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BOOK 2978

Book "B"
(Indian Reservation Boundary)

FIELD NOTES

Retracement of the

NORTH BOUNDARY

of the

Fort Apache Indian Reservation,

within the following townships:

Township 11 North, Range 18 East,

Townships 10 North, Ranges 18, 19, 20 and 21 E.,

and

Townships 9 North, Ranges 21, 22, 24, and 25 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 Dec. 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 commenced May 7, 1915.

Retracement completed September 4, 1915.

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INDEX DIAGRAM.

Township Range

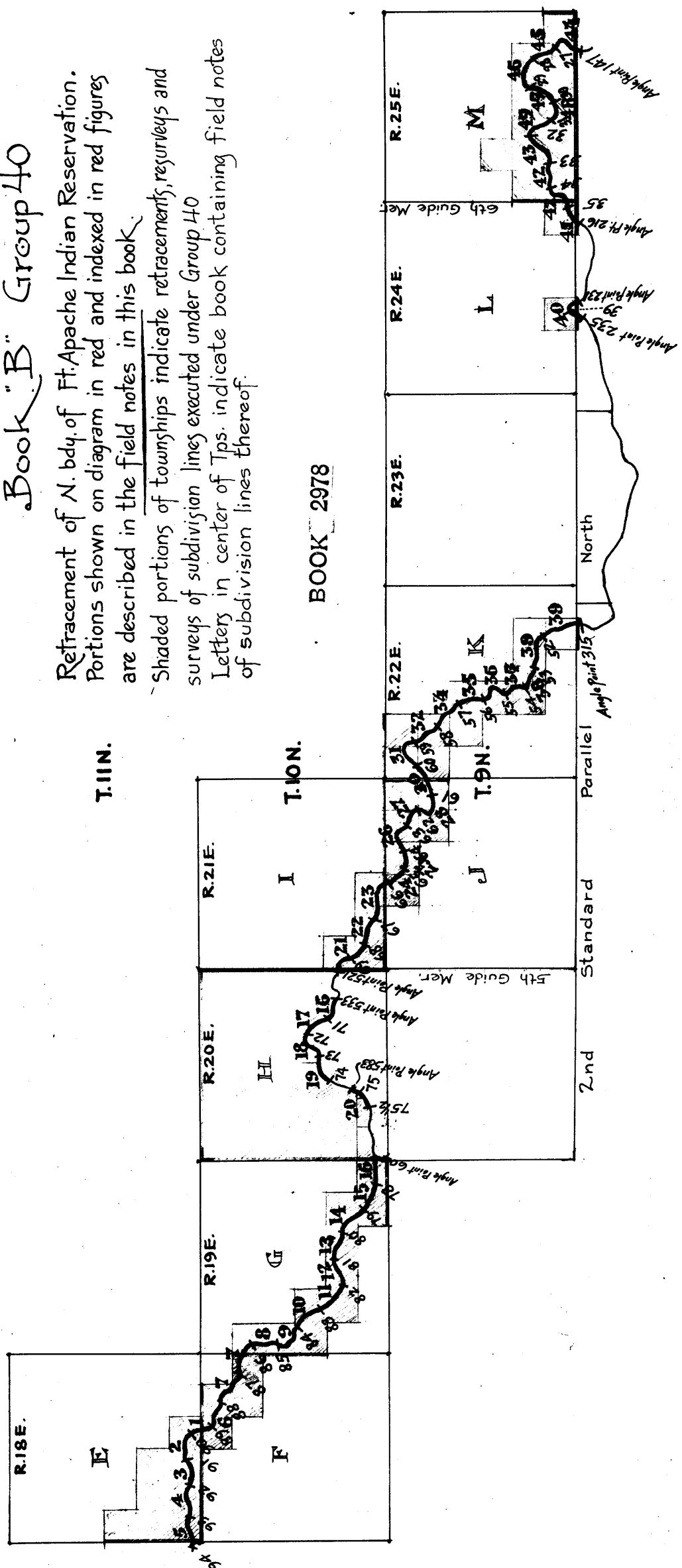
6	5	4	3	2	1
7	8	9	10	11	12
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INDEX-DIAGRAM

Book "B" Group 40

Retracement of N. bdy. of Ft. Apache Indian Reservation.
 Portions shown on diagram in red and indexed in red figures
 are described in the field notes in this book.

Shaded portions of townships indicate retracements, resurveys and
 surveys of subdivision lines executed under Group 40
 Letters in center of Tps. indicate book containing field notes
 of subdivision lines thereof.



— Notes in book "A" 2977

— Notes in book "C" 2979

BOOK 2978

(1915)

Retracement of part of N. bdy. of Fort Apache Indian Reservation.

13

Chains.

Retracement commenced May 7, 1915, and executed with a Young and Sons' light mountain transit No. 10, described in Book "A."

I examine the adjustments of the transit, and finding them to be correct, I know from recent tests of 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 that the instrument is in satisfactory adjustment.

A 5 chain steel tape and clinometer are the instruments employed to determine all distances measured in this survey.

90TH. MILE.

I begin at the 89-mile mon. situated in NE. $\frac{1}{4}$ of sec. 3 of T. 10 N., R. 18 E., which is a granite stone 12x5x6 ins. above ground, firmly set, marked and witnessed, as described by the surveyor general; latitude, $34^{\circ}16'N.$; longitude, $110^{\circ}25'W.$

May 7, 1915. At 4h. 26 $\frac{1}{2}$ m., p.m., l.m.t., I set off $34^{\circ}16'N.$ on the lat. arc; $16^{\circ}44\frac{1}{2}'N.$ on the decl. arc, and determine a meridian with the solar at this cor.

Thence

In sec. 3, T. 10 N., R. 18 E.
S. $66^{\circ}58'W.$

Over stony, mountainous land, along the "Rim of the Mogolon Mesa," through heavy juniper and pine timber.

10.07 Intersect Angle point No. 714, which is a pine, 18 ins. in diam., marked as described by the surveyor general.

Thence,

N. $86^{\circ}14'W.$

6.18 Intersect Angle point No. 715, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence,

N. $72^{\circ}33'W.$

4.62 Intersect Angle point No. 716, which is a pine, 14 ins. in diam., marked as described by the surveyor general.

Thence,

N. $30^{\circ}30'W.$

5.95 Intersect Angle point No. 717, which is a pine, 20 ins. in diam., marked as described by the surveyor general.

Thence,

N. $2^{\circ}02'E.$

7.75 Intersect Angle point No. 718, which is a pine 16 ins. in diam., marked as described by the surveyor general.

Thence

N. $40^{\circ}05'W.$

6.70 Intersect the 89 $\frac{1}{2}$ mile mon., which is a granite stone 6x5x4 ins. above ground, marked and witnessed as described by the surveyor general.

Thence,

N. $39^{\circ}22'W.$

8.08 Intersect Angle point No. 720, which is an oak, 10 ins. in diam., marked as described by the surveyor general.

Thence,

N. $7^{\circ}E.$

6.84 Intersect Angle point No. 721, which is a pine, 12 ins. in diam., marked as described by the surveyor general.

Thence

N. $39^{\circ}23'W.$

1.00 Intersect the reestablished closing cor. of Ts. 10 and 11 N., R. 18 E., described in Book "A."

Thence

In sec. 34, T. 11 N., R. 18 E.

Continuing measurement from Angle point No. 721.

5.20 Intersect Angle point No. 722, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence

N. $25^{\circ}16'W.$

3.88 Intersect Angle point No. 723, which is a pine 14 ins. in diam., marked as described by the surveyor general.

Thence,

N. $1^{\circ}22'E.$

2. Retracement of part of N.bdy. of Fort Apache Indian Reservation.

Chains.	
6.30	Intersect Angle point No.724, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence, N.29°12'W.
10.78	Intersect the 90 mile mon., which is a sandstone 6x6x5 ins., above ground, marked and witnessed, as described by the surveyor general. Land, rolling mountains. Soil, poor, dry, stony clay loam, 3rd rate. Timber, oak, juniper and pine.
----- 91ST. MILE. -----	
	From 90 mile mon, N. 33°35'W.
	Over rolling, stony, mountainous land, along the Rim of the "Mogollon Mesa," through heavy pine and juniper timber and brush.
1.08	Intersect Angle point No.726, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, N.41°46'W.
5.10	Intersect Angle point No.727, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence, N.21°13'W.
10.94	Intersect Angle point No 728, which is a dead pine, 12 ins. in diam., marked and witnessed as described by the surveyor general. Thence, S.87°58'W.
7.48	Intersect Angle point No.729, which is a juniper, 12 ins. in diam., marked as described by the surveyor general. Thence N.74°45'W.
1.94	Intersect Angle point No.730, which is a pine, 10 ins. in diam., marked as described by the surveyor general. Thence, S.75°20'W.
1.25	Wire fence along N. bdy. of the Indian Reservation, brs. N. 85°W. and S 85°E.
6.68	Intersect the reestablished closing cor. of secs.33 and 34, described in Book "E." Thence In sec.33, T.11 N., R.18 E.
14.78	Continuing measurement from Angle point No.730. Intersect the 90½ mile mon., which is a quartz stone 6x6x6 ins., above ground, marked and witnessed, as described by the surveyor general. May 7, 1915. May 11, 1915. At 3h. 26.3m. p.m., l.m.t., I set off 34° 16½'N. on the lat. arc; 17°47½'N. on the decl. arc, and determine a meridian with the solar. Thence N.61°10'W.
3.79	Intersect Angle point No.732, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence N.76° 10'W.
7.24	Intersect Angle point No.733, which is a juniper 24 ins. in diam., marked as described by the surveyor general. Thence, S.42°36'W.,
7.85	Intersect Angle point No.734, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence, N.89°10'W.
8.71	Intersect Angle point No.735, which is a quartz stone 18x6x6 ins., above ground, marked and witnessed as described by the surveyor general. Thence S.38°02'W.
5.55	Intersect Angle point No.736, which is a pine, 24 ins. in

Retr. of part of N. bdy. of Fort Apache Indian Reservation. 3.

- Chains.
- diam., marked as described by the surveyor general.
Thence
 - 8.93 S.19°45' E.
Intersect the 91 mile mon., which is a sandstone 12x8x6 ins. above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, poor, dry stony clay loam on dry clay subsoil.
Timber, oak, juniper and pine.
 -
 - 92ND. MILE.
 - From 91st mile mon.,
S.48°42' W.
 - 4.40 Along top of the "Mogollon Rim" over stony, mountainous land, through oak, juniper, and pine timber and brush.
Intersect Angle point No.738, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
 - 7.30 S.51°21' W.
Intersect Angle point No.739, which is a dead pine, 12 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
 - 8.27 S.52°48' W.
Intersect Angle point No.740, which is a pine, 8 ins. in diam., marked as described by the surveyor general.
Thence
 - 9.26 S.73°47' W.
Intersect Angle point No.741, which is a sandstone 10x6x6 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
 - 3.46 S.57°56' W.
Intersect Angle point No.742, which is a pine 8 ins. in diam., marked as described by the surveyor general.
Thence
 - 4.15 S.71°30' W.
Intersect Angle point No.743, which is a pine, 18 ins. in diam., marked as described by the surveyor general.
Thence
 - 4.66 N.67°53' W.
Intersect the 91½ mile mon., which is a sandstone 12x6x6 ins. above ground, marked and witnessed as described by the surveyor general.
Thence,
 - 10.28 N.54°06' W.
Intersect Angle point No.745, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence,
 - 3.10 N.84°34' W.
Intersect the reestablished closing cor. of secs. 32 and 33, described in Book "E."
Thence
 - In sec. 32, T.11 N., R.18 E.
Continuing measurement from Angle Point No.745.
 - 9.90 Intersect Angle point No.746, which is a dead pine 14 ins. in diam., marked and witnessed as described by the surveyor general.
 - May 11, 1915.
May 12, 1915. At 2h.11.3m. p.m., 1.m.t., I set off 34° 16½' N. on the lat. arc; 17°02¼' N. on the decl. arc, and determine a meridian with the solar at this cor.
Thence I run,
 - 10.63 N.68°10' W.
Intersect Angle point No.747, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence,
 - N.47°15' W.

4. Retracement of part of N. bdy. of Fort Apache Indian Reservation

Chains.

- 7.46 Intersect Angle point No. 748, which is a granite stone 14x6x6 ins. above ground, marked and witnessed as described by the surveyor general.
Thence,
N. 40° 50' W.
- 2.98 Intersect the 92 mile mon., which is a granite stone 6x5x4 ins. above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, poor dry, stony clay loam, 8 ins. deep on dry clay subsoil.
Timber, oak, juniper and pine.
- 93RD. MILE.

- From 92 mile mon.:
N. 64° 55' W.
- Over stony, mountainous land, along rim of the "Mogollon Mesa," through heavy oak, juniper and pine timber and brush.
- 6.75 Wire fence along N. bdy. of Indian Reservation, brs. E. and W.
- 11.25 Intersect Angle point No. 750, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence,
N. 75° 44' W.
- 9.36 Intersect Angle point No. 751, which is a pine, 13 ins. in diam., marked as described by the surveyor general.
Thence,
N. 88° 01' W.
- 9.35 Intersect Angle point No. 751, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
S. 38° 17' W.
- 11.50 Intersect the 92½ mile mon., which is a quartz stone 10x6x5 ins., above ground, marked and witnessed as described by the surveyor general.
Thence
N. 87° 40' W.
- 6.27 Intersect Angle point No. 754, which is a pine 17 ins. in diam., marked as described by the surveyor general.
Thence,
S. 82° W.
- 6.21 Intersect Angle point No. 755, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
S. 62° 11' W.
- 6.51 Intersect Angle point No. 756, which is a pine 12 ins. in diam., marked as described by the surveyor general.
Thence
N. 76° 08' W.
- 2.43 Intersect the reestablished closing cor. of secs. 31 and 32, described in Book "E."
Thence
In sec. 31, T. 11 N. R. 18 E.
Continuing measurement from Angle point No. 756.
- 7.90 Intersect Angle point No. 757, which is a pine 16 ins. in diam., marked as described by the surveyor general.
May 12, 1915.
May 13, 1915. At 9h. 11¼m. a.m., l.m.t., I set off 34° 16½' N. on the lat. arc; 18° 14¼' N. on the decl. arc, and determine a meridian with the solar at this cor.
Thence
S. 80° 52' W.
- 9.31 Intersect Angle point No. 758, which is a pine 8 ins. in diam., marked as described by the surveyor general.
Thence
N. 68° 30' W.
- 2.66 Intersect Angle point No. 759, which is an oak 4 ins. in diam., marked and witnessed as described by the surveyor general.

Chains,

Thence

N.72°47'W.

2.28 Intersect the 93 mile mon., which is a sandstone 10x6x5 ins. above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, poor, dry; stony clay loam, 8 ins. deep on dry stony clay subsoil.

Timber, oak, juniper and pine.

94TH. MILE.

N.77°37'W.

Over stony, mountainous land,, along top of rim of the "Mogollon Mesa," through heavy oak, juniper, and pine timber.

5.16 Intersect Angle point No.760, which is a pine 24 ins. in diam., marked as described by the surveyor general.

Thence

N.37°39'W.

4.67 Intersect Angle point No.761, which is a pine 12 ins. in diam., marked as described by the surveyor general.

Thence

N.77°25'W.

9.35 Intersect Angle point No.762, which is a pine 16 ins in diam., marked as described by the surveyor general.

Thence

S.82°55'W.

6.13 Intersect Angle point No.763, which is a dead pine 24 ins. in diam., marked and witnessed as described by the surveyor general.

Thence

S.51°30'W.

6.90 Intersect Angle point No.764, which is a pine, 18 ins. in diam., marked as described by the surveyor general.

Thence

S.43°41'W.

8.70 Intersect the 93 1/2 mile mon., which is a granite stone 10x6x5 ins. above ground, marked and witnessed as described by the surveyor general.

Thence

S.44°12'W.

7.35 Intersect Angle point No.765, which is a pine, 15 ins. in diam., marked as described by the surveyor general.

Thence

S.70°16'W.

9.20 Intersect Anglepoint No.766, which is a pine 4 ins. in diam., marked as described by the Surveyor General. 14 ins. in diam., marked as described by the surveyor general.

Thence

N.78°32'W.

13.07 Intersect A/P.No.767, which is a pine 14 ins. in diam., mkd. as described by surveyor general. Thence N.84°26'W.

.51 Intersect the reestablished closing cor. of Ts.11 N.,Rs. 17 and 18 E., described in Book "A."

Thence

In sec.36, T.11 N.,R.17 E.

Continuing measurement from Angle point No.767.

11.73 Intersect the 94 mile mon., which is a granite stone, 12x5x5 ins., above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, poor, dry stony clay loam, about 8 ins. deep on dry, stony clay subsoil.

Timber, oak, juniper and pine.

May 13, 1915.

6. Retracement of part of N. bdy. of Fort Apache Indian Reservation.
Chains.

89TH. MILE.

- May 22, 1915. At 2h. 56 $\frac{1}{2}$ m. p.m., l.m.t., I set off 34°16' N. on the lat. arc; 20°19' N. on the decl. arc, and determine a meridian with the solar at the 89 mile mon. hereinbefore described.
- Thence
In sec. 3, T. 10 N., R. 18 E.
S. 68°48' E.
- Along top of rim of the "Mogollon Mesa" over stony, mountainous land, through heavy oak, juniper and pine timber and brush undergrowth.
- 1.10 Intersect Angle point No. 712, which is a pine, 15 ins. in diam., marked as described by the surveyor general.
Thence
S. 44°30' E.
- 7.48 Intersect Angle point No. 711, which is a pine, 10 ins. in diam., marked as described by the surveyor general.
Thence
S. 75°50' E.
- 6.14 Intersect Angle point No. 710, which is a juniper, 24 ins. in diam., marked as described by the surveyor general.
Thence,
S. 44° E.
- 3.22 Intersect the reestablished closing cor. of secs. 2 and 3 described in Book "F."
Thence
In sec. 2 T. 10 N., R. 18 E.
- 7.92 Continuing measurement from Angle Point No. 710.
Intersect Angle point No. 709, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence
N. 82°18' E.
- 7.72 Intersect Angle Point No. 708, which is a pine 15 ins. in diam., marked as described by the surveyor general.
Thence,
S. 15°03' E.
- 11.06 Intersect the 88 $\frac{1}{2}$ mile mon., which is a sandstone 6x6x10 ins., above ground, marked and witnessed as described by the surveyor general.
Thence,
S. 28° 32' E.
- 7.90 Intersect Angle point No. 706, which is a pine, 16 ins. in diam., marked as described by the surveyor general.
Thence,
S. 68° E.
- 11.66 Intersect Angle point No. 705, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence
S. 86°50' E.
- 8.25 Intersect Angle point No. 704, which is a dead and fallen pine, 10 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
N. 75°50' E.
- 6.54 Intersect Angle point No. 703, which is a pine, 15 ins. in diam., marked as described by the surveyor general.
Thence
N. 83° 23' E.
- 5.60 Wire fence along N. bdy. of Indian Reservation, brs. E. and W.
- 6.56 Intersect Angle point No. 702, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence,
S. 88° 45' E.
- .46 Intersect the 88 mile mon., which is a quartz stone, 12x10x6 ins. above ground, marked and witnessed as described by the surveyor general.
Land, rolling mountains.
Soil, poor, dry, stony clay loam, about 6 ins. deep, on stony clay subsoil.
Timber, oak, juniper and pine.

Retracement of part of N. bdy. of Fort Apache Indian Reservation. 7.
Chains.

88TH. MILE.

From 88 mile mon;

S. 88° 45' E.

Along the rim of the "Mogollon Mesa" over stony, mountainous land, through heavy oak, juniper, and pine timber and brush.

14.00 Intersect Angle point No. 701, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence

S. 76° 25' E.

4.40 Intersect the angle point No. 700, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence,

S. 39° 25' E.

9.66 Intersect Angle point No. 699, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence,

S. 1° 00' W.

10.45 Intersect Angle point No. 698, which is a dead pine, 15 ins. in diam., marked and witnessed as described by the surveyor general.
Thence

S. 58° 20' E.

.68 Intersect the reestablished closing cor. of secs. 2 and 11, described in Book "F."
Thence,

In sec. 11, T. 10 N., R. 18 E.

Continuing measurement from Angle Point No. 698.

3.05 Intersect the 87 1/2 mile mon., which is a granite stone 10x8x6 ins., above ground, marked and witnessed, as described by the surveyor general.
Thence,

S. 58° 33' E.

4.76 Intersect the reestablished closing cor. of secs. 11 and 12, described in Book "F."
Thence

In sec. 12, T. 10 N., R. 18 E.

Continuing measurement from 87 1/2 mile mon.

11.00 Intersect Angle point No. 697, which is a pine 12 ins. in diam., marked as described by the surveyor general.
Thence,

S. 32° 00' E.

12.04 Intersect Angle point No. 696, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence

N. 72° 44' E.

14.74 Intersect Angle point No. 695, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence

N. 84° 35' E.

3.31 Intersect the 87 mile mon., which is a granite stone 19x8x6 ins., above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, stony, clay loam, 4 to 6 ins. deep on dry, stony clay subsoil.

Timber, oak, juniper and pine.

87TH. MILE.

From 87 mile mon.

N. 76° 22' E.

Along rim of the "Mogollon MESA" over stony, mountainous land, through heavy oak, juniper, and pine timber and brush.

4.20 Intersect Angle point No. 693, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence,

S. 69° 44' E.

7.26 Intersect Angle point No. 692, which is a pine 18 ins.

8. Retracement of part of N.bdy. of Fort Apache Indian Reservation.

Chains.

- in diam., marked as described by the surveyor general.
Thence
- 6.36 S.48°30'E;
Intersect Angle point No.691, which is a pine 6 ins. in diam., marked as described by the surveyor general.
Thence,
- 5.30 S.23°37'E;
Intersect Angle point No.690, which is a pine, 24 ins. in diam., marked as described by the surveyor general.
Thence
- 4.62 S.81°49'E;
Intersect Angle point No.689, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence
- 5.76 S.59°52'E.
Intersect Angle point No.688, which is a dead pine 14 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
- 7.40 S.74°45'E.
Intersect the 86 $\frac{1}{2}$ mile mon., which is a sandstone 6x6x6 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
- 4.63 S.68°20'E;
Intersect Angle point No.687, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
- 7.00 N.85°24'E;
Intersect Angle point No.686, which is a dead pine, 12 ins. in diam., marked and witnessed as described by the surveyor general.
Thence,
- 5.67 S.59°40'E.
Intersect the reestablished closing cor. of Ts.10 N.,Rs. 18 and 19 E., described in Book "A."
Thence
- In sec.7,T.10 N.,R.19 E.
Continuing measurement from Angle point No.686.
7.57 Intersect Angle point No.685, which is a sandstone 16x8x8 ins. above ground, marked and witnessed as described by the surveyor general.
- May 22, 1915.
May 29,1915. At 7h. 57.lm. a.m.,l.m.t., I set off 34°15' N.on the lat.arc; 21°32'N.on the decl.arc, and determine a meridian with the solar at this cor.
Thence
- 6.62 S.25° 47'E.
Intersect Angle point No.684, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence,
- 7.23 S.11°30'E;
Intersect Angle point No.683, which is a pine, 14 ins. in diam., marked as described by the surveyor general.
Thence
- 8.06 S.41° 44'E:
Intersect the 86 mile mon.,which is a sandstone 12x7x7 ins. above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil,poor, dry stony clay loam, 3rd rate.
Timber,oak,juniper and pine.

86TH. MILE.

From 86 mile mon:

S.5° 20'W.

Along rim of the "Mogollon Mesa" over stony, mountainous land,through heavy pine and juniper timber and brush.

Retracement of part of N. bdy. of Fort Apache Indian Reservation. 9

Chains	
6.20	Intersect Angle point No.681, which is a sandstone 12x6x5 ins. above ground, marked and witnessed as described by the surveyor general. Thence, S.8°32'W.
3.40	Wire fence along N. bdy.of Indian Reservation, brs.N.and S.
4.92	Intersect Angle point No.680, which is a pine 14 ins. in diam., marked as described by the surveyor general. Thence, S.20° 16'W.
11.55	Intersect Angle point No.679, which is a pine, 16 ins. in diam., marked as described by the surveyor general. Thence, S 0°2'E.
4.40	Intersect the reestablished closing cor.of secs.7 and 18, described in Book "G". Thence,continuing measurement from Angle point No.679, In sec.18, T.10 N.,R.19 E.
12.41	Intersect Angle point No.678, which is a pine 20 ins. in diam., marked as described by the surveyor general. Thence S 19°25'E.
5.98	Intersect the 85 $\frac{1}{2}$ mile mon., which is a sandstone 6x4x3 ins., above ground, marked and witnessed as described by the surveyor general. Thence S.26°20'E.
11.01	Intersect Angle point No.677, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, S.4°50'W.
4.68	Intersect Angle point No.676, which is a juniper 24 ins. in diam., marked as described by the surveyor general. Thence S. 37° 09'W.
15.46	Intersect Angle point No.675, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence S. 23°53' W.
4.00	Intersect Angle point No.674, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence, S.4° 00'W.
5.58	Intersect the 85 mile mon., which is a sandstone 10x6x4 ins. above ground, marked and witnessed as described by the surveyor general. Land mountainous. Soil dry stony clay loam, on stony clay subsoil, Timber, oak, juniper and pine.
----- 85TH. MILE. -----	
	From 85th mile mon., S.34° 10' E. Along rim of the "Mogollon Mesa" over stony mountainous land, through heavy pine and juniper timber and brush.
6.74	Intersect Angle point No.672, which is a juniper 24 ins. in diam., marked as described by the surveyor general. Thence S.50° 05' E.
11.12	Intersect Angle point No.671, which is a pine 16 ins. in diam., marked as described by the surveyor general. Thence S.21°51'E.
3.75	Wire fence along N. bdy.of Indian Reservation, brs.N.and S.
16.20	Intersect Angle point No.670. Thence S.50°15'E.
3.71	Intersect the reestablished closing cor.of secs.18 and 19, described in Book "G"

10. Retracement of part of N bdy of Ft. Apache Indian Reservation.

Chains.	
	Thence, In SEC.19, T.10 N., R.19 E. Continuing measurement from Angle Point No.670.
7.03	Intersect the 84 $\frac{1}{2}$ mile mon., which is a sandstone 12x10x7 ins. above ground, marked and witnessed as described by the surveyor general. Thence N.64°32'E.
5.28	Intersect the reestablished closing cor. of secs.18 and 19 described in Book "G" Thence IN SEC.18, T.10 N., R.19 E. Continuing measurement from 84 $\frac{1}{2}$ mile mon.
7.16	Intersect Angle point No.668, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence S-88°51'E.
8.25	Wire fence along N. bdy. of Indian Reservation, brs. N.80°E. and S-80°W.
9.62	Intersect Angle point No.667, which is a pine 24 ins. in diam., marked and witnessed as described by the surveyor general. Thence, S-87°33'E.
5.59	Intersect the reestablished closing cor. of secs.18 and 19 described in Book "G." Thence IN SEC.19, T.10 N. R.19 E. Continuing measurement from Angle Point No.667.
5.61	Intersect Angle point No.666 which is a pine 18 ins. in diam., marked as described by the surveyor general. At this point, I set off 21°33'N. on the decl. arc, and at noon, apparent time observe the sun on the meridian, the resulting lat. being 34°14'N. Thence, S.56°48'E.
10.88	Intersect Angle point No.665, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence S.74°32'E.
6.77	Intersect Angle point No.664, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence S.73°55'E.
.96	Intersect the 84 mile mon., which is a sandstone 14x10x10 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, dry stony loam, 3 to 6 ins. deep on dry stony clay subsoil. Timber, pine, oak and juniper.
----- 84TH. MILE.	
	From 84 mile cor., S. 67° 54' E. Along the rim of "Mogollon Mesa", over stony, mountainous land, through heavy pine and juniper timber and brush.
12.28	Intersect Angle point No.663, which is a pine 14 ins. in diam., marked as described by the surveyor general. Thence, S.74°15'E.
8.00	Intersect the reestablished closing cor. of secs.19 and 20, described in Book "G." Thence IN SEC.20, T.10 N., R.19 E., Continuing measurement from Angle point No.663.
14.18	Intersect Angle point No.662, which is a pine 15 ins. in diam., marked as described by the surveyor general. Thence, S.37°15'E.

Retracement of part of N. bdy of Fort Apache Indian Reservation 11

Chains.	
14.24	Intersect the 83 $\frac{1}{2}$ mile mon., which is a sandstone 14x12x5 ins., above ground, marked and witnessed as described by the surveyor general. Thence, S.34°04'E.
5.44	Intersect Angle point No.661, which is an oak, 10 ins. in diam., marked as described by the surveyor general. Thence, S.21°40'E.
9.64	Intersect Angle point No.660, which is a pine 14 ins. in diam., marked as described by the surveyor general. Thence S 2°06'E.
13.22	Intersect Angle point No.659, which is a juniper 20 ins. in diam., marked as described by the surveyor general. Thence S.12°40'E.
6.40	Intersect Angle point No.658, which is a sandstone 14x7x7 ins. above ground, marked and witnessed as described by the surveyor general. Thence S 43°15'E.
6.15	Intersect the 83 mile mon., which is a sandstone 12x10x6 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, dry, stony clay loam, 4 to 8 ins. deep on dry stony clay subsoil. Timber, oak, juniper and pine.

83RD. MILE.	
	From 83 mile mon., S 37°55'E.
8.43	Intersect Angle point No.656, which is a pine, 18 ins. in diam., marked as described by the surveyor general. May 29, 1915. May 31, 1915. At 3h. 57.4m.p.m., l.m.t., I set off 34°13'N. on the lat.arc; 21°53'N. on the decl.arc, and determine a meridian with the solar at this cor. Thence, S 24° 45' E.
2.00	Wire fence along N.bdy.of Indian Reservation, brs.N.15°W. and S.15°E.
4.48	Intersect the reestablished closing cor.of secs.29 and 29, described in Book "G." Thence IN SEC.29, T.10 N., R.19 E.
	Continuing measurement from Angle point No.656.
11.57	Intersect Angle point No.655, which is an oak, 15 ins. in diam., marked as described by the surveyor general. Thence S.8°28'E.
5.77	Intersect Angle point No.654, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, S 50°40'E.
9.11	Intersect Angle point No.653; which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence, S.70°27'E.
6.27	Intersect the 82 $\frac{1}{2}$ mile mon., which is a sandstone 12x12x8 ins. above ground, marked and witnessed as described by the surveyor general. Thence S 55°28'E.
11.60	Intersect Angle point No.651, which is a stake 4 ins.sq., 2 $\frac{1}{2}$ ft. above ground, marked and witnessed as described by the surveyor general. Thence,

12. Retracement of part of N. bdy. of Fort Apache Indian Res.

Chains.	
	S. 71° 09' E.
11.12	Intersect Angle point No. 650, which is a pine, 15 ins. in diam., marked as described by the surveyor general. Thence
	S. 42° 54' E.
11.26	Intersect Angle point No. 649, which is a pine 30 ins. in diam., marked as described by the surveyor general. Thence
	S. 60° 22' E.
.86	Intersect the closing cor. of secs. 28 and 29, as described in Book "C." Thence, IN SEC. 28, T. 10 N., R. 19 E. Continuing measurement from Angle point No. 649.
7.30	Intersect the 82 mile mon., which is a sandstone 6x6x5 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor; dry stony loam, 4 to 6 ins. deep, on dry clay subsoil. Timber, oak, juniper and pine.
	May 31, 1915.

	82ND. MILE.
	June 5, 1915. At 7h. 58.1m., a.m., 1/m.t., I set off 34° 12½' N. on the lat. arc; 22° 29' N. on the decl. arc, and determine a meridian with the solar at the 82 mile mon. Thence
	S. 42° 33' E.
	Along the rim of the Mogollon Mesa, over stony, mountainous land, through heavy pine and juniper timber and brush.
4.80	Intersect Angle point No. 647, which is an oak, 8 ins. in diam., marked as described by the surveyor general. Thence
	S. 57° 08' E.
6.50	Intersect Angle point No. 646, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence,
	S. 83° 51' E.
3.56	Intersect Angle point No. 645, which is a fir tree, 24 ins. in diam., marked as described by the surveyor general. Thence
	N. 76° 00' E.
4.28	Intersect Angle point No. 644, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence
	N. 89° 03' E.
3.61	Intersect Angle point No. 643, which is a pine 14 ins. in diam., marked as described by the surveyor general. Thence
	N. 59° 49' E.
16.66	Intersect Angle point No. 642, which is an oak, 15 ins. in diam., marked as described by the surveyor general. Thence,
	N. 88° 35' E.
1.72	Intersect the 81½ mile mon., which is a sandstone 6x4x4 ins., above ground, marked and witnessed as described by the surveyor general. Thence
	S. 89° 58' E.
11.21	Intersect Angle point No. 641, which is a pine 8 ins. in diam., marked as described by the surveyor general. Thence,
	N. 75° 18' E.
5.60	Intersect Angle point No. 640, which is a juniper 16 ins. in diam., marked as described by the surveyor general. Thence,
	N. 50° 17' E.
5.92	Intersect Angle point No. 639, which is a juniper 18 ins. in

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Retracement of part of N. bdy. of Fort Apache Indian Reservation 13

Chains	diam., marked as described by the surveyor general. Thence N. 28° 28' E.
8.75	Intersect Angle point No. 638, which is an oak 8 ins. in diam., marked as described by the surveyor general. Thence N. 39° 33' E.
9.45	Intersect the 81 mile mon., which is a sandstone 12x7x3 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, dry stony clay loam, 3 to 6 ins. deep on stony clay subsoil. Timber, oak, juniper and pine.
----- 81ST. MILE. -----	
	From 81 mile mon., N. 40° 24' E.
3.14	Along rim of the "Mogollon Mesa" over stony, mountainous-land, through heavy pine and juniper timber and brush. Intersect Angle point No. 637, which is an oak, 12 ins. in diam., marked as described by the surveyor general. Thence N. 69° 19' E.
4.06	Intersect Angle point No. 636, which is a pine 8 ins. in diam., marked as described by the surveyor general. Thence S. 89° 12' E.
1.43	Intersect the reestablished closing cor. of secs. 27 and 28, described in Book "G." At this cor., I set off 22° 30' N. on the decl. arc, and at noon, apparent time, observe the sun on the meridian, and obtain a reading of 34° 13' N. on the lat. arc. Thence IN SEC. 27, T. 10 N., R. 19 E.
7.04	Continuing measurement from Angle Point No. 636. Intersect Angle point No. 635, which is a pine, 15 ins. in diam., marked as described by the surveyor general. Thence S. 58° 29' E.
10.54	Intersect Angle point No. 634, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence S. 85° 20' E.
10.55	Intersect Angle point No. 633, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence S. 11° 40' E.
4.47	Intersect Angle point No. 632, which is an oak, 6 ins. in diam., marked as described by the surveyor general. Thence S. 51° 55' E.
2.02	Intersect the 80½ mile mon., which is a sandstone 12x7x6 ins. above ground, marked and witnessed as described by the surveyor general. Thence S. 50° 43' E.
10.90	Intersect Angle point No. 631, which is a pine, 17 ins. in diam., marked as described by the surveyor general. Thence, S. 59° 45' E.
2.98	Intersect Angle point No. 630, which is a pine 14 ins. in diam., marked as described by the surveyor general. Thence S. 82° 06' E.
12.82	Intersect Angle point No. 629, which is a pine 15 ins. in diam., marked as described by the surveyor general. Thence N. 74° 17' E.

14 Retracement of part of N. bdy. of Fort Apache Indian Reservation.
Chains.

6.93 Intersect Angle point No. 628, which is an oak post 4 ins. sq., 2 $\frac{1}{4}$ ft. above ground, marked and witnessed as described by the surveyor general.

Thence

N. 74° 35' E.

3.62 Intersect Angle point No. 627, which is a pine 12 ins. in diam., marked as described by the surveyor general.

Thence,

S. 69° 00' E.

3.80 Intersect the 80 mile mon., which is a granite stone 12x8x5 ins. above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, poor, dry, stony clay loam, 4 to 8 ins. deep on stony clay subsoil.

Timber, oak, juniper and pine.

80TH. MILE.

From 80 mile mon.

S. 57° 40' E.

Along rim of the "Mogollon Mesa" over stony, mountainous-land, through heavy pine and juniper timber and brush.

2.78 Intersect Angle point No. 626, which is a pine, 12 ins. in diam., marked as described by the surveyor general.

Thence,

S. 45° 27' E.

2.75 Wire fence along N. bdy. of the Indian Reservation, brs. N. 30° W. and S. 30° E.

5.34 Intersect Angle point No. 625, which is a pine 24 ins. in diam., marked as described by the surveyor general.

Thence

S. 77° 20' E.

3.59 Intersect Angle point No. 624, which is a pine, 24 ins. in diam., marked as described by the surveyor general.

Thence,

S. 62° 20' E.

6.07 Intersect the reestablished closing cor. of secs. 26 and 27, described in Book "G."

Thence

IN SEC. 26, T. 10 N., R. 19 E.

Continuing measurement from Angle Point No. 624.

8.04 Intersect Angle point No. 623, which is a pine, 10 ins. in diam., marked as described by the surveyor general.

Thence,

S. 28° 20' E.

8.80 Intersect Angle point No. 622, which is a pine 15 ins. in diam., marked as described by the surveyor general.

Thence

S. 1° 9' W.

7.47 Intersect Angle point No. 621, which is a pine, 10 ins. in diam., marked as described by the surveyor general.

Thence

S. 35° 43' E.

2.50 Wire fence along N. bdy. of the Indian Reservation, brs. S. 20° E. and N. 20° W.

5.16 Intersect 79 $\frac{1}{2}$ mile mon., which is a sandstone 12x12x5 ins. above ground, marked and witnessed as described by the surveyor general.

Thence,

S. 28° 06' E.

12.62 Intersect Angle point No. 620, which is a pine 30 ins. in diam., marked as described by the surveyor general.

Thence,

S. 33° 33' E.

4.63 Intersect the reestablished closing cor. of secs. 26 and 35, described in Book "G."

Retracement of part of N. bdy. of Fort Apache Indian Reservation 15

Chains.

Thence

IN SEC. 35, T. 10 N., R. 19 E.

Continuing measurement from Angle point No. 620.

- 17.92 Intersect Angle point No. 619, which is a pine, 12 ins. in diam., marked as described by the surveyor general.

June 5, 1915.

- June 6, 1915. At 4h. 58.3m. p.m., l.m.t., I set off $34^{\circ}12'$ N. on the lat. arc; $22^{\circ}38\frac{1}{2}'$ N. on the decl. arc, and determine a meridian with the solar at this cor.

Thence

S. $49^{\circ}37'E$.

- 5.59 Intersect Angle point No. 618, which is a pine 24 ins. in diam., marked as described by the surveyor general.

Thence

S. $43^{\circ}14'E$.

- 5.09 Intersect the 79 mile mon., which is a sandstone $8 \times 6 \times 4$ ins., above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, stony, 3rd rate.

Timber, juniper, oak, and pine.

79TH. MILE.

From 79 mile mon.

S. $37^{\circ}25'E$.

Along rim of the Mogollon Mesa, over stony, mountainous land, through heavy pine and juniper timber.

- 8.89 Intersect Angle point No. 616, which is a juniper post 4 ins. sq., 4 ft. long, marked and witnessed as described by the surveyor general.

Thence,

S. $55^{\circ}00'E$.

- 11.05 Intersect Angle point No. 615, which is a pine, 15 ins. in diam., marked as described by the surveyor general.

Thence,

S. $47^{\circ}45'E$.

- 7.41 Intersect Angle point No. 614, which is an oak, 12 ins. in diam., marked as described by the surveyor general.

Thence,

S. $60^{\circ}00'E$.

- 9.59 Intersect Angle point No. 613, which is a juniper 20 ins. in diam., marked as described by the surveyor general.

Thence

S. $66^{\circ}48'E$.

- 3.87 Intersect the $78\frac{1}{2}$ mile mon., which is a sandstone $10 \times 10 \times 6$ ins., above ground, marked and witnessed as described by the surveyor general.

Thence,

S. $72^{\circ}21'E$.

- 1.45 Wire fence along N. bdy. of the Fort Apache Indian Reservation brs. N. $80^{\circ}E$. and S. $80^{\circ}W$.

- 17.30 Intersect the reestablished closing cor. of secs. 35 and 36, described in Book "G."

Thence,

IN SEC. 36, T. 10 N., R. 19 E.

Continuing measurement from $78\frac{1}{2}$ Mile Mon.

- 18.54 Intersect Angle point, No. 612, which is a juniper 12 ins. in diam., marked as described by the surveyor general.

June 6, 1915.

- June 7, 1915. At 4h. 28.5m. p.m., l.m.t., I set off $34^{\circ}11\frac{1}{2}'$ N. on the lat. arc; $22^{\circ}44\frac{1}{2}'$ N. on the decl. arc, and determine a meridian with the solar at this cor.

Thence

S. $70^{\circ}37'E$.

- 10.71 Intersect Angle point No. 611, which is a pine 8 ins. in diam., marked and witnessed as described by the surveyor general.

Thence

S. $81^{\circ}25'E$.

- 11.62 Intersect the 78 mile mon., which is a sandstone $4 \times 3 \times 12$ ins. above ground, marked and witnessed as described by the

16. Retracement of part of Nbdy. of Fort Apache Indian Reservation.

Chains	
	<p>surveyor general. Land, mountainous. Soil, poor, dry, stony clay loam, 4 to 6 ins. deep, on dry, stony clay subsoil. Timber, oak, juniper and pine.</p>
	PART OF 78TH MILE.
	From 78 mile mon., N. 87° 02' E.
	Along rim of the "Mogollon Mesa," over stony, mountainous land, through heavy pine and juniper timber.
6.70	Intersect Angle point No. 609, which is a pine 6 ins. in diam. marked as described by the surveyor general. Thence S. 78° 17' E.
7.88	Intersect Angle point No. 608, which is a pine 10 ins. in diam., marked as described by the surveyor general. Thence S. 77° 47' E.
17.13	Intersect Angle point No. 607, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, N. 85° 29' E.
9.08	Intersect the 77½ mile mon., which is a sandstone 8x6x6 ins. above ground, marked and witnessed as described by the surveyor general. Thence N. 83° 25' E.
4.70	Intersect Angle point No. 605, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, N. 85° 30' E.
13.59	Intersect the reestablished closing cor. of T. 10 N., R. 19 and 20 E., described in Book "A." Thence, IN T. 10 N., R. 20 E., sec. 31.
	Continuing measurement from Angle point 605.
14.43	Intersect Angle point No. 604, which is a pine 12 ins. in diam., marked as described by the surveyor general. I discontinue retracement of the 78th mile at this Angle Point.
	June 7, 1915.
	PART OF 71ST MILE.
	Frac. secs. 21, 22, 23, 26 and 33 of T. 10 N., R. 20 E. failing to close on the N. bdy. of the Fort Apache Indian Reserva- tion within the allowable limits of error, I retrace the N. bdy. of the Indian Reservation, thru these secs. as follows: July 1, 1915. At 7h. 33m., a.m., l.m.t., I set off 34° 13' N. on the lat. arc; 23° 11' N. on the decl. arc; and de- termine a meridian with the solar at Angle point No. 533, which is a sandstone 10x8x6 ins., above ground, marked and witnessed as described by the surveyor general. Thence West, IN SEC. 25, T. 10 N., R. 20 E. Over stony, mountainous land, ascending through oak, juni- per, cedar and pine timber, along the rim of the "Mogol- lon Mesa"
1.62	Intersect the closing cor. of frac. secs. 25 and 26, de- scribed in Book "H." Thence, IN SEC. 26, T. 10 N., R. 20 E.
	Continuing measurement from Angle point No. 533.
2.85	Intersect the 70½ mile mon., which is a sandstone 16x12x3 ins. above ground, marked and witnessed as described by the surveyor general. Thence S. 76° 17' W.
8.20	Intersect Angle point No. 535, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, N. 85° 37' W.
4.72	Intersect Angle point No. 536, which is a pine 24 ins. in diam., marked as described by the surveyor general.

Retracement of part of N. bdy. of Fort Apache Indian Reservation. 17

Chains.

- Thence,
N. 38° 00' W.
 - 2.45 Intersect Angle point No. 537, which is a pine 24 ins. in diam., marked as described by the surveyor general.
 - Thence,
N. 60° 22' W.
 - 3.55 Intersect Angle point No. 538, which is a pine 18 ins. in diam., marked as described by the surveyor general.
 - Thence
S. 68° 42' W.
 - 4.26 Intersect Angle point No. 539, which is a pine 17 ins. in diam., marked as described by the surveyor general.
 - Thence
N. 67° 50' W.
 - 6.24 Intersect Angle point No. 540, which is a pine 18 ins. in diam., marked as described by the surveyor general.
 - Thence,
N. 45° 12' W.
 - 12.14 Intersect Angle point No. 541, which is identical with the 71 mile mon., which is a sandstone 12x8x4 ins. above ground, marked and witnessed as described by the surveyor general.
- Land, mountainous.
Soil, stony, clay loam, 3rd rate.
Timber, oak, juniper, cedar and pine.

72ND. MILE.

- From 71 mile mon.,
N. 46° 08' W.
- Over stony mountainous land, ascending gradually through heavy oak, juniper, cedar and pine timber and brush along rim of the "Mogollon Mesa."
- 7.52 Intersect Angle point No. 542, which is a pine 30 ins. in diam., marked as described by the surveyor general.
- Thence
N. 2° 16' E.
- 5.10 Intersect Angle point No. 543, which is a juniper 24 ins. in diam., marked as described by the surveyor general.
- Thence
N. 29° 46' W.
- .90 Intersect the closing cor. of secs. 23 and 26, described in Book "H."
- Thence
IN SEC. 23, T. 10 N., R. 20 E.
- Continuing measurement from Angle point No. 543.
- 8.82 Intersect Angle point No. 544, which is a pine, 30 ins. in diam., marked as described by the surveyor general.
- Thence
N. 0° 47' E.
- 12.23 Intersect Angle point No. 545, which is a dead pine, 16 ins. in diam., marked and witnessed as described by the surveyor general.
- Thence,
N. 33° 43' W.
- 4.97 Intersect Angle point No. 546, which is a pine 15 ins. in diam., marked as described by the surveyor general.
- Thence
N. 3° 25' E.
- 3.30 Intersect Angle point No. 547, identical with the 71 1/2 mile mon., which is a sandstone 12x8x6 ins. above ground, marked and witnessed as described by the surveyor general.
- Thence,
N. 23° 36' W.
- 5.10 Intersect Angle point No. 548, which is a pine 16 ins. in diam., marked as described by the surveyor general.
- Thence
N. 84° 11' W.
- 7.77 Intersect Angle point No. 549, which is a juniper, 28 ins.

18. Retr. of part of N. bdy. of Fort Apache Indian Reservation.

Chains.

- in diam., marked as described by the surveyor general.
Thence
- 7.87 Intersect Angle point No. 550, which is a juniper 18 ins. in diam., marked as described by the surveyor general.
Thence
- 4.72 Intersect Angle point No. 551, which is a pine, 30 ins. in diam., marked as described by the surveyor general.
Thence
- 5.19 Intersect Angle point No. 552, which is a sandstone 18x8x8 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
- 5.74 Intersect Angle point No. 553, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
- 2.42 Intersect the closing cor. of fracl. secs. 22 and 23, described in Book "H."
Thence
- IN SEC. 22, T. 10 N., R. 20 E.
Continuing measurement from Angle Point No. 553.
- 5.00 Intersect the 72 mile mon., which is a sandstone 16x9x6 ins. above ground, marked and witnessed as described by the surveyor general.
At this cor., I set off 23° 09½' N. on the decl. arc; and at noon, apparent time July 1, 1915, observe the sun on the meridian, and obtain a reading of 34° 13½' N. on the lat. arc.
Land, rolling, mountainous.
Soil, poor, dry stony clay loam, 3rd rate.
Timber, oak, cedar, juniper and pine.
-
- 73RD. MILE.
- From 72 mile mon.,
N. 85° 10' W.
- Over stony, mountainous land, through heavy oak, juniper, cedar and pine timber and brush along rim of the "Mogolon Mesa."
- .87 Intersect Angle point No. 554, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence
- 7.54 Intersect Angle point No. 555, which is a juniper 24 ins. in diam., marked as described by the surveyor general.
Thence,
- 4.89 Intersect Angle point No. 556, which is a juniper, 12 ins. in diam., marked as described by the surveyor general.
Thence
- 5.16 Intersect Angle point No. 557, which is a juniper 18 ins. in diam., marked as described by the surveyor general.
Thence
- 3.52 Intersect Angle point No. 558, which is a juniper, 14 ins. marked as described by the surveyor general.
Thence
- 4.72 Intersect Angle point No. 559, which is a dead oak, 6 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
- 7.93 Intersect Angle point No. 560, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence,

Retracement of part of N. bdy. Fort Apache Indian Reservation 19.

- Chains
- 5.50 S.23°02'W.
Intersect Angle point No.561, which is a pine 20 ins. in diam., marked as described by the surveyor general.
Thence
 - 1.20 S.3° E.
Intersect Angle point No.562, identical with the 72½ mile mon., which is a sandstone 12x10x4 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
 - 6.83 S.20°15'W.
Intersect Angle point No.563, which is a juniper 30 ins. in diam., marked as described by the surveyor general.
Thence,
 - S.77°58'W.
 - 9.96 Intersect Angle point No.564, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence
 - 16.20 S.60°10'W.
Intersect Angle Point No.565, which is a juniper, 18 ins. in diam., marked as described by the surveyor general.
Thence
 - 8.36 N.84°20'W.
Intersect the 73 mile mon., which is a sandstone 12x10x8 ins. above ground, marked and witnessed as described by the surveyor general.
Land, rolling, mountains.
Soil, poor, dry, stony clay loam, 3rd rate.
Timber, oak, juniper, cedar and pine.

PART OF 74TH. MILE.

- From 73 mile mon.
N.87°45'W.
IN SEC.22, T.10 N., R.20 E.
Over rolling, stony, mountainous land, through heavy juniper, cedar and pine timber and brush along rim of the "Mogolon Mesa."
- 18.22 Intersect Angle point No.566, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
- 7.04 S.69°30'W.
Intersect the closing cor. of fracl. secs. 21 and 22, described in Book "H."
Thence
- IN SEC.21, T.10 N., R.20 E.
Continuing measurement from Angle Point No.566.
- 17.60 Intersect Angle point No.567, which is a pine 15 ins. in diam., marked as described by the surveyor general.
Thence
- 4.85 S.43°30'W.
Intersect Angle point No.568, identical with the 73½ mile mon., which is a sandstone 12x6x4 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
- 5.64 S.44°10'W.
Intersect Angle point No.569, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence
- .65 S.75°58'W.
Intersect the closing cor. of fracl. secs. 21 and 28, described in Book "H."
Thence
- IN SEC.28, T.10 N., R.20 E.
Continuing measurement from Angle point No.569.
- 5.23 Intersect Angle point No.570, which is a pine 18 ins. in

20 Retracement of part of N. bdy. of Fort Apache Indian Reservation.
Chains.

diam., marked as described by the surveyor general.
I discontinue retracement on 74th mile at this Angle Point.
Land, mountainous.
Soil, poor, dry stony clay loam, 3rd rate.
Timber, oak, juniper, cedar and pine.

PART OF THE 75TH. MILE.

At Angle Point No. 583, which is a pine 14 ins. in diam.,
marked as described by the surveyor general.

At 3h. 3m. p.m., l.m.t., July 1, 1915, I set off $34^{\circ}13'N.$,
on the lat. arc; $23^{\circ}9\frac{1}{2}'N.$ on the decl. arc, and deter-
mine a meridian with the solar.

Thence,
 $S. 2^{\circ}30'W.$,

IN SEC. 28, T. 10 N., R. 20 E.

Over rolling, stony mountainous land, through heavy oak,
juniper and pine timber and brush along the rim of
the "Mogollon Mesa."

6.70 Intersect the closing cor. of fracl. secs. 28 and 33, de-
scribed in Book "H."

Thence

IN SEC. 33, T. 10 N., R. 20 E.

Continuing measurement from Angle point No. 583.

20.36 Intersect Angle point No. 584, identical with the 75 mile
mon., which is a sandstone $12 \times 10 \times 8$ ins. above ground
marked and witnessed as described by the surveyor
general.

Land, mountainous.

Soil, poor, dry stony clay loam, 3rd rate.

Timber, oak, juniper and pine.

PART OF 76TH. MILE.

From 75 mile mon.:

$S. 57^{\circ}46'W.$

Over rolling, stony mountainous land, through heavy
juniper, oak and pine timber and brush along rim of the
"Mogollon Mesa."

9.12 Intersect Angle point No. 585, which is a pine 14 ins. in
diam., marked as described by the surveyor general.

Thence,

$S. 22^{\circ}23'W.$

4.34 Intersect Angle point No. 586, which is a juniper 24 ins.
in diam., marked as described by the surveyor general.

Thence

$S. 51^{\circ}12'W.$

2.87 Intersect the closing cor. of fracl. secs. 32 and 33, de-
scribed in Book "H."

Thence

IN SEC. 32, T. 10 N., R. 20 E.

Continuing measurement from Angle point No. 586.

5.31 Intersect Angle point No. 587, which is a pine 24 ins. in
diam., marked as described by the surveyor general.

Thence

$S. 51^{\circ}20'W.$

7.00 Intersect Angle point No. 588, which is an oak, 12 ins. in
diam., marked as described by the surveyor general.

Thence

$S. 68^{\circ}10'W.$

7.85 Intersect Angle point No. 589, which is a pine, 18 ins. in
diam., marked as described by the surveyor general.

Thence,

$S. 47^{\circ}30'W.$

4.70 Intersect the $75\frac{1}{2}$ mile mon., which is a sandstone $12 \times 12 \times 10$
ins., above ground, marked and witnessed as described
by the surveyor general.

Retracement of part of N.bdy.of Fort Apache Indian Reservation.

Chains.

Since sec.32,T.10 N.,R.20 E. will now close in latitude and departure, I discontinue the retracement of the North boundary of the Indian Reservation at this cor. Land, rolling mountains.
Soil, stony clay loam, 3rd rate.
Timber, oak, juniper and pine.

July 1, 1915.

PART OF 70TH. MILE.

July 7, 1915. At 7h: 4.5m. a.m., 1:m.t., I set off $34^{\circ} 12\frac{1}{2}' N.$ on the lat.arc; $22^{\circ} 41\frac{1}{2}' N.$ on the decl.arc, and determine a meridian with the solar at Angle point No.521, which is a sandstone 18x12x12 ins. above ground marked and witnessed as described by the surveyor general.

Thence

S. $69^{\circ} 21' E.$

IN SEC. 25, T.10 N.,R.20 E.

Along rim of the Mogollon Mesa, over stony, mountainous land, through heavy pine and juniper timber and brush undergrowth.

- 2.42 Intersect the reestablished closing cor. of Ts.10 N.,Rs. 20 and 21 E. on 5th. Guide Meridian E., as described in Book "C."

Thence

IN SEC.30,T.10 N.,R.21 E.

Continuing measurement from Angle Point No.521.

- 4.60 Intersect Angle point No.520, which is a pine 12 ins. in diam., marked as described by the surveyor general..

Thence,

S. $37^{\circ} 30' E.$

- 7.73 Intersect Angle point No. 519, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence

S. $3^{\circ} 30' W.$

- 16.56 Intersect the 69 mile mon., which is a sandstone 18x12x6 ins. above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, poor, stony clay loam, 8 ins. deep, on stony clay subsoil.

Timber, oak, juniper and pine.

69TH. MILE.

From 69 mile mon.,

S. $3^{\circ} 28' W.$

Along rim of the Mogollon Mesa over stony, mountainous land, through heavy pine and juniper timber and brush.

- 3.28 Wire fence along N. bdy. of Indian Reservation, brs.N.and S.

- 7.51 Intersect Angle point No.518, which is a pine 12 ins. in diam., marked as described by the surveyor general.

Thence

S. $31^{\circ} 22' W.$

- 3.56 Intersect Angle point No.517, which is a pine, 18 ins. in diam., marked as described by the surveyor general.

Thence

S. $5^{\circ} 49' W.$

- 6626 Intersect Angle point No.516, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence

S. $61^{\circ} 48' E.$

- 16.14 Intersect the reestablished closing cor.of secs.30 and 31, described in Book "I."

Thence

IN SEC.31,T.10 N.,R.21 E.

22. Retracement of part of N. bdy. of Fort Apache Indian Reservation

Chains.

- Continuing measurement from Angle point No. 516.
- 20.98 Intersect Angle point No. 515, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence,
S. 68° 43' E.
- 2.50 Intersect the 68 $\frac{1}{2}$ mile mon., which is a sandstone 10x8x6 ins., above ground, marked and witnessed as described by the surveyor general.
Thence
S. 2° 46' E.
- 13.07 Intersect Angle point No. 513, which is a pine 24 ins. in diam., marked as described by the surveyor.
Thence
S. 21° 42' E.
- 8.24 Intersect Angle point No. 512, which is a juniper, 12 ins. in diam., marked as described by the surveyor general.
Thence
S. 60° 30' E.
- 6.88 Intersect Angle point No. 511, which is a granite stone 18x10x7 ins., above ground, marked and witnessed as described by the surveyor general.
Thence
S. 84° 46' E.
- 4.54 Intersect Angle point No. 510, which is a juniper 18 ins. in diam., marked as described by the surveyor general.
Thence,
N. 66° 30' E.
- 4.96 Intersect Angle point No. 509, which is a granite stone 20x12x10 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
N. 85° 05' E.
- 3.22 Intersect the 68 mile mon., which is a sandstone 24x5x4 ins., above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, poor, dry stony clay loam on dry stony clay subsoil.
Timber, oak, juniper and pine.
-
- 68TH. MILE.
- From 68 mile mon.,
S. 76° 13' E.
- 8.92 Along rim of the "Mogollon Mesa" over stony, mountainous land, through heavy pine and juniper timber and brush. Intersect Angle point No. 507, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence
S. 76° 58' E.
- 3.68 Intersect Angle point No. 506, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
N. 83° 45' E.
- 5.98 Intersect Angle point No. 505, which is a juniper 10 ins. in diam., marked as described by the surveyor general.
Thence
N. 67° 51' E.
- 4.80 Intersect Angle point No. 504, which is a pine, 18 ins. in diam., marked as described by the surveyor general.
Thence,
S. 57° 55' E.
- 8.40 Wire-fence along N. bdy. of Indian Reservation, brs. N. 45° W. and S. 45° E.
- 12.49 Intersect the reestablished closing cor. of secs. 31 and 32, described in Book "I."
Thence
IN SEC. 32, T. 10 N., R. 21 E.
- Continuing measurement from Angle point No. 504.
- 17.94 Intersect the 67 $\frac{1}{2}$ mile mon., which is a sandstone 18x6x6 ins. above ground.

Retracement of part of N.bdy. of Fort Apache Indian Reservation 23

Chains.	ins. above ground, marked and witnessed as described by the surveyor general.
	Thence, S 59°50'E.
7.75	Intersect Angle point No.503, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
	Thence S.67°48'E.
5.42	Intersect Angle point No.502, which is a pine 20 ins. in diam., marked as described by the surveyor general.
	Thence S 40°54'E.
12.69	Intersect Angle point No.501, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
	Thence S 85°58'E.
3.72	Intersect Angle point No.500, which is a pine 24 ins. in diam., marked as described by the surveyor general.
	Thence S.27°29'E.
6.54	Intersect Angle point No.499, which is a pine 18 ins. in diam., marked as described by the surveyor general.
	Thence S.72°40'E.
5.18	Intersect the 67 mile mon., which is a sandstone 12x10x6 ins., above ground, marked and witnessed as described by the surveyor general.
	Land, mountainous.
	Soil, poor, stony, clay loam. underlaid with stony clay subsoil.
	Timber, oak, juniper and pine, good grass.

67TH. MILE.

	From 67 mile mon. N.84°57'E.
	Along rim of the "Mogollon Mesa," over stony, mountainous land, through heavy pine and juniper timber and brush.
5.28	Intersect Angle point No.497, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
	Thence, S 77°05'E.
3.27	Intersect Angle point No.496, which is a pine 18 ins. in diam., marked as described by the surveyor general.
	Thence, S 7°07'E.
3.74	Intersect Angle point No.495, which is a juniper 16 ins. in diam., marked as described by the surveyor general.
	Thence S.9°54'E.
6.75	Intersect Angle point No.494, which is a pine 12 ins. in diam., marked as described by the surveyor general.
	Thence S 69°40'E.
5.88	Intersect Angle point No.493, which is a pine 24 ins. in diam., marked as described by the surveyor general.
	Thence N.86°48'E.
8.95	Intersect Angle point No.492, which is a pine 12 ins. in diam., marked as described by the surveyor general.
	Thence, S.79°03'E.
5.15	Intersect Angle point No.491, which is a pine 14 ins. in diam., marked as described by the surveyor general.
	Thence S.61°30'E.
2.77	Intersect the 66½ mile mon., which is a sandstone 12x15x6 ins., above ground, marked and witnessed as described by the surveyor general.

24. Retracement of part of N. bdy. of Fort Apache Indian Reservation
Chains.

- Thence,
S. 74° 39' E.
- 2.00 Wire fence along N. bdy. of Indian Reservation, brs. N. 85° W.,
and S. 85° E.
- 4.75 Intersect Angle point No. 489, which is a pine 14 ins. in
diam., marked as described by the surveyor general.
Thence
N. 80° 23' E.
- 6.63 Intersect the reestablished closing cor. of secs. 32 and 33
described in Book "I."
Thence
IN SEC. 33, T. 10 N., R. 21 E.
- 9.97 Continuing measurement from Angle Point No. 489.
Intersect Angle point No. 488, which is a pine, 18 ins. in
diam., marked as described by the surveyor general.
Thence,
N. 72° 45' E.
- 3.20 Intersect Angle point No. 487, which is a juniper 18 ins.
in diam., marked as described by the surveyor general.
Thence,
N. 84° 42' E.
- 6.39 Intersect Angle point No. 486, which is a pine 12 ins. in
diam., marked as described by the surveyor general.
Clouds obscure the sun at noon today, rendering an obser-
vation for latitude impossible with the solar.
- Thence
S. 63° 27' E.
- 11.08 Intersect Angle point No. 485, which is a pine 18 ins. in
diam., marked as described by the surveyor general.
Thence
S. 57° 18' E.
- 5.16 Intersect the reestablished closing cor. of Ts. 9 and 10 S.,
R. 21 E., described in Book "A."
Thence
IN SEC. 4, T. 9 N., R. 21 E.
- 5.62 Continuing measurement from Angle point No. 485.
Intersect the 66 mile mon., which is a sandstone 16x12x8
ins. above ground, marked and witnessed as described
by the surveyor general.
Land, mountainous.
Soil, poor, dry stony clay loam, mostly 3rd rate.
Timber, oak, juniper and pine.
-
- 66TH. MILE.
- From 66 mile mon.,
S. 63° 43' E.
- Along top of the rim of the "Mogollon Mesa," over stony
mountainous land, through heavy juniper and pine timber
and brush.
- .45 Intersect Angle point No. 484, which is a juniper 18 ins.
in diam., marked as described by the surveyor general.
Thence
N. 83° 10' E.
- 3.78 Intersect the reestablished closing cor. of Ts. 9 and 10 N.,
R. 21 E., described in Book "A."
Thence IN SEC. 33, T. 10 N., R. 21 E.
- 6.02 Continuing measurement from Angle point No. 484.
Intersect Angle point No. 483, which is a juniper 18 ins.
in diam., marked as described by the surveyor general.
Thence
N. 77° 30' E.
- 4.05 Intersect Angle point No. 482, which is a juniper 36 ins.
in diam., marked as described by the surveyor general.
Thence
N. 67° 42' E.
- 14.65 Intersect Angle point No. 481, which is a pine, 16 ins. in
diam., marked as described by the surveyor general.
Thence
S. 74° 43' E.,

Chains.

- 5.00 Intersect Angle point No.480, which is a juniper 30 ins. in diam., marked as described by the surveyor general.
Thence
S^{55°45'E.}
- 4.85 Intersect Angle point No.479, which is a juniper post, 4 ins. sq., 2½ ft. above ground, marked and witnessed as described by the surveyor general.
Thence,
S.15°55'E.
- 2.55 Intersect the reestablished closing cor. of Ts.9 and 10 N., R.21 E., described in Book "A."
Thence
IN SEC.4, T.9 N., R.21 E.
Continuing measurement from Angle point No.478.
- 5.22 Intersect the 65½ mile mon., which is a granite stone 8x8x8 ins., above ground, marked and witnessed as described by the surveyor general.
Thence
S.3°24'E.
- 1.80 Intersect Angle point No.477, which is a pine, 10 ins. in diam., marked as described by the surveyor general.
Thence,
S.18° 00'E.
- 3.46 Intersect Angle point No.476, which is a pine 10 ins. in diam., marked as described by the surveyor general.
Thence
S.19°04'E.
- 11.36 Intersect Angle point No.475, which is a pine 6 ins. in diam., marked as described by the surveyor general.
Thence,
S.27°31'E.,
- 14.70 Intersect Angle point No.474, which is a pine, 12 ins. in diam., marked as described by the surveyor general.
Thence
S.61° 37'E.
- 8.20 Intersect the reestablished closing cor. of secs.3 and 4, T.9 N., R.21 E. described in Book "J."
Thence
IN SEC.3, T.9 N., R.21 E.
Continuing measurement from Angle point No.474.
- 9.76 Intersect the 65 mile mon., which is a sandstone 10x8x4 ins., above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, poor, dry stony clay loam, 6 to 10 ins. deep on stony clay subsoil.
Timber, oak, juniper, cedar and pine.

65TH, MILE.

In the following described retracement of the 65th, 64th, 63rd, 62nd, 61st, 60th, 59th, and part of 58th miles executed between July 17, 1915 and July 20, 1915, both inclusive, I employ a Young & Sons' solar compass No. 6802, as described in Book "A." For complete test of same, see Book "J." On the 1st day; at 20 min. on the decl. arc of the July 17, 1915. At 8h. 5.9m. a.m., l.m.t., I set off 34°11'N. on the lat. arc; 21°20½'N. on decl. arc of the solar compass, and then determine a meridian with the solar, at the 65 mile mon.
Thence
S.62°50'E.

- Along rim of the "Mogollon Mesa," through heavy pine and juniper timber and brush.
- 4.76 Intersect Angle point No.473, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence
S.28°03'E.
- 8.50 Intersect Angle point No.472, which is a juniper 30 ins. in diam., marked as described by the surveyor general.
Thence
S.21°35'E.

26. Retracement of part of N.bdy. of Fort Apache Indian Reservation.

Chains.	
5.97	Intersect Angle point No.471, which is a juniper 24 ins. in diam., marked as described by the surveyor general. Thence S.22°31'E.
8.02	Intersect Angle point No.470, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence S.68°30'E.
1.68	Intersect Angle point No.469, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence, S.81°12'E.
5.75	Intersect Angle point No.468, which is a juniper, 24 ins. in diam., marked as described by the surveyor general. Thence N.48°14'E.
4.90	Intersect Angle point No.467, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence N.66°55'E.
1.33	Intersect the 64 $\frac{1}{2}$ mile mon., which is a sandstone 16x10x8 ins., above ground, marked and witnessed as described by the surveyor general. Thence N.76°48'E.
5.49	Intersect Angle point No.466, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence S.75°32'E.
3.75	Intersect Angle point No.465, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence N.73°18'E.
6.53	Intersect Angle point No.464, which is a juniper 12 ins. in diam., marked as described by the surveyor general. Thence N.14°34'E.
7.07	Intersect Angle point No.463, which is a juniper, 18 ins. in diam., marked as described by the surveyor general. Thence N.33°07'E.
2.75	Wire fence along N. bdy. of Indian Reservation, brs.N.20° E. and S.20°W.
4.75	Intersect Angle point No.462, which is a pine 15 ins. in diam., marked as described by the surveyor general. Thence N.41°10'E.
7.30	Intersect Angle point No.461, which is a juniper 6 ins. in diam., marked as described by the surveyor general. Thence, N.66°43'E.
5.93	Intersect the 64 mile mon., which is a sandstone 12x8x6 ins., above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, dry stony clay loam, 8 ins. deep on dry stony clay subsoil. Timber, oak, juniper and pine. Good growth grass.

64TH. MILE.	
	From 64 mile mon., N.69°43'E. Along top of the rim of the "Mogollon Mesa," over stony mountainous land, through heavy pine and juniper timber and brush.
4.06	Intersect Angle point No.460, which is a sandstone 18x10x10 ins. above ground, marked and witnessed as described by the surveyor general.

Retracement of part of N.bdy.of Fort Apache Indian Reservation. 27

Chains.	
	Thence, N.75°09'E.
7.83	Intersect Angle point No.459, which is a pine 15 ins. in diam., marked as described by the surveyor general. Thence
	N.75° 58' E.
4.91	Intersect Angle point No.458, which is a juniper 30 ins. in diam., marked as described by the surveyor general. Thence
	N.66°13'E.
5.58	Intersect Angle point No.457, which is a juniper 36 ins. in diam., marked as described by the surveyor general. Thence
	N.58°34'E.
2.78	Intersect the reestablished closing cor.of secs.2 and 3, T.9 N.,R.21 E., described in Book "J." Thence
	IN SEC.2, T.9 N.,R.21 E.
	Continuing measurement from Angle point No.457.
4.67	Intersect Angle point No.456, which is a juniper 18 ins. in diam., marked as described by the surveyor general. Thence
	N.52°20'E.
7.54	Intersect Angle point No.455, which is a juniper 10 ins. in diam., marked as described by the surveyor general. Thence
	N.45°E.
6.10	Intersect the 63 ¹ / ₂ mile mon., which is a sandstone 6x8x6 ins. above ground, marked and witnessed as described by the surveyor general. Thence
	N.51°26'E.
4.46	Intersect Angle point No.453, which is a pine, 15 ins. in diam., marked as described by the surveyor general. Thence
	N.49°30'E.
5.43	Intersect Angle point No.452, which is a juniper 18 ins. in diam., marked as described by the surveyor general. Thence
	N.28°31'E.
3.71	Intersect Angle point No.451, which is a pine 12 ins. in diam., marked as described by the surveyor general.
	N.53°11'E.
12.01	Intersect Angle point No.450, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence
	S.78°13'E.
5.02	Intersect Angle point No.449, which is a juniper 24 ins. in diam., marked as described by the surveyor general. Thence
	S.1°51'W.
10.97	Intersect the 63 mile mon., which is a sandstone 12x8x6 ins., above ground, marked and witnessed, as described by the surveyor general. Land, mountainous. Soil, stony, 4th rate. Timber, oak, juniper and pine.

63RD. MILE.

	From 63 mile mon., S 23°24'E.
	Over stony, mountainous land, along rim of the Mogollon Mesa, through heavy pine and juniper timber and brush.
3.76	Intersect Angle point No.447, which is a sandstone 18x10x7 ins., above ground, marked and witnessed as described by the surveyor general. Thence
	S.68°36'E.
5.59	Intersect Angle point No.446, which is a dead pine, 12 ins.

28. Retracement of part of N. bdy. of Fort Apache Indian Reservation.

Chains.	in diam., marked as described by the surveyor general. Thence
3.03	S.29°43'E. Intersect Angle point No.445, which is a juniper, 18 ins. in diam., marked as described by the surveyor general. Thence
11.05	S.48°23'E. Intersect Angle point No.444, which is a juniper, 18 ins. in diam., marked as described by the surveyor general. Thence
9.15	S.25°13'E. Intersect Angle point No.443, which is a juniper, 18 ins. in diam., marked as described by the surveyor general. Thence
8.66	S.33°28'E. Intersect the 62 $\frac{1}{2}$ mile mon., which is a sandstone 16x12x6 ins., above ground, marked and witnessed as described by the surveyor general. Thence
1.76	S.25°40'E. Intersect Angle point 441 which is a pine 30 ins. in diam., marked as described by the surveyor general. Thence
9.12	S.45°22'E. Intersect Angle point No.440, which is a juniper post 4 ins. sq., 4 ft. above ground, marked and witnessed as described by the surveyor general. Thence
4.10	S.37°14'E. Intersect Angle point No.439, which is a juniper, 18 ins. in diam., marked as described by the surveyor general. Thence
11.26	S.25°11'E. Intersect Angle point No.438, which is a dead pine, 12 ins. in diam., marked as described by the surveyor general. Thence
6.35	S.19°44'E. Intersect Angle point No.437, which is a sandstone 18x12x4 ins., above ground, marked and witnessed as described by the surveyor general. Thence
4.58	S.16°37'E. Intersect Angle point No.436, which is a juniper, 12 ins. in diam., marked as described by the surveyor general. Thence,
2.00	S.60°41'E. Wire fence along N. bdy. of reservation, brs N.80°W. and S.80°E.
2.76	Intersect the reestablished closing cor. of secs.1 and 2, T.9 N., R.21 E., described in Book "J." Thence
4.10	IN SEC.1, T.9 N., R.21 E. Continuing measurement from Angle Point No.436. Intersect the 62 mile mon, which is a sandstone 12x6x6 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, stony, clay loam, 3rd and 4th rate. Timber, oak, juniper and pine. The sky was overcast with clouds at noon today; no observation for latitude possible. July 17, 1915.

62ND. MILE.	
July 19, 1915. At 7h.6m.a.m., l.m.t., I set off 34°10 $\frac{1}{2}$ 'N. on the lat.arc; 20°59 $\frac{1}{2}$ 'N. on the decl.arc, and determine a meridian with the solar compass at the 62 mile mon. Thence	
S.8°12'E.	

Retracement of part of North bdy of Fort Apache Indian Reservation 29

Chains.

- Along top of rim of the Mogollon Mesa, over rough, stony, mountainous land, through oak, juniper and pine timber and brush.
- 1.00 Wire fence along N. bdy. of Indian Reservation brs. N. and S.
- 2.86 Intersect the reestablished closing cor. of secs. 1 and 12, T.9 N., R.21 E., described in Book "J."
Thence
IN SEC. 12, T.9 N., R.21 E.
- 6.90 Continuing measurement from 62 mile mon.
Intersect Angle point No. 434, which is a sandstone 18x12 x8 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
S. 9°50' W.
- 6.95 Intersect Angle point No. 433, which is a juniper 10 ins. in diam., marked as described by the surveyor general.
Thence
S. 48°53' W.
- .25 Wire fence along N. bdy. of the Indian Reservation, brs. N. 9° E. and S. 9° W.
- 1.09 Intersect Angle point No. 432, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence
S. 29°53' W.
- .32 Intersect the reestablished closing cor. of secs. 11 and 12, T.9 N., R.21 E., described in Book "J."
Thence
IN SEC. 11, T.9 N., R.21 E.
- .40 Continuing measurement from Angle Point No. 432.
Wire fence along N. bdy. of the Indian Reservation, brs. N. 32° E. and S. 32° W.
- 6.90 Intersect Angle point No. 431, which is a juniper 18 ins. in diam., marked as described by the surveyor general.
Thence
S. 7°2' E.
- 4.94 Intersect Angle point No. 430, which is a juniper 16 ins. in diam., marked as described by the surveyor general.
Thence
S. 58°47' E.
- 3.20 Intersect the reestablished closing cor. of secs. 11 and 12, T.9 N., R.21 E., described in Book "J."
Thence
IN SEC. 12, T.9 N. R. 21 E.
- 6.26 Continuing measurement from Angle Point No. 430.
Intersect Angle point No. 429, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence
S. 19°10' E.
- 3.56 Intersect Angle point No. 428, which is a juniper, 18 ins. in diam., marked as described by the surveyor general.
Thence
S. 49°55' E.
- 3.00 Intersect Angle point No. 427, which is a dead pine, 14 ins. in diam., marked and witnessed as described by the surveyor general.
Thence,
S. 15°00' E.
- 1.97 Intersect the 61½ mile mon., which is a sandstone 18x14x4 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
S. 25°25' E.
- 5.07 Intersect Angle point No. 426, which is a dead pine 12 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
S. 83°28' E.
- 5.90 Intersect Angle point No. 425, which is a juniper 10 ins. in diam., marked as described by the surveyor general.
Thence
N. 76°27' E.

30. Retracement of part of the North bdy. of the Fort Apache Ind Res

Chains.	
8.18	Intersect Angle point No.424, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, N.39°30'E.
5.46	Intersect Angle point No.423, which is a quartzite stone 18x6x8 ins., above ground, marked and witnessed as described by the surveyor general. Thence N.72°41'E.
4.65	Intersect Angle point No.422, which is a juniper 12 ins. in diam., marked and witnessed as described by the surveyor general. Thence N.56°41'E.
8.08	Intersect Angle point No.421, which is a dead pine, 14 ins. in diam., marked and witnessed as described by the surveyor general. Thence N.43°30'E.
3.64	Intersect the 61 mile mon., which is a sandstone 12x6x12 ins., above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, dry, stony clay loam on stone and clay sub-soil. Timber, oak, juniper and pine. Good growth grass.
----- 61ST. MILE.	
	From 61 mile mon., N.21°35'E. Along top of rim of the "Mogollon Mesa," over mountainous land, through heavy pine, juniper, and oak timber.
1.65	Intersect Angle point No.420, which is a dead pine, 18 ins. in diam., marked and witnessed as described by the surveyor general. Thence N.24°47'E.
4.18	Intersect Angle point No.419, which is a pinon pine, 14 ins. in diam., marked as described by the surveyor general. Thence N.53°06'E.
4.29	Intersect Angle point No.418, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence N.72°30'E.
1.87	Intersect Angle point No.417, which is a juniper, 10 ins. in diam., marked as described by the surveyor general. Thence S.82°45'E.
1.73	Intersect Angle point No.416, which is a pinon pine, 12 ins. in diam., marked as described by the surveyor general. Thence S.88°25'E.
8.66	Intersect Angle point No.415, which is a dead juniper 14 ins. in diam., marked as described by the surveyor general. Thence N.70°08'E.
4.35	Intersect Angle point No.414, which is a pine, 15 ins. in diam., marked as described by the surveyor general. Thence N.85°E.
14.27	Intersect the 60½ mile mon., which is a sandstone 8x6x10 ins., above ground, marked and witnessed as described by the surveyor general. Thence N.32°30'E.
.56	Intersect Angle point No.412, which is a pine, 18 ins. in diam., marked as described by the surveyor general.

Retracement of part of N. bdy. of Fort Apache Indian Reservation. 31.
Chains.

- At this cor., I set off $20^{\circ}57\frac{1}{2}'$ N. on the decl. arc, and at noon, apparent time, observe the sun on the meridian, and obtain a reading of $34^{\circ}10\frac{1}{2}'$ N. on the lat. arc.
- At 1h.15m.p.m., a rain storm prevents further field work on this day. July 19, 1915.
- July 20, 1915. At 7h.36.1m. a.m., l.m.t., I set off $34^{\circ}10'$ N. on the lat. arc; $20^{\circ}49\frac{1}{2}'$ N. on the decl. arc, and determine a meridian with the solar compass at this Angle point.
- Thence,
N. $68^{\circ}40'$ E.
- 3.41 Intersect the reestablished closing cor. of Ts. 9 N., R. 22 E., Rs. 21 and 22 E., described in Book "A."
- Thence
IN SEC. 7, T. 9 N., R. 22 E.
- Continuing measurement from Angle point No. 412.
- 4.49 Intersect Angle point No. 411, which is a dead juniper 30 ins. in diam., marked and witnessed as described by the surveyor general.
- Thence
N. $22^{\circ}00'$ E.
- 4.28 Intersect Angle point No. 410, which is a juniper 12 ins. in diam., marked as described by the surveyor general.
- Thence
N. $41^{\circ}42'$ E.
- 6.41 Intersect Angle point No. 409, which is a stake 4 ins. in diam., 3 ft. above ground, marked and witnessed as described by the surveyor general.
- Thence
N. $23^{\circ}28'$ E.
- 2.61 Intersect the reestablished closing cor. of secs. 6 and 7, T. 9 N., R. 22 E., described in Book "K."
- Thence
IN SEC. 6, T. 9 N., R. 22 E.
- Continuing measurement from A.P. No. 409.
- 7.78 Intersect Angle point No. 408, which is a juniper post 4 ins. sq., 3 ft. above ground, marked and witnessed as described by the surveyor general.
- Thence
N. $62^{\circ}50'$ E.
- 4.72 Intersect Angle point No. 407, which is a pine, 10 ins. in diam., marked as described by the surveyor general.
- Thence
N. $24^{\circ}05'$ E.
- 3.61 Intersect Angle point No. 406, which is a juniper 24 ins. in diam., marked as described by the surveyor general.
- Thence
N. $73^{\circ}20'$ E.
- 4.16 Intersect Angle point No. 405, which is a pine, 18 ins. in diam., marked as described by the surveyor general.
- Thence
N. $57^{\circ}40'$ E.
- 4.87 Intersect the 60th mile mon. which is a sandstone $6 \times 8 \times 10$ ins. above ground, marked and witnessed as described by the surveyor general.
- Land, mountainous.
Soil, poor, dry, stony clay loam, 3rd and 4th rate.
Timber, oak, juniper and pine.

60TH. MILE.

- From 60 mile mon.,
S. $79^{\circ}45'$ E.
- Along rim of the Mogollon Mesa, over mountainous land, through heavy pine and juniper timber and brush.
- 3.84 Intersect Angle point No. 403, which is a pine 12 ins. in diam., marked as described by the surveyor general.
- Thence,
N. $76^{\circ}05'$ E.

32 Retracement of part of N bdy. of Fort Apache Ind. Reservation.

Chains.	
11.06	Intersect Angle point No.402, which is a juniper 36 ins. in diam., marked as described by the surveyor general. Thence N.56°10'E.
6.70	Intersect Angle point No.401, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence, N.79°20'E.
3.18	Intersect Angle point No.400, which is a cedar, 12 ins. in diam., marked as described by the surveyor general. Thence, N.60°10'E.
5.43	Intersect Angle point No.399, which is a pinon pine, 12 ins. in diam., marked as described by the surveyor general. Thence N.21°21'E.
7.10	Intersect Angle point No.398, which is a dead pine stump, 16 ins. in diam., marked and witnessed as described by the surveyor general. Thence N.89°08'E.
3.76	Intersect the 59 $\frac{1}{2}$ mile mon., which is a sandstone 18x8x6 ins. above ground, marked and witnessed as described by the surveyor general. Thence N.55°48'E.
7.06	Intersect Angle point No.396, which is a juniper 12 ins. in diam., marked as described by the surveyor general. Thence N.81° 3' E.
6.06	Intersect Angle point No.395, which is the stump of a dead pine, 14 ins. in diam., marked and witnessed as described by the surveyor general. Thence S.57° 58'E.
4.83	Intersect Angle point No.394, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence N.82° 28'E.
4.49	Intersect the reestablished closing cor. of secs. 5 and 6, T.9 N., R.22 E., described in Book "K." Thence IN SEC. 5, T9N. R 22 E.
5.44	Continuing measurement from Angle Point No.394. Intersect Angle point No.393, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence S 27°00'E.
7.56	Intersect Angle point No.392, which is a pinion pine, 8 ins. in diam., marked as described by the surveyor general. Thence S.2°23'E.
10.83	Intersect the 59 mile mon., which is a sandstone 10x10x8 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, stony, 3rd and 4th rate. Timber, juniper, oak, cedar and pine.

59TH. MILE.	
	From 59 mile mon., S.26°49'E.
	Along top of rim of the "Mogollon Mesa, over mountainous land, through heavy pine, juniper and oak timber and brush.
3.34	Intersect Angle point No.390, which is a pine, 18 ins. in diam., marked as described by the surveyor general.

Retracement of part of N. bdy. of Fort Apache Indian Reservation 33.

Chains.	
	Thence, S. 8°49'W.
.55	Wire fence along N. bdy. of Indian Reservation, brs. NW. and SE.
9.64	Intersect Angle point No. 389, which is a pine 24 ins. in diam., marked as described by the surveyor general.
	Thence S. 8°05'E.
2.74	Intersect the reestablished closing cor. of secs. 5 and 8, T.9 N., R.22 E., described in Book "K."
	Thence IN SEC. 8, T.9 N., R.22 E.
4.69	Continuing measurement from Angle point N. 389. Intersect Angle point No. 388, which is a juniper, 12 ins. in diam., marked as described by the surveyor general.
	Thence S. 58°13'E.
5.65	Intersect Angle point No. 387, which is a stump of a 12 in. pine, marked and witnessed as described by the surveyor general.
	Thence N. 88°04'E.
11.77	Intersect Angle point No. 386, which is a sandstone 18x10x6 ins. above ground, marked and witnessed as described by the surveyor general. At this cor., I set off 20°46' N. on the decl. arc, and at noon, apparent time, observe the sun on the meridian, and obtain a reading of 34°10' N. on the lat. arc.
	Thence S. 50°55'E.
5.99	Intersect the 58 ¹ / ₂ mile mon., which is a sandstone 18x6x18 ins. above ground, marked and witnessed as described by the surveyor general.
	Thence S. 0°45'E.
4.42	Intersect Angle point No. 384, which is a pine 18 ins. in diam., marked and witnessed as described by the surveyor general.
	Thence S. 16°50'E.
2.68	Intersect Angle point No. 383, which is a pine, 24 ins. in diam., marked as described by the surveyor general.
	Thence S. 52° 39'E.
.10	Road brs. NW. and SE.
10.00	Road brs. NW. and SE.
14.50	Intersect Angle point No. 382, which is a pine 24 ins. in diam., marked as described by the surveyor general.
	Thence S. 19° 29'W.
7.69	Intersect Angle point No. 381, which is an oak, 6 ins. in diam., marked as described by the surveyor general.
	Thence S. 15°08'E.
4.73	Intersect Angle point No. 380, which is a ledge of sandstone 4x3x2 ft. above ground, marked and witnessed as described by the surveyor general.
	Thence S. 11°30'E.
7.33	Intersect the 58 mile mon., which is a sandstone 14x14x8 ins. above ground, marked and witnessed, as described by the surveyor general.
	Land, mountainous. Soil, poor, dry, stony clay loam, 3rd and 4th rate. Timber, oak, juniper and pine.

34. Retracement of part of N. bdy. of Fort Apache Indian Reservation.

Chains.

58TH. MILE.

From 58 mile mon.,

S. 43° 59' E.

Along rim of the Mogollon Mesa, over mountainous land, through heavy pine and juniper timber and brush.

- 14.53 Intersect Angle point No. 378, which is a pine 14 ins. in diam., marked as described by the surveyor general.
Thence

S. 5° 43' E.

- 1.45 Wire fence along N. bdy. of the Indian Reservation, brs. N. and S.

- 6.07 Intersect Angle point No. 377, which is a pine 14 ins. in diam., marked as described by the Surveyor General.
Thence,

S. 40° 46' E.

- 10.05 Intersect Angle point No. 376, which is a pinon pine, 14 ins. in diam., marked as described by the surveyor general.
Thence

N. 61° 30' E.

- 5.10 Intersect Angle point No. 375, which is a pine, 18 ins. in diam., marked as described by the surveyor general.
Thence

S. 77° 46' E.

- 4.65 Intersect the 57½ mile mon., which is a sandstone 12x10x10 ins. above ground, marked and witnessed as described by the surveyor general.
Thence

S. 72° 30' E.

- 4.18 Intersect Angle point No. 374, which is a juniper 12 ins. in diam., marked as described by the surveyor general.
Thence

S. 51° 40' E.

- 11.97 Intersect Angle point No. 373, which is a pine, 14 ins. in diam., marked as described by the surveyor general.
Thence

S. 11° 00' E.

- 3.16 Intersect Angle point No. 372, which is a sandstone 18x12x5 ins., above ground, marked and witnessed as described by the surveyor general.
Thence,

S. 31° 34' E.

- 1.80 Intersect the reestablished closing cor. of secs. 8 and 17, T. 9 N., R. 22 E., described in Book "K."
Thence

IN SEC. 17, T 9 N., R. 22 E.

Continuing measurement from Angle Point No. 372.

- 4.54 Intersect reestablished closing cor. of secs. 16 and 17 T. 9 N., R. 22 E., described in Book "K."
Thence

IN SEC. 16, T 9 N., R. 22 E.

Continuing measurement from Angle Point No. 372.

- 4.78 Intersect Angle point No. 371, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Discontinue use of Young and Son's solar compass No. 6802 at this point.

July 20, 1915.

August 2, 1915. On this date commence retracement with a Buff transit No. 9793, described in Book "A," which instrument I employ in retracing the portion of the line described in the remainder of this book.

At 10h. 5.1m., a.m., l.m.t., I set off 34° 10½' N. on the lat. arc; 17° 56' N. on the decl. arc, and determine a meridian with the solar at this Angle point.

Thence

S. 8° 00' W.

- .95 Intersect reestablished closing cor. of secs. 16 and 17 T. 9 N., R. 22 E., described in Book "A."
Thence

IN SEC. 17 T 9 N., R. 22 E.

Continuing measurement from Angle point No. 371.

Retracement of part of N.bdy, of Fort Apache Indian Reservation. 35

Chains

2.22 Intersect Angle point No.370, which is a pine 14 ins. in diam., marked as described by the surveyor general.

Thence

S. 53°54'E.

.21 Intersect reestablished closing cor. of secs. 16 and 17, T.9 N., R.22 E., described in Book "K."

Thence

IN SEC. 16, T.9 N., R.22 E.

Continuing measurement from Angle point No.370.

6.66 Intersect Angle point No.369, which is a pine 12 ins. in diam., marked as described by the surveyor general.

Thence

S. 55°00'E.

2.60 Intersect Angle point No.368, which is a juniper 12 ins. in diam., marked as described by the surveyor general.

Thence

S. 31°12'E.

5.37 Intersect the 37 mile mon., which is a sandstone 18x16x12 ins. above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, stony, 3rd and 4th rate.

Timber, oak, juniper and pine.

57TH. MILE.

From 57 mile mon.,

S. 19°00'E.

Over rolling, stony, mountainous land, along rim of the "Mogollon Mesa," through heavy pine and juniper timber and brush.

7.06 Intersect Angle point No.366, which is a juniper 15 ins. in diam., marked as described by the surveyor general.

Thence

S. 87°00'E.

3.83 Intersect Angle point No.365, which is a pine 12 ins. in diam., marked as described by the surveyor general.

Thence

S. 18°30'E.

11.09 Intersect Angle point No.364, which is a dead juniper, 12 ins. in diam., marked and witnessed as described by the surveyor general.

Thence

S. 57° 21'E.

2.93 Intersect Angle point No.363, which is a pine, 12 ins. in diam., marked and witnessed as described by the surveyor general.

Thence

S. 49°30'E.

3.90 Road from Pinedale, to Forestdale, Arizona, brs. E. and W.

15.26 Intersect Angle point No.362, which is a juniper 18 ins. in diam., marked as described by the surveyor general.

Thence

S. 48°05'E.

1.35 Intersect the 56½ mile mon., which is a sandstone 10x8x2 ins. above ground, marked and witnessed as described by the surveyor general.

Thence

S. 34°56' E.

7.07 Intersect Angle point No.361, which is a pine, 24 ins. in diam., marked as described by the surveyor general.

Thence

S 17°41'W.

6.74 Intersect Angle point No.360, which is a juniper, 14 ins. in diam., marked as described by the surveyor general.

Thence,

S. 35°40'W.

10.38 Intersect Angle point No.359, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence

36. Retracement of part of N. bdy. of Fort Apache Indian Reservation.

Chains.

- S. 2°37'W.
- 8.03 Intersect Angle point No. 358, which is a stump of pine, 14 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
- S. 18°12'W.
- 5.68 Intersect the reestablished closing cor. of secs. 16 and 21, T. 9 N., R. 22 E., described in Book "K."
Thence
- IN SEC. 21, T. 9 N., R. 22 E.
- 8.69 Continuing measurement from Angle point No. 358. Intersect the 56 mile cor., which is a sandstone 24x12x4 ins. above ground, marked and witnessed as described by the surveyor general.
At this cor., I set off 17°55'N. on the decl. arc, and at noon, apparent time, August 2, 1915, observe the sun on the meridian, the resulting lat. being 34°09'N.
Land, rolling mountains.
Soil, poor, dry, stony clay loam on clay subsoil.
Timber, oak, juniper and pine.
-
- 56TH. MILE.
- S. 13°00'E.
- Along rim of the Mogollon Mesa, over rolling, stony, mountainous land, through oak, juniper, and pine timber and brush.
- 7.07 Intersect Angle point No. 356, which is a pine 10 ins. in diam., marked as described by the surveyor general.
Thence,
- S. 67°45'E.
- 2.28 Intersect Angle point No. 355, which is a juniper 15 ins. in diam., marked as described by the surveyor general.
Thence
- S. 42°00'E.
- 15.78 Intersect Angle point No. 354, which is a juniper 20 ins. in diam., marked as described by the surveyor general.
Thence
- S. 72°37'E.
- 15.04 Intersect Angle point No. 353, which is a pine 15 ins. in diam., marked as described by the surveyor general.
Thence
- N. 69°40'E.
- 1.62 Intersect the 55 mile cor., which is a sandstone 10x8x6 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
- N. 68°38'E.
- 5.68 Intersect Angle point No. 352, which is a pine, 14 ins. in diam., marked as described by the surveyor general.
Thence
- S. 5°35'E.
- 19.93 Intersect Angle point No. 351, which is a pine 18 ins. in diam., marked as described by the surveyor general.
Thence
- S. 24°35'W.
- 3.86 Intersect Angle point No. 350, which is a juniper 20 ins. in diam., marked as described by the surveyor general.
Thence
- S. 62°26'W.
- 11.87 Intersect the 55 mile mon., which is a sandstone 8x6x8 ins. above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, poor, dry, stony clay loam, 3rd rate.
Timber, oak, juniper and pine.
-

Retracement of part of N.bdy. of Fort Apache Indian Reservati^on. 37

Chains.		
	55TH. MILE.	
	From 55 mile mon., S.71°30'W. Along rim of the Mogollon Mesa. Over rolling, stony, mountainous land, through heavy pine and juniper timber, and brush.	
5.27	Intersect Angle point No.348, which is a dead pine, 18 ins. in diam., marked as described by the surveyor general. Thence, S.22° 27' W.	
5.13	Intersect Angle point No.347, which is a fir 15 ins. in diam., marked as described by the surveyor general. Thence	
7.65	Intersect Angle point No.346, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence	
8.75	Intersect Angle point No.345, which is a pine 15 ins. in diam., marked as described by the surveyor general. Thence	
7.23	Intersect the reestablished closing cor. of secs.21 and 28 T.9 N.,R.22 E., described in Book "K." Thence	
	IN SEC.28, T.9 N., R.22 E.	
7.30	Continuing measurement from Angle point No.345. Intersect Angle point No. 344, which is a pine 10 ins. in diam., marked as described by the surveyor general. Thence	
5.41	Intersect Angle point No.343, which is a pine 6 ins. in diam., marked as described by the surveyor general. Thence	
1.72	Intersect the 54 ¹ / ₂ mile mon., which is a sandstone 12x12x4 ins. above ground, marked and witnessed as described by the surveyor general. Thence	
8.00	Intersect Angle point No.341 which is a pine, 24 ins. in diam., marked as described by the surveyor general. Thence,	
7.67	Intersect Angle point No.340, which is a pine 16 ins. in diam., marked as described by the surveyor general. Thence	
11.71	Intersect Angle point No.339, which is a juniper 30 ins. in diam., marked as described by the surveyor general. Thence	
5.32	Intersect Angle point No.338, which is a juniper, 10 ins. in diam., marked as described by the surveyor general. Thence	
3.98	Intersect Angle point No.337, which is a pine post, 4 ins. square, 3 ft. above ground, marked and witnessed as described by the surveyor general. Thence	
3.83	Intersect the 54 mile mon, which is a sandstone 8x10x12 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, sandy and stony clay loam, medium, rich, pn clay subsoil. Timber, oak, juniper and pine.	

38. Retracement part of N. bdy. of Fort Apache Indian Reservation

Chains.

54TH. MILE.

- From 54 mile mon.,
S. $36^{\circ}45'E$.
Along rim of the Mogollon Mesa, over mountainous land,
through heavy pine and juniper timber and brush.
- 4.69 Intersect Angle point No. 335, which is a dead pine, 14 ins.
in diam., marked and witnessed as described by the
surveyor general.
Thence
S. $71^{\circ}00'E$.
- 9.48 Intersect Angle point No. 334, which is a fir 12 ins. in
diam., marked as described by the surveyor general.
Thence
N. $72^{\circ}05'E$.
- 8.68 Intersect Angle point No. 333, which is a juniper, 15 ins.
in diam., marked as described by the surveyor general.
August 2, 1915.
July 31, 1915. At 1h. 21.2m. p.m., l.m.t., I set off 34°
 $07\frac{1}{2}'N$. on the lat. arc; $18^{\circ}24\frac{1}{2}'N$. on the decl. arc, and
determine a meridian with the solar at this Angle point.
Thence
S. $56^{\circ}00'E$.
- 5.21 Intersect the reestablished closing cor. of secs. 27 and 28,
T. 9 N., R. 22 E., described in Book "K."
Thence
IN SEC. 27, T. 9 N., R. 22 E.
- 6.74 Continuing measurement from Angle point No. 333.
Intersect Angle point No. 332, which is a fir 24 ins. in diam.,
marked as described by the surveyor general.
Thence,
S. $41^{\circ}42'E$.
- 9.84 Intersect Angle point No. 331, which is a juniper, 14 ins.
in diam., marked as described by the surveyor general.
Thence
S. $27^{\circ}30'E$.
- 1.80 Intersect the $53\frac{1}{2}$ mile mon., which is a sandstone $12 \times 12 \times 4$
ins. above ground, marked and witnessed as described
by the surveyor general.
Thence
S. $42^{\circ}45'E$.
- 5.00 Intersect Angle point No. 330, which is a pine 18 ins. in
diam., marked as described by the surveyor general.
Thence
S. $41^{\circ}33'E$.
- 5.46 Intersect Angle point No. 329, which is a juniper 14 ins. in
diam., marked as described by the surveyor general.
Thence
S. $42^{\circ}07'E$.
- 8.64 Intersect Angle point No. 328, which is a pine 12 ins. in
diam., marked as described by the surveyor general.
Thence
N. $73^{\circ}53'E$.
- 7.53 Intersect Angle point No. 327, which is a sandstone $18 \times 10 \times 6$
ins., marked as described by the surveyor general.
Thence
N. $43^{\circ}07'E$.
- 7.64 Intersect Angle point No. 326, which is a juniper 20 ins.
in diam., marked as described by the surveyor general.
Thence
S. $72^{\circ}46'E$.
- 7.23 Intersect the 53 mile mon., which is a sandstone $18 \times 10 \times 8$
ins. above ground, marked and witnessed as described
by the surveyor general.
Land, rolling mountains.
Soil, medium rich dry sandy loam 6 to 12 ins. deep on stone
and clay subsoil.
Timber, oak, juniper and pine.

Retracement of part of N. bdy. of Fort Apache Indian Reservation. 39

Chains.

53RD.MILE.

From 53 mile mon.,
S 81°00'E.
Over rolling sandy land on rim of the Mogollon Mesa,
through heavy pine and juniper timber.

2.56 Intersect Angle point No. 325, which is a juniper 15 ins.
in diam., marked as described by the surveyor general.
Thence

N. 59° 30' E.
3.99 Intersect Angle point No. 324, which is a sandstone 18x8x
6 ins. above ground, marked and witnessed as described
by the surveyor general.
Thence

S. 82° 00' E.
13.89 Intersect Angle point No. 323, which is a sandstone 18x10x
6 ins., above ground, marked and witnessed as de-
scribed by the surveyor general.
Thence

S. 78° 06' E.
19.20 Intersect the reestablished closing cor. of secs. 26 and 27,
T. 9 N., R. 22 E., described in Book "K."
Thence

IN SEC. 26, T. 9 N., R. 22 E.
Continuing measurement from Angle point No. 323.
22.42 Intersect the 52 1/2 mile cor., which is a sandstone 18x10x10
ins. above ground, marked and witnessed as described
by the surveyor general.
Thence

S. 73 1/4° E.
1.17 Intersect Angle point No. 322, which is a pine 10 ins. in
diam., marked as described by the surveyor general.
Thence

S. 57° 22' E.
15.99 Intersect Angle point No. 321, which is a pine 12 ins.
in diam., marked and witnessed as described by the
surveyor general.
Thence,

S. 60° 15' E.
2.43 Intersect the reestablished closing cor. of secs. 26 and 35,
T. 9 N., R. 22 E., described in Book "K."
Thence

IN SEC. 35, T. 9 N., R. 22 E.
Continuing measurement from Angle point No. 321.
10.00 Intersect Angle point No. 320, which is a pine 18 ins. in
diam., marked as described by the surveyor general.
Thence,

N. 88° 18' E.
13.84 Intersect the 52 mile mon., which is a sandstone 18x12x10
ins. above ground, marked and witnessed as described
by the surveyor general.
Land, rolling.
Soil, dry, sandy loam, medium rich on sandstone and clay
subsoil.
Timber, oak, juniper and pine.

PART OF 52ND. MILE.

From 52 mile mon.,
S. 86° 45' E.
Over rolling, sandy land on rim of the Mogollon Mesa,
through heavy pine timber.

.91 Intersect Angle point No. 318, which is a sandstone 18x8x10
ins. above ground, marked and witnessed as described
by the surveyor general.
Thence

S. 23° 58' E.
24.78 Intersect Angle point No. 317, which is a malpais stone,
18x10x10 ins. above ground, marked and witnessed as de-
scribed by the surveyor general.

40. Retracement of part of N. bdy. of Fort Apache Indian Reservation.

Chains.	
	Thence S. 5°52'W.
5.95	Intersect Angle point No. 316, which is a pine, 15 ins. in diam., marked as described by the surveyor general.
	Thence S. 19°41'E.
18.71	Intersect 5 1/2 mile mon., which is a sandstone 8x8x5 ins. above ground, marked and witnessed as described by the surveyor general. Thence, S. 19°40'E.
5.00	Wire fence along N. bdy. of the Indian Reservation, brs. N. and S.
32.18	Intersect the reestablished closing cor. of T. 9 N., R. 22 E. on the 2nd Standard Parallel N., described in Book "C." Thence IN SEC. 1, T. 8 N., R. 22 E.
32.60	Continuing measurement from 5 1/2 mile mon. Intersect Angle point No. 315, which is a pine 15 ins. in diam., marked as described by the surveyor general. Discontinue retracement of 52nd mile at this Angle point. Land, rolling mesa. Soil, rich medium fine dry sandy loam, 6 to 12 ins. deep on stony, clay subsoil. Timber, pine, oak and scattering juniper. Good growth bunch grass. The sky was overcast by clouds until afternoon today, rendering an observation for latitude impossible. July 31, 1915.

PART OF 40TH. MILE.

	August 9, 1915. At 9h. 50.5m. a.m., l.m.t., I set off 34° 06' N. on the lat. arc; 16° 03 1/4' N. on the decl. arc, and determine a meridian with the solar at Angle point No. 235, which is a pine, 18 ins. in diam., marked as described by the surveyor general, situated approximately in sec. 16 of T. 8 1/2 N., R. 24 E. unsurveyed. Thence, N. 48° 06' E. IN SECS. 16 and 15 T. 8 1/2 N., R. 24 E., UNSURVEYED. Along top of divide, between the head waters of the Salt and Little Colorado rivers, over mountainous land, through heavy pine and fir timber. Descend 60 ft.
10.00	Saddle in divide, brs. E. and W.: ascend SW. slope of crater peak, 80 ft.
16.12	Intersect the reestablished closing cor. of T. 9 N., R. 24 E. on the 2nd. Standard Parallel N., described in Book "C." Thence IN SEC. 33, T. 9 N., R. 24 E.
18.97	Continuing measurement from A.P. No. 235. Intersect the 39 mile mon., which is a malpais stone 10x8x12 ins., above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, stony, 3rd and 4th rate. Timber, pine and fir.

PART OF 39TH. MILE.

	From 39 mile mon., N. 51° 10' E.
	Along top of the divide, bet. the head waters of the Salt and Little Colorado Rivers. Ascend SW. slope, of Crater Peak 60 ft., over stony, mountainous land, through heavy pine and fir timber.
3.68	Intersect Angle point No. 234, which is a pine 18 ins. in diam., marked as described by the surveyor general. This cor. is at top of ascent on S. rim of old crater.

Retracement of part of N.bdy. of Fort Apache Indian Reservation. 41.

Chains.	Thence, N.41°50'E. Descend 25 ft. into crater.
5.79	Intersect Angle point No.233, which is a pine, 18 ins. in diam., marked as described by the surveyor general. This Angle point is in the bottom of old crater. Thence, N.68°14'E. Ascend S. slope, 25 ft.
6.05	Intersect Angle point No.232, which is a pine 24 ins. in diam., marked as described by the surveyor general. This Angle point is at the top of ascent on N.rim of old crater. Thence S.51°12'E. Descend SE.slope of Crater peak, 175 ft.
17.40	Foot of steep descent, cross road from Fort Apache to St. Johns, Arizona, brs.NE. and SW.
17.51	Intersect the reestablished closing cor. of T.9 N., R.24 E., on 2nd. Standard Parallel N., described in Book "C." Thence IN SEC 15 (approx.) T.8½ N. R.24 E. UNS.
18.87	Continuing measurement from Angle point No.232. Intersect Angle point No.231, which is a pine 24 ins. in diam., marked as described by the surveyor general. Discontinue retracement of 39th mile at this Angle Point. Land, mountainous. Soil, stony, 3rd and 4th rate. Timber, oak, pine and fir. Good growth grass.
----- PART OF 36TH. MILE.	
August 21, 1915. At 7h. 58.2m., a.m., l.m.t., I set off 34°06'N. on the lat. arc; 12°20½'N. on the decl. arc, and determine a meridian with the solar at Angle point No. 216; which is a pine 8 ins. in diam., marked as described by the surveyor general., situated in sec.13 (approx.) T.8½ N., R.24 E., Unsurveyed. Thence N.27°40'E. IN SEC.13 (APPROX.) T.8½ N., R.24 E., Unsur.	
Along the top of the divide between the head waters of the Salt and Little Colorado rivers. Over stony, mountainous land, through heavy pine. fir and aspen timber.	
7.05	Intersect the reestablished closing cor. of T.9 N., R.24 E. on the 2nd. Standard Parallel N., described in Book "C." Thence IN SEC.36, T.9 N., R.24 E.
10.26	Continuing measurement from Angle Point No.216. Intersect Angle point No.215, which is a dead pine, 18 ins. in diam., marked and witnessed as described by the surveyor general. Thence N.43°22'E.
4.60	Intersect the 35½ mile mon., which is a malpais stone 24x18x8 ins., marked and witnessed as described by the surveyor general. Thence N.54°47'E.
3.86	Intersect Angle point No.214, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence N.68°58'E.
14.00	Intersect Angle point No.213, which is a pine, 24 ins. in diam.,

42. Retracement of part of N.bdy. of Fort Apache Indian Reservation.

Chains.

- diam., marked as described by the surveyor general.
Thence
S. 70°45'E.
- 9.24 Intersect Angle point No.212, which is a pine, 18 ins. in
diam., marked as described by the surveyor general.
Thence N. 81°48'E.
- 13.82 Intersect the 35 mile mon., which is a malpais stone 15x10
x12 ins., above ground marked and witnessed as de-
scribed by the surveyor general.
Land, mountainous.
Soil, stony, 3rd and 4th rate.
Timber, aspen, fir and pine.
Good growth grass.
-
- 35TH. MILE.
- From 35 mile mon.,
N. 47° 55'E.
- Over stony, mountainous land, along top of the divide bet.
the head waters of the Salt and Little Colorado rivers,
through heavy pine and fir timber.
- 1.87 Intersect the reestablished closing cor. of Ts. 9 N., Rs. 24
and 25 E. on 6th. Guide Meridian E., described in Book
"C."
Thence
IN SEC. 31, T. 9N., R. 25 E.
- 14.32 Continuing measurement from 35 mile mon.
Intersect Angle point No. 210, which is a pine 8 ins. in
diam., marked as described by the surveyor general.
Thence
S. 71°44'E.
- 8.30 Intersect Angle point No. 209, which is a pine, 16 ins. in
diam., marked as described by the surveyor general.
Thence
N. 52°33'E.
- 3.87 Ascend SW. slope of Pearce Spring Mountain, 250 ft.
Intersect Angle point No. 208, which is a pine 24 ins. in
diam., marked and witnessed as described by the surveyor
general.
Thence,
N. 22°02'W.
- 14.71 Intersect the 34 $\frac{1}{2}$ mile mon., which is a malpais stone
24x18x12 ins. above ground, marked and witnessed as de-
scribed by the surveyor general.
Thence,
N. 7°34'E.
- 7.60 Descend SE. slope, 175 ft.
Draw, 40 lks. wide, course east, ascend 50 ft.
- 19.03 Intersect Angle point No. 206, which is a pine 10 ins. in
diam., marked as described by the surveyor general.
Thence
N. 80°30'E.
- 21.69 Descend SE. slope of Pearce Spring mountain 200 ft.
Intersect the 34 mile mon., which is a malpais stone
12x10x6 ins. above ground, marked and witnessed as
described by the surveyor general.
Land, mountainous.
Soil, stony, 3rd and 4th rate.
Timber, aspen, fir and pine.
Good growth grass.
-

34TH. MILE.

- From 34 mile mon.,
N. 48°50'E.
Along the top of the divide between the head waters of
the Salt and Little Colorado rivers.

Retracement of part of N. bdy. of Fort Apache Indian Reservation 43.

Chains.

Over stony, mountainous land, through heavy aspen, pine and fir timber.

Descend.

1.70 Intersect Angle point No. 204, which is a pine 12 ins. in diam., marked as described by the surveyor general.

Thence,

N. 69° 38' E.

6.14 Intersect Angle point No. 203, which is a pine 14 ins. in diam., marked as described by the surveyor general.

Thence

S. 36° 15' E.

7.29 Intersect Angle point No. 202, which is a pine, 12 ins. in diam., marked as described by the surveyor general.

Thence

S. 59° 11' E.

7.58 Intersect Angle point No. 201, which is a malpais stone 24x18x12 ins. above ground, marked and witnessed as described by the surveyor general.

Thence

S. 87° 30' E.

9.00 Intersect Angle point No. 200, which is an aspen, 12 ins. in diam., marked as described by the surveyor general.

Thence

N. 22° 10' E.

1.00 Wire fence along N. bdy. of Indian Reservation, brs. N. 15° E. and S 15° W.

9.05 Intersect the 33 1/2 mile mon., which is a malpais stone 16x12x10 ins., above ground, marked and witnessed as described by the surveyor general.

Thence,

N. 20° 47' E.

Ascend SW. slope of mountain 200 ft.

16.63 Intersect Angle point No. 199, which is a pine 6 ins. in diam., marked as described by the surveyor general,

Thence

N. 87° 12' E.

5.65 Intersect the reestablished closing cor. of secs. 31 and 32, T. 9 N., R. 25 E., described in Book "M."

Thence

IN SEC. 32, T. 9 N., R. 25 E.

Continuing measurement from Angle point No. 199.

9.22 Intersect Angle point No. 198, which is a dead pine 26 ins. in diam., marked and witnessed as described by the surveyor general.

At this Angle point, I set off 12° 18' N. on the decl. arc; and at noon, apparent time August 21, 1915, observe the sun on the meridian, the resulting lat. being 34° 07' N.

Thence,

S. 66° 07' E.

Along top of divide, over broken stony land.

15.00 Intersect the 33 mile mon., which is a malpais stone 18x16x12 ins., above ground, marked and witnessed as described by the surveyor general.

Land, mountainous.

Soil, stony, 3rd and 4th rate.

Timber, aspen, fir and pine.

33RD. MILE.

From 33 mile mon.,

S. 66° 56' E.

Along top of the divide between the head waters of the Salt and Little Colorado rivers, over mountainous land, through heavy pine, aspen and fir timber.

7.36 Intersect Angle point No. 197, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence,

N. 63° 27' E.

44. Retracement of part of N. bdy. of Fort Apache Indian Reservation.

chains

- 10.83 Intersect Angle point No. 196, which is a pine 24 ins. in diam., as described by the surveyor general.
Thence,
S. 42°35'E.
- 6.62 Intersect Angle point No. 195, which is a pine 30 ins. in diam., as described by the surveyor general.
Thence,
N. 61°00'E.
- 7.88 Intersect Angle point No. 194, which is a pine 20 ins. in diam., marked as described by the surveyor general.
Thence
N. 46°48'E.
- 8.81 Intersect the 32 $\frac{1}{2}$ mile mon., which is a malpais stone 14x8x6 ins. above ground, marked and witnessed as described by the surveyor general.
Thence
N. 34°00'E.
- 5.18 Descend 55 ft., over NE. slope.
Intersect the reestablished closing cor. of secs. 29 and 32 T. 9 N., R. 25 E., described in Book "M."
Thence
IN SEC. 29, T. 9 N., R. 25 E.
- 16.43 Continuing measurement from 32 $\frac{1}{2}$ mile mon.,
Intersect Angle point No. 192, which is a pine 30 ins. in diam., marked as described by the surveyor general.
Thence
N. 48°46'E.
- 8.00 Ascend SW. slope, 250 ft.
Intersect Angle point No. 191, which is a dead pine 18 ins. in diam., marked and witnessed as described by the surveyor general.
Thence
N. 63°40'E.
- 4.52 Intersect Angle point No. 190, which is a pine 30 ins. in diam., marked as described by the surveyor general.
Thence
N. 82°36'E.
- 9.36 Intersect the reestablished closing cor. of secs. 28 and 29, T. 9 N., R. 25 E., described in Book "M."
Thence
IN SEC. 28, T. 9 N., R. 25 E.
- 11.35 Continuing measurement from Angle point No. 190.
Intersect the 32 mile mon., which is a malpais stone 18x18x10 ins. above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, stony, 3rd and 4th rate.
Timber, aspen, fir and pine.

August 21, 1915.

PART OF 27th. MILE.

- September 2, 1915. At 8h. 00m. a.m., l.m.t., I set off 34° 06' N. on the lat. arc; 8° 12' N. on the decl. arc, and determine a meridian with the solar at Angle Point No. 147, which is a pine, 18 ins. in diam., marked as described by the surveyor general, situated in sec. 13 (approx.) T. 8 $\frac{1}{2}$ N., R. 25 E., unsurveyed.
Thence,
N. 47°52'E.
IN SEC. 13, (approx.) T. 8 $\frac{1}{2}$ N., R. 25 E., unsurveyed.
Along top of the divide, between the head waters of the Salt and Little Colorado rivers.
Over rolling, stony, mountainous land, through heavy pine and fir timber.
- 5.37 Intersect the reestablished closing cor. of T. 9 N., R. 25 E. on the 2nd. Standard Parallel N., described in Book "C."
Thence
IN SEC. 35, T. 9 N., R. 25 E.

Retracement of part of N. bdy. of Fort Apache Indian Reservation. 45

Chains.	
14.77	Continuing measurement from Angle point No.147. Intersect Angle point No.148, which is a pine, 16 ins. in diam., marked as described by the surveyor general. Thence N.35°40'E.
2.06	Ascend SW. slope, 90 ft. Intersect the reestablished closing cor. of secs. 35 and 36, T.9 N., R.25 E., described in Book "M." Thence IN SEC. 36, T 9 N., R.25 E.
8.08	Continuing measurement from Angle point No.148. Intersect the 26½ mile mon., which is a malpais stone 20x12x6 ins. above ground, marked and witnessed as described by the surveyor general. Thence N.32°12'E.
10.88	Intersect Angle point No.149, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence N.44°15'W.
13.12	Intersect Angle point No.150, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence, N.56°42'W.
.52	Intersect the reestablished closing cor. of secs. 35 and 36, T.9 N., R.25 E., described in Book "M." Thence IN SEC. 35, T.9 N., R.25 E.
4.20	Continuing measurement from Angle point No.150. Intersect Angle point No.151, which is an aspen 6 ins. in diam., marked and witnessed as described by the surveyor general. Thence N.5°45'W.
12.06	Along top of divide; not much change in elevation. Intersect the 27 mile mon., which is a malpais stone 18x16x12 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, stony loam, on malpais stone and clay subsoil. Timber, aspen, fir and pine.
----- 28TH. MILE. -----	
16.65	From 27 mile mon., N.8°52'W. Along top of the divide between the head waters of the Salt and Little Colorado rivers. Over stony, mountainous land, through heavy aspen, fir and pine timber and brush; ascend gradually.
5.70	Intersect Angle point No.152, which is a pine, 14 ins. in diam., marked as described by the surveyor general. Thence S.87°10'W.
5.67	Intersect Angle point No.153, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence N.46°48'W.
12.47	Descend NW. slope, 150 ft. Intersect Angle point No.154, which is a malpais stone 40x24x18 ins. above ground, marked and witnessed as described by the surveyor general. Thence N.26°12'W.
	Intersect the 27½ mile mon., which is a lava stone 16x12x10 ins. above ground, marked and witnessed as described by the surveyor general. Thence,

46. Retracement of part of N. bdy. of Fort Apache Ind. Reservation.

Chains

- N.24° 01' W.
4.39 Intersect the reestablished closing cor. of secs. 26 and 35, T.9 N., R.25 E., described in Book "M."
Thence
- IN SEC. 26, T.9 N., R.25 E.
Continuing measurement from 27½ mile mon.
14.27 Intersect Angle point No.155, which is a pine, 18 ins. in diam., marked as described by the surveyor general.
At this point, I set off 8° 71' N. on the decl. arc, and at noon, apparent time September 2, 1915, observe the sun on the meridian, and obtain a reading of 34° 07' N. on the lat. arc.
Thence,
- N.42° 09' W.
Over rolling land.
17.68 Intersect Angle point No.156, which is a pine, 30 ins. in diam., marked as described by the surveyor general.
Thence,
- N.51° 47' W.
8.44 Intersect the 28 mile mon., which is a malpais stone 18x12 x8 ins., above ground, marked and witnessed as described by the surveyor general.
Land, mountainous.
Soil, poor, stony clay loam, 3rd and 4th rate.
Timber, aspen, fir and pine.
Rain, which commenced falling at 4 p.m. on this day, prevented further field work.
September 2, 1915.
-
- 29TH. MILE.
- September 3, 1915. At 7h.45m.a.m., 1.m.t., I set off 34° 07½' N. on the lat. arc; 7° 50' N. on the decl. arc, and determine a meridian with the solar at the 28th. mile mon.
Thence
- N.49° 45' W.
Along top of the divide between the head waters of the Salt and Little Colorado Rivers.
Over mountainous land, through heavy pine, fir, and aspen timber.
.77 Intersect Angle point No.157, which is a pine, 18 ins. in diam., marked as described by the surveyor general.
Thence
- S.82° 56' W.
7.15 Intersect Angle point No.158, which is a pine 16 ins. in diam., marked as described by the surveyor general.
Thence
- N.35° 18' W.
Along top of ridge; descend 50 ft.
24.85 Intersect angle point No.159, which is a pine 24 ins. in diam., marked as described by the surveyor general.
Thence
- N.56° 52' W.
Ascend 75 ft., over SE. slope.
7.90 Intersect the 28½ mile mon., which is a malpais stone, 16x14x12 ins. above ground, marked and witnessed as described by the surveyor general.
This point is situated at cor. of wire fence along N. bdy. of the Indian Reservation brs. N.83° 30' W. and S.35' E.
Thence
- S.84° 15' W.
Ascend SE. slope, 40 ft.
5.87 Intersect the reestablished closing cor. of secs. 26 and 27, T.9 N., R.25 E., described in Book "M."
Thence
- IN SEC. 27, T.9 N., R.25 E.
Continuing measurement from 28½ mile mon.
10.07 Intersect Angle point No.161, which is a dead pine 24 ins. in diam., marked as described by the surveyor general.

Retracement of part of N. bdy. of Fort Apache Ind. Reservation. 47

Chains.	Thence, S.47°49'W. Descend SW.slope, 125 ft.
10.05	Intersect Angle point No.162, which is a pine 16 ins. in diam., marked and witnessed as described by the surveyor general. Thence
6.42	S.30°45'W. Intersect Angle point No.163, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence
9.54	S.21°23'W. Intersect Angle point No.164, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence
4.48	S.29°05'W. Intersect the 29 mile mon., which is a malpais stone 18x10 x8 ins. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poory dry stony loam, 3rd and 4th rate. Timber, aspen, pine and fir.
----- 30TH. MILE. -----	
	From 29 mile mon., S.41°42'W. Along top of the divide, between the head waters of the Salt and Little Colorado rivers, over stony, mountainous land, through heavy pine, fir and aspen timber and brush. Descend SW.slope, 40 ft.
4.23	Intersect Angle point No.165, which is a pine 8 ins. in diam., marked as described by the surveyor general. Thence
8.67	S.22°54'W. Intersect Angle point No.166, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence
10.83	S.7°00'W. Ascend gradually 20 ft. Intersect Angle point No.167, which is a pine, 12 ins. in diam., marked as described by the surveyor general. Thence
3.74	S.19°18'W. Intersect the reestablished closing cor. of secs. 27 and 34, T.9 N., R.25 E., described in Book "M." Thence
4.12	IN SEC. 34, T.9 N., R.25 E. Continuing measurement from Angle point No.167. Intersect Angle point No.168, which is a pine 18 ins. in diam., marked as described by the surveyor general. Thence
4.58	S.64°30'W. Ascend NE. slope, 90 ft. Intersect Angle point No.169, which is a dead pine 30 ins. in diam., marked and witnessed as described by the surveyor general. Thence
2.22	S.35°45'W. Intersect Angle point No.170, which is an aspen 10 ins. in diam., marked as described by the surveyor general. Thence
6.10	S.23°45'W. Intersect the 29 ¹ / ₂ mile mon., which is a malpais stone 24x14x8 ins. above ground, marked and witnessed as described by the surveyor general. This cor. is at top of ascent on peak. Thence, S.74°53'W.

48. Retracement of part of N. bdy. of Fort Apache Ind. Reservation.

Chains.	
	Along top of ridge.
8.69	Intersect Angle point No.172, which is a pine 12 ins. in diam., marked as described by the surveyor general. Thence S.22°42'W.
	Descend over NW.slope, 250 ft.
9.97	Intersect Angle point No.173, which is a pine 16 ins. in diam., marked as described by the surveyor general. Thence S.34°38'W.
21.83	Intersect the 30 mile mon., which is a malpais boulder 3x2x1½ ft. above ground, marked and witnessed as described by the surveyor general. Land, mountainous. Soil, poor, dry, stony clay loam, 3rd and 4th rate. Timber, aspen, fir and pine. This cor. is at the foot of descent in pass, brs. N. and S.

31ST. MILE.	
	From 30 mile mon., S.43°35'W.
	Along top of the divide between the head waters of the Salt and Little Colorado rivers. Ascend E.slope, 200 ft., over stony, mountainous land, through heavy pine and fir timber.
3.79	Intersect Angle point No.174, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence N.86°28'W.
12.57	Intersect Angle point No.175, which is a pine 16 ins. in diam., marked as described by the surveyor general. Thence, S.76°10'W.
3.57	Intersect the reestablished closing cor. of secs. 33 and 34, T.9 N., R.25 E., described in book "M." Thence IN SEC. 33, T.9 N., R.25 E.
	Continuing measurement from Angle point No.175.
4.13	Intersect angle point No.176, which is a pine 12 ins. in diam., marked as described by the surveyor general. At this angle point, I set off 7°46'N. on the decl. arc; and at noon, apparent time, September 3, 1915, observe the sun on the meridian and obtain a reading of 34°6½' N. on the lat. arc. Thence S.0°22'E.
	Descend over NW. slope, 275 ft.
9.11	Intersect Angle point No.177, which is a pine 24 ins. in diam., marked as described by the surveyor general. Thence, S.60°34'W.
11.22	Intersect the 30½ mile mon., which is a malpais stone 18x16x12 ins., above ground, marked and witnessed as described by the surveyor general. Thence N.86°33'W.
2.48	Intersect Angle point No.178, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence, N.44°32'W.
24.53	Intersect Angle point No.179, which is a pine, 18 ins. in diam., marked as described by the surveyor general. Thence N.82°05'W.
2.28	Intersect Angle point No.180, which is a pine, 16 ins. in diam., marked as described by the surveyor general. Thence N.48°41'W.
10.87	Intersect the 31 mile mon., which is a malpais stone

Retracement of part of N. bdy. of Fort Apache Ind. Reservation. 49

Chains.

18x12x10 ins., above ground, marked and witnessed as described by the surveyor general.

Land mountainous.

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

Timber, aspen, fir and pine.

Rain at 4h. 15m., p.m., prevents further field work on this day.

September 3, 1915.

32ND. MILE.

September 4, 1915. At 8h. 30.7m. a.m., l.m.t., I set off $34^{\circ}06\frac{1}{2}'$ N. on the lat. arc; $7^{\circ}27'$ N. on the decl. arc, and determine a meridian with the solar at the 31 mile mon.

Thence,

N. $41^{\circ}30'$ W.

Descend NW. slope, 10 ft., over stony, mountainous land, along top of the divide between the head waters of the Salt and Little Colorado rivers, through heavy pine, fir, and aspen timber.

5.79 Intersect Angle point No. 181, which is a pine, 16 ins. in diam., marked as described by the surveyor general.

Thence

N. $54^{\circ}04'$ W.

3.60 Intersect Angle point No. 182, which is an aspen, 14 ins. in diam., marked as described by the surveyor general.

Thence

N. $23^{\circ}20'$ W.

7.30 Foot of descent in pass, brs. NE. and SW.; ascend SE. slope, 200 ft.

12.00 Intersect Angle point No. 183, which is an aspen 6 ins. in diam., marked as described by the surveyor general.

Thence

N. $72^{\circ}42'$ W.

5.66 Intersect Angle point No. 184, which is a pine 24 ins. in diam., marked as described by the surveyor general.

Thence

N. $4^{\circ}02'$ E.

9.88 Intersect the reestablished closing cor. of secs. 28 and 33 T. 9 N., R. 25 E., described in Book "M."

At this cor., I set off $7^{\circ}23\frac{1}{2}'$ N. on the decl. arc, and at noon, apparent time September 4, 1915, observe the sun on the meridian, and obtain a reading of $34^{\circ}07'$ N. on the lat. arc.

Thence

IN SEC. 28, T. 9 N., R. 25 E.

Continuing measurement from Angle point No. 184.

10.18 Intersect the $31\frac{1}{2}$ mile mon., which is a malpais stone 18x16x12 ins. above ground, marked and witnessed as described by the surveyor general.

Thence

N. $11^{\circ}51'$ E.

Ascend 60 ft., over SE. slope.

13.01 Intersect Angle point No. 186, which is a pine 18 ins. in diam., marked as described by the surveyor general.

This cor. is situated at top of ascent on mountain peak.

Thence

N. $27^{\circ}03'$ W.

Descend 225 ft. along top of ridge.

5.22 Intersect Angle point No. 187, which is a pine 18 ins. in diam., marked as described by the surveyor general.

Thence

N. $80^{\circ}24'$ W.

8.03 Intersect Angle point No. 188, which is a pine, 24 ins. in diam., marked as described by the surveyor general.

Thence

N. $86^{\circ}27'$ W.

.40 Wire fence along N. bdy. of the Indian Reservation, brs. N. $80^{\circ}30'$ W.

5.59 Intersect Angle point No. 189, which is a pine 24 ins. in

50 Retracement of part of N. bdy. of Fort Apache Ind. Reservation.

Chains.

diam., marked as described by the surveyor general.
Thence

- 9.26 S. 82° 49' W.
Intersect the 32 mile mon. hereinbefore described.
Land, rough mountains.
Soil, poor, dry stony loam, 3rd and 4th rate.
Timber, aspen, fir and pine.
Good growth grass.

September 4, 1915.

GENERAL DESCRIPTION.

This line, through townships 9, 10, and 11 N., Ranges 18, 19, 20, 21 and 22 E. follows the divide or water shed between the head waters of the Salt and Little Colorado rivers, which is known and referred to through these townships as the "Mogollon Rim." Farther east in Ts. 9 N., Rs. 24 and 25 E., this rim continues to rise in elevation, terminating in the range of mountains known as the White Mountains. The land the entire length of this line is mountainous in character being very rough and broken in the townships on the south, while more or less rolling in those to the north. The soil for practically the entire length of the line is a stony, clay loam of little value for agricultural purposes, is covered with an abundant growth of grasses possessing high nutritive qualities. The land over which this line passes is practically all heavily timbered with oak, juniper, some cedar and pine, a great deal of which is sufficiently large to be of value for lumbering purposes. There is no water nearer than about a half mile to the line.

For list of field assistants see Book "A."

I, Sidney E. Blout, U.S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from the U.S. Surveyor General for Arizona for Group No. 40, bearing date of the 16th day of December, 1914, 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, retraced all those parts or portions of the

NORTH BOUNDARY OF THE FORT APACHE INDIAN RESERVATION, which are represented in the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said retracement 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 Group No. 40, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such retracement.

Subscribed at Phoenix, Arizona, on
January 24, 1916, by

Sidney E. Blout
U. S. Surveyor.

A P P R O V A L.

Office of the United States Surveyor General,
Phoenix, Arizona, Sept. 19 1917.

The foregoing field notes of the retracement of the

NORTH BOUNDARY OF THE FORT APACHE INDIAN RESERVATION, within the following townships:

- TOWNSHIP 11 NORTH, RANGE 18 EAST,
- TOWNSHIPS 10 NORTH, RANGES 18, 19, 20 & 21 EAST, and
- TOWNSHIPS 9 NORTH, RANGES 21, 22, 24 and 25 EAST,

of the Gila and Salt River Base and Meridian, in the State of Arizona, executed by Sidney E. Blout, U. S. Surveyor, under his special instructions dated December 16, 1914, for Group No. 40, Arizona, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the retracements they describe, are hereby approved.

Frank A. Frost
U. S. Surveyor General.

~~I certify that the foregoing transcript of the field notes of the above described surveys in Book "B," of Grp. No. 40, has been correctly copied from the original notes on file in this office.~~

~~U. S. Surveyor General.~~