

3593

85  
①

Book "M"

4-679

BOOK 3593

# FIELD NOTES

RE-  
OF THE SURVEY OF

Part of the East boundary, of

TOWNSHIP 17 SOUTH, RANGE 29 EAST,

and SURVEY of the

South and West boundaries, and

Subdivision lines of

FRAC'L. TOWNSHIP 16 SOUTH, RANGE 29½ EAST,

Of the Gila and Salt River Base and Meridian,

In the State of Arizona,

EXECUTED BY

Benjamin J. Kinsey,

U.S. Transitman,

In the capacity of U. S. Surveyor, under Special Instructions dated November 16, 1920, issued by the United States Surveyor General to govern surveys included in Group No. 111, Arizona, which were approved by the Commissioner of the General Land Office December 1, 1920, and Assignment Instructions dated November 17, 1920.

Resurvey & Survey commenced August 29, 1921.

Resurvey & Survey completed September 10, 1921.

3593

3593

86  
BOOK 3593

Book "M"

Group 111 - - Arizona.

# INDEX DIAGRAM.

FRACTIONAL Township 16 SOUTH, Range 29<sup>1</sup>/<sub>2</sub> EAST.

The diagram shows a 6x6 grid of 36 numbered cells. A large 'X' is drawn across the grid, with one diagonal line running from the top-left corner to the bottom-right corner, and the other from the top-right corner to the bottom-left corner. The numbers in the cells are arranged in a boustrophedon pattern: the top row (row 1) is numbered 6 to 1 from left to right; the second row (row 2) is numbered 7 to 12 from left to right; the third row (row 3) is numbered 18 to 13 from left to right; the fourth row (row 4) is numbered 19 to 24 from left to right; the fifth row (row 5) is numbered 30 to 25 from left to right; and the bottom row (row 6) is numbered 31 to 36 from left to right.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Lines surveyed under this group.

Lines resurveyed under this group.

Accepted surveys.

Unsurveyed.

Areas surveyed as per accepted plats on file.

1A

BOOK 3593

36

31

3rd Std. Par. S.

3rd Std. Par. S.

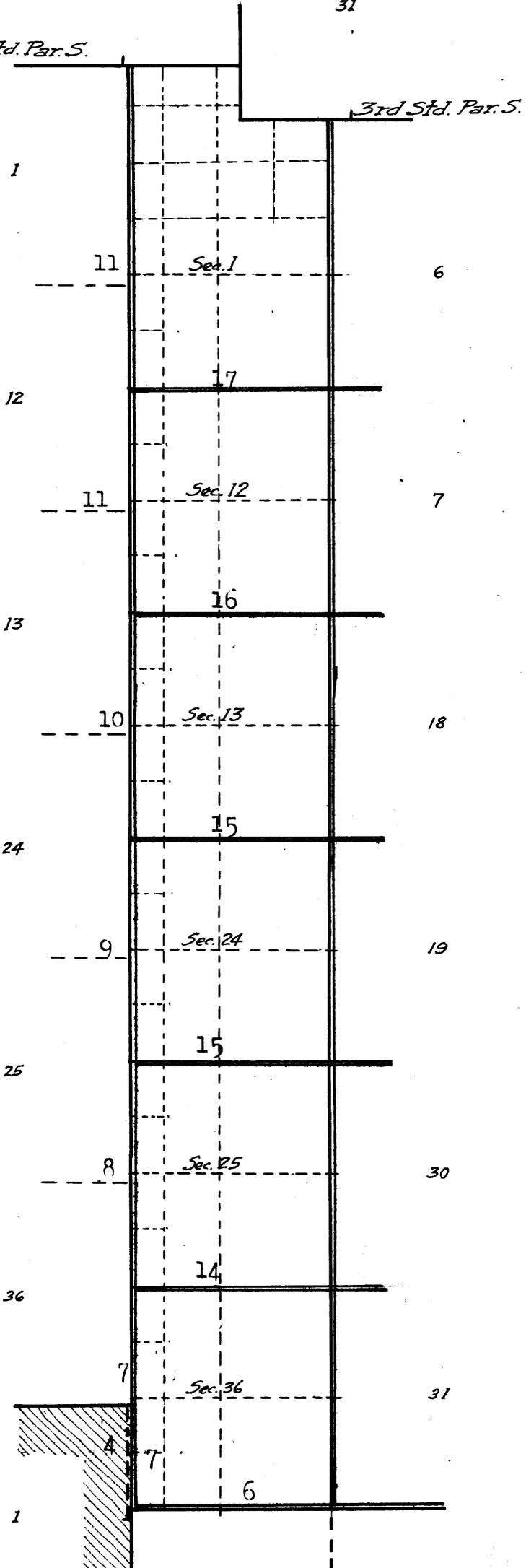
Book "M"  
 GROUP III - ARIZONA  
 INDEX - DIAGRAM  
 FRACTIONAL TOWNSHIP 16  
 SOUTH, RANGE 29 1/2 EAST

Lines surveyed under  
 this group.

Lines resurveyed under  
 this group.

Accepted surveys

Unsurveyed  
 Areas surveyed as per  
 accepted plats on file.



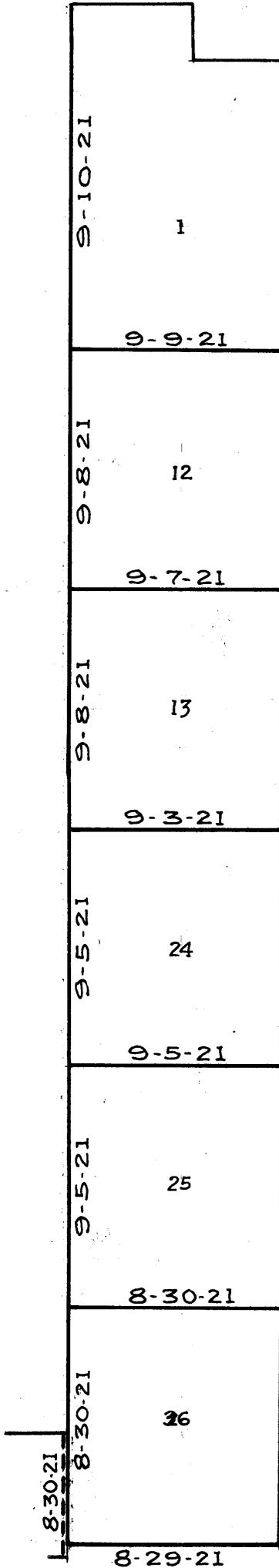
1

6

2

BOOK 3593

Book "M"  
 GROUP III-- ARIZONA  
 DATE-DIAGRAM  
 FRACTIONAL TOWNSHIP 16  
 SOUTH RANGE 29½ EAST



Solid black lines indicate surveys and dotted black lines resurveys, executed by Benjamin J. Kinsey, U.S.T. on dates shown thereon.

## Chains.

Resurveys and surveys hereinafter described, executed by Benjamin J. Kinsey, U.S. Transitman, on dates shown on diagram on page 2 hereof; using Young and Sons light mountain transit No. 8487.

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

August 27, 1921; At camp, near the cor. of secs. 20, 21, 28 and 29, T. 16 S., R. 30 E., Gila and Salt River Base and Meridian, Arizona, in lat.  $32^{\circ}1'N.$ , long.  $109^{\circ}17\frac{1}{2}'W.$ , at 9h. 13m., p.m., l.m.t., I observe Polaris at eastern elongation, making four observations, two each with the telescope in direct and reversed positions, and mark the mean point in the line thus determined by a tack in a stake driven firmly in the ground, 5 chs. N.

Azimuth of Polaris at eastern elongation =  $1^{\circ}19'06''$ .

August 28, 1921: At 8h. 0m., a.m., l.m.t., I lay off the azimuth of Polaris,  $1^{\circ}19'$  to the west, and mark the true meridian thus determined by a tack in a stake, firmly driven in the ground, 5 chs. N.

At 9h. 0m., a.m., l.m.t., I set off  $32^{\circ}\frac{1}{2}'N.$  on the lat. arc;  $9^{\circ}46'N.$  on the decl. arc; and determine a meridian with the solar, which agrees with the true meridian.

At apparent noon, with the lat. arc unchanged, I observe the sun on the meridian; the resulting reading of the decl. arc is  $9^{\circ}43'N.$ , which agrees with the computed decl. of the sun.

At 3h. 0m., p.m., l.m.t., with the lat. arc unchanged, I set off  $9^{\circ}40\frac{1}{2}'N.$  on the decl. arc, and determine a meridian with the solar which agrees with the true meridian.

As all of the solar observations made during the usual hours of solar work come within  $1'30''$  of the true meridian, I conclude that the adjustment of the instrument is satisfactory.

Unless otherwise specified, all measurements are made with a Lufkin steel tape, 5 chs. in length, compared with a Chesterman Standard steel tape, and found correct. The measurements are made on the slope, the vertical angles determined with the clinometer and the slope measurements properly reduced to true horizontal distances.

Resurvey of part of East bdy. of Township 17, South, Range 29 East  
(North  $\frac{1}{2}$  of East bdy. of Sec. 1.)

4

Chains.

The North two miles of the East bdy. of T.17 S., R.29 E. were surveyed in 1882 by Theodore F. White, U.S.D.S. and such portion of the range line was resurveyed by John P. Walker, U.S.S. in 1905. No subsequent retracement or resurvey of this part of the line is of record. The South four miles of the range line have never been surveyed.

The following notes describe the resurvey of the N.  $\frac{1}{2}$  of the E. bdy. of sec. 1, T.17 S., R.29 E.

-----  
Retracement for Resurvey.

- From the previously reestablished  $\frac{1}{4}$  sec. cor. of secs. 1 and 6, hereinafter described,  
North, on a random line, on E. bdy. of sec. 1 (N.  $\frac{1}{2}$ ).
- 40.17 Fall 7 lks. W. of witness cor. to Tp. cor., recorded as being set 15 lks. S. of previously reestablished Tp. cor. point.
- 40.43 Fall 13 lks. E. of witness cor. to Tp. cor. recorded as being set 20 lks. W. of previously reestablished Tp. cor. point.
- Reestablish the Tp. cor. point again by intersection of cardinal lines thru. the two witness cors., which point is 20 lks. E. from the witness cor. previously set W. of cor. point, and 26 lks. N. from the witness cor. previously set S. of cor. point.
- The random line at 40.43 chs. North from  $\frac{1}{4}$  sec. cor. of secs. 1 and 6 therefore falls 7 lks. W. of the reestablished Tp. cor. point.
- True course and distance of N.  $\frac{1}{2}$  of E. bdy. of sec. 1 are therefore, N.  $0^{\circ}6'$  E., 40.43 chs.

-----  
RESURVEY:

- The survey of the S. bdy. of frac. T.16 S., R.29  $\frac{1}{2}$  E. due West, as hereinafter described, closes against the East bdy. of sec. 1, T.17 S., R.29 E. at 2.98 chs. N.  $0^{\circ}6'$  E. from the previously reestablished  $\frac{1}{4}$  sec. cor. of secs. 1 and 6; therefore, the cors. on the E. bdy. of T.17 S., R.29 E. will refer to areas W. of said line only.
- The previously reestablished  $\frac{1}{4}$  sec. cor. of secs. 1 and 6 is a granite stone, 6x5x6 ins. above ground, firmly set, marked  $\frac{1}{4}$  on W. face, and witnessed by two properly marked bearing trees, as follows:
- An oak, 12 ins. in diam., N.  $72^{\circ}$  E., 158 lks. dist.  
An oak, 9 ins. in diam., S.  $71^{\circ}$  W., 47 lks. dist.
- Alter this cor. to refer to sec. 1 only by obliterating marking on the NE bearing tree. No other bearing tree available in section therefore raise and set stone 3 ft. base, 2 ft. high W. of thence N.  $086^{\circ}$  E. on true line, on E. bdy. of sec. 1 (N.  $\frac{1}{2}$ ). /cor.
- Over mountainous land, thru. dense timber and undergrowth.
- 2.98 Descend 83 ft. over NW slope, to  
The closing cor. of Frac. T.16 and 17 S., R.29  $\frac{1}{2}$  E. hereinafter described.
- 4.98 Descend 32 ft., over NW slope, to  
Wash, 20 lks. wide, in bottom of canyon, course SW., containing a small stream of water, 10 lks. wide, 3 ins. deep.
- 16.06 Ascend 189 ft., over SE slope, to  
Spur, slopes SW.
- 19.02 Ascend 28 ft., over W. slope, to  
Gully, course SW.
- 35.54 Ascend 525 ft., over S. slope.  
Ridge, brs. E. and W.  
Descend 82 ft., over N. slope, to

Resurvey of part of East bdy. of Township 17 South, Range 29 East,  
(North half of East bdy. of sec. 1).

Chains.

40.17

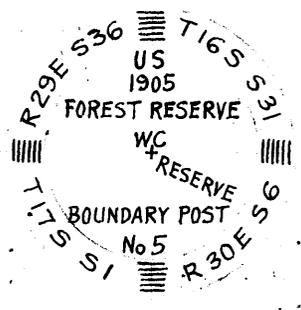
(0.26 chs. South of Tp. cor. point) One of the previously established witness cors. to reestablished cor. of Ts. 16 and 17 S., Rs. 29 and 30 E., which is a porphyry stone, 10x6x8 ins. above ground, firmly set, marked WC on S face and 6 notches on each of N., S., E. and W. faces, and witnessed by four bearing trees, as follows:

- a juniper, 22 ins. in diam., brs. N. 75° E., 130 lks. dist., marked RES T16S R30E S31 BT.
- a pine, 13 ins. in diam., brs. S. 74° E., 165 lks. dist., marked RES T17S R30E S6 BT.
- a pine, 10 ins. in diam., brs. S. 54° W., 56 lks. dist., marked T17S R29E S1 BT.
- a juniper, 10 ins. in diam., brs. N. 31° W., 33 lks. dist., marked RES T16S R29E S36 BT.

The record of the establishment of this witness cor. describes all the trees as having been marked "WC" in addition to the regular marking, but there is no trace of such marking on any of the trees. As this witness cor. now witnesses the reestablished point for cor. of Ts. 16 and 17 S., R. 29 E. only, obliterate the notches on the E. face of stone, and the marking on the NE. and SE. bearing trees, mark WC on the NW. and SW. bearing trees, and raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

40.43

Intersection of cardinal lines thru. the two previously established witness cors. This is now the true point for cor. of Ts. 16 and 17 S., R. 29 E. only. This point falls in wash 50 lks. wide, course N. 70° W., where a monument would be subject to obliteration or destruction by periodical flow of storm waters; therefore, the point is witnessed by two witness cors., one at 26 lks. South, as hereinbefore described, and one at 20 lks. West, which is an iron post, 3 ins. in diam., projecting 24 ins. above ground, firmly set in ground and mound of stone. No accessories. This W.C. is also Bdy. Post No. 59 of the Chiricahua National Forest Reserve Bdy. The brass cap on this post is marked



This witness cor. and Bdy. Post now witnesses the reestablished point for cor. of Ts. 16 and 17 S., R. 29 E. only; therefore, obliterate the notches and Tp. and sec. markings in the E. half of the brass cap, Land, mountainous. Soil, rocky, 4th rate. Timber, dense pine, juniper, cypress, cedar and oak. Undergrowth, dense manzanita, ironwood, scrub oak and cacti. Fair grass.

6 Survey of South bdy. of Fracl. Township 16 South, Range 29 $\frac{1}{2}$  East.

Chains.

From the true point for cor. of Ts. 16 and 17 S., R. 30 E., and  
 Fracl. Ts. 16 and 17 S., R. 29 $\frac{1}{2}$  E.,  
 West, on true line, bet. secs. 1 and 36.  
 Over mountainous land, thru. dense timber and undergrowth.  
 Descend slightly over S. slope.  
 2.00 Bottom of gulch, course N. 80° W.  
 Ascend 718 ft., over N. and NE. slopes to point of spur.  
 3.24 The witness cor. to cor. of Ts. 16 and 17 S., R. 30 E. and  
 fracl. Ts. 16 and 17 S., R. 29 $\frac{1}{2}$  E., described in Book "L."  
 28.40 Point of spur, slopes N.  
 Descend 170 ft., over NW. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in  
 the ground to bed rock, supported by a mound of stone,  
 for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$$\begin{array}{r} \frac{1}{4} \text{ S } 36 \\ \hline \text{S } 1 \\ 1921 \end{array}$$

from which,

A pine, 10 ins. in diam., brs. N. 8° W., 36 lks.  
 dist., marked  $\frac{1}{4}$  S 36 BT.

A pine, 5 ins. in diam., brs. S. 67° W., 10 lks.  
 dist., marked  $\frac{1}{4}$  S 1 BT.

47.30 Descend 100 ft., over NW. slope, to  
 Ascend 30 ft., over N. and NE. slopes.

57.70 Point of spur, slopes N.

72.15 Descend 395 ft., over NW. slope, to  
 Intersect the E. bdy. of sec. 1, E. 17 S., R. 29 E., 2.98 chs.  
 N. 0° 6' E. from the reestablished  $\frac{1}{4}$  sec. cor. of sec. 1,  
 hereinbefore described.

At point of intersection,

Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground, for closing cor. of fracl. Ts. 16 and 17 S.,  
 R. 29 $\frac{1}{2}$  E., marked on brass cap,

$$\begin{array}{r|l} & \text{T16S} \\ \text{T17S} & \text{R29}\frac{1}{2}\text{E} \\ & \text{S } 1 \\ \text{S } 1 & \text{S } 6 \text{---CC} \\ \text{R29E} & \text{T17S} \\ & 1921 \end{array}$$

from which,

An oak 4 ins. in diam., brs. N. 62° E., 16 lks.  
 dist., marked CC BT.

An oak, 6 ins. in diam., brs. S. 59° E., 35 lks.  
 dist., marked T17S R29 $\frac{1}{2}$ E S1 CC BT.

Land, mountainous.

Soil, rocky, 4th rate; blue limestone and porphyry forma-  
 tion.

Timber, dense juniper, oak, yellow pine, fir, cedar and  
 walnut.

Undergrowth, dense manzanita, scrub oak, catclaw, ironwood  
 and cacti.

Fair grass.

Survey of West bdy. of fracl. Township 16 South, Range 29 1/2 East. 7

chains.

From the closing cor. of fracl. Ts. 16 and 17 S., R. 29 1/2 E., hereinbefore described, N. 0° 6' E., on a true line, on W. bdy. of sec. 36. Over mountainous land, thru. dense timber and undergrowth. Descend 32 ft., over NW. slope.

2.00 Wash, 20 lks. wide, in bottom of canyon, course SW., containing a small stream of water, 10 lks. wide, 3 ins. deep.

13.08 Ascend 189 ft., over SE. slope, to Spur, slopes SW.

16.04 Ascend 28 ft., over W. slope, to Gully, course SW.

32.56 Ascend 525 ft., over S. slope. Ridge, brs. E. and W.

37.19 Descend 82 ft., over N. slope, to

(0.26 chs. S. of Tp. cor. point) One of the two witness cors. to reestablished cor. of Ts. 16 and 17 S., R. 29 E., hereinbefore described.

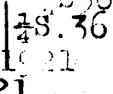
Continue line and measurement. Descend slightly over N. slope, to

37.45 (40.43 chs. N. 0° 6' E., from the reestablished 1/4 sec. cor. of sec. 1, T. 17 S., R. 29 E. Wash 50 lks. wide, course N. 70° W.

Intersect the reestablished true point for cor. of Ts. 16 and 17 S., R. 29 E., 20 lks. East of the Chiricahua U.S. Forest Reserve boundary post No. 59, which is also one of the two witness cors. to reestablished true point for cor. of Ts. 16 and 17 S., R. 29 E., hereinbefore described. Thence,

40.00 North, on true line, continuing measurement of W. bdy. of sec. 36.

40.00 Ascend 26 ft., over SW. slope, to Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for 1/4 sec. cor. of sec. 36 only, marked on brass cap,



from which,

A juniper, 10 ins. in diam., brs. N. 21 1/2° E., 63 lks. dist., marked 1/4 S 36 BT

A pine, 6 ins. in diam., brs. S. 57 1/2° E., 39 lks. dist., marked 1/4 S 36 BT.

Ascend 32 ft., over SW. slope.

42.75 Point of spur, slopes W.

Descend 45 ft., over NW. slope.

45.13 Wash, 30 lks. wide, in gulch, course W.

Ascend 245 ft., over S. slope.

56.40 Spur, slopes W.

Descend 45 ft., over N. slope.

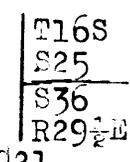
58.48 Wash, 10 lks. wide, in gulch, course W.

Ascend 136 ft., over S. slope.

67.49 Ridge, brs. E. and W.

Descend 95 ft., over N. slope, to

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 12 ins. in the ground to bed rock, supported by a mound of stone, for cor. of secs. 25 and 36 only, marked on brass cap,



from which,

A juniper, 5 ins. in diam., brs. N. 52 1/4° E., 36 lks. dist., marked T16S R29 1/2 E S25 BT.

A pine, 10 ins. in diam., brs. S. 16° E., 88 lks. dist., marked T16S R29 1/2 E S36 BT.

Land, mountainous.

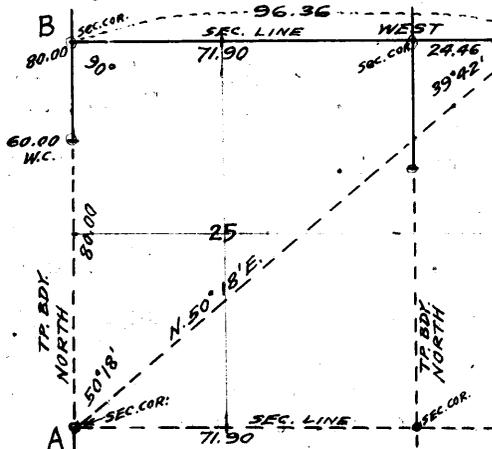
Soil, rocky, 4th rate; limestone and porphyry formation.

8 West bdy. of Fracl. Township 16 South, Range 29 1/2 East.

Chains.

Timber. dense pine, juniper, cypress, cedar and oak. Undergrowth, dense manzanita, ironwood, scrub oak and cacti, Fair grass.

North, on true line, on W. bdy. of sec. 25. Over mountainous land, thru dense timber and undergrowth. The greater part of this line is almost impassable owing to precipitous broken slopes and high rock pedestals, and there is no suitable point on the W. bdy. of sec. 25, from which a base for triangulation can be chained; therefore, locate the cor. of secs. 24 and 25 by triangulation, as described as follows, and as shown on the diagram hereon:



From the cor. of secs. 25 and 36, indicated on diagram at "A," a flag "C" on line bet. secs. 19 and 30, T. 16 S., R. 30 E., 24.46 chs. E. of the cor. of secs. 19, 24, 25 and 30, is visible, and brs. N. 50°18' E.

The cor. of secs. 24 and 25 indicated on diagram at "B" can be located by chaining from point "C," therefore, obtain the

theoretical measurement of B-C" by solution of the triangle "A-B-C" with theoretical Base "A-B" of North, 80.00 chs.

The included angles of the triangle "A-B-C" are 50°18', 90°00' and 39°42', the sum of which is 180°00'.

The measurement of "B-C" is obtained by Tang. 50°18' x Base or 1.20451 x 80.00 = 96.36 chs.

The length of sec. line bet. secs. 24 and 25 is therefore 96.36 chs. - 24.46 chs. = 71.90 chs,

Survey the line bet. secs. 24 and 25, West, 71.90 chs., as hereinafter described, and establish the cor. of said secs.

20.00 (Approximate) Bottom of canyon, course W. about 800 ft. below the cor. of secs. 25 and 36.

Ascend about 800 ft., over precipitous S. slopes covered with huge rock pedestals 40 to 100 ft. high, with deep crevices between them.

40.00 The true point for 1/4 sec. cor. of sec. 25 falls in an inaccessible position near top of high spur ridge, bearing E. and W., sloping W.

Descend about 200 ft., over broken N. slope, to (Approximate) Gulch, course W.

50.00 Ascend about 200 ft., over steep SW. slope. From theoretical point for cor. of secs. 24 and 25, determined as hereinbefore described, chain measurement South, 20.00 chs., to

60.00 The nearest accessible point to the 1/4 sec. cor. point, Set an iron post, 3 ft. long, 1 in. in diam., on bed rock, supported by a mound of stone, for witness cor. to 1/4 sec. cor., of sec. 25 only, marked on brass cap,

1/4 S 25  
W C  
1921

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

Thence, North, continuing measurement from cor. of secs. 25 and 36 by chaining.

Over mountainous land, thru dense timber and undergrowth, along broken W. slope of Sugar Loaf Mountain.



10 West bdy. or. fracl. Township 16 South, Range 29 1/2 East.

Chains.

Included angles of triangle "A-B-C" are 90°00', 35°24' and 54°36', the sum of which is 180°00'.

Triangulated measurement of "A-B" is obtained by Tang. 54° 36' x Base or 1.40714 x 56.90 = 80.07 chs.

From triangulation point "B," chain measurement, South, 0.07 chs. to

80.00

Set an iron post, 3 ft. long, 2 ins. in diam., 12 ins. in the ground to bed rock, supported by a mound of stone for cor. of secs. 13 and 24, only, marked on brass cap,

T16S  
S13  
S24  
R29 1/2 E

1921

from which,

A cedar, 24 ins. in diam., brs. N. 36° E., 40 lks. dist., marked T16S R29 1/2 E S13 BT.

A pine, 12 ins. in diam., brs. S. 32° E., 23 lks. dist., marked T16S R29 1/2 E S24 BT.

This cor. is on steep SW. slope, 687 ft. above sec. cor. of ses. 24.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, dense pine, oak, juniper and cedar.

Undergrowth, dense scrub oak, manzanita, catclaw, ironwood and cacti.

Fair grass.

North, on true line; on W. bdy of sec. 13.

Over mountainous land, thru dense timber and undergrowth. Ascend 285 ft., over SW. slope.

23.60

Point of spur, slopes W.

Descend 175 ft., over NW. slope.

37.20

Gulch, course W.

Ascend 100 ft., over SW. slope, to

40.00

Set an iron post, 3 ft. long, 1 in. in diam., 8 ins. in the ground to bed rock, supported by a mound of stone for sec. cor. of sec. 13 only, marked on brass cap,

S13

1921

from which,

A cypress, 4 ins. in diam., brs. N. 45° E., 48 lks. dist., marked BT.

A cypress, 4 ins. in dia., brs. S. 41° E., 30 lks. dist., marked BT.

Ascend 34 ft., over SW. slope, to

45.00

Wash, 50 lks. wide, in gulch, course S. 20° W.

Ascend 500 ft., over SE. slope,

64.50

Ridge, brs. E. and W. Desc. 600 ft., over N. slope, to

80.00

Set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in the ground, for cor. of secs. 12 and 13, only, marked on brass cap,

T16S  
S12  
S13  
R29 1/2 E

1921

from which,

An oak, 4 ins. in diam., brs. N. 49° E., 35 lks. dist., marked BT.

An oak, 4 ins. in diam., brs. S. 13° E., 38 lks. dist., marked BT.

Land, mountainous.

West bdy. of Fract. Township 16 South, Range 29 $\frac{1}{2}$  East.

11

Chains.

Soil, rocky, 4th rate.  
 Timber, dense pine, oak, juniper and cedar.  
 Undergrowth, dense scrub oak, manzanita, catclaw and cacti.  
 Fair grass.

-----  
 North, on true line on W. bdy. of sec. 12.  
 Over mountainous land, thru. dense timber and undergrowth.  
 Descend 550 ft., over N. slope.  
 17.30 Old road, brs. E. and W.  
 26.70 West Whitetail Creek, containing a small stream of water,  
 course W.  
 Ascend 355 ft., over SE. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the  
 ground to bed rock, supported by a mound of stone, for  
 $\frac{1}{4}$  sec. cor., of sec. 12 only, marked on brass cap,

S12

1921

from which,

An oak, 4 ins. in diam., brs. N. 54° E., 35 lks.  
 dist., marked BT.

An oak, 4 ins. in diam., brs. S. 59° E., 18 lks.  
 dist., marked BT.

Ascend 20 ft., over SE. slope.  
 40.80 Spur, slopes SW.  
 Ascend 40 ft., over W. slope, to  
 44.20 Draw, course SW. near head.  
 Ascend 160 ft. over S. slope.  
 51.40 Spur, slopes W.  
 Descend 256 ft., over N. slope.  
 57.60 Gulch, course W.  
 Ascend 410 ft., over S. slope.  
 74.80 Spur, slopes W.  
 Descend 65 ft., over NW. slope, to  
 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., on bed rock,  
 supported by a mound of stone, for cor. of secs. 1 and  
 12 only, marked on brass cap,

T16S

S 1

S12

R29 $\frac{1}{2}$ E

1921

from which,

An oak, 12 ins. in diam., brs. N. 62° E., 70 lks.  
 dist., marked T16S R29 $\frac{1}{2}$ E S1 BT.

An oak, 12 ins. in diam., brs. S. 52 $\frac{1}{2}$ ° E., 96 lks.,  
 dist., marked T16S R29 $\frac{1}{2}$ E S12 BT.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, dense juniper, pine, cedar and oak.

Undergrowth, dense scrub oak, black brush, catclaw, manzanita and cacti.

Fair grass.

-----  
 North, on true line, on W. bdy. of sec. 1.  
 Over mountainous land, thru. dense timber and undergrowth.  
 Descend 90 ft., over NW. slope.  
 3.34 Gulch, course SW. Spring brs. NE., 1.00 ch. dist.  
 Ascend 194 ft., over SE. slope.  
 10.40 Spur, slopes SW.  
 Descend 57 ft., over NW. slope.  
 17.12 Gulch, course SW.

12 West bdy. of Fracl. Township 16 South, Range 29 $\frac{1}{2}$  East.

Chains.

34.74 Ascend 602 ft., over SE. slope.  
 Ridge, brs. E. and W. forming divide between Sulphur Springs  
 and San Simon Valleys.

40.00 Descend 170 ft., over N. slope, to  
 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the  
 ground, for  $\frac{1}{4}$  sec. cor., of sec. 1 only, marked on brass  
 cap,

| S 1  
 1921

from which,  
 A pine, 10 ins. in diam., brs. N. 54° E., 60 lks.  
 dist., marked  $\frac{1}{4}$  S 1 BT.  
 An oak, 10 ins. in diam., brs. S. 46 $\frac{1}{2}$ ° E., 100 lks.  
 dist., marked  $\frac{1}{4}$  S 1 BT.

50.93 Descend 300 ft., over N. slope.  
 Gulch, course NE

63.00 Ascend 182 ft., over SE. slope.  
 Spur, slopes NE.

91.00 Descend 1020 ft., over NW. slope.  
 Gulch, course NE.

96.54 Ascend 67 ft., over SE. slope.  
 Point of spur, slopes E.

116.50 Descend 576 ft., over NE. slope, to  
 Intersect the 3rd. Standard Parallel South 1.20 chs. East  
 of the standard  $\frac{1}{4}$  sec. cor. of sec. 36, which is an iron  
 post, 1 in. in diam., projecting above ground 10 ins.,  
 firmly set, properly marked on brass cap, and witnessed  
 by two properly marked bearing trees as follows:

An oak, N. 62 $\frac{1}{2}$ ° E., 49 lks. dist.  
 An oak, N. 28° W., 50 lks. dist.

At point of intersection,  
 Set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in  
 the ground, for closing cor. of T. 16 S., R. 29 E., and  
 fracl. T. 16 S., R. 29 $\frac{1}{2}$  E., marked on brass cap,

T15S R29E  
 — S36  
 S 1 | S 1  
 R29E | R29 $\frac{1}{2}$ E  
 T16S  
 C C  
 1921

from which,  
 An oak, 12 ins. in diam., brs. S. 10 $\frac{1}{2}$ ° E., 21 lks.  
 dist., marked T16S R29 $\frac{1}{2}$ E CC BT.  
 An oak, 4 ins. in diam., brs. S. 73° E., 54 lks.  
 dist., marked CC BT.

Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, dense juniper, oak, pine and cedar.  
 Undergrowth, dense scrub oak, manzanita, catclaw, ironwood  
 and cacti.  
 Fair grass.

Boundaries of Fractional T. 16 S., R. 29 $\frac{1}{2}$  East.

## Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist.	Latitudes.		Departurs.	
			N.	S.	E.	W.
South boundary,	West,	72.15				72.15
West boundary,	N.0°6'E. North,	37.45 479.05	37.45 479.05		.07	
North boundary, (3rd. Std. Par. S.)	East,	39.80			39.80	
North boundary, (W. bdy. of T. 15 S. R. 30 E.)	South,	20.66		20.66		
North boundary, (3rd Std. Par. S.)	East,	31.90			31.90	
East boundary,	South,	495.74		495.74		
Convergency,					.07	
Totals.			516.50 516.40	516.40	71.84	72.15 71.84
	Error in latitude,		0.10			
	Error in departure,					0.31



BOOK 2500

Subdivision lines of frac. Township 16 South, Range 29 $\frac{1}{2}$  East. 15

Chains.

71.90 Ascend about 360 ft. to  
The cor. of secs. 25, 30, 31 and 36, on the E. bdy. of the Tp.  
described in Book "L."  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, dense oak, pine, juniper and cedar.  
Undergrowth, dense scrub oak, manzanita, catclaw, ironwood  
and cacti.  
Fair grass.

8.70 From the cor. of secs. 19, 24, 25 and 30, on the E. bdy. of  
the Tp., described in Book "L,"  
West, on a true line, bet. secs. 24 and 25.  
Over mountainous land, thru. dense timber and undergrowth.  
Ascend 216 ft., over E. slope.  
Top of Sugar Loaf Mountain.  
40.00 Descend 640 ft., over W. slope, to  
Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in  
the ground, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

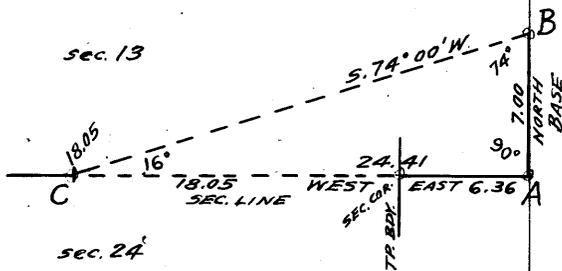
$\frac{1}{4}$  S 24.  
S 25  
1921

from which,  
A pine, 10 ins. in diam., brs. N. 22 $\frac{1}{2}$ ° W., 60 lks.  
dist., marked  $\frac{1}{4}$  S 24 BT.  
A pine, 10 ins. in diam., brs. S. 20 $\frac{1}{2}$ ° E., 29 lks.  
dist., marked  $\frac{1}{4}$  S 25 BT.

71.90 Descend 175 ft., over W. slope, to  
(Theoretical dist. obtained by triangulation) Intersect  
West bdy. of Tp., and establish cor. of secs. 24 and 25  
only at this point, as hereinbefore described.  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, dense pine, juniper, cedar and oak.  
Undergrowth, dense scrub oak, manzanita, catclaw, ironwood  
and cacti.  
Fair grass.

From the cor. of secs. 13, 18, 19 and 24, on the E. bdy. of  
the Tp., described in Book "L,"  
West, on random line, bet. secs. 13 and 24.  
Owing to precipitous ascent over SE. and E. slopes, chain-  
ing is impracticable; therefore, triangulate as de-  
scribed as follows, and as shown on the diagram hereon:

From cor. of secs. 13, 18, 19 and 24,  
line in a flag "A" East,  
6.36 chs., and another  
flag "C" at a point West.  
From "A" measure a Base, north  
7.00 chs. to point "B,"  
from which flag "C" brs. S.  
74° W.



Vertical angle from "A" to "C"  
is + 25° 20'.  
Included angles of triangle "A-B-C" are 90° 00', 74° 00'  
and 16° 00' the sum of which is 180° 00'.  
Triangulated measurement from "A" to "C" is obtained by  
Tang. 74° 00' x Base or 3.48741 x 7.00 = 24.41 chs.  
Triangulation point "C" is therefore 24.41 chs. - 6.36 chs.  
= 18.05 chs. West from the cor. of secs. 13, 18, 19 and 24.

16 Subdivision lines of fracl. Township 16 South, Range 29 $\frac{1}{2}$  East.

Chains.	
	The descent from said sec.cor. to point "A" is 66 ft.; therefore, the ascent from sec.cor. to point "C" is 768 ft. - ft. = 66 ft. = 702 ft.
18.05	Triangulation point. Continue line and measurement by chaining.
28.42	East rim of gulch, brs.N. and S. Beyond this point, the line crosses a deep gulch, and chaining is impracticable; therefore, make stadia measurement across the gulch, as follows: Mean of three rod readings 10.2 ft. Vertical angle - 5°. The distance to rod is therefore 20.28 chs., which, added to 28.42 chs.gives 48.70 chs.W.from sec.cor.for the position of the rod point.
40.00	Point for temp. $\frac{1}{4}$ sec.cor.falls on precipitous slope, where it is inaccessible.
48.70	Rod point. This being the nearest accessible point to the $\frac{1}{4}$ sec.cor. point, set temp. witness cor. to $\frac{1}{4}$ sec. cor. Continue line and measurement by chaining.
72.20	Fall 6 lks.N. of the cor.of secs. 13 and 24 on the W. bdy. of the Tp., hereinbefore, described. Thence, N.89°57'E., on true line, bet. secs.13 and 24. Over mountainous land, thru. dense timber and undergrowth. Ascend 138 ft., over SW.slope.
23.50	Spur, slopes S. Set an iron post, 3 ft.long, 1 in. in diam., 12 ins.in the ground to bed rock, supported by a mound of stone, for witness cor.to $\frac{1}{4}$ sec.cor., marked on brass cap, $\frac{1}{4} \begin{array}{l} S 13 \\ \text{WC} \\ S 24 \\ 1921 \end{array}$
	from which, A cypress, 12 ins.in diam., brs.N.19°E., 146 lks. dist., marked WC $\frac{1}{4}$ S 13 BT. A cedar, 6 ins.in diam., brs.S.41 $\frac{1}{2}$ °W., 74 lks. dist., marked WC $\frac{1}{4}$ S24 BT. Thence across gulch, measurement by stadia, as hereinbefore described.
32.20	Descend about 200 ft., over E.slope. True point for $\frac{1}{4}$ sec.cor. on precipitous E.slope, where it is inaccessible, and cannot be monumented.
33.80	(Approximate) Bottom of gulch, 20 lks.wide, course S. near head.
43.78	Ascend about 320 ft., over W.slope, to E.rim of gulch, brs.N. and S. Continue line and measurement by chaining.
50.06	Ascend 88 ft., over W.slope. Ridge, brs.N.and S.
54.15	Descend 57 ft., over E.slope, to Discontinue chaining, and measure to sec.cor. by triangulation, as hereinbefore described.
72.20	Descend 702 ft., over precipitous SE.slope, to The cor.of secs.13,18, 19 and 24 on E. bdy.of Tp., described in Book "L." Land, mountainous. Soil, rocky, 4th rate. Timber, dense oak, juniper, cedar, pine and cypress. Undergrowth, dense catclaw. manzanita, ironwood and cacti. Fair grass.
40.00	From the cor. of secs. 7,12,13 and 18, on the E. bdy.of the Tp., described in Book "L," S.89°57'W., on a random line, bet. secs.12 and 13. Set temp. $\frac{1}{4}$ sec.cor.
71.95	Fall 5 lks.S.of the cor.of secs.12 and 13, on the W. bdy.of

BOOK 3592

Subdivision lines of Township 16 South, Range 29 1/2 East. 17

Chains.	
	the Tp., hereinbefore described.
	Thence, N. 89° 59' E., on a true line, bet. secs. 12 and 13.
	Over mountainous land, thru. dense timber and undergrowth, over N. and NW slopes of ridge.
	Descend 80 ft.
8.45	Ascend 58 ft.
10.25	Descend 30 ft.
25.20	Ascend 10 ft.
26.70	Ridge, brs. NE and SW. A saddle in same known as White Tail Pass, brs. NE, about 5 chs. dist.
	Descend 105 ft., over SE. slope, to
31.95	Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap,
	$\frac{1}{4} \begin{array}{r} S \ 12 \\ \hline S \ 13 \\ 1921 \end{array}$
	from which,
	A juniper, 24 ins. in diam., brs. N. 13° E., 40 lks. dist., marked 1/4 S 12 BT.
	An oak, 12 ins. in diam., brs. S. 47° E., 36 lks. dist., marked 1/4 S 13 BT.
	Descend 30 ft., over SE. slope.
33.05	Old road, brs. NW and SE.
34.20	Head of Bonita Creek, course SE.
	Ascend 21 ft., over SW. slope.
37.20	Descend 46 ft., over S. slope.
45.65	Ascend 105 ft., over SW. slope.
55.25	Point of spur, slopes S.
	Descend 210 ft., over SE. slope.
66.00	Gulch, course S.
	Ascend 204 ft., over W. slope to sec. cor.
67.45	Trail, brs. N. and S.
71.95	The cor. of secs. 7, 12, 13 and 18, on E. bdy. of the Tp., described in Book "L."
	Land, mountainous.
	Soil, rocky, 4th rate.
	Timber, dense oak, pine, cedar and juniper.
	Undergrowth, dense scrub oak, ironwood, catclaw, tesota and cacti.
	Fair grass.
-----	
	From the cor. of secs. 1, 6, 7 and 12, on E. bdy. of the Tp., described in Book "L,"
	S. 89° 59' W., on a random line, bet. secs. 1 and 12.
40.00	Set temp. 1/4 sec. cor.
72.06	Fall 12 lks. S. of the cor. of secs. 1 and 12, on the W. bdy. of the Tp., hereinbefore described.
	Thence,
	S. 89° 55' E., on a true line, bet. secs. 1 and 12.
	Over mountainous land, thru. dense timber and undergrowth,
	Ascend 538 ft. over NW. slope.
17.05	Spur, slopes SW.
	Ascend 142 ft., over S. and SW. slopes.
28.45	Ridge, brs. NW and SE. forming divide between the Sulphur Springs and San Simon Valleys.
	Descend 110 ft., over E. slope, to
32.06	Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, supported by a mound of stone, for 1/4 sec. cor., marked on brass cap,
	$\frac{1}{4} \begin{array}{r} S \ 1 \\ \hline S \ 12 \\ 1921 \end{array}$
	from which,
	A juniper, 10 ins. in diam., brs. N. 17° E., 21 lks.

18 Subdivision lines of fractional Township 16 South, Range 29 $\frac{1}{2}$  East.

Chains.

dist., marked  $\frac{1}{4}$  S 1 BT.  
 An oak, 10 ins. in diam., brs. S. 15° W., 16 lks.  
 dist., marked  $\frac{1}{4}$  S 12 BT.

42.70 Descend 355 ft., over NE. slope.  
 Head of gulch, course NE.  
 Ascend 17 ft., over NW. slope.

45.70 Point or spur, slopes NE.  
 Descend 280 ft., over NE. slope.

53.30 Gulch, course NE.  
 Ascend 15 ft., over NW. slope.

55.05 Point or spur, slopes N.  
 Descend 125 ft., over NE. slope.

59.60 Gulch, course S. 80° E.  
 Descend 80 ft., over S. slope, to

67.40 Same gulch, course NE.  
 Ascend 25 ft., over NW. slope.

68.85 Descend 25 ft., over N. slope, to

72.06 The cor. of secs. 1, 6, 7 and 12.  
 Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, dense oak, pine and juniper.  
 Undergrowth, dense scrub oak, manzanita, catclaw and cacti.  
 Fair grass.

The continued satisfactory adjustment of the solar apparatus during the survey of this township is indicated from final field test, described in Book "L."

GENERAL DESCRIPTION.

This fractional township is situated in Cochise county, Arizona, about 16 miles West from the East bdy. of the State.

The summit of the main ridge of the Chiricahua Mountains, forming divide between the Sulphur Springs and San Simon Valleys, passes thru. the north half of this Tp. The surface of this entire township is mountainous, sections 13, 24, 25 and 36, and parts of secs. 1 and 12 draining westerly into the Sulphur Springs valley, and parts of secs. 1 and 12 drainig northeasterly into the San Simon Valley.

The soil is rocky, 4th rate.

There is a dense growth of oak, pine, cedar and juniper timber in all sections, and a dense undergrowth of scrub oak, manzanita, catclaw, ironwood and cacti.

There is running water in Bonita Creek, West Whitetail Creek, and Wood Canyon, and a spring in sec. 1.

There are some indications of mineral deposits in sec. 1. There are no settlers or improvements.

A road passes thru. the extreme north part of sec. 1, and another thru. the SW. quarter of sec. 12, both in bad condition. These are the only roads in the township.

There is a fair growth of grass in all secs., which gives the township a fair grazing value, but aside from that the land is of value only for the timber.

The entire township is within the Coronado National Forest Reserve, formerly named and surveyed as the Chiricahua National Forest Reserve.



CERTIFICATE OF UNITED STATES TRANSITMAN.

20

I, Benjamin J. Kinsey, U. S., Transitman, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 111, Arizona, bearing date of the 16th day of November, 1920, 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, <sup>re-</sup> surveyed all those parts or portions of the East boundary of Township 17 South, Range 29 East, and surveyed all those parts or portions of the South and West boundaries and Subdivision lines of Fractional TOWNSHIP 16 SOUTH, RANGE 29 1/2 EAST, of the Gila and Salt River Base and Meridian, in the State of Arizona, which are represented in and by diagram on page 2 hereof the foregoing field notes <sup>as</sup> having been executed by me, and under my direction; and that all the corners of resurvey & said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 111, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of Resurvey & such survey.

Place: Phoenix, Arizona.  
 Date: May 17th, 1923.

Benjamin J. Kinsey  
 U. S. Transitman, Surveyor.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, **JUN 7**, 1923.

The foregoing field notes of the <sup>re-</sup> survey of part of the East boundary of TOWNSHIP 17 SOUTH, RANGE 29 EAST, and Survey of the South and West boundaries, and Subdivision lines of FRACL. TOWNSHIP 16 SOUTH, RANGE 29 1/2 EAST, of the Gila and Salt River Base and Meridian, in the State of Arizona, executed by Benjamin J. Kinsey, U.S. Transitman, under his special instructions dated November 16, 1920, for Grp. 111, Ariz., having been critically examined, and the necessary corrections and explanations made, the said field notes, and the <sup>resurveys &</sup> surveys they describe, are hereby approved.

Frank O. Smith  
 U. S. Surveyor General.

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