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Original

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BOOK 4107

Book A.

# FIELD NOTES

of the

Resurvey of Portions

of the

South Boundary of the White Mountain Indian Reservation

in Ts. 4 S., Rs. 21 and 22 E., and T.4 S., R.27 E.

Of the Gila and Salt River Base and Meridian,

In the State of Arizona.

EXECUTED BY

Dupree R. Averill,

U.S. Surveyor.

In the capacity of U. S. Surveyor..., under Special Instructions dated October 10, 1933., issued by the District Cadastral Engineer to govern surveys included in Group No. 196., which were approved by the Commissioner of the General Land Office, November 24., 1933, and Assignment Instructions dated November 15, 1933.

Survey commenced November 28, 1933.

Survey completed January 3, 1934.

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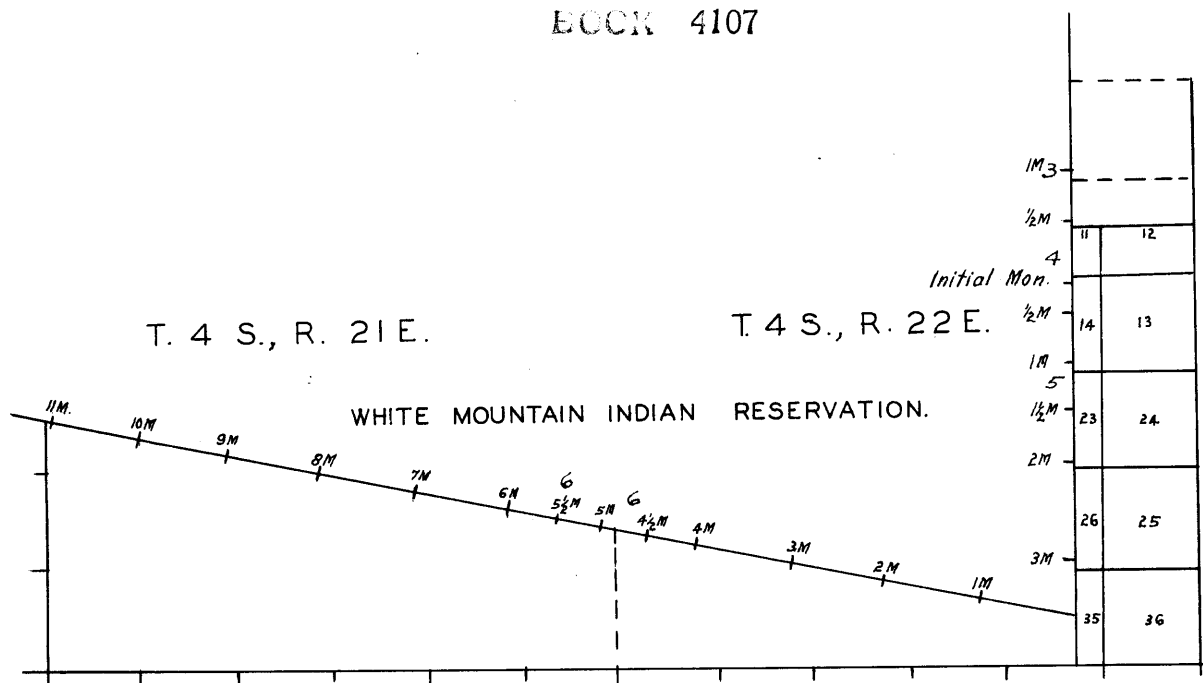
# INDEX DIAGRAM.

*Township* -----, *Range* -----

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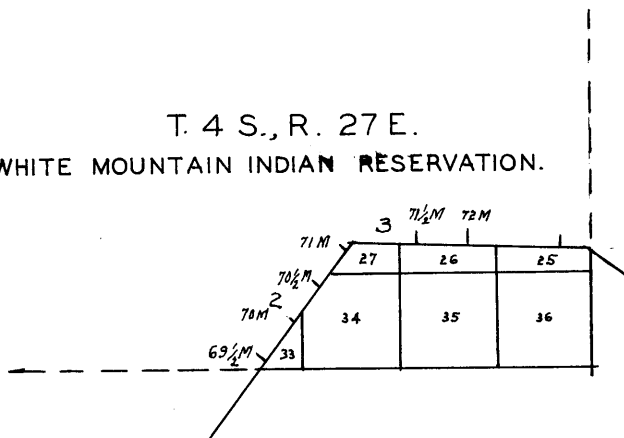
# INDEX DIAGRAM

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T. 4 S., R. 27 E.  
 WHITE MOUNTAIN INDIAN RESERVATION.



## White Mountain Indian Reservation

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chains

The fragmentary resurveys and retracements of the south boundary of the White Mountain Indian Reservation was executed with a light mountain transit made by Buff & Buff. Serial No. 17992, constructed in accordance with the standard specifications of the General Land Office. The horizontal circle has a diameter of 5 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 telescope has fixed stadia wires, ratio 1:132, with a focal constant of 1.2 lks. The instrument is equipped with the improved Smith solar attachment, radius of latitude arc 2.1 ins. and of the declination arc 3.15 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 was approved by the district cadastral engineer November 15, 1933. All instrumental adjustments were examined before making the field tests hereinafter recorded.

The directions of all lines were determined by direct observation on the sun, transit methods being used throughout the survey. 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 first 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 two clinometers in good adjustment; the horizontal equivalents are entered in the field note record.

The geographic position of Angle Point No. 71+3.02 chs., situated in section 27, T. 4 S., R. 27 E., G. & S.R. B. & M., is given as follows: Latitude  $33^{\circ}03'N$ . and longitude  $109^{\circ}32'W$ .

December 1, 1933, at the witness cor. for the  $71\frac{1}{2}$  mile monument on the S. bdy. of the White Mountain Indian Reservation, make an altitude observation on the sun, first setting on the suns lower and right limbs, then after reversal of the instrument setting upon the suns upper and left limbs, making four sets of readings; the horizontal angles being measured from a reference flag about 45.00 chs. westerly.

Local apparent time of observation.	a.m.	9h 40m
Mean vertical angle		$25^{\circ} 58' 30''$
Mean horizontal angle, left		$127^{\circ} 29' 50''$
Reduced bearing to flag		$N.88^{\circ} 26' 10''W$ .

Maintaining this meridian by transit line throughout the day, from 10 to 11 a.m. and from 1 to 4 p.m. make proper settings on the arcs of the solar attachment and ascertain that the resulting orientation of the instrument has a maximum error of less than  $1'30''$ .

Repeat the tests of the arcs by noon observation, and verify the meridional indications at frequent intervals.

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From the witness cor. for the  $71\frac{1}{2}$  mile monument on the south bdy. of the White Mountain Indian Reservation

$N.88^{\circ}26'W$ .; on a random line along the S. bdy. of the White Mountain Indian Reservation

41.52

No evidence of angle point. Set temp. cor.

Thence

## White Mountain Indian Reservation

chains	
	S.37°01'W., on a random line.
4.00	Intersect the witness cor. for the 71 mile monument, hereinafter described.
43.17	The 70½ mile monument, which is an iron post, 1 in. diam., firmly set, 12 ins. above ground, marked and witnessed as described in the official record.
	Thence
	N.37°01'E., on true line along the boundary of the White Mountain Indian Reservation.
	Over rolling mesa, through scattered undergrowth.
13.64	Intersect the closing cor. of secs. 27 and 34, which is an iron post, 2 ins. diam., firmly set, marked and witnessed as described in the official record.
24.85	Desc. 100 ft. over NW. slope of mesa.
36.00	Small sharp spur, slopes NW.; desc. 100 ft. over NE. slope.
39.17	The witness cor. for the 71 mile monument, which is an iron post, 3 ins. diam., 1 in. above ground, firmly set, marked and witnessed as described in the official record.
39.70	Enter rocky wash, stream of water 15 lks. wide, 4 ins. deep course S.60°E.
40.15	True point for 71 mile monument falls in rocky canyon wash.
	Land, rolling mesa and broken. Soil, rocky; 3rd rate. Timber, scattered cedar and mesquite; undergrowth, catclaw.
	-----
	Thence
	N.37°01'E., on true line along the bdy. of the White Mt. Indian Reservation.
	Across rocky wash, draining S.60°E.
3.02	The temp. cor. previously established, and true point for Angle Point No. 71+3.02 chs. This point falls in the canyon bottom near the north edge of the water course at flood stage and at the mouth of a tributary canyon from the north and is subject to violent erosive action during stormy weather.
	Drive a wooden peg with a lath alongside, firmly in the ground and raise a mound of stone, 4 ft. base, 3 ft. high around same, for angle point No. 71+3.02 chs.
	from which
	A cedar, 6 ins. diam., bears N.58¼°E. 90 lks. dist. mkd. B T.
	A sycamore, 20 ins. diam., bears S.89°30'E. 5.66 chs. dist. mkd. W M I R A P 71 M + 3.02 CHS B T
	A sycamore, 40 ins. diam., bears S.10°E., 3.56 chs. dist., mkd. T 4 S R 27 E S 27 A P B T.
	A sycamore, 20 ins. diam., bears S.59°45'W. 4.25 chs. dist., mkd. W M I R A P 71 M + 3.02 CHS B T.

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chains	Thence
	S.88°26'E., along boundary of the White Mountain Indian Reservation.
	Across rocky wash.
6.50	Foot of rubble bluff; asc. 50 ft. over steep S. slope.
9.00	Top of slope, and margin of bench land.
	Set an iron post, 3 ft. long, 3 ins. diam., 4 ins. in the ground, to bedrock, and in a mound of stone 6 ft. base to top for witness cor. for angle point No. 71-3.02 chs. with brass cap mkd.
	W M I R A P <u>71+3.02</u> CHS W C S 27 T 4 S R 27 E 1933
	from which
	A sycamore, 20 ins. diam., bears N.86°45'W., 3.36 chs. dist., mkd. W M I R A P 71 M - 3.02 CHS W C B T.
	Across south edge of small rocky mesa.
20.00	Gulch, course S.; asc. 400 ft. over broken W. slope.
26.40	Gulch, course N.80°W.
32.00	Change of slope to S.
34.00	Intersect closing cor. for secs. 26 and 27, which is an iron post, 2 ins. diam., firmly set, marked and witnessed as described in the official record.
36.98	True point for 71½ mile monument falls in precipitous gulch, course SW.; asc. 135 ft. over W. slope.
41.52	The witness cor. for 71½ mile monument which is an iron post, 1 in. diam., 20 ins. above ground, supported in a mound of stone, marked and witnessed as described in the official record.
	Land, broken and mountainous. Soil, rocky, 3rd rate. Timber, scattered cedar and mesquite, sycamore along the canyon bottom; undergrowth, catclaw.
	-----
	The one mile monument North of the Gila River, on the S. Bdy. of the White Mountain Indian Reservation, in T.4 S., R.22 E. is an iron post 3 ft. long, 3 ins. diam., with brass cap mkd. as described in the official record. The post having been washed out of position by flood waters, I reset same, 30 ins. in the ground. From the monument
	The original bearing trees, conforming to the official record:
	A mesquite, 7 ins. diam., bears N.49°E., 63 lks. dist. mkd. W M I R 1 M B T.
	A mesquite, 8 ins. diam., bears S.19°W., 192 lks. dist. mkd. W M I R 1 M B T.
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XPR

## White Mountain Indian Reservation.

chains	From the $\frac{1}{2}$ mile monument, North of the Gila River. Thence South on a random line, along the boundary of the White Mountain Indian Reservation.
6.79	The NW. closing cor. and meander cor. of Camp Thomas (abandoned) Military Reservation, bears E. 1.4 lks. dist.; and iron post, 3 ins. diam., with brass cap mkd. as described in the official record. The post was found buried beneath 7 ft. of sedimentary deposit; I reset the cor. 30 ins. in the ground, From the cor.  A mesquite, 12 ins. diam., bears N.28 $\frac{1}{4}$ °E., 2.30 chs. dist., mkd. T 4 S R 22 E S 11 P L C T M R C C B T.  A mesquite, 9 ins. diam., bears N.36°W., 2.35 chs. dist., mkd. W M I R M C B T.  Thence N.0°07'W., on true line, along boundary of the White Mountain Indian Reservation.  Over bottom land.
0.80	Asc. 10 ft. bank of river bed, bears irregularly E. and W.
6.79	The $\frac{1}{2}$ mile monument, north of the Gila River, which is an iron post, 1 in. diam., 8 ins. above ground, firmly set and marked and witnessed as described in the official record. From the NW. closing cor. and meander cor. of Camp Thomas (abandoned) Military Reservation. S.0°11'W., on true line, along the boundary of the White Mountain Indian Reservation, the objective cor. being visible. Over bottom land, through dense growth of weeds.
30.00	Right margin of Gila River, 2 ft. banks, course N.80°W.
38.20	Left margin of river.
42.12	I find no evidence of the witness cor. to the initial monument. The iron post, <sup>mound of stone</sup> and all bearing trees originally recorded have been washed out by the erosive action of the river.
50.00	Asc. 15 ft. over S. bank of river bottom, bears E. and W. Continue very gradual ascent over mesa land, through scattered undergrowth.
73.23	The $\frac{1}{2}$ mile monument, South of the Gila River, which is an iron post, 1 in. diam., 10 ins. above ground, firmly set, mkd. and witnessed as described in the official record. Land, river bottom and valley. Soil, silt and sand, and gravelly, 2nd and 3rd rate. No timber; undergrowth, weeds, scattered catclaw and mesquite.

## White Mountain Indian Reservation.

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- chains
- From the 1 mile monument S. of the Gila River.
- South, on a random line, along boundary of the White Mountain Indian Reservation.
- 39.92 A point 14 lks. W. of the  $1\frac{1}{2}$  mile monument, which is an iron post, 1 in. diam., firmly set, 10 ins. above ground and in a mound of stone to top, marked and witnessed as described in the official record.
- Thence
- N.0°12'W., on true line, along boundary of the White Mt. Indian Reservation.
- Over rolling and broken land, through scattered timber and undergrowth.
- 32.65 Set an iron post, 3 ft. long, 2 ins. diam., 32 ins. in the ground for closing cor. for secs. 14 and 23, with brass cap mkd.
- |         |      |    |   |     |
|---------|------|----|---|-----|
|         | T    | 4  | S |     |
|         | R    | 22 | E |     |
|         | S    | 14 |   |     |
| W M I R |      |    |   | C C |
|         | S    | 23 |   |     |
|         | 1933 |    |   |     |
- raise a mound
- of stone, 3 ft. base, 2 ft. high, E. of cor.
- The original closing cor. of secs. 14 and 23, bears N.89°50'E. 7 lks. dist.; a granite stone, firmly set, 8x5x5 ins. above ground, mkd. SCR on W. and CTMR CC on E. face. Additionally mark stone WP on W. face.
- From this latter cor. the cor. of secs. 13, 14, 23 and 24 bears N.89°50'E., 18.85 chs. dist.; a granite stone, 14x8x6 ins., supported in a mound of stone, marked with 3 notches on the S. and 1 on the E. edges.
- 39.92 The 1 mile monument which is an iron post, 3 ins. diam., firmly set, 16 ins. above ground, and in a mound of stone to top, marked and witnessed as described in the official record.
- Land, broken mesa.  
Soil, rocky; 3rd and 2nd rate.  
Timber, stunted mesquite; undergrowth, catclaw and mesquite.
- 
- From the  $4\frac{1}{2}$  mile monument on the S. bdy. of the White Mountain Indian Reservation.
- N.79°20'W. on a random line on the S. bdy. of the W M I R.
- 42.12 The witness 5 mile monument.
- 78.62 I find no trace of the witness  $5\frac{1}{2}$  mile monument.
- 80.12 Set temp. cor.
- 120.32 Intersect the 6 mile monument on the S. bdy. of the White Mountain Indian Reservation, which is a granite stone, firmly set, 14x14x12 ins. above ground, marked and witnessed as described in the official record; with the exception of the recorded bearing trees, which are no longer existent.



## White Mountain Indian Reservation.

chains	
	Thence S.79°20'E., on true line, along S. bdy. of the White Mt. Indian Reservation, Over heavily rolling land, through scattered undergrowth.
35.00	Enter shallow draw, course NE., and over rocky wash.
37.50	Set an iron post, 3 ft. long, 1 in. diam., 27 ins. in the ground, for witness 5½ mile monument, with brass cap mkd.  W M I R A S B 5½ M W C P L 1933  raise a mound of stone, 4 ft. base, 2 ft. high, N. of cor.
40.10	True point for 5½ mile monument falls in channel of water course.
42.50	Leave wash, course NE.; asc. 20 ft. over bluff bank.
43.00	Continue over heavily rolling land.
78.20	The witness 5 mile monument which is a granite stone, firmly set, 10x10x8 ins. above ground, marked and witnessed as described in the official record. The bearing trees have rotted out, and only the decayed stumps remain.
80.20	True point for 5 mile monument, falls in wash, 2 chs. wide course NE.  Land sloping mesa, sloping NE. Soil, rocky; 3rd rate. Timber, scattered mesquite; undergrowth, catclaw and cacti.
	-----
	Thence S.79°20'E., on true line, along S. bdy. of the White Mountain Indian Reservation.
40.12	Intersect the 4½ mile monument, which is a granite stone, firmly set, 20x16x15 ins. above ground, marked and witnessed as described in the official record. The bearing trees originally recorded have since died and rotted out.  Land, rolling mesa, sloping NE. Soil, rocky; 3rd rate. Timber, scattered mesquite; undergrowth, cacti and catclaw.
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	The resurveys above defined were executed during the retracement of portions of the south bdy. of the White Mountain Indian Reservation, namely: from angle point No. 72M + 62.36 chs. (No.15) to angle point No. 67M + 72.50 chs. (No.13) and from angle point No. 14M + 45.23 chs. to the initial monument on the amended south boundary, thence to the 11 mile monument; then from the 24½ mile monument to the terminal cor. on the Gila River at the mouth of Hawk Canyon, establishing thereon wooden pegs and flag points to serve as a guide, between respective monuments, for a fence building program initiated by the Indian Agency.

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chains

Between angle point No.67M - 72.50 chs. and angle point No. 14M - 45.23 chs. the boundary of the reservation follows the crest or divide of the Gila Range of mountains, and no instrumental retracement was considered necessary to define the true line,- monuments thereon having been established at half mile intervals, and also at all turning points during the original survey by H. L. Baldwin in 1915.

From the 11 mile monument on the amended south boundary, to the 24½ mile monument the line appears well defined by the original half mile and mile monuments established by Deputy Contzen in 1898, and by numerous closing corners established under the cadastral surveys embracing Ts.4 S., Rs. 18, 19 and 20 E.

All instances of discrepancies and of conflicting returns are embodied in the above described resurveys; the bearings, distances and descriptions as officially recorded being in such close and substantial agreement to true conditions as unnecessary duplication of result is avoided by limiting the transcription of field procedure to the essential minimum.

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DOC: 4107

4-680  
(August, 1926)

**FIELD ASSISTANTS.**

NAMES.	CAPACITY.
Sutton F. Menard	1st. chairman.
Albert Heath	1st. chairman.
J. B. Chumbley	2nd. chairman.
Leonard H. Price	axman.
Ford Knowles	axman.
O. A. Stone	cornerman.

CERTIFICATE OF UNITED STATES SURVEYOR

I, Dupree R. Averill, 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 10th day of October, 1933, 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, resurveyed portions of the South boundary of the White Mountain Indian Reservation, in Townships 4 South, Ranges 21 and 22 East and Township 4 South, Range 27 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.

Glendale, California.  
November 6, 1934.

*Dupree R. Averill*  
Dupree R. Averill, U. S. Surveyor.

APPROVAL

OFFICE OF U. S. SUPERVISOR OF SURVEYS,

Denver, Colorado, June 24, 1935.

The foregoing field notes of the resurvey of portions of the South boundary of the White Mountain Indian Reservation in Townships 4 South, Ranges 21, 22 and 27 East, of the Gila and Salt River Meridian, in the State of Arizona,

executed by Dupree R. Averill, U. S. Surveyor,

under his special instructions dated October 10, 1933, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

*Wm. A. Johnson*  
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.