

2981

4-679

Book "E."
Subdivisions

BOOK 2981

35

FIELD NOTES

OF THE RETRACEMENT AND RESURVEY
OF PART
of the

SUBDIVISION LINES OF

TOWNSHIP 11 NORTH, RANGE 18 EAST.

Of the Gila and Salt River Base and Meridian,

In the State of Arizona.

EXECUTED BY

Sidney E. Blout,

In the capacity of U. S. Surveyor, under instructions dated December 16,, 1914,
issued by the United States Surveyor General to govern surveys included in
Group No. 40, which were approved by the Commissioner of the General Land
Office, January 27,, 1915.

Retracement
and Resurvey commenced April 25,, 1915.

Retracement
and Resurvey completed May 14,, 1915.

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Partial Resurvey of the Subdivision lines of T. 11 N., R. 18 E. Chains.

Resurvey commenced April 25, 1915, and executed with a Young and Sons' light mountain transit No. 10, with a solar attachment. The horizontal limb is provided with two double verniers, placed opposite to each other, reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs. I examine the adjustments of the transit, and correct the level and collimation 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 established by observations on Polaris, I proceed as follows:

At my camp, which is located about 15 chs. east of the old 1/4 sec. cor., bet. secs. 21 and 22, T. 11 N., R. 18 E., approximate latitude 34° 17' N.; longitude, 110° 25' W., at 5h. 22.1m a.m. by my watch, which is set to read the correct local mean time, I observe Polaris at eastern elongation, in accordance with the Manual of Instructions, and mark the direction thus determined by a small nail driven in a stake set firmly in the ground 5 chs N. of my instrument.

At 7h. 45m. a.m., l.m.t., I lay off the azimuth of Polaris 1° 23' to the west, and mark the meridian thus determined by a tally pin driven in a stake set in the ground 5 chs. N. of my instrument.

At 7h. 58.1m. a.m., l.m.t., I set off 34° 17' N., on the lat. arc; 12° 59' N. on the decl. arc, and determine a meridian with the solar, and mark a point thereof by a nail driven in the stake already set 5 chs. N. of my instrument; this point falls 1.7 ins. west of the meridian established by the Polaris observation.

At 11h. 58.1m. a.m., l.m.t., I set off 13° 02' N. on the decl. arc, and observe the sun on the meridian; the resulting latitude is 34° 19' N., nearly, which is approximately 02' higher than the calculated latitude of this place, shown on the plats furnished me by the surveyor general.

At 3h. 58.1m. p.m., l.m.t., I set off 34° 19' N. on the lat. arc; 13° 06' N. on the decl. arc, and determine a meridian with the solar, and mark a point thereof by a small nail driven in the stake already set 5.00 chs. N. of my instrument; this point falls 0.2 ins. west of the meridian established by the Polaris observation.

The magnetic bearing of the meridian at 8h. 30m. a.m., is N. 14° 33' W.; the angle thus determined gives the magnetic declination 14° 33' E.

In the meridian observation for the sun for latitude, with the solar at noon today, there being a difference of about 02' between the observed and calculated latitude of this place, I make an altitude observation in the evening, on Polaris at lower culmination for latitude, making four observations, two each, with the telescope in direct and reversed positions.

Lower culmination setting.

$$\begin{aligned}
 & \text{decl.} = 90^{\circ} 00' \\
 & 90^{\circ} - \text{decl.} = 88^{\circ} 51' \\
 & \text{lat.} = 1^{\circ} 09' \\
 & = 34^{\circ} 17' \\
 & = 33^{\circ} 08'
 \end{aligned}$$

Vert. angle, V = lat. (90° decl.) or vert. angle = Upper culmination of Polaris April 25, 1915.

For meridian of Greenwich, civil date and mean time,

11h. 18.5m. a.m.

Correction to local meridian, subtract,

1.2

U.C. Polaris, April 25, 1915, local meridian

11h. 17.3m. a.m.

Reduction to lower culmination add

11h. 58

L.M.T., lower culmination Polaris Apr. 25, 1915

11h. 15.3p.m.

2. Partial Resurvey of the Subdivision lines of T.11 N. R.18 E.

Chains.

Telescope,	Watch.	Vertical.
Direct,	Time.	Angle.
Direct,	11h.15m.20s.p.m.	33°10'
Reversed	11" 16" 18"	33°12'
Reversed	11" 16" 45"	33°13'
Direct	11"17" 30"	33°11'
Mean	<u>11" 16" 28"</u>	<u>33°11.5'</u>
	Refraction	1.46'
	Altitude (h) =	33°10'04'
Decl.=88°51'14"; therefore (90°-decl.)	=	1°08'76'
	Latitude	= 34°18.8'

April 25, 1915.

April 26, 1915. At 6h. 58m. a.m., l.m.t., I set off 34° 19' N. on the lat. arc; 13° 19' N. on the decl. arc, and determine a meridian with the solar, and mark a point thereof by a nail driven in the stake already set 5 chs. N. of my instrument. This point falls 0.4 ins. east of the meridian established by the Polaris observation. The solar apparatus by p.m. and a.m. observations, using the latitude derived from the Solar and Stellar observations, defines positions for meridians, respectively about 0'10" west and 0'21" east of the meridian established by the Polaris observation; therefore, I conclude that the adjustments of the instrument are satisfactory.

A 5-chain steel tape and clinometer are the instruments to determine all distances measured in this survey.
April 26, 1915.

April 27, 1915. At 10h. 27.8m. a.m., l.m.t., I set off 34° 17½' N. on the lat. arc; 13° 39½' N. on the decl. arc, and determine a meridian with the solar at the old cor. of secs. 26, 27, 34 and 35, T.11 N., R.18 E., hereinafter described.

Thence,

South, on a random line, bet. secs. 34 and 35.

40.00 I make diligent search for the old ¼ sec. cor., which I fail to find.

At this point, I set off 13° 41' N. on the decl. arc; and at noon apparent time April 27, 1915, observe the sun on the meridian, and obtain a reading of 34° 17' N. on the lat. arc.

Continue line and measurement.

78.98 Intersect the S. bdy. of Tp. 16 lks. E. of the old cor. of secs. 2, 3, 34 and 35, which is a granite stone 14x10x6 ins. above ground, firmly set, marked with 2 notches on E. and 4 notches on W. edges, and witnessed by two of the original bearing trees described in the field notes furnished me by the surveyor general, and in Book "A" of this group.

True course and dist. of line bet. secs. 34 and 35 is therefore N. 0° 7' E., 78.98 chs.

April 27, 1915.

May 7, 1915. At 7h. 26.5m. a.m., l.m.t., I set off 34° 16½' N. on the lat. arc; 16° 38½' N. on the decl. arc, and determine a meridian with the solar at the above described cor.

Thence,

N. 0° 07' E., on a true line, bet. secs. 34 and 35.

Descend N. slope 5 ft., over stony mountainous land, through heavy pine and oak timber.

1.18 West fork of Cottonwood Wash, 20 lks. wide, water clear 4 ins. deep; ascend rocky S. slope, 166 ft.

24.00 Top of ascent on ridge, brs. N 5° E. and S. 40° W.; thence along top of ridge, over rolling, stony land.

39.49 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished ¼ sec. cor., marked on brass

Chains.
56.28
78.98

cap,
 S 34 in W.,
 S 35 in E., and
 1915 in S. half; from which
 A juniper, 18 ins. in diam., brs. S. 67° E., 122 lks.
 dist., marked $\frac{1}{4}$ S 35 B T.
 A pine, 20 ins. in diam., brs. N. 40° W., 65 lks.
 dist., marked $\frac{1}{4}$ S 34 B T.
 Begin descent over NW. slope, 127 ft.
 Intersect the old cor. of secs. 26, 27, 34 and 35, hereinafter
 described.
 I reestablish this cor., as follows: Under the root of
 the old tree cor. set an iron post 3 ft. long, 2 ins.
 in diam., 24 ins. in ground, for cor. of secs. 26, 27, 34
 and 35, marked on brass cap,
 T 11 N, R 18 E in N., and
 1915 in S. half;
 S 27 in NW.,
 S 26 in NE.,
 S 35 in SE., and
 S 34 in SW. quadrant; from which
 An oak, 16 ins. in diam., brs. N. 33° 45' E., 85 lks.
 dist., marked T 11 N R 18 E S 26 B T.
 A pine, 24 ins. in diam., brs. S. 69 $\frac{1}{2}$ ° E., 68 lks.
 dist., marked T 11 N R 18 E S 35 B T.
 Original bearing tree, a pine 18 ins. in diam.,
 brs. S. 64° W., 74 lks. dist., marked T 11 N R 18
 E S 34 B T.
 Original bearing tree, a pine 18 ins. in diam.,
 brs. N. 45 $\frac{1}{2}$ ° W., 24 lks. dist., marked T 11 N R
 18 E S 27 B T.
 Land, mountainous, spurs steep, covered with loose stone.
 Soil, poor dry stony clay loam, on stone and clay subsoil.
 Timber juniper and pine.

May 7, 1915.

40.00
80.04
10.50
14.80
35.86

April 28, 1915: At 8h. 57.6m. a.m., l.m.t., I set off 34°
 16 $\frac{1}{2}$ ' N. on the lat. arc; 13° 58' N. on the decl. arc, and
 determine a meridian with the solar at the old
 cor. of secs. 3, 4, 33 and 34 on S. bdy. of Tp., described
 in Book "A".
 Thence,
 North on a random line, bet. secs. 33 and 34.
 Set temp. $\frac{1}{4}$ sec. cor. No trace of the old $\frac{1}{4}$ sec. cor. being
 found after diligent search, continue line and measure-
 ment.
 Fall 92 lks. E. of the old cor. of secs. 27, 28, 33 and 34,
 hereinafter described.
 True course and dist. of line bet. secs. 33 and 34 is there-
 fore N. 0° 39' W., 80.04 chs.
 April 28, 1915.
 May 7, 1915. From old cor. of secs. 3, 4, 33 and 34 on S. bdy.
 of Tp., described in Book "A,"
 N. 0° 39' W., bet. secs. 33 and 34, marking and blazing true
 line.
 Ascend gradually over SE. slope, 8 ft., over stony, mountain-
 ous land, and through heavy juniper and pine timber.
 Top of spur, brs. NE. and SW. Descend NW. slope, 19 ft..
 Dry ravine, 10 lks. wide, course S. 20° W.; ascend 150 ft.
 Intersect the N. bdy. of the Fort Apache Indian Reservation,
 6.68 chs. S. 75° 20' W. of Angle Point No. 730, which is a
 pine, 10 ins. in diam., marked as described by the
 Surveyor General.
 At the point of intersection, set an iron post, 3 ft. long,
 2 ins. in diam., 24 ins. in the ground, for reestablish-
 ed closing cor. of secs. 33 and 34, marked on brass cap,
 C C N. of center,
 T 11 N, R 18 E in N., and
 FAIR, 1915 in S half;
 S 33 in NW., and
 S 34 in SE. sector.

A. Partial Resurvey of Subdivision lines of T.11 N., R.18 E.

- Chains.
- From this point, the unaccepted closing cor. of secs. 33 and 34, set by Deputy Charles E. Perkins, under Contract No. 40, bears N. 79° 20' E., 7 lks. dist. I destroy all trace of this closing cor., and the marks on the bearing trees to same.
- 36.00 Top of the "Mogollon Rim" bears N. 70° E. and S. 70° W.; descend 37 ft.
- 36.10 Wire fence along N. bdy. of the Indian Reservation, brs. N. 70° E. and S. 70° W.
- 39.45 Head of dry ravine, 5 lks. wide, course N. 70° W.; ascend 15 ft. to
- 40.02 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for reestablished $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S 33 in W.,
 $\frac{1}{4}$ S 34 in E., and
 1915 in S. half; from which
 A pine, 12 ins. in diam., brs. S. 74° E., 56 lks. dist., marked $\frac{1}{4}$ S 34 B T.
 A pine, 10 ins. in diam., brs. N. 77° W., 66 lks. dist., marked $\frac{1}{4}$ S 33 B T.
- From this point, the unaccepted $\frac{1}{4}$ sec. cor. set by Deputy Charles E. Perkins, under contract No. 40 brs. N. 19° 50' W., 52 lks. dist. I destroy all trace of this $\frac{1}{4}$ sec. cor., and the marks on the bearing trees to the same.
- 47.00 Continue ascent from cor., 56 ft.
 Top of ridge, brs. NW. and N 10° E.; descend along W. slope of ridge, 108 ft.
- 80.04 Intersect the old cor. of secs. 27, 28, 33 and 34, hereinafter described.
 Land, mountainous, spurs steep, washed on slopes, rocky. Soil, worthless, stony clay loam on stone and clay subsoil. Timber, juniper and pine.
 May 7th, 1915.
-
- April 27, 1915,
 N. 89° 53' E., on a random line, bet. secs. 27 and 34.
- 40.11 Set temp. $\frac{1}{4}$ sec. cor. No trace of the old $\frac{1}{4}$ sec. cor. being found after diligent search, continue line and measurement.
- 80.51 Fall 151 lks. N. of the old cor. of secs. 26, 27, 34 and 35, which is a dead pine 24 ins. in diam., marked as described by the surveyor general, and witnessed by two of the original bearing trees, described in the field notes furnished me by the surveyor general.
 True course and dist. of line bet. secs. 27 and 34 is therefore N. 89° 03' W., 80.52 chs.
 April 27, 1915.
- May 7, 1915. From reestablished cor. of secs. 26, 27, 34 and 35, hereinafter described,
 N. 89° 03' W., on a true line, bet. secs. 27 and 34.
 Descend NW. slope, 60 ft., over stony, mountainous land, through heavy pine and juniper timber and brush.
- 7.10 Dry ravine, 20 lks. wide, in bottom of canyon, course N. 10° E.; ascend spur, 64 ft.
- 10.20 Top of spur, brs. N. 10° E. and S. 10° W.; descend NW. slope, 2 ft.
- 12.10 Dry ravine, 10 lks. wide, 5 ft. deep, course S. 40° E.; ascend 131 ft.
- 28.20 Top of rocky spur, brs. NE. and SW.; descend 47 ft.
- 35.20 Dry ravine, 05 lks. wide, course north; ascend 30 ft.
- 40.26 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S 27 in N., and
 $\frac{1}{4}$ S 34, 1915 in S. half; from which
 A pine, 18 ins. in diam., brs. N. 55° 45' E., 59 lks. dist., marked $\frac{1}{4}$ S 27 B T.
 A pine, 30 ins. in diam., brs. S. 14° 45' E., 76 lks. dist., marked $\frac{1}{4}$ S 34 B T.

Partial Resurvey of Subdivision lines of T.11 N., R.18 E.

Chains.

At this cor., I set off 16°41'N. on the decl. arc, and at noon, apparent time, May 7, 1915, observe the sun on the meridian, and obtain a reading of 34° 17'N. on the lat. arc.

Continue ascent over NE. slope, 35 ft.

- 42.45 Road to top of the "Mogollon Rim" brs. N. and S.
- 44.90 Top of spur, brs. N. and S.; descend W. slope, 77 ft.
- 51.50 Dry ravine, 15 lks. wide, course N. 20° W.; ascend NE. slope, 20 ft.
- 56.90 Top of spur, brs. N. and S.; descend W. slope, 16 ft.
- 62.40 Dry ravine, 15 lks. wide, course N. 10° E.; ascend 140 ft.
- 72.50 Top of spur, brs. N. and S.; descend W. slope, 100 ft.
- 80.52 Intersect the old cor. of secs. 27, 28, 33 and 34, hereinafter described.

Land, mountainous, spurs with steep slopes, covered with loose stone.

Soil, poor stony clay loam, 3rd and 4th rate.

Timber, juniper, oak and pine.

May 7, 1915.

April 27, 1915. At 7h. 28m. a.m., 1.m.t., I set off 34° 18' N. on the lat. arc; 13° 38' N. on the decl. arc, and determine a meridian with the solar at the old cor. of secs. 21, 22, 27 and 28, hereinafter described.

Thence,

South, on a random line, bet. secs. 27 and 28.

- 39.90 Fall 13 lks. E. of the old $\frac{1}{4}$ sec. cor., which is a pine post 5 ins. in diam., 3 ft. above ground, greatly decayed, marked $\frac{1}{4}$ S on W. face, with remains of mound of earth around post.

True course and dist. of N. $\frac{1}{2}$ of line bet. secs. 27 and 28, is therefore N. 0° 11' E., 39.90 chs.

From above described $\frac{1}{4}$ sec. cor.,

South on a random line, bet. secs. 27 and 28 (S $\frac{1}{2}$).

- 40.32 Fall 28 lks. W. of the old cor. of secs. 27, 28, 33 and 34, which is a pine 24 ins. in diam., marked as described by the surveyor general, from which

A pine, 10 ins. in diam., brs. N. 17° 45' E., 12 lks. dist., marked T 11 N R 18 E S 27 B T.

A pine, 20 ins. in diam., brs. S. 38 $\frac{1}{2}$ ° E., 60 lks. dist., marked T 11 N R 18 E S 34 B T.

Original bearing tree, a pine 18 ins. in diam., bears S 42 $\frac{1}{2}$ ° W., 19 lks. dist., marked T 11 N R 18 E S 33 B T.

A pine 16 ins. in diam., brs. N. 63 $\frac{1}{2}$ ° W., 52 lks. dist., marked T 11 N R 18 E S 28 B T.

True course and dist. of S $\frac{1}{2}$ of line, bet. secs. 27 and 28 is therefore N. 0° 24' W., 40.32 chs.

April 27, 1915.

May 7, 1915. From above described sec. cor.,

N. 0° 24' W., on a true line on S. $\frac{1}{2}$, bet. secs. 27 and 28.

Descend NW. slope, 202 ft., over stony, mountainous land, through heavy juniper, oak, and pine timber.

- 20.72 Dry ravine, 15 lks. wide, course N. 60° W.; ascend SW. slope, 70 ft.

- 36.75 Top of spur, brs. NW. and SE.; descend 4 ft.

- 40.32 Intersect the old $\frac{1}{4}$ sec. cor., hereinbefore described. I destroy the old cor., and reestablish it in the same place as follows:

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,

S 28 in W.,

S 27 in E., and

1915 in S. half; from which

A pine, 18 ins. in diam., brs. N. 66° E., 65 lks. dist., marked $\frac{1}{4}$ S 27 B T.

A pine, 14 ins. in diam., brs. N. 77° 45' W., 72 lks. dist., marked $\frac{1}{4}$ S 28 B T.

Thence,

N. 0° 11' E., on a true line on N. $\frac{1}{2}$, bet. secs. 27 and 28.

6. Partial Resurvey of Subdivision lines of T. 11 N., R. 18 E.

Chains.

- Continue descent over NE-slope, 78 ft.
 14.43 Dry ravine, 10 lks. wide, course N. 60° W.; ascend 64 ft.
 26.03 Top of spur, brs. NW. and SE.; descend 93 ft.
 39.90 Intersect the old cor. of secs. 21, 22, 27 and 28, hereinafter described.

Land, mountainous, spurs steep rocky, covered with brush.
 Soil, poor stony clay loam, 3rd and 4th rate.
 Timber, oak, juniper and pine.
 Good growth bunch grass.

May 7, 1915.

May 5, 1915. From old cor. of secs. 28, 29, 32 and 33, hereinafter described,

- 40.00 South, on a random line, bet. secs. 32 and 33.
 I make diligent search for the old $\frac{1}{4}$ sec. cor., which I fail to find; therefore, I set temp. $\frac{1}{4}$ sec. cor., and continue line and measurement.
 80.00 I again make diligent search for the old cor. of secs. 4, 5, 32 and 33 on S. bdy. of the Tp., but am unable to find any trace either of the cor. or the bearing trees, described as cor. accessories.
 80.02 Intersect the random line, which I ran along S. bdy. of Tp. May 3, 1915, 133 lks. S. 89° 51' W. of the temp. cor. of secs. 4, 5, 32 and 33, described in Book "A." True course and dist. of line bet. secs. 32 and 33, based on this temp. cor. is therefore N. 0° 57' W., 80.03 chs.

May 5, 1915.

May 11, 1915. At 12h. 56.3m. p.m., l.m.t., I set off 34° 16' N. on the lat. arc; 17° 46' N. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 4, 5, 32 and 33 on S. bdy. of Tp., which I reestablished May 10, 1915, as described in Book "A."
 This cor. is reestablished at a point 4 lks. W., and 1.85 chs. S. of above described temp. sec. cor., making the true course and dist. of line bet. secs. 32 and 33, N. 0° 55' W., 81.88 chs.

Thence,

N. 0° 55' W., on a true line, bet. secs. 32 and 33.

Ascend S. slope of spur, 97 ft. over stony, mountainous land, through heavy juniper and pine timber and brush.

- 10.00 Top of rim of the "Mogollon Mesa" bears E. and W.; thence over nearly level land.
 10.80 Intersect the N. bdy. of the Fort Apache Indian Reservation 3.10 chs. N. 84° 34' W. of Angle Point No. 745, which is a pine, 14 ins. in diam., marked as described by the surveyor general.
 At the point of intersection, set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for reestablished closing cor. of secs. 32 and 33, marked on brass cap,

C C N. of center,
 T 11 N, R 18 E in N., and
 FAIR, 1915 in S. half;
 S 32 in NW., and
 S 33 in SE. sector.

From this point, the unaccepted closing cor. of secs. 32 and 33, set by Deputy Charles E. Perkins, under Contract No. 40, brs. N. 77° 32' W., 11.50 chs. dist. I destroy all trace of this closing cor., and the marks on the bearing trees to same.

- 10.98 Wire fence along N. bdy. of the Indian Reservation, brs. E and W.; descend N. slope, 100 ft.
 24.70 Dry ravine, 15 lks. wide, course N. 70° E.; ascend SE. slope, 64 ft.
 36.00 Top of spur, brs. N. 70° E. and west; descend NW. slope, 143 ft.
 40.94 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in ground, for reestablished $\frac{1}{4}$ sec. cor. mkd. on brass cap, $\frac{1}{4}$ S 32 in W., S 33 in E., and 1915 in S. half, from which
 A pine, 16 ins. diam., brs. N. 75 $\frac{1}{2}$ ° E. 68 lks. dist. mkd. $\frac{1}{4}$ S 33 BT.
 A pine, 18 ins. diam., brs. N. 88° W., 30 lks. dist. mkd. $\frac{1}{4}$ S 32 BT.
 47.80 Dry ravine, 20 lks. wide, 137 ft. below $\frac{1}{4}$ sec. cor., course N. 70°

Partial Resurvey of the Subdivision lines of T. 11 N. R. 18 E. 7

57.40 W.; ascend SW slope, 146 ft.
 76.20 Top of spur, brs. N. 60° W. & S. 60° E.; descend NE slope 75 ft.
 81.88 Dry ravine, 10 lks. wide, course N. 20° E.; ascend 6 ft.
 Intersect old cor. of secs. 28, 29, 32 & 33, hereinafter described, which I reestablish as follows: I remove old cor. stone & in same place set an iron post 3 ft. long, 2 ins. in diam. 24 ins. in ground for cor. of secs. 28, 29, 32 & 33, mkd. on brass cap T. 11 N. R. 18 E. in N. & 1915 in S. half; S. 29 in NW., S. 28 in NE., S. 33 in SE. and S. 32 in SW. quad.; from which
 A pine, 26 ins. in dia., brs. N. 52 1/2° E., 60 lks. dist., marked T. 11 N. R. 18 E. S. 28 B. T.
 Original bearing tree, a pine, 14 ins. in diam., brs. S. 65° 45' E., 68 lks. dist., marked T. 11 N. R. 18 E. S. 33 B. T.
 An oak, 10 ins. in diam., brs. S. 70 1/2° W., 90 lks. dist., marked T. 11 N. R. 18 E. S. 32 B. T.
 A pine, 12 ins. in diam., brs. N. 46 1/4° W., 78 lks. dist., marked T. 11 N. R. 18 E. S. 29 B. T.
 From this point, the unaccepted cor. of secs. 28, 29, 32 and 33, set by Deputy Charles E. Perkins, under contract No. 40 bears S. 81° 30' W., 6.70 chs. dist. I destroy all trace of this sec. cor., and the marks on the bearings trees to same.
 Land, mountainous.
 Soil, stony, 3rd and 4th rate.
 Timber, juniper, oak and pine.
 May 11, 1915.

 April 28, 1915. At 8h. 27.6m. a.m., l.m.t., I set off 34° 17 1/2' N. on the lat. arc; 13° 57 1/2' N. on the decl. arc, and determine a meridian with the solar at the old cor. of secs. 27, 28, 33 & 34, hereinbefore described.
 Thence, N. 89° 51' W., on a random line, bet. secs. 28 and 33.
 39.96 I make diligent search for the old 1/4 sec. cor., which I fail to find; therefore, I set temp. 1/4 sec. cor., and continue line and measurement.
 80.40 Fall 37 lks. N. of the old cor. of secs. 28, 29, 32 and 33, which is a sandstone 20x18x4 ins., loosely set in a mound of stone, marked as described by the Surveyor General, and witnessed by one of the original bearing trees described in the field notes furnished me by the surveyor general.
 True course and dist. of line bet. secs. 28 and 33 is therefore S. 89° 53' W., 80.40 chs.

April 28, 1915.
 May 11, 1915. At 7h. 56.3m. a.m., l.m.t., I set off 34° 17 1/2' N. on the lat. arc; 17° 43' N. on the decl. arc, and determine a meridian with the solar, at the above described cor.
 Thence, S. 89° 53' W. on a true line, bet. secs. 28 and 33.
 Descend W. slope, 75 ft. over stony mountainous land, through heavy pine timber.
 5.35 Dry ravine, 10 lks. wide, course N.; ascend E. slope, 40 ft.
 17.60 Top of spur brs. N. 10° W. and S. 10° E. Descend over W. slope 129 ft.
 29.45 Dry ravine, 15 lks. wide, 5 ft. deep, course N. 60° W.; ascend NE. slope, 24 ft.
 33.30 Top of spur, N. 50° W. and S. 50° E.; descend SW. slope, 85 ft.
 40.20 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished 1/4 sec. cor., marked on brass cap,
 1/4 S. 28 in N., and
 S. 33, 1915 in S. half; from which,
 A pine, 16 ins. in diam., brs. N. 67 1/2° W., 40 lks. dist., marked 1/4 S. 28 B. T.
 A pine, 14 ins. in diam., brs. S. 4° W., 55 lks. dist., marked 1/4 S. 33 B. T.
 From this point, the unaccepted 1/4 sec. cor. set by Deputy Charles E. Perkins, under contract No. 40, brs. S. 68° 32' W., 7.18 chs. dist.

8. Partial Resurvey of the Subdivision lines of T.11 N., R.18 E.

Chains.

- I destroy all trace of this $\frac{1}{4}$ sec. cor., and the marks on the bearing trees to same.
- 49.90 Dry creek, 50 lks. wide, course north; ascend E. slope, 40 ft.
- 52.00 Top of steep ascent on W. side of creek; ascend gradually.
- 74.90 Top of spur, brs. N. and S. Descend W. slope 43 ft.
- 79.45 Center of dry ravine, course N. 10° W.; ascend 22 ft. to
- 80.40 Intersect the reestablished cor. of secs. 28, 29, 32 and 33, hereinbefore described.

Land, mountainous.

Soil, poor, stony clay loam, 3rd and 4th rate.

Timber, juniper, oak and pine.

Light growth bunch grass.

May 11, 1915.

RETRACEMENT.

May 5, 1915. At 6h. 58.1m. a.m., 1.m.t., I set off $34^{\circ}18\frac{1}{2}'$ N. on the lat. arc; $16^{\circ}04'N.$ on the decl. arc, and determine a meridian with the solar at the reestablished cor. of secs. 20, 21, 28 and 29, hereinafter described.

Thence,

South, on a random line, on N. $\frac{1}{2}$ bet. secs. 28 and 29.

- 40.00 Fall 10 lks. E. of the old $\frac{1}{4}$ sec. cor., which is an oak post, 4 ins. in diam., marked S on W. face, and witnessed as described by the Surveyor General.

True course and dist. of N. $\frac{1}{2}$ of line bet. secs. 28 and 29 is therefore N. $0^{\circ}9'E.$, 40.00 chs.

From above described $\frac{1}{4}$ sec. cor.,

South, on a random line, on S half, bet. secs. 28 and 29.

- 40.20 Fall 52 lks. E. of the old cor. of secs. 28, 29, 32 and 33, hereinbefore described.

True course and dist. of S. $\frac{1}{2}$ of line bet. secs. 28 and 29 is therefore N. $0^{\circ}44'E.$, 40.20 chs.

At 11h. 30m. a.m., a snow storm set in which continued the remainder of the day, rendering an observation for latitude impossible.

May 5, 1915.

May 11, 1915.

At reestablished cor. of secs. 28, 29, 32 and 33, hereinbefore described, I set off $17^{\circ}45'N.$ on the decl. arc, and at noon, apparent time, May 11, observe the sun on the meridian, and obtain a reading of $34^{\circ}18'N.$ on the lat. arc; which is a little higher than the latitude obtained on other days.

Thence,

N. $0^{\circ}44'E.$, on a true line, bet. secs. 28 and 29.

Descend NE. slope, 66 ft. over stony mountainous land, through heavy oak and pine timber.

- 3.40 Dry ravine, 6 lks. wide, course N. $40^{\circ}E.$; ascend 15 ft.
- 24.45 Top of spur, brs. E and W.; descend 80 ft.
- 40.20 Intersect the old $\frac{1}{4}$ sec. cor., hereinbefore described.

Thence,

N. $0^{\circ}09'E.$, on a true line, on N. $\frac{1}{2}$, bet. secs. 28 and 29. Over rolling land.

- 0.50 Dry ravine, 20 lks. wide, 10 ft. deep, course N. $20^{\circ}E.$
- 14.40 Dry ravine, 20 lks. wide, course N. $40^{\circ}E.$
- 40.00 Intersect the reestablished cor. of secs. 20, 21, 28 and 29, hereinafter described.

Land, rolling and mountainous.

Soil, sandy and stony, 2nd and 3rd rate.

Timber, oak, juniper and pine.

Mountainous land, 40.00 chs.

May 11, 1915.

RESURVEY.

April 26, 1915. After finishing testing the solar apparatus at my camp about 15 chs. east of the old $\frac{1}{4}$ sec. cor., bet. secs. 21 and 22, I proceed to the old cor. of secs. 21, 22, 27 and 28, which is a pine, 18 ins. in diam., marked as described by the surveyor general, from which,

A pine, 14 ins in diam., brs. N. $22^{\circ}E.$, 21 lks. dist.,

Partial Resurvey of Subdivision lines of T.11 N., R.18 E. 9.

chains.

which I mark T 11 N R 18 E S 22 B T.
Original bearing tree, a pine 12 ins. in diam.,
brs. S 62 1/2° E., 16 lks. dist., marked T 11 N
R 18 E S 27 B T.
A pine, 5 ins. in diam., brs. S 53° W., 61 lks.
dist., marked T 11 N R 18 E S 28 B T.
Original bearing tree, a pine 14 ins. in diam.,
brs. N. 56° 45' W., 31 lks. dist., marked T 11 N
R 18 E S 21 B T.

At 7h. 43m., a.m., l.m.t., I set off 34° 18 1/2' N. on the
lat. arc; 13° 18 1/2' N. on the decl. arc, and determine a
meridian with the solar at this cor.

Thence,
N. 89° 49' W., on a random line, bet. secs. 21 and 28.

40.15 I make diligent search for the old 1/4 sec. cor., which I am
unable to find; therefore, I set temp. 1/4 sec. cor., and
continue line and measurement.

79.68 Fall 32 lks. N. of the old cor. of secs. 20, 21, 28 and 29,
which is a post 3 ins. sq., 1 1/2 ft. above ground, greatly
decayed, with marks almost obliterated, witnessed by
two of the original bearings trees described in the
field notes furnished me by the surveyor general.

I destroy the old cor., and reestablish it in the same
place, as follows:

Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in
the ground for cor. of secs. 20, 21, 28 and 29, marked
on brass cap,

- T 11 N R 18 E in N., and
- 1915 in S half;
- S 20 in NW.,
- S 21 in NE.,
- S 28 in SE., and
- S 29 in SW. quadrant; from which

A pine, 32 ins. in diam., brs. N. 21 1/2° E., 143 lks.
dist., which I mark T 11 N R 18 E S 21 B T.

An oak, 12 ins. in diam., brs. S 73 1/2° E., 78 lks.
dist., which I mark T 11 N R 18 E S 28 B T.

Original bearing tree, a pine 24 ins. in diam.,
brs. S. 11° 45' W., 58 lks. dist., marked T 11 N
R 18 E S 29 B T.

The original bearing tree, an oak, 10 ins. in
diam., brs. N 40° 45' W., 86 lks. dist., marked
T 11 N R 18 E S 20 B T.

True course and dist. of line bet. secs. 21 and 28, result-
ing from the above falling is therefore S. 89° 57' W.,
79.68 chs.

April 26, 1915.

May 8, 1915. At 6h. 56.5m. a.m., l.m.t., I set off 34°
18 1/2' N. on the lat. arc; 16° 55' N. on the decl. arc, and
determine a meridian with the solar at the old cor. of
secs. 21, 22, 27 and 28, hereinbefore described.

Thence,
S. 89° 57' W., on a true line, bet. secs. 21 and 28.
Descend NW. slope, over rolling, mountainous land, 82 ft.
through heavy pine timber.

20.53 Center of creek, 10 lks. wide, water 6 ins. deep, course
north; ascend E. slope of ridge, 60 ft.

32.00 Top of ridge, brs. N. and S.; descend W. slope, 63 ft.

39.84 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in
the ground, for reestablished 1/4 sec. cor., marked on
brass cap,

- 1/4 S 21 in N., and
- S 28 1915 in S half; from which

A pine, 38 ins. in diam., brs. N. 53 1/2° W., 90 lks.
dist., marked 1/4 S 21 B T.

A pine, 30 ins. in diam., brs. S. 19 1/2° W., 96 lks.
dist., marked 1/4 S 28 B T.

41.80 Center of creek, 50 lks. wide, water, 4 ins. deep, course
N. 10° E.; ascend 20 ft.

43.00 Top of ascent on bank of creek, thence over rolling land,
slopes to the northeast.

53.50 Top of ascent on ridge, brs. N. and S.; descend W. slope, 34 ft.

10. Partial Resurvey of the Subdivision lines of T.11 N., R.18 E.

Chains

60.70 Creek, 10 lks.wide, 3 ft. deep, stream of clear cold water 3 ins.deep, course N.15° E., ascend gradually over E. slope, about 10 ft.

79.68 Intersect the reestablished cor. of secs.20,21,28 and 29, hereinbefore described.

Land, rolling mountains.
Soil, sandy and stony clay loam; 3rd and 4th rate.
Timber, pine and oak.
Good growth bunch grass.

May 8, 1915.

May 6, 1915. At 7h. 26.6m. a.m., l.m.t., I set off 34°17' N. on the lat.arc; 16°21½' N. on the decl.arc, and determine a meridian with the solar at the old cor.of secs.29, 30, 31 and 32, hereinafter described.

Thence,
South, on a random line, bet. secs.31 and 32.

40.00 I make diligent search for the old ¼ sec.cor., which I fail to find. Set temp. ¼ sec.cor., and continue line and measurement.

77.78 Intersect the random line, which I ran along south bdy. of Tp.May 3, 2.14 chs.S:89°51'W. of the temp.cor.of secs.5,6,31 and 32, described in Book "A."

80.00 I again make diligent search for the old cor.of secs.5, 6,31 and 32, but fail to find any trace of it.
True course and dist. of line bet. secs.31 and 32, based on the temp.sec.cor. is therefore N.1°35'W., 77.81 chs.
May 6, 1915.

May 12, 1915. At 7h. 56.3m. a.m., l.m.t., I set off 34° 16½' N. on the lat.arc; 17°58½' N. on the decl.arc, and determine a meridian with the solar at the cor.of secs. 5,6,31 and 32 on S.bdy.of Tp., which I reestablished May 10, 1915, as described in Book "A."

This cor.being reestablished at a point 7 lks.W. and 3.72 chs.S. of the above noted temp. sec.cor., the true course and dist.of line bet. secs.31 and 32 is therefore N.1°27'W., 81.52 chs.

N.1° 27'W., on a true line, bet. secs.31 and 32.
Descend N.slope, 43 ft. over stony, mountainous land, through heavy pine and juniper timber.

6.00 Dry ravine, 6 lks.wide, course west; ascend S.slope of the rim of the "Mogollon Mesa" 61 ft.

20.17 Intersect N.bdy.of the Fort Apache, Indian Reservation, 2.43 chs. N.76°08'W.of Angle point No.756, which is a pine, 12 ins. in diam., marked as described by the surveyor general.

At the point of intersection, set an iron post 3 ft.long, 2 ins. in diam., 24 ins. in the ground, for reestablished closing cor.of secs. 31 and 32, marked on brass cap,

C C N.of center,
T 11 N R 18 E in N., and
FAIR, 1915 in S.half;
S 31 in NW, and
S 32 in SE. sector.

From this point, the unaccepted closing cor.of secs.31 and 32, set by Deputy Charles E.Perkins, under contract No.40, brs.N.87°10'W., 10.29 chs.dist. I destroy all trace of this closing cor., and the marks on the bearing trees to the same.

20.25 Wire fence along N bdy.of the Indian Reservation bears N.75°W. and S.75°E.

20.50 Top of the "Mogollon Rim" bears N.75°W. and S 75°E.; descend NE.slope, 77 ft.

24.55 Dry ravine, 8 lks.wide, course N.40°E.; ascend 10 ft.

32.45 Top of spur, brs.N.10°E. and S.20°W.; descend NW slope, 100,ft.

40.76 Set an iron post 3 ft.long, 1 in. in diam., 26 ins. in the ground for reestablished ¼ sec.cor., marked on brass cap,

Partial Resurvey of the Subdivision lines of T 11 N R 18 E 11
Chains.

- $\frac{1}{2}$ S 31 in W.,
 $\frac{1}{2}$ S 32 in E., and
 1915 in S. half;
 no trees suitable for bearing trees within limits. Raise
 a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits
 impracticable.
- 44.45 Dry ravine, 15 lks. wide, course N. 40° W.; ascend 30 ft.
- 48.90 Top of spur, brs. E. and W.; descend 77 ft.
- 64.75 Same ravine, 20 lks. wide, course N. 20° E.; ascend over
rolling land.
- 81.52 Intersect the old cor. of secs. 29, 30, 31 and 32, hereinafter
described. This cor. being in a dilapidated condition, I destroy all trace of the old cor., and reestablish it in the same place as follows:
Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in
the ground, for cor. of secs. 29, 30, 31 and 32, marked
on brass cap,
 T 11 N R 18 E in N., and
 1915 in S. half,
 S 30 in NW.,
 S 29 in NE.,
 S 32 in SE., and
 S 31 in SW. quadrant; from which
 A pine, 26 ins. in diam., brs. N. $29\frac{1}{4}^{\circ}$ E., 152 lks.
 dist. marked T 11 N R 18 E S 29 B T.
 A pine, 14 ins. in diam., brs. S. $69^{\circ}45'$ E., 118
 lks. dist., marked T 11 N R 18 E S 32 B T.
 A pine, 24 ins. in diam., brs. S. 36° W., 36 lks.
 dist., marked T 11 N R 18 E S 31 B T.
 A pine, 28 ins. in diam., brs. N. $3\frac{1}{2}^{\circ}$ W., 85 lks.
 dist., marked T 11 N R 18 E S 30 B T.
- Land, mountainous, spurs with steep slopes, covered with
loose stone.
- Soil, stony clay loam, 3rd and 4th rate.
- Timber, oak, juniper and pine.
- Light growth bunch grass.

May 12, 1915.

- April 28, 1915. From old cor. of secs. 28, 29, 32 and 33,
hereinbefore described,
N. $89^{\circ}55'$ W., on a random line, bet. secs. 29 and 32.
- 40.26 Fall 147 lks. N. of the old $\frac{1}{4}$ sec. cor., which is a sand-
stone 18x14x10 ins., above ground, poorly set, marked
 $\frac{1}{4}$ on N. face, witnessed by one of the original bearing
trees described in the field notes furnished me by
the surveyor general.
True course and dist. of E. half of line bet. secs. 29 and 32
is therefore N. $88^{\circ}00'$ E., 40.28 chs.
From above described $\frac{1}{4}$ sec. cor.
N. $89^{\circ}55'$ W., on a random line, on W. $\frac{1}{2}$, bet. secs. 29 and 32.
- 40.48 Fall 99 lks. N. of the old cor. of secs. 29, 30, 31 and 32,
which is a sandstone 10x6x6 ins. above ground, loosely
set, marks nearly obliterated, from which one of the
original bearing trees, a dead pine brs. S. 32° E., 25
lks. dist., marked T 11 N R 18 E S 32 B T.
True course and dist. of W. $\frac{1}{2}$ of line bet. secs. 29 and 32
is therefore N. $88^{\circ}41'$ E., 40.49 chs.
April 28, 1915.
- May 12, 1915. From reestablished cor. of secs. 29, 30, 31
and 32, hereinbefore described,
N. $88^{\circ}41'$ E., on a true line on W. $\frac{1}{2}$, bet. secs. 29 and 32.
Descend E. slope, 17 ft., over stony, mountainous land,
through heavy pine timber.
- 3.00 Center of creek, 50 lks. wide, stream clear water, 4 ins.
deep, course N. 10° E.; ascend W. slope of spur, 172 ft.
- 27.60 Top of spur, brs. N. 10° E. and S. 10° W.; descend 76 ft. over
NE. slope.
- 40.49 Intersect the old $\frac{1}{4}$ sec. cor. hereinbefore described. I
destroy the old cor., and reestablish it in the same
place as follows:
Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in

12. Partial Resurvey of Subdivision lines of T.11 N., R.18 E.

Chains.

the ground for 1/4 sec.cor., marked on brass cap, 1/4 S 29 in N., and S 32, 1915 in S half; from which A pine, 24 ins. in diam., brs.N.9°W., 38 lks. dist., marked 1/4 S 29 B T. Original bearing tree, a juniper, 16 insl in diam., brs.S.9 1/2°E., 29 lks.dist., marked 1/4 S B T.

Thence, N.88°00'E., on a true line, on E-half, bet. secs.29 and 32.

Descend 18 ft., over SE.slope.

- 5.51 Dry ravine, 10 lks.wide, course N.15°E.; ascend 10 ft.
22.76 Top of spur, brs.N.and S.; descend E.slope, 93 ft.
40.28 Intersect the reestablished cor.of secs.28,29,32 and 33, hereinbefore described.

Land,mountainous, slopes to the north. Soil, stony clay loam, 2nd and 3rd rate. Timber, oak.juniper and pine. Clouds obscure the sun at noon today, rendering an obser- vation for latitude impossible. May 12, 1915.

May 6, 1915. From old cor.of secs.29,30,31 and 32, here- inbefore described,

- 39.86 S.89°46'W.,on a random line, bet. sec.30 and 31. Fall 156 lks.N. of the old 1/4 sec.cor.,which is a sandstone 12x8x6 ins. above ground, loosely set, marked 1/4 on N. face, witnessed by one of the original bearing trees described in the field notes furnished me by the sur- veyor general.

True course and dist. of E.half of line,bet.secs.30 and 31 is therefore N.87°32'E. 39.90 chs.

- 39.70 From above described 1/4 sec.cor., S.89°46'W., on a random line on W.1/2, bet. secs.30 and 31. Fall 174 lks.N. of the old cor.of secs.25,30,31 and 36 on W.bdy.of Tp., described in Book "A." True course and dist. of W.1/2 of line, bet. secs.30 and 31 is therefore N.87°15'E., 39.74 chs. May 6, 1915.

May 13,1915. At 10h.56.3m. a.m., 1.m.t., I set off 34° 17 1/2'N. on the lat.arc; 18°15'N. on the decl.arc, and determine a meridian with the solar at the cor.of secs. 25,30,31 and 36 on W'bdy.of Tp., reestablished by me, as described in Book "A."

Thence N.87°15'E., on a true line, bet. secs.30 and 31. Ascend SW.slope, 29 ft.over mountainous land,through heavy oak and pine timber.

- 6.10 Top of spur, brs.N.40°W. and S.40°E.; descend NE.slope 8 ft.
10.80 Dry ravine, 8 lks.wide, course N.10°W.; ascend 12 ft.
17.00 Top of spur, brs.N.30°W., and S.30°E.; descend 15 ft.
25.90 Dry ravine, 10 lks.wide, course N.10°W.; ascend 52 ft.
31.80 Top of spur, brs.N.20°W. and S.20°E.; descend 10 ft.
35.30 Dry ravine, 6 lks.wide, course N.20°W.; ascend 20 ft.
39.74 Intersect the old 1/4 sec.cor.,hereinbefore described; I destroy the old cor., and reestablish it in the same place as follows:

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 30 in N., and S 31, 1915 in S-half; from which, Original bearing tree, a pine 18 ins. in diam., brs.N.24°E., 35 lks.dist., marked 1/4 S B T. A pine, 10 ins. in diam., brs.S.8°E., 57 lks. dist., marked 1/4 S 31 B T.

Partial Resurvey of Subdivision lines of Township 11 N. R. 18 E. 13

Chains.

Thence,
 6.36 N. 87° 32' E. on a true line, on E $\frac{1}{4}$, bet. secs. 30 and 31.
 22.56 Top of spur, brs. North, and S. 20° E. Descend NE. slope 129 ft.
 Foot of descent in dry ravine, 15 lks. wide, course N. 20° E.
 Ascend 20 ft.
 29.86 Top of spur, brs. N. 20° E. and S. 20° W.; descend 15 ft. to
 39.90 Intersect the reestablished cor. of secs. 29, 30, 31 and 32,
 hereinbefore described.
 Land, mountainous, spurs with steep slopes covered with
 loose river boulders.
 Timber; oak, juniper and pine.
 Light growth bunch grass.

May 13, 1915.

April 26, 1915. From cor. of secs. 20, 21, 28 and 29, rees-
 tablished by me this day, as hereinbefore described,
 S. 89° 54' W. (original course) on a random line, bet. secs.
 20 and 29.
 40.055 (Orig. dist.) No trace of original $\frac{1}{4}$ sec. cor. can be found.
 Continue line and measurement.
 80.11 (Orig. dist.) No trace of original cor. of secs. 19, 20, 29
 and 30 can be found.
 Continue line and measurement, bet. secs. 19 and 30.
 120.11 (Orig. dist.) No trace of original $\frac{1}{4}$ sec. cor. can be found.
 Continue line and measurement.
 160.81 (Orig. dist.) No trace of original cor. of secs. 19, 24, 25 and
 30 can be found. Continue line and measurement.
 161.05 Fall 5.68 chs. N. of point formerly occupied by original cor.
 of secs. 19, 24, 25 and 30, which point I determine from
 the original SE. bearing tree which I find remaining,
 marked as described by the surveyor general. The other
 three bearing trees described in original notes are
 missing. Set temp. cor. at this point.
 True course and dist. of line back to reestablished cor.
 of secs. 20, 21, 28 and 29 is therefore N. 87° 53' E., 161.16
 chs.

From above described point for cor. of secs. 19, 24, 25 and
 30, on W. bdy. of Tp.,
 N. 87° 53' E. on trial line, bet. secs. 19 and 30, and bet. secs.
 20 and 29.
 40.79 (Proportional dist.) Set temp. $\frac{1}{4}$ sec. cor. of secs. 19 and 30.
 80.88 (Proportional dist.) Set temp. cor. of secs. 19, 20, 29 and 30.
 121.02 (Proportional dist.) Set temp. $\frac{1}{4}$ sec. cor. of secs. 20 and 29.
 161.16 Intersect reestablished cor. of secs. 20, 21, 28 and 29, here-
 inbefore described.

April 26, 1915.

May 6, 1915. From old cor. of secs. 29, 30, 31 and 32, herein-
 before described,
 North, on a random line, bet. secs. 29 and 30.
 40.00 No trace of original $\frac{1}{4}$ sec. cor. can be found. Continue
 line and measurement.
 80.00 No trace of original cor. of secs. 19, 20, 29 and 30 can be
 found after another diligent search.
 Continue random line and measurement, bet. secs. 19 and 20.
 120.00 No trace of original $\frac{1}{4}$ sec. cor. can be found.
 157.04 Fall 40 lks. E. of old cor. of secs. 17, 18, 19 and 20, herein-
 after described.
 True course and dist. of line back to old cor. of secs. 29,
 30, 31 and 32, is therefore S. 0° 9' E., 157.04 chs.

From old cor. of secs. 17, 18, 19 and 20,
 S. 0° 9' E., on trial line, bet. secs. 19 and 20, and bet. secs.
 29 and 30.

14. Partial Resurvey of Subdivision lines of T. 11 N. R. 18 E
Chains.

- 39.26 (Proportional dist.) Set temp. $\frac{1}{4}$ sec. cor. of secs. 19 and 20.
- 78.52 (Proportional dist.) Set temp. cor. of secs. 19, 20, 29 and 30.
Temp. cor. of same secs. set on trial E. and W. line, as here-
inbefore described is 1.10 chs. N. and 1.20 chs. E. of
this temp. sec. cor.
- 117.78 (Proportional dist.) Set temp. $\frac{1}{4}$ sec. cor. of secs. 29, and 30.
At this point, at apparent noon, I set off $16^{\circ} 24' N.$ on
the decl. arc; make observation of the sun on the mer.,
and obtain a lat. reading of $34^{\circ} 18'$.
- 157.04 Intersect old cor. of secs. 29, 30, 31 and 32.
May 6, 1915.

THE REESTABLISHMENT OF COR. OF SECS. 19, 20, 29 & 30.

May 8, 1915. At a point 1.10 chs. S. of temp. cor. of secs.
19, 20, 29 and 30, set on trial E. and W. line, and 1.20 chs.
E. of temp. cor. of same secs. set on trial N. and S. line,
I reestablish the missing cor. of said secs. as follows:
Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the
ground for cor. of secs. 19, 20, 29 and 30, marked on brass
cap,

- T 11 N R 18 E in N., and
1915 in S-half;
 - S 19 in NW.,
 - S 20 in NE.,
 - S 29 in SE., and
 - S 30 in SW. quadrant; from which,
 - A pine, 10 ins. in diam., brs. N. $41\frac{1}{2}^{\circ} E.$, 8 lks.
dist., marked T 11 N R 18 E S 20 B T.
 - A pine, 10 ins. in diam., brs. S. $45\frac{1}{2}^{\circ} E.$, 125 lks.
dist., marked T 11 N R 18 E S 29 B T.
 - A pine, 18 ins. in diam., brs. S. $14^{\circ} W.$, 46 lks.
dist., marked T 11 N R 18 E S 30 B T.
 - A pine, 12 ins. in diam., brs. N. $37^{\circ} 45' W.$, 25
lks. dist., marked T 11 N R 18 E S 19 B T.
- May 8, 1915.

May 14, 1915. At 7h. 56.3m. a.m., l.m.t., I set off 34°
 $18\frac{1}{2}' N.$ on the lat. arc; $18^{\circ} 29' N.$ on the decl. arc, and
determine a meridian with the solar at the reestab-
lished cor. of secs. 19, 20, 29 and 30, described above.

Thence,
S. $0^{\circ} 44' W.$, on a true line, bet. secs. 29 and 30.
Ascend gradually over NE. slope, 43 ft. over mountainous
land, through heavy juniper and pine timber.

- 27.00 Top of spur, brs. E.; descend 76 ft.
- 39.265 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in
the ground for reestablished $\frac{1}{4}$ sec. cor., marked on
brass cap,

- $\frac{1}{4}$ S 30 in W., and
S 29 in E., and
1915 in S-half; from which
- A pine, 12 ins. in diam., brs. S. $61\frac{1}{2}^{\circ} E.$, 56 lks.
dist., marked $\frac{1}{4}$ S 29 B T.
- A juniper 14 ins. in diam., brs. N. $66^{\circ} W.$, 53
lks. dist., marked $\frac{1}{4}$ S 30 B T.

Continue descent 36 ft.

- 56.45 Dry ravine, 10 lks. wide, course N. $20^{\circ} E.$; ascend 46 ft.
- 66.25 Top of spur brs. N. $10^{\circ} E.$ and S. $10^{\circ} W.$; descend 20 ft.
- 70.68 Dry ravine, 16 lks. wide, course N. $70^{\circ} E.$; ascend about 4
ft.
- 78.53 Intersect the reestablished cor. of secs. 29, 30, 31 and 32,
hereinbefore described.

Land, mountainous.
Soil, stony clay loam, 2nd and 3rd rate.
Timber, oak, cedar, juniper and pine.

May 14, 1915.

Partial Resurvey of Subdivision lines of T. 11 N. R. 18 E. 15.

Chains

May 8, 1915. From reestablished cor. of secs. 19, 20, 29 and 30, hereinbefore described, N. 87° 06' E., on a true line, bet. secs. 20 and 29. Descend NE. slope, 65 ft., through heavy pine and oak timber.

2.25 Dry ravine, 10 lks. wide, course N. 30° E.; ascend.

10.50 Top of ridge, brs. N. and S. Descend 57 ft.

33.60 Dry ravine, or wash "Bear Creek" 30 lks. wide, course N. 10° E.; ascend 55 ft.

40.145 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for reestablished $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S 20 in N., and
 $\frac{1}{4}$ S 29, 1915 in S. half; from which,
 A pine, 12 ins. in diam., brs. N. 15° E., 24 lks. dist., marked $\frac{1}{4}$ S 20 B T.
 A pine, 14 ins. in diam., brs. S. 68° W., 60 lks. dist., marked $\frac{1}{4}$ S 29 B T.
 This cor. is on top of ridge, brs. N. 30° E. and S. 30° W.; descend SE. slope 14 ft.

45.20 Old road to Bear Spring, brs. N. 30° E. and S. 30° W.

68.10 Dry ravine, 10 lks. wide, course N. 10° E., Ascend 14 ft. to sec. 29.

70.30 Top of ridge brs. N. 10° E. and S. 10° W.; descend 15 ft.

80.29 Intersect the reestablished cor. of secs. 20, 21, 28 and 29, hereinbefore described.
 Land rolling mountains.
 Soil, sandy and stony loam, 4 to 10 ins. deep, on stone and clay subsoil.
 Timber, oak, juniper and pine.

From reestablished cor. of secs. 19, 20, 29 and 30, hereinbefore described,
 S. 88° 40' W., on a true line, bet. secs. 19 and 30. Ascend NE. slope, 34 ft. over stony, mountainous land, through oak, juniper and pine timber.

15.00 Top of spur, brs. N. 40° W. and S. 40° E.; descend SW. slope, 189 ft.

32.60 Wire fence brs. N. and S.

38.30 Center of dry ravine 10 lks. wide, course N. 20° W.; ascend 10 ft.

40.08 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for reestablished $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S 19 in N., and
 $\frac{1}{4}$ S 30, 1915 in S. half; from which
 A pine, 12 ins. in diam., brs. N. 61 $\frac{1}{2}$ ° W., 46 lks. dist., marked $\frac{1}{4}$ S 19 B T.
 A pine, 30 ins. in diam., brs. S. 8 $\frac{1}{4}$ ° W., 41 lks. dist., marked $\frac{1}{4}$ S 30 B T.
 From this cor., a forest ranger station brs. N. 10° E. about 20.00 chs. dist.
 Descend W. slope, 23 ft.

50.00 Foot of descent; leave stony, mountainous land, brs. N. and S.; enter rolling, sandy land.

70.85 Wire fence brs. N. and S.; enter heavy pine timber, brs. N. and S.

80.71 Dry ravine, 15 lks. wide, banks 2 ft. high, course N. 10° W.

80.87 Intersect the reestablished point for cor. of secs. 19, 24, 28 and 30 on W. bdy. of Tp., hereinbefore described.
 Land, rolling and mountainous.
 Soil, E. 50 chs., poor, dry stony clay loam, 3 to 10 ins. deep on clay subsoil, and decomposed sand stone. W. 30 chs. rich, black sandy loam about 14 ins. deep, on damp clay subsoil.
 Timber, oak, juniper and pine.
 Mountainous land, 50.00 chs.

May 8, 1915.

16. Partial Resurvey of Subdivision lines of T 11 N. R 18 E

Chains.

- May 14, 1915. From reestablished cor. of secs. 19, 20, 29 and 30, hereinbefore described,
 N. $1^{\circ}02'$ W. on a true line, bet. secs. 19 and 20.
 Descend NW. slope 16 ft. over stony mountainous land, through oak, juniper, and pine timber.
- 2.76 Dry ravine, 6 lks. wide, course N. 40° E., ascend SE. slope, 25 ft.
- 5.56 Top of spur, brs. N. 60° E. and S. 60° W.; descend 33 ft. over NW. slope.
- 8.16 Dry ravine, 10 lks. wide, course east; ascend S. slope, 88 ft.
- 13.86 Top of spur, brs. N. 70° E. and S. 70° W.; descend 32 ft.
- 21.56 Dry ravine, 6 lks. wide, course N. 40° E.; ascend SE. slope, 19 ft.
- 29.25 Top of spur, brs. E and W.; descend 20 ft.
- 39.265 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for reestablished $\frac{1}{4}$ sec. cor., marked on brass cap,
 $\frac{1}{4}$ S 19 in W., and
 S 20 in E. and
 1915 in S. half; from which
 A pine, 12 ins. in diam., brs. S. 80° E., 33 lks. dist., marked $\frac{1}{4}$ S 20 B T.
 A juniper 24 ins. in diam., brs. S. 62° W., 24 lks. dist., marked $\frac{1}{4}$ S 19 B T.
- Continue descent over NE. slope, 34 ft.
- 56.75 Dry ravine, 5 lks. wide, course N. 40° W.; ascend SW. slope, 10 ft.
- 69.32 Top of ascent on W. slope of spur, brs. east; descend about 10 ft. to
- 78.53 Intersect the old cor. of secs. 17, 18, 19 and 20, hereinbefore described. I destroy the old cor., and reestablish it in the same place, as follows:
 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 17, 18, 19 and 20, marked on brass cap,
 T 11 N, R 18 E in N., and
 1915 in S. half;
 S 18 in NW.,
 S 17 in NE.,
 S 20 in SE., and
 S 19 in SW. quadrant; from which,
 A pine, 24 ins. in diam., brs. N. 53° E., 138 lks. dist., which I mark T 11 N R 18 E S 17 B T.
 A pine, 30 ins. brs. S. $49^{\circ}45'$ E., 80 lks. dist., which I mark T 11 N R 18 E S 20 B T.
 A pine, 10 ins. in diam., brs. S. $40^{\circ}45'$ W., 102 lks. dist., which I mark T 11 N R 18 E S 19 B T.
 Original bearing tree, a pine 48 ins. in diam. brs. N. 41° W., 20 lks. dist., marked T 11 N, R 18 E S 18 B T.
- At this cor., I set off $18^{\circ}30^{\frac{1}{2}}'$ N. on the decl. arc, and at noon, apparent time May 14, 1915, observe the sun on the meridian, and obtain a reading of $34^{\circ}19'$ N. on the lat. arc.
- Land, mountainous.
 Soil, stony, 2nd and 3rd rate.
 Timber, oak, juniper and pine.
- May 14, 1915.

RETRACEMENT.

- April 26, 1915. From old cor. of secs. 17, 18, 19 and 20, hereinafter described,
 S. $89^{\circ}53'$ E. (Original course), on a random line, bet. secs. 17 and 20.
 Ascend W. slope of spur, 81 ft. over stony, mountainous land, through heavy pine and juniper timber.
- 10.20 Top of spur, brs. NW. and SE.; descend 13 ft.
- 11.00 Dry ravine, 6 lks. wide, course N. 40° W.; ascend 50 ft.
- 18.85 Top of spur, brs. N. 10° W. and S. 10° E.; descend 46 ft.

Partial Resurvey of Subdivision lines of T. 11 N. R. 18 E. 17

- Chains.
- 22.50 Dry ravine, 5 lks. wide, course S.40°E.; ascend 23 ft.
 - 37.00 Top of spur, brs. NW. and SE.; descend over NE. slope, 52 ft.
 - 40.07 Fall 27 lks. S. of the old $\frac{1}{4}$ sec. cor., which is an oak post 3 ins. in diam., marked $\frac{1}{4}$ S on N. face, with remains of two pits and mound of earth around post. True course and dist. of W. $\frac{1}{2}$ of line, bet. secs. 17 and 20 is therefore S.89°44'W., 40.07 chs. From old $\frac{1}{4}$ sec. cor., S.89°53'E. (Original course), on a random line on E. $\frac{1}{2}$, bet. secs. 17 and 20. Continue descent over NE. slope, 70 ft.
 - 4.33 Dry ravine, 6 lks. wide, course S.10°E.; ascend 106 ft. over SW. slope of spur.
 - 18.13 Top of spur, brs. N.10°W. and S.10°E.; descend 106 ft.
 - 30.23 Dry ravine, 10 lks. wide, course S.10°E.; ascend SW. slope 8 ft.
 - 32.05 Top of spur, brs. NW. and SE.; descend 34 ft.
 - 41.42 Ball 562 lks. S. of the old cor. of secs. 16, 17, 20 and 21, which is a sandstone 16x10x6 ins. above ground, firmly set, marked and witnessed as described by the surveyor general. True course and dist. of E. $\frac{1}{2}$ of line bet. secs. 17 and 20, is therefore S.82°23'W., 41.79 chs. April 26, 1915.

RESURVEY.

- April 26, 1915. From reestablished cor. of secs. 13, 18, 19 and 24 on W. bdy. of Tp., described in Book "A." S.89°55'E. (Original course) on random line, bet. secs. 18 and 19.
- 40.14 Fall 42 lks. S. of the old $\frac{1}{4}$ sec. cor., which is a sandstone 10x8x6 ins., loosely set in a mound of stone, marked $\frac{1}{4}$ on N. face, witnessed by two bearing trees, as described in the field notes furnished me by the surveyor general. True course and dist. of W. $\frac{1}{2}$ of line, bet. secs. 18 and 19 is therefore S.89°29'W., 40.14 chs. From above described $\frac{1}{4}$ sec. cor., S.89°55'E. (orig. course) on random line, on E. $\frac{1}{2}$ of line, bet. secs. 18 and 19.
- 40.05 Fall 14 lks. N. of old cor. of secs. 17, 18, 19 & 20, which is a soft sandstone 14x10x3 ins., loosely set in md. of stone witnessed by one of orig. bearing trees, described in field notes furnished by surveyor general. True course & dist. of E. $\frac{1}{2}$ of line, bet. secs. 18 & 19 is therefore N.89°43'W., 40.05 chs. April 26, 1915.
- May 14, 1915. From reestab. cor. of secs. 17, 18, 19 & 20 hereinbefore desc. N.89°43'W., on a true line on E. half, bet. secs. 18 and 19. Descend SW. slope, over stony, mountainous land, 15 ft., through heavy pine timber.
- 9.60 Dry bed of creek, 15 lks. wide, banks 5 ft. high, course N. 60°W.; thence over rolling land, with very little change in elevation.
- 14.20 Dry creek bed, 10 lks. wide, banks 3 ft. high, course N.10° E.; ascend SE. slope of spur, 63 ft.
- 28.05 Top of spur, brs. N.10°E. and S.10°W.; descend 80 ft.
- 40.05 Intersect the old $\frac{1}{4}$ sec. cor., hereinbefore described; I destroy all trace of this cor., and reestablish it in the same place as follows:
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, 1915 in S half; from which Original bearing tree, a pine 28 ins. in diam., brs. N.61°E., 295 lks. dist., marked S B T. I destroy the marks on this tree, which is dead. A pine, 24 ins. in diam., brs. N.4°45'E., 120 lks. dist., marked $\frac{1}{4}$ S 18 B T. Original bearing tree, a pine 24 ins. in diam., brs. S.1°30'E., 86 lks. dist., marked $\frac{1}{4}$ S B T.
- Thence, S.89°29'W., on a true line, on W. $\frac{1}{2}$ of line, bet. secs. 18 and 19.

18. Resurvey of Subdivision lines of T.11 N., R.18 E.

Chains

- 7.34 Continue descent over SW. slope.
Telephone line from Forest ranger station to Pinedale,
Arizona, brs. N.10°E. and S.10°W.
- 8.95 Road to Ranger station, brs. N. and S
- 13.19 Center of dry bed of creek, 50 lks. wide, course N.10°E.;
ascend SE. slope, 10 ft.
- 19.45 Road from Phoenix Park to Pinedale, Arizona, brs. N.40°E., and
S.40°W.
- 25.15 Point of spur, brs. N. and S.; descend S. slope 10 ft.
- 35.05 Dry bed of creek, 20 lks. wide, course N.40°E.; ascend 8 ft.
- 40.14 Intersect reestablished cor. of secs. 13, 18, 19 and 24 on W.
bdy. of Tp., described in Book "A."
- Soil, sandy and stony loam, 4 to 10 ins. deep, on stony
clay subsoil.
- Land, rolling and mountainous.
Timber, juniper, oak and pine.
Good growth bunch grass.

May 14, 1915.

GENERAL DESCRIPTION.

That portion of this township which I resurveyed, is of a rough, mountainous character, and the soil is mostly a stony, clay loam on stony clay subsoil, in secs. 19 and 20; however, there is some very good agricultural land, the soil of which is a rich black sandy loam, capable of producing good crops with the average rainfall in this section of the country.

The township is covered with a heavy growth of oak, pine and juniper timber, many of the trees being suitable for lumbering purposes.

Outcroppings of coal veins were found in the ravines near the center of sec. 29.

The township is poorly watered.

There is one settler residing at the Forest ranger station in sec. 19.

Boundaries of Resurveyed portion of Township 11 N., R. 18 E.,
(secs. 19, 28, 29, 30, 31, 32, 33 and 34).
Latitudes, departures and closing errors.

Line designated.	Course.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
South bdy.,	N. 89° 49' W.	40.00	.13			40.00
	N. 89° 52' W.	39.58	.09			39.58
	S. 88° 31' W.	241.34		6.25		241.26
West bdy.	N. 0° 17' W.	79.92	79.92			.39
	N. 0° 3' W.	40.09	40.09			.04
	N. 0° 3' E.	40.12	40.12			.04
	N. 0° 8' W.	40.01	40.01			.09
	N. 0° 50' W.	40.28	40.28			.58
Subdivisional bdy.	N. 89° 29' E.	40.14	.36		40.14	
	S. 89° 43' E.	40.05		.20	40.05	
	S. 1° 2' E.	78.53		78.52	1.41	
	N. 87° 6' E.	80.29	4.06		80.18	
	N. 89° 57' E.	79.68	.07		79.68	
	S. 0° 11' W.	39.90		39.90		.13
	S. 0° 24' E.	40.32		40.32	.28	
	S. 89° 3' E.	80.52		1.33	80.51	
S. 0° 7' W.	78.98		78.98		.16	
Convergency,					.10	
Totals,			245.13	245.50	322.39	322.23
Error in latitude,			245.13	245.13	322.23	
Error in departure,				0.37		0.16

CERTIFICATE
 For ~~FINAL OATH~~ OF UNITED STATES SURVEYOR.
 See Book "D" of this Group.

I, _____, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for _____ bearing date of the _____ day of _____, 191____, I have well, faithfully, and truly, in my own proper person, 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 _____ of the _____ Meridian, in the State of _____, which are represented in the foregoing field notes as having been executed by me, and under my direction; and I 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 _____ and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

 U. S. Surveyor.

Subscribed by said _____, and sworn to before me }
 this _____ day of _____, 191____



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, Sept. 19____, 191____.

The foregoing field notes of the ~~retracement and resurvey~~ of part of the _____

Subdivision Lines of _____

TOWNSHIP 11 NORTH, RANGE 18 EAST,

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

executed by Sidney E. Blout, U. S. Surveyor,

under his special instructions dated December 16, 1914, for Group 40, _____, having been

critically examined, and the necessary corrections and explanations made, the said field notes, and the ~~retracements and re-surveys~~ they describe, are hereby approved.

Frank O. Frost

U. S. Surveyor General.

~~I certify that the foregoing transcript of the field notes of the above described surveys in _____~~

~~Book "E" of Group 40, has been correctly copied from the original notes on file in this office.~~