

FIELD NOTES

OF THE SURVEY OF THE

East boundary

of

Township 13 South, Range 16 East,

and the

West and South boundaries

of

Township 12 South, Range 17 East,

Of the Gile and Salt River Base and Meridian,

In the State of Arizona

EXECUTED BY

William E. Hiester, U.S. Surveyor.

In the capacity of U. S. Surveyor, under Special Instructions dated December 1, 1931, issued by the District Cadastral Engineer to govern surveys included in Group No. 172, which were approved by the Commissioner of the General Land Office, December 29, 1931, and Assignment Instructions dated December 4, 1931.

Survey commenced March 16, 1932.

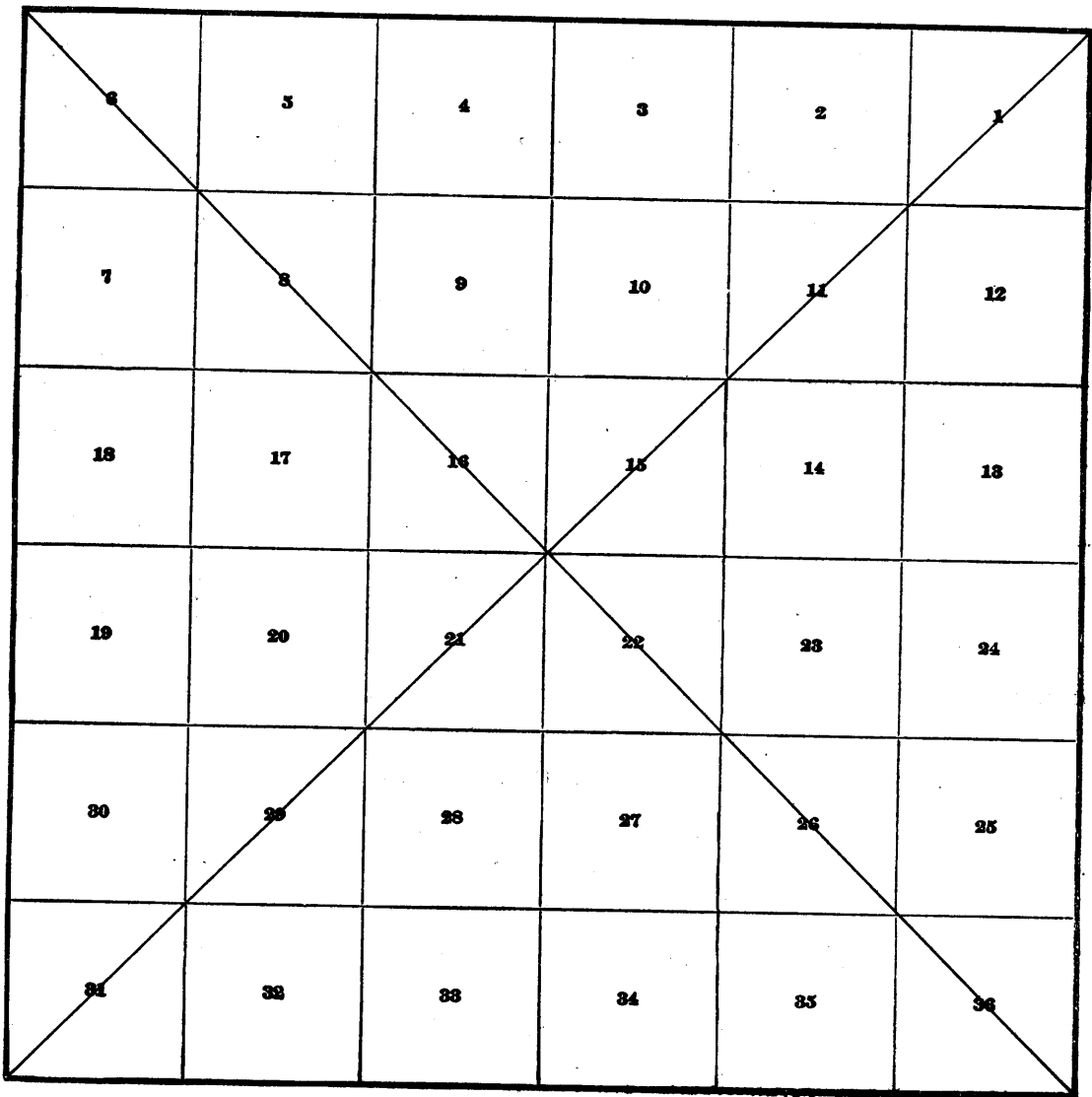
Survey completed April 19, 1932.

3969

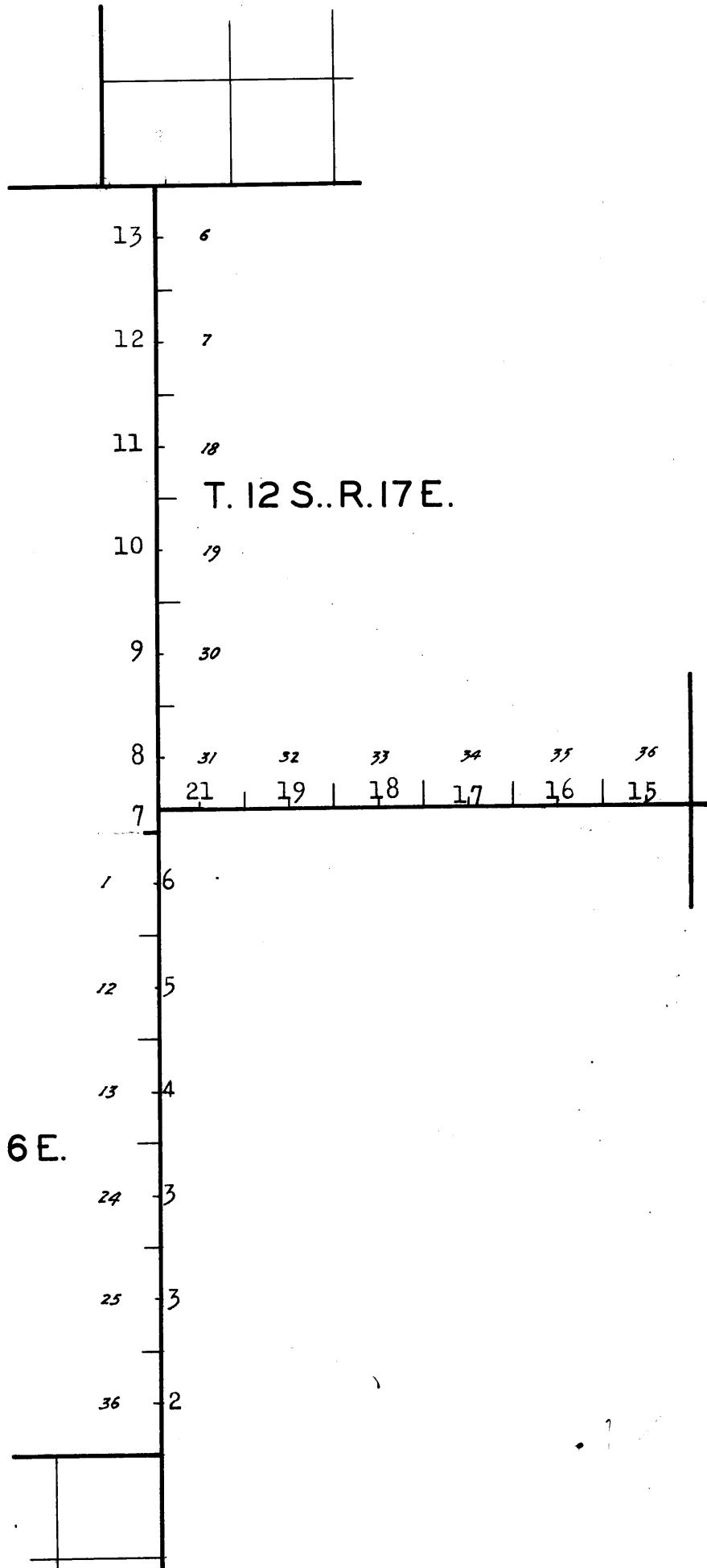
3969

INDEX DIAGRAM.

Township _____, Range _____



INDEX DIAGRAM



The survey was executed with a light mountain transit made by Buff and Buff, Serial No. 19423, constructed in accordance with the standard specifications of the General Land Office. The horizontal circle has a diameter of $4\frac{1}{2}$ ins. with two double opposite verniers reading to single minutes; the vertical circle has a diameter of 4 ins., with one double vernier reading to single minutes. The instrument is equipped with the improved Smith solar attachment; radius of latitude arc $2\frac{1}{2}$ ins. and of the declination arc $3\frac{1}{2}$ ins. each with verniers reading to single minutes. The instrument was in good condition, and having been placed in satisfactory adjustment prior to beginning the survey, and tested and found free from appreciable error, was approved by the District cadastral engineer on Nov. 15, 1931. I examine all the instrumental adjustments before making the field tests hereinafter recorded.

The direction of all lines was determined by the solar transit method. The measurements were made with a Lallie steel tape 5 chs. in length, graduated every link for the first 100 lks. and the balance at intervals of 10 lks. The tape was tested by comparison with a Lufkin standard and found correct. The measurements were made on the slope and the vertical angle of each interval was ascertained by clinometer in good adjustment; the horizontal equivalents are entered in the field record.

The data furnished with the special instructions gives the geographic position for the SE. cor. of T.13 S., R.16 E. as follows; latitude $32^{\circ}15'05''$ N., and longitude $110^{\circ}39'22''$ W.

March 16, 1932. in camp near the cor. of secs. 1, 2, 35 and 36 on S. bdy. of Tp., at 7h 56m 00s p.m., l.m.t., or 8h 18m 37s by my watch, which reads correct 105th meridian time as determined by radio. I observe Polaris at western elongation, making two sights each with the telescope in direct and reversed positions, and place a tack at the mean point on a peg driven firmly in the ground 10 chs. N.

Mar. 17: I lay off the azimuth of Polaris $1^{\circ}15'00''$ and make a meridian mark on the second peg to the east of the mean point in the line determined by the observation.

In order to verify the latitude of this station and the reading of my watch, I make a meridian observation of the sun, first setting on the lower limb and noting the transit of the west limb, then, after reversal of the instrument, setting on the upper limb and noting the transit of the east limb as follows:

Mean observed altitude-----	56°34'02"
Reduced latitude-----	32°15'02"
Mean watch time of observation-----	12h31m05s
Watch fast of l.m.t.-----	22m37s

Every 30 min. from 7 to 10.30 a.m., and from 1.30 to 4 p.m., I make proper settings on the arcs of the solar attachment and ascertain that the resulting orientation of the instrument when compared with a meridian established by Polaris observation, has a maximum error of less than $1'30''$.

I repeat the tests of the arcs daily by noon observation and verify the meridional indications at frequent intervals throughout the survey.

East Boundary of T.13 S., R.16 E.

Chains. I commence the survey at the cor. of secs. 1 and 36, Tps. 13 and 14 S., R. 16 E., established by Dupree R. Averill, U.S. Surveyor in 1930, which is an iron post, 3 ins. diam., standing firmly 2 ins. above the top of a mound of stone 5 ft. base, 3 ft. high, marked and witnessed as described in the official record.

North, along E. bdy. of sec. 36.

Over mountainous land, through scattering undergrowth.

Descend 421 ft. over NW. slope.

21.36 Draw, course NW.; continue descending.

32.45 Creek, 50 lks. wide, course W.; asc. 141 ft. over S. slope.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 28 ins. in the ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S36 |
1932

from which

A palo verde, 5 ins. diam., bears N. $65\frac{1}{2}^{\circ}$ W., 41 lks. dist., mkd. $\frac{1}{4}$ S 36 B T.

Raise a mound of stone, 3 ft. base, $2\frac{1}{2}$ ft. high W. of cor.

Ascend 242 ft. over S. slope.

45.67 Trail, bears NE. and SW.

46.00 Trail, bears NE. and SW.

55.00 Top of spur, slopes SW.; continue along broken W. slope.

62.30 Old road, bears SE. and NW.

69.25 Spring branch, 5 lks. wide, course SW.; asc. 104 ft. over SE. slope.

79.80 Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground to bedrock, with a sandstone 12x12x12 ins. mkd. X, deposited at the base, and in a mound of stone to top, for witness cor. to secs. 25 and 36, with brass cap mkd.

W-8
T13S
R16E
S25
S36 |
1932

80.00 True point for cor. of secs. 25 and 36 falls in wash 10 lks. wide, course SW.

Land, mountainous.
Soil, rocky; 4th rate.
Timber, scattering palo verde.
Undergrowth, scattering mesquite, catclaw, greasewood, yucca and cactus.

Chains. North along E.bdy. of sec.25.
 Over mountainous land, through scattering timber and undergrowth.
 Ascend 335 ft. over S. slope.
 25.39 Spur, slopes W.; desc. 307 ft. over NW. slope.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 12 ins. in the ground, to bedrock, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S25
 1932

from which

A mesquite, 8 ins. diam., bears S. $49\frac{1}{2}^{\circ}$ W., 271 lks. dist., mkd. $\frac{1}{4}$ S 25 B T.

A mesquite, 12 ins. diam., bears N. $23\frac{1}{2}^{\circ}$ W., 67 lks. dist., mkd. $\frac{1}{4}$ S 25 B T.

Descend 82 ft. over NW. slope.

46.20 Creek, 6 lks. wide, course W.; asc. 82 ft. over S. slope.

54.20 Top of red rocky hill.; desc. 88 ft. over N. slope.

60.20 Head of draw, course E.; asc. 168 ft. over S. slope.

66.50 Rocky spur, slopes E.; desc. 61 ft. over NE. slope.

79.50 Head of draw, course E.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 6 ins. in the ground to bedrock, and in a mound of stone to top, for cor. of secs. 24 and 25, with brass cap mkd.

T13S
 S24
 S25
 R16E
 1932

from which

A mahogany, 4 ins. diam., bears S. $5\frac{1}{4}^{\circ}$ W., 91 lks. dist., mkd. T.13 S R.16 E S 25 B T.

A mesquite, 4 ins. diam., bears N. 46° W., 20 lks. dist., mkd. T.13 S R.16 E S 24 B T.

Land, mountainous.
 Soil, sandy and rocky; 4th rate.
 Timber, scattering mahogany; palo verde and mesquite.
 Undergrowth, catclaw, greasewood, cactus and yucca.

North, along the E. bdy. of sec. 24.
 Over mountainous land, through scattering timber and undergrowth.

Ascend 88 ft. over rocky SE. slope.

3.25 Top of spur, slopes E.; desc. 26 ft. over NE. slope.

East Boundary of T.13 S., R.16 E.

- Chains.
- 9.90 Ravine, course SE. with small stream of water.
 - 10.00 Concrete water trough, bears W. 1.40 lks. dist.; asc. 246 ft. over SW. slope.
 - 17.70 Spur, slopes E.; desc. 54 ft. over NE. slope.
 - 26.20 Rocky draw, course E.; asc. 281 ft. over SE. slope.
 - 40.00 Set an iron post, 3 ft. long, 1 in. diam., 4 ins. in the ground to bedrock, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S 24 |
1932

from which

- A mahogany, 24 ins. diam., bears N. $63\frac{1}{4}^{\circ}$ W., 95 lks. dist., mkd. $\frac{1}{4}$ S 24 B T.
- A mahogany, 8 ins. diam., bears N. 3° W., 189 lks. dist., mkd. $\frac{1}{4}$ S 24 B T.

- 41.00 Rocky spur, slopes E.; asc. 133 ft. along E. slope.
- 47.78 Point of rocky spur, slopes E.; desc. 229 ft. over rocky NE. slope.
- 59.50 Point of rocky spur, slopes E.; desc. 226 ft. over N. slope.
- 70.66 Rocky ravine, course E.; asc. 36 ft. over S. slope.
- 74.00 Low spur, slopes E.; desc. 53 ft. over NE. slope.
- 77.50 Draw, course E.; asc. 26 ft. over SE. slope.
- 80.00 Set an iron post, 3 ft. long, 2 ins. diam., 27 ins. in the ground, for cor. of secs. 13 and 24, with brass cap mkd.

T13S
S13 |
S24 |
R16E
1932

from which

- An oak, 10 ins. diam., bears S. $63\frac{1}{4}^{\circ}$ W., 312 lks. dist., mkd. T 13 S R 16 E S 24 B T.
- A juniper, 3 ins. diam., bears N. 56° W., 194 lks. dist., mkd. B T.

Land, mountainous.
Soil, sandy and rocky; 4th rate.
Timber, scattering mahogany, juniper, oak and mesquite.
Undergrowth, scattering catclaw, palo verde, cactus, yucca and greasewood.

North, along E. bdy. of sec. 13.
Over mountainous land, through scattering timber and undergrowth.
Ascend 133 ft. over rocky SE. slope.

- Chains.
 11.70 Spur, slopes E.; desc. 108 ft. over NE. slope.
 18.60 Gulch, course S. 60° E.; asc. 138 ft. along E. slope.
 31.90 Ravine, course SE.
 39.95 Wire fence, bears SE. and NW.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 14 ins. in the ground to bedrock, with a sandstone 18x14x12 ins. mkd. X, deposited at the base, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S13

1932

No bearing trees available.

Ascend 386 ft. over SE. slope.

55.60 Gulch, course SE.; continue ascending over S. slope.

69.90 Divide, bears E. and W.; desc. 107 ft. over N. slope.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 8 ins. in the ground to bedrock, with a sandstone, 12x14x12 ins. mkd. X, deposited at the base, and in a mound of stone to top, for cor. of secs. 12 and 13, with brass cap mkd.

T13S

S12

S13

R16E

1932

from which

A juniper, 10 ins. diam., bears N. 64 $\frac{1}{2}$ ° W., 98 lks. dist., mkd. T 13 S R 16 E S 12 B T.

No other bearing tree available.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, scattering, mahogany, juniper, oak and mesquite.

Undergrowth, scattering catclaw, greasewood, cactus and yucca.

North along E. bdy. of sec. 12.

Over mountainous land, through scattering timber and undergrowth.

Descend 79 ft. over NW. slope.

4.95 Rocky gulch, course NE.; asc. 93 ft. over SE. slope.

13.90 Spur, slopes NE.; desc. 451 ft. over broken N. slope.

38.40 Ravine, course NE.; asc. 14 ft. over SE. slope.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 24 ins. in the ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

East Boundary of T.13 S., R.16 E.

Chains.

... 1/4 S12 | ...
... 1932

from which

A black oak, 14 ins. diam., bears S. 8° E., 1 lk. dist.,
mkd. B T.

No other bearing tree available.

Ascend 5 ft. over SE. slope.

41.00 Top of ascent; desc. 83 ft. over NE. slope.

51.10 Creek, 10 lks. wide, in wash 100 lks. wide, course SW.; asc.
186 ft. over rocky SE. slope.

66.36 Spur, slopes E.; desc. 143 ft. over NE. slope.

79.00 Spring branch, 1 lk. wide, course SE.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., over cross X, mkd.
on bedrock and in a mound of stone to top, for cor. of
secs. 1 and 12, with brass cap mkd.

T13S

S 1

S12

R16E

1932

from which

A black oak, 12 ins. diam., bears S. 43 1/4° W., 145 lks. dist.,
mkd. T 13 S R 16 E S 12 B T.

A juniper, 18 ins. diam., bears N. 77° W., 289 lks. dist.,
mkd. T 13 S R 16 E S 1 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, scattering oak, juniper, mahogany and mesquite.

Undergrowth, scattering catclaw, cactus, yucca and grease-
wood.

North, along E. bdy. of sec. 1

Over mountainous land, through scattering timber and
undergrowth.

.30 Wash, course SW.

1.30 Same wash, course SE. at mouth of wash from NE.

1.50 Trail, bears E. and W.

5.50 Low spur, slopes SE.; desc. 7 ft. over NE. slope.

7.60 Draw, course S. 80° E.; asc. 59 ft. over SW. slope.

18.80 Point of spur, slopes W.; desc. 24 ft. over NW. slope.

23.20 Draw, course E.

30.00 Draw, 50 lks. wide, course SE.; asc. 166 ft. over SW. slope.

37.70 Top of bluff 25 ft. high.; desc. 34 ft. over N. slope.

Chains.

39.80

Ravine, course SW.; asc. 33 ft. over SE. slope.

40.00

Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S 1 |

1932

from which

A mahogany 4 ins. diam., bears S. 24° W., 145 lks. dist., mkd. $\frac{1}{4}$ S 1 B T.

A black oak, 10 ins. diam., S. 51° W., 125 lks. dist., mkd. $\frac{1}{4}$ S 1 B T.

Ascend 285 ft. over S. slope.

57.70

Ridge, bears NE. and SW.; desc. 198 ft. over NE. slope.

67.75

Wash, 20 lks. wide, course SE.; asc. 209 ft. over SW. slope.

74.70

Top of low spur, slopes W.; desc. 19 ft. along W. slope.

80.00

Set an iron post, 3 ft. long, 3 ins. diam., 16 ins. in the ground to bedrock, and in a mound of stone to top, for cor. of Tps. 12 and 13 S., R. 16 E., with brass cap mkd.

T12S

R16E T13S

S 36 S 6

S 11 R17E.

T13S

1932

from which

A black oak, 4 ins. diam., bears S. 24 $\frac{1}{4}$ ° W., 109 lks. dist., mkd. T 13 S R 16 E S 1 B T.

A white oak, 10 ins. diam., bears N. 63° W., 30 lks. dist., mkd. T 12 S R 16 E S 36 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, scattering oak, juniper, mahogany, mesquite and sycamore; undergrowth, catclaw, manzanita, greasewood, and yucca.

Survey of a Portion of the E. Bdy. of T. 12 S., R. 16 E.

North along E. bdy. of sec. 36.

Over mountainous land, through scattering timber and undergrowth.

Descend 82 ft. over NW. slope.

4.10

Wash, 20 lks. wide, course SW.; asc. 116 ft. over SE. slope.

11.50

Point of spur, slopes E.; desc. 11 ft. over N. slope.

14.41

A point 465.93 chs. west of the cor. of Tps. 12 and 13 S., Rs. 17 and 18 E., described in the field notes of the survey of the South bdy. of T. 12 S., R. 17 E., in this book.

Survey of a Portion of the E. Bdy. of T. 12 S., R. 16 E.

Chains. Set an iron post, 3 ft. long, 3 ins. diam., 8 ins. in the ground to bedrock, and in a mound of stone to top, for cor. of Tps. 12 and 13 S., R. 17 E., with brass cap mkd.

T12S
T12S R17E
S 36 | S 31
R16E | S 6
T13S
1932

from which

A double black oak, 14 ins. diam., bears N. 1³/₄° E., 118 lks. dist., mkd. T 12 S R 17 E S 31 B T.

A black oak, 10 ins. diam., bears S. 55¹/₂° E., 40 lks. dist., mkd. T 13 S R 17 E S 6 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, scattering oak, juniper, mahogany and mesquite.

Undergrowth, scattering manzanita, greasewood, catclaw and yucca.

West Boundary of T. 12 S., R. 17 E.

From the cor. of Tps. 12 and 13 S., R. 17 E.

North, along W. bdy. of sec. 31

Over mountainous land, through scattering timber and undergrowth.

- .15 Wash, 10 lks. wide, course SE.; asc. 277 ft. over SE. slope.
- 1.90 Low spur, slopes W.
- 2.60 Same wash, 10 lks. wide, course SW.
- 5.86 Same wash, course SE.; asc. over SW. slope.
- 24.40 Spur, slopes SE.; desc. 337 ft. over NE. slope.
- 40.00 True point for ¹/₄ sec. cor. falls in wash; 20 lks. wide, course SE.
- 40.35 Set an iron post, 3 ft. long, 1 in. diam., 16 ins. in the ground to bedrock, and in a mound of stone to top, for witness ¹/₄ sec. cor. with brass cap mkd.

¹/₄ S31
WC

1932

from which

A white oak, 10 ins. diam., bears N. 56° E., 100 lks. dist., mkd. W C ¹/₄ S 31 B T.

A white oak, 24 ins. diam., bears S. 42¹/₄° E., 93 lks. dist., mkd. W C ¹/₄ S 31 B T.

Ascend 284 ft. over SW. slope.

- 47.00 Continue along SE. slope.

- Chains.
59.00 Top of ascent; desc. 30 ft. over NE. slope.
76.90 Gulch, course SE.; asc. 78 ft. over SW. slope.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for cor. of secs. 30 and 31, with brass cap mkd.

T12S
S 30
S 31
R17E
1932

from which

An oak, 6 ins. diam., bears N. $63\frac{3}{4}^{\circ}$ E., 70 lks. dist., mkd.
T 12 S R 17 E S 30 B T.

An oak, 14 ins. diam., bears S. $39\frac{1}{2}^{\circ}$ E., 94 lks. dist., mkd.
T 12 S R 17 E S 31 B T.

Land, mountainous.
Soil, sandy and rocky; 4th rate.
Timber, scattering oak, juniper, and mahogany; undergrowth mesquite, manzanita and catclaw.

North, along W. bdy. of sec. 30

Over mountainous land, through scattering timber and undergrowth.

Ascend 106 ft. over SW. slope.

- 27.00 High rocky spur, slopes SE.; desc. 33 ft. over NE. slope.
36.70 Head of gulch, course SE.; asc. 90 ft. over SW. slope.
39.87 Set an iron post, 3 ft. long, 1 in. diam., 14 ins. in the ground to bedrock, and in a mound of stone to top, for witness $\frac{1}{4}$ sec. cor. with brass cap mkd.

WC
 $\frac{1}{4}$ S 30
1932

from which

An oak, 8 ins. diam., bears N. $57\frac{1}{4}^{\circ}$ E., 35 lks. dist., mkd. WC
 $\frac{1}{4}$ S 30 B T.

A pinon pine, 5 ins. diam., bears S. $86\frac{1}{4}^{\circ}$ E., 26 lks. dist., mkd. WC $\frac{1}{4}$ S 30 B T.

- 40.00 True point for $\frac{1}{4}$ sec. cor. falls on face of bluff.
Ascend 352 ft. over steep, rocky S. slope.
46.70 Spur, slopes SE.; continue along E. slope.
58.20 Divide, bears E. and W.; desc. 765 ft. over NE. slope.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for cor. of secs. 19 and 30 with brass cap mkd.

Chains.

T12S

S 19

S 30

R17E

1932

from which

A white oak, 9 ins. diam., bears $N. 3\frac{1}{4}^{\circ} E.$, 200 lks. dist.,
mkd. T 12 S R 17 E S 19 B T.

A white oak, 5 ins. diam., bears $S. 87^{\circ} E.$, 20 lks. dist.,
mkd. T 12 S R 17 E S 30 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, pinon, juniper, oak and mahogany; undergrowth, cat-
claw, manzanita, greasewood and mesquite.

North, along W. bdy. of sec. 19

Over mountainous land, through scattering timber and
dense undergrowth.

Descend 75 ft. over N. slope.

2.00 Gulch, course NE.; asc. 244 ft. over SE. slope.

15.80 Spur, slopes E.; desc. 245 ft. over NE. slope.

23.70 Burro Creek, 10 lks. wide, course E.; asc. 405 ft. over S.
slope.

36.47 Ravine, course SE.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
ground for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S19

1932

from which

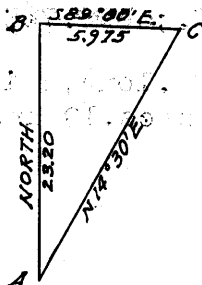
A black oak, 4 ins. diam., bears $N. 11\frac{1}{4}^{\circ} E.$, 60 lks. dist.,
mkd. $\frac{1}{4}$ S 19 B T.

A white oak, 4 ins. diam., bears $S. 11\frac{3}{4}^{\circ} E.$, 43 lks. dist.,
mkd. $\frac{1}{4}$ S 19 B T.

Ascend 44 ft. over S. slope.

42.24 Spur, slopes E.

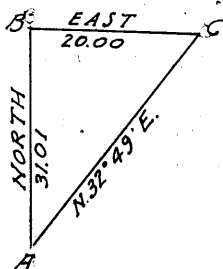
To make a triangulation over bluffs and dense undergrowth
I designate the above point A and set a flag B on line
vertical angle $+11\frac{1}{2}^{\circ}$ also a flag C on top of bluff, which
from point A bears $N. 14^{\circ} 30' E.$; the base BC bears $S. 89^{\circ} 00'$
 $E.$, 5.975 chs. dist., longer base impracticable, all bear-
ings checked by direct reading of the solar, and all
angles checked by deflection.



Chains	Dist. on true line 42.24 chs. Dist. by triangulation 23.20 " 65.44 "
	Descend approximate 150 ft. over NE. slope.
55.00	Approximate distance, wash, 20 lks. wide, course SE.; asc. 639 ft. over S. slope.
77.00	Enter small grove of oak in flat.
80.00	Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for cor. of secs. 18 and 19, with brass cap mkd.
	T12S S 18 S 19 R17E 1932
	from which
	An oak, 5 ins. diam., bears N. 21 $\frac{1}{4}$ ° E., 12 lks. dist., mkd. T. 12 S R 17 E S 18 B T.
	A double yellow pine, 36 ins. diam., bears S. 67 $\frac{1}{4}$ ° E., 54 lks. dist., mkd. T. 12 S R 17 E S 19 B T.
	Land, mountainous. Soil, sandy and rocky; 4th rate. Timber, oak, juniper, pine, mahogany and cedar; undergrowth, manzanita, greasewood and catclaw.
	North, along W. bdy. of sec. 18.
	Over mountainous land, through heavy timber and scattering undergrowth.
	Ascend 534 ft. over S. slope.
25.60	High rocky ridge, bears SE. and NW.; desc. 147 ft. over NE. slope.
32.80	Head of ravine, course NE.; asc. 18 ft. over SE. slope.
37.40	Rocky spur, slopes NE.; desc. 23 ft. over NW. slope.
40.00	Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.
	$\frac{1}{4}$ S 18 1932
	from which
	A yellow pine, 8 ins. diam., bears N. 18 $\frac{1}{4}$ ° E., 22 lks. dist. mkd. $\frac{1}{4}$ S 18 B T.
	A yellow pine, 18 ins. diam., bears S. 22° E., 56 lks. dist. mkd. $\frac{1}{4}$ S 18 B T.
	Descend 22 ft. over NW. slope.
41.40	Ravine, course NE.; asc. 33 ft. over SE. slope.
45.50	High rocky spur, slopes NE. from Guthrie Mt.; desc. 49 ft. over NW. slope.

Chains
47.50

Top of precipitous bluff; to make a triangulation over bluffs, I designate the 47.50 ch. point A and set a flag B on line; vertical angle $-24\frac{1}{2}^\circ$ also a flag C which from point A bears $N.32^\circ49'E.$, the base BC bears East 20 chs. dist.; all bearings checked by direct reading of the solar, and all angles checked by deflection:



Dist. on true line	47.50 chs.
Dist. by triangulation	31.01 "
	20.00 "
Dist. by direct meas.	1.49 "
	80.00 "

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground to bedrock, and in a mound of stone to top, for cor. of secs. 7 and 18, with brass cap mkd.

T12S
| S 7
| S 18
R17E
1932

from which

A pinon pine, 16 ins. diam., bears $N.47^\circ E.$, 71 lks. dist., mkd. T 12 S R 17 E S 7 B T.

A pinon pine, 8 ins. diam., bears $S.64\frac{1}{2}^\circ E.$, 54 lks. dist., mkd. T 12 S R 17 E S 18 B T.

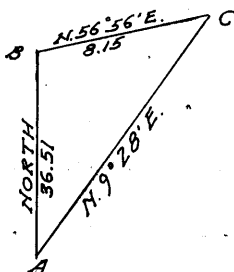
Land, mountainous.
Soil, sandy and rocky; 4th rate.
Timber, oak, yellow pine, pinon pine, and juniper; undergrowth manzanita, scrub oak and greasewood.

North, along W. bdy. of sec. 7

Over mountainous land through scattering timber and dense undergrowth.

Descend 701 ft. over steep NW. slope.

To make a triangulation across deep rocky canyon, I designate the above cor. point A and set a flag B on line, vertical angle $-12\frac{1}{2}^\circ$ also a flag C which from point A bears $N.9^\circ28'E.$, the base BC bears $N.56^\circ56'E.$, 8.15 chs. dist.; all bearings checked by direct reading of the solar, and all angles checked by deflection:



Dist. by triangulation. 36.51 chs.

17.00 Approximate dist., creek 10 lks. wide, course NE.; asc. 167

Chains. ft. over SE. slope.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S 7

1932

from which

A white oak, 18 ins. diam., bears N. $6\frac{1}{4}^{\circ}$ E., 38 lks. dist., mkd. $\frac{1}{4}$ S 7 B T.

A black oak, 10 ins. diam., bears N. $86\frac{1}{2}^{\circ}$ E., 98 lks. dist., mkd. $\frac{1}{4}$ S. 7 B T.

Ascend 126 ft. over SE. slope.

42.70 Spur ridge, slopes E.; desc. 368 ft. over N. slope.

43.40 Forest Service telephone line, bears E. and W.

47.45 Trail, bears E. and W.

55.10 Ravine, course NE.; asc. 46 ft. over SE. slope.

57.40 Top of spur, slopes E.; desc. 349 ft. over NE. slope.

73.66 Gulch, course E.; asc. 71 ft. over S. slope.

75.16 Spur, slopes E.; desc. 29 ft. over NE. slope.

77.00 Ravine, course SE.; asc. 103 ft. over SW. slope.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 20 ins. in the ground to bedrock, and in a mound of stone to top, for cor. of secs. 6 and 7, with brass cap mkd.

T12S

S 6

S 7

R17E

1932

from which

A white oak, 30 ins. diam., bears N. $21\frac{1}{2}^{\circ}$ E., 54 lks. dist., mkd. T 12 S R 17 E S 6 B T.

A white oak, 12 ins. diam., bears S. 12° E., 147 lks. dist., mkd. T 12 S R 17 E S 7 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, pine, oak, juniper and mahogany; undergrowth, manzanita, greasewood and scrub oak.

North, along W. bdy. of sec. 6

Over mountainous land, through scattering timber and dense undergrowth.

Ascend 382 ft. over SW. slope.

10.30 Spur, slopes SE.; continue ascending over SE. slope.

19.50 Spur, slopes E.; desc. 148 ft. over NE. slope.

West Boundary of T.12 S., R.17 E.

Chains.	
29.10	Ravine, course E.; asc. 221 ft. over S. slope.
35.60	Spur, slopes E.; desc. 89 ft. over N. slope.
39.50	Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for witness $\frac{1}{4}$ sec. cor. with brass cap mkd.
	WC $\frac{1}{4}$ S 6 1932
	from which
	A white oak, 10 ins. diam., bears N. $28\frac{1}{2}^{\circ}$ E., 35 lks. dist., mkd. W C $\frac{1}{4}$ S 6 B T.
	A white oak, 8 ins. diam., bears S. 32° E., 24 lks. dist., mkd. W C $\frac{1}{4}$ S 6 B T.
39.75	Gulch, course E.
40.00	True point for $\frac{1}{4}$ sec. cor. falls on W. face of ledge. Ascend 739 ft. over SE. slope.
63.40	Ridge, bears NE. and S. W.; desc. 163 ft. over NW. slope.
75.65	Head of gulch, course W.; asc. 56 ft. over S. slope.
78.26	Intersect the S. bdy. of sec. 31. T. 11 S., R. 17 E. Set an iron post, 3 ft. long, 3 ins. diam., 26 ins. in the ground, for closing cor. of Tps. 12 S., Rs. 16 and 17 E., with brass cap mkd.
	T11SR17E S 31 S 1 S 6 R16E R17E C C T12S 1932
	from which
	A black oak, 8 ins. diam., bears S. $57\frac{3}{4}^{\circ}$ E., 60 lks. dist., mkd. T 12 S R 17 E S 6 C C B T.
	A black oak, 10 ins. diam., bears S. $17\frac{1}{4}^{\circ}$ W., 45 lks. dist., mkd. T 12 S R. 16 E S 1 C C B T.
	From point of intersection the $\frac{1}{4}$ sec. cor. of secs. 6 and 31, Tps. 11 and 12 S., R. 17 E., bears East, 25.87 chs. dist., an iron post, 1 in. diam., standing firmly 2 ins. above the top of a mound of stone, 3 ft. base, $1\frac{1}{2}$ ft. high, marked and witnessed as described in the official record.
	From the same point, the cor. of Tps. 11 and 12 S., Rs. 16 and 17 E., bears West, 40.13 chs. dist., an iron post, 3 ins. diam., standing 10 ins. above the top of a mound of stone, 2 ft. base, 1 ft. high, marked and witnessed as described in the official record.
	I alter the marks on brass cap to read as follows, since this this cor. now serves for T. 11 S., Rs. 16 and 17 only:

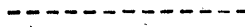
Chains.

T11S
R16E | R17E
S 36 | S 31
S 1
T12SR16E
1919

Destroy the marks on SE. and SW. bearing trees.

Land, mountainous.
Soil, sandy and gravelly; 3 rd rate.
Timber, scattering oak, juniper and mahogany; undergrowth.
catclaw, mesquite, cactus and greasewood.

South Boundary of T.12 S., R.17 E.



From the cor. of Tps. 12 and 13 S., Rs. 17 and 18 E., which is an iron post, 3 ins. diam., standing firmly in a mound of stone 5 ft. base, 3 ft. high, marked and witnessed as described in the official record.

West, bet. secs. 1 and 36.

Over mountainous land, through scattering timber and undergrowth.

Descend 365 ft. over steep, rocky W. slope.

- 10.70 Wire fence, bears N. and S.
- 16.26 Wash, 10 lks. wide, course N.; asc. 20 ft. over E. slope.
- 20.00 Spur, slopes N.; desc. 32 ft. over W. slope.
- 22.98 Wash, 20 lks. wide, course N.
- 24.10 Wash, 15 lks. wide, course N. 20° E.; asc. 98 ft. over E. slope.
- 32.20 Spur, slopes S.; desc. 54 ft. over W. slope.
- 34.00 Enter same wash, course E.; continue along wash.
- 37.80 Leave wash, course E. from NW.
- 39.00 Same wash, course NE.
- 40.00 Set an iron post, 3 ft. long, 1 in. diam., 18 ins. in the ground, for 1/4 sec. cor. with brass cap mkd.

S 36
1/4
S 1
1932

from which

A black oak, 10 ins. diam., bears N. 71 1/2° E., 73 lks. dist., mkd. 1/4 S 36 B T.

A black oak, 6 ins. diam., bears S. 4° W., 114 lks. dist., mkd. 1/4 S 1 B T.

Ascend 125 ft. over SE. slope.

- 52.80 Top of ridge bears N. and S.; desc. 171 ft. over SW. slope.

Chains.

- 68.20 Wash, 20 lks. wide, course N; asc. 95 ft. over E. slope.
- 74.20 Spur, slopes N.; desc. 85 ft. over W. slope.
- 79.46 Set an iron post, 3 ft. long, 2 ins. diam., on bedrock over a cross (X) marked at base of post, and in a mound of stone to top, for witness cor. of secs. 1, 2, 35 and 36, with brass cap mkd.

T12S R17E
 WC S 35 | S 36
 S 2 | S 1
 T13S
 1932

from which

- A juniper, 10 ins. diam., bears N. $2\frac{3}{4}^\circ$ W., 180 lks. dist., mkd. W C T 12 S R 17 E S 35 B T.
- A black oak, 4 ins. diam., bears S. $1\frac{1}{4}^\circ$ W., 97 lks. dist., mkd. W C B T.
- A juniper, 24 ins. diam., bears S. $61\frac{1}{4}^\circ$ W., 103 lks. dist., mkd. W C T 13 S R 17 E S 2 B T.
- A black oak, 12 ins. diam., bears N. 57° W., 397 lks. dist., mkd. W C T 12 S R 17 E S 35 B T.

80.00 True point for cor. of secs. 1, 2, 35 and 36, falls in rocky wash, 20 lks. wide, course NW.
 Land, mountainous.
 Soil, sandy and gravelly; 3rd rate.
 Timber, scattering oak, juniper and mesquite; undergrowth, catclaw; cactus palo verde and yucca.

West, bet. secs. 2 and 35.

Over mountainous land, through scattering timber and undergrowth.

Descend 23 ft. over NW. slope.

- 2.00 Ravine, 20 ft. deep, course N.; asc. 80 ft. over E. slope.
- 4.90 Spur, slopes N.; desc. 81 ft. over NW. slope.
- 13.36 Wash, 10 lks. wide, course N. 30° W.; asc. 77 ft. over E. slope.
- 17.40 Spur bears NW. Desc. 104 ft. over SW slope.
- 24.20 Ravine, course NW.; asc. 13 ft. over NE. slope.
- 32.80 Junction of ravines course NE. from SE and SW.; asc. 95 ft. over E. slope.
- 39.50 Spur bears N. Desc. 45 ft. over NW slope.
- 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

$\frac{1}{4}$ S 35
 S 2
 1932

from which

- A juniper, 4 ins. diam., bears N. $24\frac{1}{2}^\circ$ E., 69 lks. dist., mkd. $\frac{1}{4}$ S 35 B T.

Chains.

An oak, 8 ins. diam., bears S.18°E., 96 lks. dist., mkd. $\frac{1}{4}$ S 2 B T.

Descend 45 ft. over NW. slope.

41.68 Ravine, course N.; asc. 150 ft. over E. slope.

53.30 Spur, slopes N.; desc. 201 ft. over SW. slope.

63.20 Wash, 15 lks. wide, course NW.; asc. 15 ft. over NE. slope.

69.40 Low spur, slopes N.; desc 23 ft.

70.47 Wash, 50 lks. wide, course N.; asc. 189 ft. over point of spur.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for cor. of secs. 2, 3, 34 and 35, with brass cap mkd.

T12S R17E
 S 34 | S 35
 S 3 | S 2
 T13S
 1932

from which

A juniper, 6 ins. diam., bears N.0°15'E., 121 lks. dist., mkd. T 12 S R 17 E S 35 B T.

A juniper, 8 ins. diam., bears S.88 $\frac{1}{2}$ °E., 71 lks. dist., mkd. T 13 S R 17 E S 2 B T.

A white oak, 8 ins. diam., bears S.81 $\frac{1}{2}$ °W., 43 lks. dist., mkd. T 13 S R 17 E S 3 B T.

A white oak, 12 ins. diam., bears N.83°W., 114 lks. dist., mkd. T 12 S R 17 E S 34 B T.

Land, mountainous.

Soil, sandy and gravelly; 3rd rate.

Timber, scattering oak and juniper; undergrowth, catclaw, mesquite, cactus, palo verde and greasewood.

West, bet. secs. 3 and 34.

Over mountainous land, through scattering timber and undergrowth.

Ascend 100 ft. over E. slope of spur.

19.00 Top of spur.; desc. 106 ft. over W. slope.

20.40 Old road, bears NE. and SW.

30.06 Wash, 10 lks. wide, course NW.; asc. 58 ft. over NE. slope.

37.40 Spur, slopes N.; desc. 36 ft. over NW. slope.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 5 ins. in the ground to bedrock and in a mound of stone to top, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

S 34
 $\frac{1}{4}$ ———
 S 3
 1932

from which

Chains. A white oak, 10 ins. diam., bears S. $6\frac{1}{2}^{\circ}$ W., 189 lks. dist.,
mkd. $\frac{1}{4}$ S 3 B T.

A white oak, 10 ins. diam., bears N. $13\frac{1}{4}^{\circ}$ W., 123 lks. dist.
mkd. $\frac{1}{4}$ S $3\frac{1}{4}$ B T.

Descend 123 ft. over NW. slope.

51.20 Wash, 10 lks. wide, course N.; asc. 107 ft. over E. slope.

59.30 Spur, slopes N.; desc. 178 ft. over NW. slope.

70.43 Chimney Rock Creek, 5 lks. wide, in wash 100 lks. wide,
course N.; asc. 119 ft. over E. slope.

75.30 Spur, slopes SE.; desc. 38 ft. over SW. slope.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 18 ins. in the
ground to bedrock, and in a mound of stone to top, for
cor. of secs. 3, 4, 33 and 34, with brass cap mkd.

T12S R17E
S33 | S34
S 4 | S 3
T13S
1932

from which

A mesquite, 10 ins. diam., bears N. $28\frac{1}{4}^{\circ}$ E., 236 lks. dist.,
mkd. T 12 S R 17 E S $3\frac{1}{4}$ B T.

A black oak, 24 ins. diam., bears S. $18\frac{1}{2}^{\circ}$ E., 191 lks. dist.,
mkd. T 13 S R 17 E S 3 B T.

A black oak, 10 ins. diam., bears S. 57° W., 193 lks. dist.,
mkd. T 13 S R 17 E S 4 B T.

A black oak, 16 ins. diam., bears N. $78\frac{1}{2}^{\circ}$ W., 382 lks. dist.,
mkd. T 12 S R 17 E S 33 B T.

Land, mountainous.

Soil, sandy and stony; 3rd rate.

Timber, scattering oak, mesquite and juniper; undergrowth,
catclaw, greasewood, cactus, palo verde and yucca.

West, bet. secs. 4 and 33.

Over mountainous land, through scattering timber and
undergrowth.

Descend 11 ft. over SW. slope.

1.60 Draw, course SE.; asc. 159 ft. over NE. slope.

4.30 Continue along broken SE. slope.

21.40 Top of ascent; desc. 84 ft. over SW. slope.

32.22 Wash, 10 lks. wide, course S. 70° E. at junction of wash from
SW.; asc. 59 ft. over SE. slope.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
ground, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

Chains.

S 33.
 $\frac{1}{4}$ ———
 S 4
 1932

from which

A black oak, 8 ins. diam., bears S. 25° E., 12 $\frac{1}{4}$ lks. dist.,
 mkd. $\frac{1}{4}$ S 4 B T.

A white oak, 10 ins. diam., bears S. 19 $\frac{1}{4}$ ° W., 172 lks. dist.
 mkd. $\frac{1}{4}$ S 4 B T.

Ascend 78 ft. along SE. slope.

49.30 Ridge, bears N. and S.; desc. 66 ft. over W. slope.

62.00 Continue along S. side of wash.

69.00 Leave wash, from NW. course E.; asc. 66 ft. over NE. slope.

77.60 Point of spur, slopes W.; desc. 66 ft. over W. slope of spur.

80.00 Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the
 ground, for cor. of secs. 4, 5, 32 and 33, with brass cap
 mkd.

T12S R17E
 S 32 | S 33
 S 5 | S 4
 T13S
 1932

from which

A black oak, 6 ins. diam., bears N. 17° E., 80 lks. dist.,
 mkd. T 12 S R 17 E S 33 B T.

A black oak, 10 ins. diam., bears S. 89 $\frac{1}{4}$ ° E., 80 lks. dist.,
 mkd. T 13 S R 17 E S 4 B T.

A black oak, 6 ins. diam., bears S. 35 $\frac{3}{4}$ ° W., 60 lks. dist.
 mkd. T 13 S R 17 E S 5 B T.

A black oak, 10 ins. diam., bears N. 4° W., 192 lks. dist.,
 mkd. T 12 S R 17 E S 32 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, scattering oak, juniper and mesquite; undergrowth,
 catclaw, greasewood, cactus and yucca.

West, bet. secs. 5 and 32.

Over mountainous land, through scattering timber and
 undergrowth.

Descend 22 ft. over W. slope.

.73 Wash, 30 lks. wide, course S.; asc. 146 ft. over E. slope.

9.80 Spur, slopes SE.; desc. 142 ft. over SW. slope.

19.92 Ravine, course SE.; asc. 72 ft. over NE. slope.

28.00 Spur, slopes S.; desc. 113 ft. over SW. slope.

32.24 Wash, 20 lks. wide, course S. 30° E.; asc. 89 ft. over NE. slope.

Chains.
39.00

Spur, slopes SE.; desc. 16 ft. over W. slope.

40.00

Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor. with brass cap mkd.

S 32
 $\frac{1}{4}$ ———
S 5
1932

from which

A black oak, 14 ins. diam., bears N. $89^{\frac{3}{4}}$ ° E., 19 lks. dist., mkd. $\frac{1}{4}$ S 32 B T.

A black oak, 10 ins. diam., bears S. $10^{\frac{1}{2}}$ ° W., 85 lks. dist., mkd. $\frac{1}{4}$ S 5 B T.

Descend 17 ft. over W. slope.

40.97

Head of ravine, course S.W.; asc. 87 ft. over SE. slope.

47.40

Point of rocky spur, slopes S.; desc. 162 ft. over SW. slope.

61.40

Wash, 50 lks. wide, course SE.; asc. 22 ft. over NE. slope.

64.40

Low spur, slopes SE.; desc. 9 ft.

69.60

Rocky wash, 50 lks. wide, course S. 60° E.; asc. 32 ft. over NE. slope.

72.20

Spur, slopes N.; desc. 27 ft.

73.97

Same wash, course NE.; asc. 66 ft. over SE. slope.

80.00

Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for cor. of secs. 5, 6, 31 and 32, with brass cap mkd.

T12S R17E
S 31 | S 32
S 6 | S 5
T13S
1932

from which

An oak, 7 ins. diam., bears N. $41^{\frac{3}{4}}$ ° E., 127 lks. dist., mkd. T 12 S R 17 E S 32 B T.

An oak, 8 ins. diam., bears S. $43^{\frac{1}{4}}$ ° E., 65 lks. dist., mkd. T 13 S R 17 E S 5 B T.

An oak, 6 ins. diam., bears S. $38^{\frac{3}{4}}$ ° W., 54 lks. dist., mkd. T 13 S R 17 E S 6 B T.

An oak, 5 ins. diam., bears N. $48^{\frac{1}{2}}$ ° W., 34 lks. dist., mkd. T 12 S R 17 E S 31 B T.

Land, mountainous.

Soil, sandy and rocky; 4th rate.

Timber, scattering oak, juniper and mesquite; undergrowth, catclaw, manzanita, scrub oak, mahogany and cactus.

Chains West, bet. secs. 6 and 31.
 Over mountainous land, through scattering timber and undergrowth.
 Ascend 22 ft. over NE. slope.
 2.00 Spur, slopes SE.; continue along S. slope.; desc. 56 ft.
 9.46 Creek 5 lks. wide, course SE.; asc. 101 ft. over NE. slope.
 20.50 Short spur, slopes S.; desc. 37 ft. over W. slope.
 22.70 Ravine, course S.; asc. 36 ft. over E. slope.
 26.70 Spur slopes S.; desc. 62 ft. over W. slope.
 30.22 Ravine, course S.; asc. 146 ft. over E. slope.
 36.70 Top of high pinnacle; desc. 7 ft.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 20 ins. in the ground to bedrock, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor. with brass cap mkd.

S 31
 $\frac{1}{4}$
 S 6
 1932

from which

An oak, 10 ins. diam., bears N. $73\frac{1}{2}^{\circ}$ E., 135 lks. dist., mkd. $\frac{1}{4}$ S 31 B T.

An oak, 11 ins. diam., bears S. $81\frac{1}{2}^{\circ}$ E., 241 lks. dist., mkd. $\frac{1}{4}$ S 6 B T.

Ascend 317 ft. over bluff.

50.80 High rocky ridge, bears NE. and SW.; desc. 144 ft. over NW. slope.

58.57 Head of ravine, course SW.; asc. 18 ft. over SE. slope.

64.12 Rocky wash, 30 lks. wide, course SE.; asc. 11 ft.

65.93 Intersect the cor. of Tps. 12 and 13 S., R. 17 E., hereinbefore described.

Land, mountainous.
 Soil, sandy and rocky; 4th rate.
 Timber, scattering oak, juniper and mesquite; undergrowth, catclaw, manzanita, greasewood, scrub oak, mahogany and cactus.

TEST OF SOLAR ATTACHMENT.

Mar. 26, 1932: In camp near the cor. of secs. 2, 3, 34 and 35, Tps. 12 and 13 S., R. 17 E.; at 7h 17m 48s p.m., l.m.t., I observe Polaris at western elongation, making two sights each with the telescope in direct and reversed positions and place a tack at the mean point, on a peg driven firmly in the ground 10 chs. N.

Mar. 27; I lay off the azimuth of Polaris $1^{\circ}15'09''$ and make a meridian mark on a second peg to the east of the mean point in the line determined by the observation.

At 7h 20m a.m., app.t., I set off $32^{\circ}20'24''$ N., on the lat. arc. $2^{\circ}41'45''$ N., on the decl. arc; and orient the instrument with the solar; the line of sight agrees with the meridian established by Polaris observation.

At 4h 20m p.m., app.t., I set off $32^{\circ}20'24''$ N., on the lat. arc; $2^{\circ}50'$ S. on the decl. arc; and repeat the test of the solar; the line of sight agrees with the meridian established by Polaris observation. March 27, 1932.

For final test of instrument, see notes of the subdivisions of T.12 S., R.17 E., surveyed under this group.

GENERAL DESCRIPTION.

The land along the east boundary of T.13 S., R.16 E., is rough and mountainous. The general elevation is about 3600 ft. above sea level. The land is rocky, sandy formation with scattering mesquite, catclaw and cactus in the south portion; the north portion is covered with scattering oak, juniper and mahogany timber. This line traverses along the east portion of the Agua Caliente Mountains. An old road, traverses northeasterly and southwesterly near the cor. of secs. 25 and 36, from Tanque Verde to the Bullock Ranch. The road is impassable for vehicles.

The land along the west boundary of T.12 S., R.17 E., is rough and mountainous. The general elevation is about 5500 ft. above sea level. The land is covered with scattering yellow pine, juniper, oak, and mahogany, the undergrowth is manzanita, scrub oak, greasewood, mesquite and catclaw. This line traverses along the east slopes of the Catalina Mountains.

The south boundary of T.12 S., R.17 E., is rolling mountainous land. The soil is sandy and stony with scattering oak, juniper and sycamore; the undergrowth is mesquite, catclaw, cactus and manzanita. Walnut, hackberry and sycamore are found along the creeks.

CERTIFICATE OF UNITED STATES SURVEYOR

I, William E. Hiester, U. S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from the District Cadastral Engineer for Arizona bearing date of the 1st day of December, 1931, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the East boundary of Township 13 South, Range 16 East, and the West and South boundaries of Township 12 South, Range 17 East,

of the Gila and Salt River Base and Meridian, in the State of Arizona, 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 survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the District Cadastral Engineer for Arizona and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

William E. Hiester
Glendale, California. U. S. Surveyor.
March 30, 1933

APPROVAL

OFFICE OF U. S. SUPERVISOR OF SURVEYS,
Denver, Colorado, June 24, 1933.

The foregoing field notes of the survey of the East boundary of Township 13 South, Range 16 East, and the West and South boundaries of Township 12 South, Range 17 East, of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by William E. Hiester, U.S. Surveyor, under his special instructions dated December 1, 1931, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

[Signature]
U. S. Supervisor of Surveys.

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.

U. S. Supervisor of Surveys.