft. high, N of cor. Pits impracticable. Cloudy at moon.

Glenside, 1913.

June 6, 1913.

42.00 Rocky point, brs. N. & S, 50 lks long, 55 ft. high.

Desc 120 ft, on SW slope.

46.00 Gulch, course SW. Asc SE slope, 175 ft.

55.39 Spur ridge, extends 5 chs. S. Impossible to chain from here. Mean of three rod readings, 4.343 ft; vertical angle, 3°; computed dist, 8.57 chs. Topography between stadia points, approximate. Vertical dist, 65 ft.

60.00 Box canyon, 1 ch. wide., 150 ft deep.

63.72 perpendicular cliff, 80 ft. high.

63.96 Stadia point. Edge of precipice, 50 ft. high.

64.71 Projecting point of rock, too small to set transit up on. 10 lks S and W to precipice, 120 ft. high. Take transit ahead to ridge, set up there and stadia back to this point. Mean of three rod readings, 5.902 ft; vertical angle, 17 $\frac{1}{2}$ °; computed dist, 10.62 chs; 200 ft below point. The plus to the point occupied by transit is

75.33 At this point I set off 35° 20' N. on the lat. arc, 22° 33' N on the decl. arc, and at 10h.0<sup>m</sup>a.m., l.m.t., I determine a meridian with the solar at this point.

75.55 Ridge, brs N. & S., 2 chs. N. to a granite peak, 60 ft. high. Desc SW. slope, 110 ft. to

80.00 Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground, for cor. of secs. 32 & 33, 4 & 5, marked on brass cap, 1913;

T23N in N,

T22N in S, and

R20W in W. half;

S32 in NW,

S33, in NE,

S4 in SE, and

S5 in SW quadrant;

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

Land rolling and mountainous.

Soil rocky 4 th rate.

Timber scattering cedar.

Undergrowth, greasewood and catclaw.

Mountainous land, 50 chs.

on a true line

N89° 56' W bet. secs. 32 & 5

Desc. W slope, 60 ft over rocky ground.

4.00 Head of canyon, course NW.

5.09 Stadia point. Mean of three rod readings, 3.110 ft; vertical angle -5°, computed dist., 6.10 chs., vertical dist., 35 ft. Desc W slope, 150 ft.

10.00 Canyon, course SW.

11.00 Foot of cliff, 100 ft. high.

11.19 Stadia point, rocky knife blade ridge, brs. N & W, about 1 ch long. Desc precipice, 60 ft. high.

12.00 Gulch, course

as

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Chains.

BOOK 2500

- 13.15 Gulch, course S; asc SE slope 65 ft.  
 19.00 Rocky ridge, brs. N & S. Desc SW slope, 120 ft.  
 23.00 Gulch, course SW. Asc. W slope, 150 ft.  
 35.00 Foot of granite peak, 80 ft. high.  
 35.50 Top of peak, desc 210 ft.  
 37.00 Base of 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, 1913;  
 $\frac{1}{4}$ S32 in N, and  
 $\frac{1}{4}$ S in S half, and  
 raise a mound of stone, 2 ft. base,  $1\frac{1}{2}$  ft high, N of cor. Pits impracticable.  
 At this cor. I set off  $22^{\circ} 33\frac{1}{2}'$  N on the decl. arc, and at 11h 58m a.m., 1.m.t., I observe the sun on the meridian; the resulting lat. is  $35^{\circ} 20'N$ , which is the correct lat.  
 42.00 Granite boulder, 15 X 15 X 20 ft. on line.  
 46.00 Rocky ridge, NW & SE, 40 ft. below  $\frac{1}{4}$  cor. Desc SW slope 200 ft.  
 49.00 Rocky point of hill.  
 61.00 Enter Burns Spring Wash in bottom of canyon, Course NW.  
 66.00 Leave wash, asc NE slope, 165 ft.  
 73.15 Cliff, 60 ft. high.  
 74.00 Spur ridge extends 1 ch. N. Desc NW slope, 160 ft.  
 80.00 Set an iron post, 3 ft. long, 3 in dia., 24 ins. in the ground, for cor. of secs 31, 32, 5 & 6, marked on brass cap, 1913;  
 T23N in N,  
 T22N in S, and  
 R20W in W half;  
 S31 in NW,  
 S32 in NE,  
 S5 in SE, and  
 S6 in SW quad,  
 and raise a mound of stone, 2 ft. base,  $1\frac{1}{2}$  ft. high W of cor. Pits impracticable.  
 Land mountainous.  
 Soil rocky 4th rate.  
 No timber, scattering greasewood undergrowth.  
 Mountainous land, 80 chs.  
 on a true line  
 N89 56' W, bet secs 6 & 31.  
 A perpendicular rocky point over which we cannot climb makes it necessary to stadia from this corner.  
 Mean of three rod readings, 7.276 ft., vertical angle 0, computed dist., 14.40 chs. Intermediate topography approximate.  
 Desc NW slope.  
 4.00 Gulch, course N. Asc. perpendicular rock point, 50 ft. high.  
 7.00 Top of rocky point. Desc. cliff 60 ft. to wash  
 7.20 Burns Spring Wash, 3. chs wide, course SW  
 10.00 Leave wash, asc E slope, 60 ft.  
 14.40 Stadia point,  
 18.00 Rocky point, end of ascent. Desc SW slope 95 ft.  
 21.15 Gulch, course S. Asc SE slope, 40 ft.  
 25.00 Rocky ridge, brs. N & S. Desc SW slope, 30 ft.  
 27.00 Head of gulch, course S. Thence along S slope.  
 32.00 Desc SW slope 120 ft.  
 39.65 Gulch course S. Asc E slope, 15 ft.  
 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, 1913;  
 $\frac{1}{4}$ S31 in N and  
 S 6 in S half;  
 and raise a mound of stone, 2 ft base,  $1\frac{1}{2}$  ft. high, N of cor. Pits impracticable.  
 41.00 Rocky spur ridge, brs. SE & NW, 30 ft above cor. Thence along rolling S. slope.  
 48.00 Desc. W slope, 105 ft.  
 56.00 Enter wash, course S  
 59.00 Leave wash, asc. E slope, 30 ft.



Chains.

61.00

Rocky spur ridge, brs. N & S; extends 1 ch S. Thence over level land.

78.65

Intersect the cor. of Tps. 22 & 23N, Rs. 20 & 21 W., hereinbefore described.

Land, rolling and mountainous.

Soil, rocky 3rd and 4th rate.

No timber.

No undergrowth.

June 5, 1913.

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Boundaries of T22N, R20W.  
Latitudes, departures and closing errors.

Line Designated	True Bearing	Dist.	Latitudes		Departures	
			N	S	E	W
S. bdy. T22N R20W	West	479.49'				479.49'
West bdy. "	North	480.00'	480.00'			
N bdy. "	S89°56'E	478.65'		0.54	478.65'	
E. bdy. "	South	480.00'		480.00'		
Convergency						.51'
Totals.			480.00	480.54'	479.16	479.49
				480.00		479.16
			Error i n lat. 0.54		Error dep. 0.33	

*William B. Kimmel,*

U. S. Surveyor

*HeurB. adstruer*

U. S. Transitman

CERTIFICATE OF ASSISTANTS.

same applies to Exteriors Book "C"

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability,  
William B. Kimmel, U. S. Surveyor, <sup>and H. N. Bradstreet, U.S. Transitman</sup>  
<sub>under Group 27</sub>

stated opposite our several signatures, in surveying all those parts or portions of

*the South, West & North bdrs. of Township 22 North, Range 20 West, and*

*the East, South & West bdrs. of Township 24 North, Range 3 West*

of the *Gila & Salt River Base* 5 Meridian, in the State of Arizona

and notes in Book "C" which are represented in the foregoing field notes, as having been executed by ~~him~~ <sup>them</sup>, and under ~~his~~ <sup>their</sup> direction; and that said survey has been, in all respects, to the best of our knowledge and belief, well and faithfully executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
<i>J. M. Rank</i>	May 27, 1913.	June 11, 1913.	Moundman
<i>Sub. Grimsman</i>	May 27, 1913.	June 19, 1913.	Chainman
<i>Wesley Mullenax</i>	May 27, 1913.	June 28, 1913.	Chainman Flagman
<i>Monty Miller</i>	May 27, 1913.	June 28, 1913.	Chainman
<i>E. L. Mosher</i>	May 27, 1913.	June 28, 1913.	Chainman
<i>A. M. Robertson</i>	June 21, 1913.	June 28, 1913.	Moundman
<i>H. M. Tompkins</i>	May 27, 1913.	June 28, 1913.	Moundman
<i>Samuel H. Record</i>	May 27, 1913.	June 28, 1913.	Chainman

Subscribed and certified to before me on the dates of the final service as shown above.

*William B. Kimmel,*  
U. S. Surveyor.

BOOK 2500  
BOOK 2500

FINAL OATH OF UNITED STATES SURVEYOR.

Same applies to Exteriors Book "C"

*and Transitsman, respectively*  
I, *William B. Kimmel and H. N. Bradstreet*, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for *Arizona* bearing date of the *24th* day of *April*, 1913, *we* have well, faithfully, and truly, in *our* own proper persons, and in strict conformity with said instructions, the Manual of Surveying

Instructions, and the laws of the United States, surveyed all those parts or portions of *the* *Exterior Lines under Sp 27 viz: the South, West and North bdrs. of Township 22 North, Range 20 West, and the East, South and West bdrs. of Township 24 North, Range 3 West,*

*Base and* Meridian, in the State of *Arizona*, which are represented in the foregoing field notes, as having been executed by *me* and under *our* direction; and *we* do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for *Arizona* and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

*William B. Kimmel,*

U. S. Surveyor.

Subscribed by said *Wm B. Kimmel & H. N. Bradstreet* and sworn to before me *U.S. Transitsman* this *14th* day of *July*, 1913

*Frank S. Ingalls*

SURVEYOR GENERAL OF ARIZONA



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

*Phoenix, Arizona, March 2*, 1914

The foregoing field notes of the survey of *the South, West and North boundaries*

*of Township No 22 North, Range 20 West, of the Gila and Salt River Base and Meridian, Arizona*

executed by *William B. Kimmel, U.S. SURVEYOR, and H. N. Bradstreet, U.S. TRANSITMAN,* under *their* special instructions, dated *April 24*, 1913, 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.

I certify that the foregoing transcript of the field notes of the above described surveys in \_\_\_\_\_, has been correctly copied from the original notes on file in this office.