

Original

4005

4-679
(April 1933)

Book A.

BOOK 4005

FIELD NOTES

of the

retracement of a portion of the West boundary of the Papago Indian Reservation through Townships 10 and 11 South, Range 3 West, and Townships 12, 13, and 14 South, Range 4 West; survey of subdivision-of-section lines of sections 3 and 10, Township 15 South, Range 4 West; and resurvey of the boundaries of Lot No. 37, Mineral Survey No. 310, in section 10 of said last named township,

Of the Gila and Salt River Meridian,

In the State of Arizona

EXECUTED BY

Francis E. Joy, U.S. Cadastral Engineer

Under special instructions dated August 5, 1933, which provided for the surveys included under Group No. 195, bearing the approval of the Commissioner of the General Land Office under date of August 30, 1933, and assignment instructions dated August 5, 1933.

Survey commenced August 15, 1933.

Survey completed September 19, 1933.

4005

4005

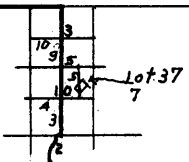
INDEX DIAGRAM.

Township _____, *Range* _____

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

INDEX DIAGRAM

BOOK 4005

	T.10 S., R. 4 W.	T.10 S., R. 3 W. 13	
	T.11 S., R. 4 W.	T.11 S., R. 3 W. 12	RESERVATION
	T.12 S., R. 4 W.	T.12 S., R. 3 W.	INDIAN PAPAGO
11	T.13 S., R. 4 W.	T.13 S., R. 3 W.	
11	T.14 S., R. 4 W.	T.14 S., R. 3 W.	
11	 T.15 S., R. 4 W.		

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

Chains

The retracements, resurveys and surveys in connection with a portion of the west boundary of the Papago Indian Reservation, Arizona, were executed with a light mountain transit made by Buff & Buff, Serial No. 16723, constructed in accordance with the standard specifications of the General Land Office. The horizontal circle has a diameter of $4\frac{1}{2}$ inches, with two opposite verniers reading to single minutes; the vertical circle has a diameter of 4 inches, with one double vernier reading to single minutes. The instrument is equipped with the improved Smith solar attachment; radius of latitude arc $2\frac{1}{2}$ inches, and of declination arc $3\frac{1}{2}$ inches, 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 August 5, 1933. I examined all the instrumental adjustments before making the field tests hereafter recorded.

The directions of all lines were 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 Keuffel & Esser standard and found correct. The measurements were made on the slope, and the vertical angle of each interval was ascertained by a clinometer in good adjustment; the horizontal equivalents are entered in the field note record.

The data furnished with the special instructions gives the geographic position for the SE. cor. of T. 14 S., R. 4 W., as follows: latitude $32^{\circ} 09' 19''$ N., and longitude $112^{\circ} 37' 37''$ W.

August 15, 1933, near the $\frac{1}{4}$ sec. cor. bet. secs. 9 and 16, T. 14 S., R. 4 W., at 6h 55m p.m., l.m.t. by my watch, which has been set to local mean time of my station after comparison with a Western Union clock recording 105 th meridian time, I make an hour angle observation on Polaris east of the meridian, three each with the telescope in direct and reversed positions, reading the vertical angle and the horizontal deflection angle from a giant cactus, about one mile distant, in the direction N-W to Polaris:

Mean horizontal angle, cactus to Polaris	$17^{\circ} 45' 20''$	✓
Azimuth of Polaris	$49' 24''$	E ✓
True bearing to cactus	N. $18^{\circ} 34' 44''$	E ✓
Mean vertical angle to Polaris	$31^{\circ} 27' 08''$	✓
Reduced latitude	$32^{\circ} 12' 54''$	N ✓

August 16, 1933, every hour from 8 to 11 a.m. and from 1.30 to 5 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 the 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.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN
RESERVATION, ARIZONA.

Chains.

The two north tiers of sections in T. 15 S., R. 4 W. were surveyed by W. H. Thorn, U. S. Cadastral Engineer, and Horace M. Muscott, U. S. Transitman, in 1918.

The west boundary of the Papago Indian Reservation along the crest of the Ajo Mountains southerly from the initial monument on the line bet. secs. 10 and 15, T. 15 S., R. 4 W. was surveyed by Dupree R. Averill, U. S. Surveyor, in 1929.

I commence at the initial monument, on the crest and at north end of the Ajo Mountains and on the line bet. secs. 10 and 15, T. 15 S., R. 4 W., which is an iron post, 3 ins. diam., standing firmly 4 ins. above the top of a mound of stone, 3 ft. base, 2 $\frac{1}{2}$ ft. high, marked and witnessed as described in the official record.

East, bet. secs. 10 and 15 along the bdy. of the Papago Indian Reservation.

Descend along S. side of spur over mountainous land.

7.05 The $\frac{1}{4}$ sec. cor. bet. secs. 10 and 15, which is an iron post, 1 in. diam., firmly set flush with the top of a mound of stone, 3 ft. base, marked and witnessed as described in the official record.

From the above described $\frac{1}{4}$ sec. cor. the reservation boundary follows the N. and S. center lines of secs. 3 and 10. The purpose of the survey is to facilitate the fencing of the reservation boundary.

In sec. 10 the boundary passes through patented Hd-051714. Lot No. 37, Gunsight Mill Site patented, adjoins the homestead on the east. The Superintendent of the reservation requested sufficient lines of these patented areas be located and marked so that the fencing might exclude said patented areas. Therefore I proceed as follows:

From the $\frac{1}{4}$ sec. cor. bet. secs. 9 and 10.

East, on a random line through the center of sec. 10.

40.00 Set temp. center $\frac{1}{4}$ sec. cor.

60.00 Set temp. center E. 1|16 sec. cor.

80.09 Intersect the $\frac{1}{4}$ sec. cor. bet. secs. 10 and 11 over which I erect a flag for further use.

From the $\frac{1}{4}$ sec. cor. bet. secs. 3 and 10.

East, on a random line bet. secs. 3 and 10.

20.00 Set temp. E. 1|16 sec. cor.

40.00 Intersect the point for the cor. of secs. 2, 3, 10 and 11.

From the $\frac{1}{4}$ sec. cor. bet. secs. 3 and 10.

South, on a random line through the center of sec. 10.

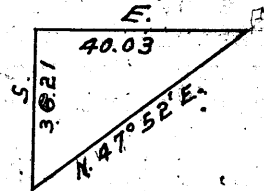
40.02 Fall 6 lks. E. of the temp. center $\frac{1}{4}$ sec. cor.

Impracticable to chain over bluffs: vertical angle to

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

BOOK 4005

Chains flag on random line is + 22°; from this flag the 1/4 sec. cor. bet. secs. 10 and 11, bears N. 47° 52' E.; all bearings checked by direct reading of the solar, and all angles checked by deflection:



Dist. on random line - - - 40.02 chs. ✓
 Dist. triangulation 36.21 ✓
 76.23

80.02 Fall 14 lks. E. of the 1/4 sec. cor. bet. secs. 10 and 15.

Thence

N. 0° 06' E., on the N. and S. center line of sec. 10 and along the boundary of the reservation.

Ascend 65 ft. over S. side of spur through scattering undergrowth.

3.79 Triangulation point on spur, sloping E. Descend 900 ft. over broken N. slope.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for center 1/4 sec. cor., with brass cap mkd.

P
C 1/4 S10 I
R

1933 raise a mound

of stone, 3 ft. base, 2 ft. high, W. of cor.

Enter nearly level land and dense mesquite, bears E. and N. 70° W.

45.20 Wash, 25 lks. wide, 5 ft. deep, course W.

46.10 Wash, 25 lks. wide, 2 ft. deep, course W.

49.60 Wash, 25 lks. wide, 2 ft. deep, course W.

49.80 Windmill, bears E., about 3.00 chs. dist. about 4 chs. SW. of the W. G. Miller ranch house.

51.10 Wash, 20 lks. wide, 2 ft. deep, course W.

51.90 Fence, bears E. and W. Corral, bears E. about 2.00 chs. dist.

54.50 Shallow wash, 50 lks. wide, course W.

56.20 Wash, 15 lks. wide, 1 ft. deep, course W.

56.60 Road, bears E. and W.

58.10 Leave dense mesquite and level land, enter scattering undergrowth on rolling land, bears E. and NW.

69.70 Draw, 10 lks. wide, course W.

72.70 Fence, bears NW. and SE.

4.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN
RESERVATION, ARIZONA.

Chains.	
75.60	Draw, 10 lks. wide, course NW.
80.02	The $\frac{1}{4}$ sec. cor. bet. secs. 3 and 10, which is an iron post, 1 in. diam., 9 ins. above ground, firmly set, marked and witnessed as described in the official record. To more permanently mark the reservation bdy. I remove this post and at cor. point Set an iron post, 3 ft. long, 3 ins. diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap mkd. $\begin{array}{c} \frac{1}{4} \text{ S } 3 \text{ P} \\ \frac{1}{4} \text{ S } 10 \text{ I} \\ \text{R} \end{array}$ 1933 a mound of stone 3 ft. base, 2 ft. high, N. of cor. Land, level and mountainous. Soil, 1st and 4th rates. Timber, mesquite and palo verde; undergrowth, same with cacti. From the $\frac{1}{4}$ sec. cor. bet. secs. 9 and 10, which is an iron post, 1 in. diam., 12 ins. above ground, firmly set, marked and witnessed as described in the official record. East, on a true line through the center of sec. 10, Over rolling desert land, through scattering undergrowth.
5.60	Draw, 10 lks. wide, course N.
20.00	Wash, 8 lks. wide, course N.
35.40	Wash, 10 lks. wide, course N.
39.99	The center $\frac{1}{4}$ sec. cor.
44.60	Leave rolling land, thence over level land, through dense mesquite.
46.60	Fence, bears N. and S.
60.04	Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for center E. $\frac{1}{16}$ sec. cor., with brass cap mkd. $\begin{array}{c} \text{C } \frac{\text{E } 1/16 \text{ C}}{\text{S } 10} \end{array}$ 1933 raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.
68.30	Wash, 50 lks. wide, 2 ft. deep, course NW. Leave dense mesquite and gradually ascend over rolling land, bears NW. and SE.
73.70	Abandoned road, bears NW. and SE.
75.20	Trail, bears NW. and SE.
80.09	The $\frac{1}{4}$ sec. cor. bet. secs. 10 and 11, which is an iron post, 1 in. diam., firmly set in mound of stone, 3 ft. base, 2 ft. high, marked and witnessed as described in the official record.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

BOOK 4005

Chains

Land, level and rolling.
Soil, 1st and 3rd rates.
Timber, mesquite and palo verde; undergrowth, same with cacti and greasewood.

From the 1/4 sec. cor. bet. secs. 3 and 10.
East, on a true line bet. secs. 3 and 10.
Over heavy rolling land through scattering undergrowth.

- 3.80 Wash, 8 lks. wide, course SW.
- 5.10 Old road, bears NW. and SE.
- 12.00 Wash, 6 lks. wide, course S.
- 17.62 Pipe line, bears N. and S.
- 20.00 Set an iron post, 3 ft. long, 1 in. diam., 28 ins. in the ground, for E. 1/16 sec. cor., with brass cap mkd.

E 1/16 S3/S10

1933

Raise a mound of stone, 3 ft. base; 2 ft. high, N. of cor.

- 23.10 Old road, bears N. and S.
- 35.50 Wash, 10 lks. wide, course S.
- 40.00 Point for cor. of secs. 2, 3, 10 and 11 determined from evidence of old pits and the hole from which post has been removed. At the point for cor.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, for cor. of secs. 2, 3, 10 and 11, with brass cap mkd.

T15S R4W
S3/S2
S10/S11

1933


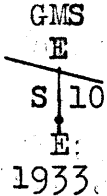
dig new pits, 18 x 18 x 12 ins., in each sec., 3 ft. dist.

Land, rolling.
Soil, gravelly and stony; 3rd rate.
Undergrowth, palo verde, cacti and greasewood.

From the E. 1/16 sec. cor. bet. secs. 3 and 10.
S. 0° 01' E., on the N. and S. center line of the NE 1/4 of sec. 10.
Over rolling desert land, through scattering undergrowth.

- 17.50 Shallow wash, 100 lks. wide, course W.
- 18.90 Road, bears NE. and SW.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN
RESERVATION, ARIZONA.

Chains.	
20.90	Wash, 20 lks. wide, 1 ft. deep, course W.
23.20	Two indian houses, bears E. about 1.50 chs. dist.
24.50	Church and six indian houses, bear W. 2 to 5 chs. dist. A group of 8 indian houses, bears E. about 8 chs. dist.
26.20	Wash, 15 lks. wide, course SW.
27.75	Abandoned well, bears W. 55 lks. dist.
28.30	Corral fence, bears NW. and SE. Enter corral.
28.97	Intersect line 1-4 of the Gunsight Millsite. (Lot No. 37B) Set an iron post, 3 ft. long, 1 in. diam., 36 ins. in the ground, with a felsite stone, 6 x 6 x 3 ins., mkd. X, deposited at the base, for closing subdivision-of- section cor., with brass cap mkd.
	 <p style="text-align: center;">GMS 1933</p>
	From this point Cor. No. 1 of the Gunsight Millsite, bears N. 45° E., 2.03 chs. dist.; hereinafter described.
29.54	Corral cross fence, bears NE. and SW.
29.94	Corral fence, bears NW. and SE. Leave corral and enter dense growth of mesquite on level land.
30.87	Wash, 50 lks. wide, course NW.
34.62	A channel of same wash, 25 lks. wide, 2 ft. deep, course W.
37.25	Intersect line 3-4 of the Gunsight Millsite. Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for closing subdivision-of-section cor., with brass cap mkd.
	 <p style="text-align: center;">1933</p>
	raise a mound of stone, .3 ft. base, 2 ft. high, S. of cor.
	From this point Cor. No. 3 of the Gunsight Millsite, bears S. 45° E., 47 lks. dist., hereinafter described.
40.02	The center E. 1 16 sec. cor.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

Chains.

Resurvey of the Gunsight Millsite,
Lot No. 37, Mineral, Survey No. 310.

The Gunsight Millsite was surveyed by L. D. Chillson, U.S.D.S., in 1881. A diligent search was made for evidence of the original corners. Also inquiry made of two prospectors that have lived in this vicinity since 1917. The tie given by W. H. Thorn, U. S. Cadastral Engineer, from the $\frac{1}{4}$ sec. cor. bet. secs. 10 and 11 and a preliminary survey made according to record failed to reveal any trace of the original survey.

The original notes record a tie from the NE. cor. as follows: "Center of Company's well, bears N. $85^{\circ} 15'$ W., $72\frac{1}{2}$ ft." This well I believe to be one to which pumps are attached and over which a sheet iron building now stands. Therefore I mark a point S. $85^{\circ} 15'$ E., $72\frac{1}{2}$ ft. dist. from center of well and make a resurvey according to the record, which I find to agree very closely with topography recorded in original survey. The notes for the resurvey follow.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for cor. No. 1 of the Gunsight Millsite, with brass cap mkd.



1933

raise a mound of stone, 3 ft. base, 2 ft. high, in angle on claim.

Thence

S. $45^{\circ} 00'$ E., along bdy. of the Gunsight Millsite.

Over rolling desert land.

2.85 A well, bears S. 45° W., 2.25 chs. dist.

6.33 (418 ft.) Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for cor. No. 2 of the Gunsight Millsite, with brass cap mkd.



1933

raise a mound of stone, 3 ft. base, 2 ft. high, in angle on claim.

From this cor. the center of a well shaft, 4 ft. sq., bears N. $85^{\circ} 15'$ W., 110 lks. ($72\frac{1}{2}$ ft.) dist. The well is in SW. end of sheet iron building, 15 ft. X 30 ft.

A well, caved in, supposed to be the original Wall's Well, bears S. 40° E., 3.80 chs. dist.

Thence

S. $45^{\circ} 00'$ W., along bdy. of the Gunsight Millsite.

Over level land.

2.30 Middle of wash, 50 lks. wide, 2 ft. deep, course W. Enter dense growth of mesquite and palo verde.

7.88 (520 ft.) Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for cor. No. 3 of the Gunsight Millsite, with brass cap mkd.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN
RESERVATION, ARIZONA.

Chains.

Resurvey of the Gunsight Millsite.

1933

raise a mound
of stone, 3 ft. base, 2 ft. high, in angle on claim.

Thence

N. 45° 00' W., along the bdy. of the Gunsight Millsite.

Over level land, through dense mesquite and palo verde.

.47 The closing subdivision-of-section cor. on the E. 1/16
sec. line of sec. 10, hereinbefore described; from this
point the center E. 1/16 sec. cor. of sec. 10, bears
S. 0° 01' E., 2.77 chs. dist., hereinbefore described.

6.33 (418 ft.) Set an iron post, 3 ft. long, 1 in. diam., 30
ins. in the ground, for cor. No. 4 of the Gunsight
Millsite, with brass cap mkd.

1933

raise a mound
of stone, 3 ft. base, 2 ft. high, in angle on claim.

Thence

N. 45° 00' E., along the bdy. of the Gunsight Millsite.

Over level land through mesquite and palo verde.

3.60 Wash, 50 lks. wide, 5 ft. deep, course W.

5.05 Corral fence, bears NW. and SE., enter corral.

5.85 The closing subdivision-of-section cor. on the E. 1/16
sec. line of sec. 10, hereinbefore described; from this
point the E. 1/16 sec. cor. bet. secs. 3 and 10, bears
N. 0° 01' W., 28.97 chs. dist., hereinbefore described.

6.38 Corral fence, bears NW. and SE. Leave corral and enter
rolling land.

7.88 (520 ft.) Cor. No. 1 and place of beginning.

From the $\frac{1}{4}$ sec. cor. bet. secs. 3 and 10.

North, on a random line through the center of sec. 3.

40.00 Set temp. center $\frac{1}{4}$ sec. cor.80.11 Fall 9 lks. W. of the $\frac{1}{4}$ sec. cor. on N. bdy. of sec. 3.

From the $\frac{1}{4}$ sec. cor. bet. secs. 3 and 4.

East, on a random line through the center of sec. 3.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

BOOK 4005

Chains.	
40.00	Fall 1 lk. N. of the temp. center $\frac{1}{4}$ sec. cor.
80.05	Intersect the $\frac{1}{4}$ sec. cor. bet. secs. 2 and 3.
<p style="text-align: center;">—————</p> <p>From the $\frac{1}{4}$ sec. cor. bet. secs. 3 and 10.</p> <p>N. 0° 04' E., on the N. and S. center line of sec. 3 and along the West bdy. of the reservation.</p> <p>Over rolling desert land through scattering undergrowth.</p>	
5.20	An old road, bears NW. and SE.
9.40	Shallow wash, 10 lks. wide, course W.
14.35	Wash, 6 lks. wide, 1 ft. deep, course SW.
21.93	Top of spur, about 50 ft. high, slopes SW.
31.00	Wash, 10 lks. wide, 1 ft. deep, course N. from SE.
33.00	Leave wash, course NW.
40.01	Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for center $\frac{1}{4}$ sec. cor., with brass cap mkd.
<p style="text-align: center;">P C $\frac{1}{4}$ S3 I R</p> <p style="text-align: center;">1933</p> <p style="text-align: right;">raise a mound.</p> <p>of stone, 3 ft. base, 2 ft. high, W. of cor.</p>	
43.40	An old road, bears NW. and SE.
44.20	An old road, bears NW. and SE.
45.95	Same road, bears NE. and SW.
47.60	Same road, bears NW. and SE.
50.60	Wash, 10 lks. wide, course W.
62.60	Shallow wash, 10 lks. wide, course W.
67.40	Wash, 8 lks. wide, 2 ft. deep, course W.
72.40	Shallow wash, 8 lks. wide, course W.
80.11	The $\frac{1}{4}$ sec. cor. bet. secs. 3 and 34, which is an iron post, 1 in. diam., firmly set in a mound of stone, 3 ft. base, $1\frac{1}{2}$ ft. high, marked and witnessed as described in the official record. To more permanently mark the reservation boundary, I remove post and at cor. point
<p>Set an iron post, 3 ft. long, 3 ins. diam., 16 ins. in the ground to bedrock, with a granite stone, 6 x 6 x 4 ins., mkd. X, deposited at the base, for $\frac{1}{4}$ sec. cor., with brass cap mkd.</p>	

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

Chains.

P. I. R
 $\frac{1}{4}$ S34 P
 I
 R
 1933

From the $\frac{1}{4}$ sec. cor. bet. secs. 3 and 4, which is an iron post, 1 in. diam., 14 ins. above ground, firmly set, marked and witnessed as described in the official record.

East, on the E. and W. center line of sec. 3.

Over rolling desert land, through scattering undergrowth.

- 12.60 An old road, bears NW. and SE.
- 29.57 Fence, bears N. and S.
- 30.60 Wash, 15 lks. wide, 3 ft. deep, course NW.
- 40.04 The center $\frac{1}{4}$ sec. cor.
- 41.33 An old road, bears NW. and SE.
- 53.28 Road, bears N. and S.
- 53.36 Pipe line, bears N. and S. Ascend 276 ft. over NW. slope.
- 70.50 Ridge, bears N. and S. Descend 193 ft. over E. slope.
- 80.05 The $\frac{1}{4}$ sec. cor. bet. secs. 2 and 3, which is an iron post, 1 in. diam., 10 ins. above ground, firmly set, marked and witnessed as described in the official record.

Land, heavy rolling.
 Soil, gravelly and stony; 3rd rate.
 Timber, mesquite and palo verde; undergrowth, same with greasewood and cacti.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

BOOK 4005

Chains.

Retracement of West and portion of S. bdy. of T. 14 S., R. 4 W.

The west boundary of the Papago Indian Reservation joins the south boundary of T. 14 S., R. 4 W. at the 1/4 sec. cor. bet. secs. 3 and 34, hereinbefore described, thence West along S. bdy. to SW. cor. of the Tp., thence North along W. bdy. to the NW. cor. of the Tp.

The south and west boundaries of this township were surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1918.

Those portions of the boundaries of T. 14 S., R. 4 W., forming the boundary of the reservation were retraced and the alignment, corner descriptions and topography found to be in substantial agreement with the official record.

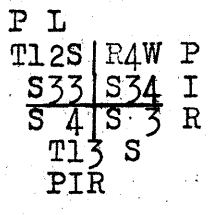
Retracement of the west and portion of the North boundary of T. 13 S., R. 4 W.

From the NW. cor. of T. 14 S., R. 4 W. the reservation boundary follows the west and N. bdy. of T. 13 S., R. 4 W. to the cor. of secs. 3, 4, 33 and 34. These lines were surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1918 and 1920.

Those portions of the boundaries of T. 13 S., R. 4 W. forming the reservation boundary were retraced and the alignment, corner descriptions and topography were found to be in substantial agreement with the official record except that the iron post for the cor. of secs. 3, 4, 33 and 34 on the N. bdy. of the Tp. has disappeared. The description of the reestablished corner follows:

At the point for cor. of secs. 3, 4, 33 and 34, on N. bdy. of T. 13 S., R. 4 W., which I determine at center of mound showing hole where post had stood

Set an iron post, 3 ft. long, 2 ins. diam., 24 ins. in the ground, for cor. of secs. 3, 4, 33 and 34, with brass cap mkd.



1933

rebuild mound of stone, 3 ft. base, 2 ft. high, W. of cor.

RETRACEMENT OF PART OF THE SUBDIVISION LINES OF T. 12 S., R. 4 W.

The meridional subdivision line through the middle of T. 12 S., R. 4 W., forms a part of the boundary of the Papago Indian Reservation and was surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1920.

The foregoing described lines were retraced and the alignment, measurements, corner descriptions and topography were found to be in substantial agreement with the official record.

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN
RESERVATION, ARIZONA.

Chains

Retracement of part of the North Boundary of T. 12 S.,
R. 4 W.

The east half of the N. bdy. of T. 12 S., R. 4 W., forms a part of the boundary of the Papago Indian Reservation and was surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1920.

Said east half of the N. bdy. of T. 12 S., R. 4 W., was retraced and the alignment, measurements, corner descriptions and topography found to be in substantial agreement with the official record, except that the $\frac{1}{4}$ sec. cor. bet. secs. 1 and 36 is missing. Description of the reestablished $\frac{1}{4}$ sec. cor. follows.

At the point for $\frac{1}{4}$ sec. cor. verified by retracement of the line bet. secs. 1 and 36

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.

P L
 $\frac{1}{4}$ S36
S1
PIR
1933

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

Retracement of Part of the South Boundary of T. 11 S.,
R. 3 W.

The west half of the south boundary of T. 11 S., R. 3 W. forms a part of the boundary of the Papago Indian Reservation and was surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1920.

The above described line was retraced and the alignment, measurements, corner descriptions and topography found to be in substantial agreement with the official record.

Retracement of Part of the Subdivision Lines, T. 11 S.,
R. 3 W.

The meridional subdivision line through the middle of T. 11 S., R. 3 W. forms part of the boundary of the Papago Indian Reservation and was surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1920 and 1924.

Retracement of the foregoing described meridional section lines reveal that the alignment, measurements, corner descriptions and topography are in substantial agreement with the official record, except that the iron posts are missing at the following corners; Cor. of secs. 9, 10, 15 and 16, cor. of secs. 3, 4, 9 and 10, and cor. of secs. 3, 4, 33 and 34 on the N. bdy. of the Tp. Description of the reestablished iron posts follow:

At point for cor. of secs. 9, 10, 15 and 16 as determined at center of old mound.

Set an iron post, 3 ft. long, 2 ins. diam., 4 ins. in the ground to bedrock, with original mkd. stone deposited at base, in a mound of stone to top for cor. of secs. 9, 10, 15 and 16, with brass cap mkd.

T11S R3W
S9 | S10 P
S16 | S15 I
R
1933

PORTION OF THE WEST BOUNDARY OF THE PAPAGO INDIAN RESERVATION, ARIZONA.

Chains.

Retracement of Part of the Subdivision Lines, T. 11 S., R. 3 W.

At the point for cor. of secs. 3, 4, 9 and 10 as determined from the old stone mound
Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground, with original mkd. stone deposited at the base, in a mound of stone to top, for cor. of secs. 3, 4, 9 and 10, with brass cap mkd.

T11S R3W
S4|S3 P
S9|S10 I
R
1933

At the point for cor. of secs. 3, 4, 33 and 34 on N. bdy. of T. 11 S., R. 3 W., as determined at center of old stone mound
Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground to bedrock, with original mkd. stone deposited at the base, in a mound of stone to the top, for cor. of secs. 3, 4, 33 and 34, with brass cap mkd.

T11S R3W
S33|S34 P
S4|S3 I
T11S R
1933

Retracement of Part of the Subdivision Lines, T. 10 S., R. 3 W.

The meridional subdivision line through the middle of T. 10 S., R. 3 W., forms a part of the boundary of the Papago Indian Reservation and was surveyed by W. H. Thorn, U. S. Cadastral Engineer, in 1924.
The meridional section lines through the middle of T. 10 S., R. 3 W., were retraced and the alignment, measurements, corner descriptions and topography found to be in substantial agreement with the official record.

The general description of the foregoing lines are fully covered by W. H. Thorn, U. S. Cadastral Engineer, in the official record.
&

Final test of the Solar Attachment.

September 16, 1933, in camp approximately 4 miles east of the cor. of secs. 27, 28, 33 and 34, T. 11 S., R. 3 W., at 8h 01m p.m., l.m.t., I observe Polaris at eastern elongation, making two sights each with the telescope in direct and reversed positions, and mark the mean point on a peg 10 chs. N.

September 19, At 7h 00m a. n., app.t., I lay off the azimuth of Polaris, 1° 14' and mark the meridian on a second peg. I now set off 32° 26' N. on the lat. arc; 1° 33½° 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 3h 00m p.m., app.t., I set off 32° 26' N. on the lat. arc; 1° 24' N. on the decl. arc; and repeat the test of the solar; the line of sight agrees with the meridian established by Polaris observation.

September 19, 1933. ✓

BOOK 4005

CERTIFICATE OF UNITED STATES SURVEYOR

I, Francis E. Joy, U.S. Cadastral Engineer, 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 5th. day of August, 1933, I have well, faithfully, and truly

in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instruc-

tions, and the laws of the United States, retraced a portion of the West boundary of

the Papago Indian Reservation through Townships 10 and 11 South, Range

3 West, and Townships 12, 13 and 14 South, Range 4 West; surveyed subdivi-

ision-of-section lines of sections 3 and 10, Township 15 South, Range 4

West; and resurveyed the boundaries of Lot No. 37, Mineral Survey No. 310,

in section 10 of said last named township, of the Gila and Salt

River 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

resurvey and retracement said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instruc-

tions, 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, resurvey and retracement.

Phoenix, Arizona, October 20, 1933.

Francis E. Joy

U. S. Cadastral Engineer.

APPROVAL

OFFICE OF U. S. SUPERVISOR OF SURVEYS,

Denver, Colorado, August 11, 1934.

The foregoing field notes of the retracement of a portion of the West boundary

of the Papago Indian Reservation through Townships 10 and 11 South,

Range 3 West, and Townships 12, 13 and 14 South, Range 4 West; survey of

subdivision-of-section lines of sections 3 and 10, Township 15 South,

Range 4 West,; and resurvey of the boundaries of Lot No. 37, Mineral

Survey No. 310, in section 10 of the last named township, of the Gila

and Salt River Meridian, in the State of Arizona,

executed by Francis E. Joy, U.S. Cadastral Engineer,

under his special instructions dated August 5, 1933, having been

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

U. S. Supervisor of Surveys

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.