4—679 (April 1933)

BOOK 4146

Book G.

FIELD NOTES

OFXTHE: SURVEY OF THE

	Of the Dependent Resurv	ey of the 2nd S	Standard Parallel North,
	Along a Portion of	the South Bour	dary.of
-	Township 9 North,	Ranges 28 and	29 East,
			A CAMPAGE AND A
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			·
	Of the Gila and Salt		
In the	State of Arizons	<u>a</u>	
	EX	ECUTED BY	
	Roger F. Wilson		Surveyor
	Genera	a <u>l Land Office</u>	
Under	special instructions dated	June 18	, 19.37, which provided
<u>.</u> .			, bearing the approval of the
			of July 6, 1937,
	signment instructions dated		
with the	segramona anstructions auteu		, 10 Juli
		Tuller 10	•,
	Survey commenced		
	Survey completed	July 20	, 19 _{.57} .

Book No. 4146

BOOK 4146

INDEX DIAGRAM.

	Towns	<i>nip</i> 9 No	rth	, Range	g East.		٠
	6	5	4	8	2	1	
- 		8	•	10	11	12	
T. 9 N.,	18	17	16	15	14	18	
R. 28 E.	19	20	21	22	28	24	
	30	29	\$ 8	27	26	28	
<u>36</u>	81 10	89	33	34	85	36	
<u>6</u>	<u>5</u>	4	N., R. 29		<u>1</u>	<u>6</u>	

BOOK 4146

GETS

Resurvey of the Second Standard Parallel North Thru a Portion of Ranges 28 and 29 E.

Test of Instrument.

This resurvey was executed with Buff solar transit No. 23,829, model of 1935. The instrument is equipped with a full vertical circle and the improved Smith solar attachment, and was approved by the District Cadastral Engineer on July 3, 1937; conditional upon satisfactory field tests. All of the instrumental adjustments were examined before the field tests, hereinafter described, were made.

The directions of the 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 thereafter 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 a clinometer in good adjustment; the horizontal equivalents are entered in the field note record.

The data given with the special instructions gives the geographic position for the standard cor. of Tps. 9 N., Rs. 28 and 29 E., as follows: latitude 34° 07' 31" N., longitude, 109° 19' 38" W.

May 30, 1937, in camp in the NW. T of sec. 28, T. 8 N., R. 29 E. I make an hour angle observation on Polaris ... of the meridian, three sights each with the telescope in direct and reversed positions, and repeat the deflection angles from a dead tree, about one mile to the south, in the direction S-W-N to Polaris.

Mean watch time of observation, (determined from radio signals) p.m.

Natch time fast of local mean time

Local mean time of observation

Local mean time of observation

Tocal mean time of observation

Local mean time of observation

Tocal mean time

Tocal

May 31, 1937, I make an observation on Polaris at lower culmination for latitude.

Local mean time of L.C. Polaris, p.m.

Mean observed vertical angle
Reduced latitude

9h 03m 30s
33° 03' 40"
34° 04' 24"

July 8, 1937: Every 30 minutes during the usual hours of solar work, I make the proper settings on the arcs of the solar attachment. The resulting orientation of the instrument, when compared with the meridian established by Polaris observation, had a maximum error of less than 1 30.

The test of the solar was repeated at frequent intervals, and the transit maintained in good adjustment throughout the survey.

Resurvey of the Second Standard Parallel North Thru a Portion of Range 28 E.

Chains

The second standard parallel north, thru range 28 E., was surveyed by C. B. Foster, Deputy Surveyor, in 1875, and retraced by A. P. Johnson, Deputy Surveyor, in 1882. The following field notes describe a dependent resurvey of the S. bdy. of sec. 36.

From the standard cor, of Tps. 9 N., Rs. 28 and 29 E.

West, on a random line along the S. bdy. of sec. 36.

39.95 55.61 79.91 A point 46 lks. N. of the standard $\frac{1}{4}$ sec. cor. Find no evidence of C.C. of T.8 N., Rs.28 and 29 E. A point 18 lks. S. of the standard cor. of secs. 35 and 36, which is a lava stone, 12x8x7 ins., set in a mound of stone, 2 ft. base, 1 ft. high, mkd. with 1 notch on the E.edges and 5 notches on the W. edge.

At point for cor., with the original stone set alongside.

Set an iron post, 3 ft. long, 2 ins. diam., 6 ins. in the ground to bedrock, and in a mound of stone, 6 ft. base, 2½ ft. high, for standard cor. of secs. 35 and 36, with brass cap mkd.

SC T9N R2**5**E S 35 | \$ 36 T8N R28E 1937

Thence

S. 89° 05' E., on true line along the S. bdy. of sec. 36.

Desc. 65 ft. over rocky land.

13.00 Thence over nearly level land.

23.981

Proportional distance:

Set an iron post, 3 ft. long, 3 ins. diam., 27 ins. in the ground, for closing cor. of Tps. 8 N., Rs. 28 and 29 E., with brass cap mkd.

raise a mound

of stone, 4 ft. base, 3 ft. high, S. of cor.

39,97

The standard $\frac{1}{4}$ sec. cor., which is a lava stone, 12x8x6 ins., set in a small mound of stone, mkd. $\frac{1}{4}$ on top.

At point for cor., with the original stone set alongside.

Set an iron post, 3 ft. long, 1 in. diam., 20 ins. in the ground to bedrock, and in a mound of stone, 4 ft. base, 16 ins. high, for standard $\frac{1}{4}$ sec. cor., with brass cap mkd.

s c ½ s 36 1937

3

Resurvey of the Second Standard Parallel North Thru a CON-

Chains

N. 89° 20' E., along the s. bdy. of sec. 36.

Over nearly level, rocky land.

12.10

Rocky draw, 10 ft. wide, 6 ins. deep, course N.

39.95

The standard cor. of Tps. 9 N., Rs. 28 and 29 E., which is a lava stone, 18x16x8 ins., set in a mound of stone, 3 ft. base, 1 ft. high, mkd. with 6 notches on each of the N., E. and W. edges.

At point for cor., with the original stone set alongside.

Set an iron post, 3 ft. long, 3 ins. diam., 27 ins. in the ground, for standard cor. of Tps. 9 N., Rs. 28 and 29 E., with brass cap mkd.

S C T9N R28E R29E S 36 S 31 T8N R29E S 6 1937

raise a mound

of stone, 4 ft. base, 2 ft. high, N. of cor.

Land, nearly level.
Soil, sandy loam and very rocky, 2nd to 4th rate.
Timber, none; undergrowth, none.

Resurvey of the Second Standard Parallel North Thru a Portion of Range 29 E.

The second standard parallel north, thru range 29 E., was surveyed by C. B. Foster, Deputy Surveyor, in 1875. No resurveys are of record.

East, on a random line along the S. bdrs. of secs. 31, 32, 33, 34, 35, and the W. 5 of the S. bdy. of sec. 36.

40.00

No trace of the standard \(\frac{1}{4} \) sec. cor. Set temp. cor.

102.40

No trace of the standard cor. of secs. 31 and 32. Find no trace of the C. C. of secs. 4 and 5, of T. 8 N. No trace of the standard 4 sec. cor. Set temp. cor.

160.00

No trace of the standard cor. of secs. 32 and 33.4 Set temp. cor.

201.15 A point 1.86 chs. S. of the standard $\frac{1}{4}$ sec. cor.

241.38

A point 1.70 chs. S. of the standard cor. of secs. 33

263.68 281.38 and 34.
Find no trace of the C. C. of secs. 2 and 3, of T. 8 N.
No trace of the standard \(\frac{1}{4} \) sec. cor. Set temp. cor.

281.38

No trace of the standard cor. of secs. 34 and 35.

321.38

A point 1.56 chs. S. of the standard $\frac{1}{4}$ sec. cor.

403.97

A point 1.37 chs. S. of the standard cor. of secs. 35 and 36.

4--**6**78b

Resurvey of the Second Standard Parallel North Thru a Portion of Range 29 E.

	•	
	Chains	
	444.13	A point 1.98 chs. S. of the standard $\frac{1}{4}$ cor. of sec. 36, which is a lava stone, 10x8 ins., 4 ins. above ground, mkd. $\frac{1}{4}$ on the N. face.
		At point for cor., with the original stone set alongside.
		Set an iron post, 3 ft. long, 1 in. diam., 27 ins. in the ground, for standard 4 sec. cor., with brass cap mkd.
		1 36 s
		raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.
	·	A fence which bears E. and W., is S., 27 lks. dist. from cor.
		Thence S. 89° 08' W., on true line along the S. bdy. of sec. 36.
		Over nearly level land; a barbed wire fence follows irregularly along line.
	20.09	Fence cor., from which fences extend N., S., E. and W.
	32.20	Draw, 1 ch. wide, course N., 3 chs. dist., thence NW.
	39.70	Unimproved road, bears S. from fence.
	40.16	The standard cor. of secs. 35 and 36, which is a lava stone, 16x10x8 ins., set in a small mound of stone, mkd. with 5 notches on the W. edge and 1 notch on the E. edge.
		At point for cor., with the original stone set alongside.
		Set an iron post, 3 ft. long, 2 ins. diam., 27 ins. in the ground, for standard cor. of secs. 35 and 36, with brass cap mkd.
		SC T9N R29E S 35 S 36
		T8N R29E S 1 1937
	V. 1	of stone, 3 ft. base, 2 ft. high, N. of cor.
r		From cor., a fence cor. bears N. 152° W., 51 lks. dist., from which fences extend E., W. and N.
		Land, nearly level. Soil, sandy loam and rocky; 3d rate. Timber, none; undergrowth, none.
^	^	

Resurvey of the Second Standard Parallel North, Thru a

Portion of Range 29 E.

BOOK 4144.

•	
Chains	N. 89° 44' W., on true line along the S. bdy. of sec. 35.
	Over nearly level land; a fence follows irregularly along
22.40	A fence cor., bears N., 32 lks. dist., from which fences extend N., E., and W.
35.60 39.90	Enter scattering juniper timber. Small spur, slopes NE.
40.97	The Standard $\frac{1}{4}$ sec. cor., which is a lava stone, $16 \times 10 \times 6$ ins. set in a mound of stone, 2 ft. base, 1 ft. high, mkd. $\frac{1}{4}$ on the N. face.
• .	At point for cor, with the original stone set alongside,
	Set an iron post, 3 ft. long, 1 in.diam, 28 ins in the ground, for Standard 4 sec. cor.of sec. 35, with brass cap mkd.
	SC 1937
	from which
	A juniper fork, 6 ins.diam., bears N.6° E., 188 lks. dist., mkd. 4 S 35 S C B T.
	A juniper, 8 ins. diam., bears N. 39° W.,71 lks. dist., mkd. 4 S 35 S C B T.
	A fence cor.bears N. 15 lks. dist., from which fences extend N., E., and W.
	N. 89. 56! W., on a true line along the S. bdy. of sec. 35. Desc. 46 ft. over a W. slope, through scattering timber.
4.30	Gully,4 ft. wide,1 ft. deep,course N.;asc. 28 ft. over a NE. slope. Thence over a nearly level mesa; leave scattering timber.
19.20 21.90 24.60	Top of mesa, bears N. and S.; desc. 73 ft. over same. Irrigation ditch, 4 ft. wide, 1 ft. deep, course N. Gully, Eft. wide, 10 ft. deep, course N.; thence over nearly level land.
40.54	Proportional distance, Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with a lava stone, 12x8x8 ins., mkd. X, de- dosited at the base, for standard cor: of secs. 34 and 35, with brass cap mkd.
,	T9N R29E S 34 S 35 T8N R29E
V.	S2 1937 From cor.,a fence which runs E. and W., bears S.,34 lks
•	Land, level to rolling. Soil, gravel over sandy loam; 2nd to 3rd rate. Timber, scattering juniper near \(\frac{1}{4}\) cor.; undergrowth, none.
1	· · · · · · · · · · · · · · · · · · ·

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8

Resurvey of the Second Standard Parallel North Thru a portion of Range 29 E.

_		
	Chains	N. 892 56' W., on true line along the S. bdy of sec. 34.
		Over nearly level land; a fence runs irregularly along line
	20.80	Fence cor., bears S., 27 lks. dist., from which fences extend N., E., and W.
	37.90	An unimproved road, at forks, bears NE., NW. and S.
	40.54	Proportional distance
		Set an iron post, 3 ft. long, 1 in. diam., 32 ins. in the ground, with a lava stone, 8x6x4 ins., mkd. X, deposited at the base, for standard 4 sec. cor., with brass cap mkd.
		$\frac{\frac{1}{2} \cdot 3 \cdot 34}{1937}$
		From cor., a fence which runs E. and W., bears S., 35 lks. dist.
	49.80	4 strand barbed wire fence, parallels highway.
	50.80	Branch of U. S. Highway No. 260, bears N. 363 · W. to Springerville and S. 364 · E. to Nutrioso.
	51.70	4 strand barbed wire fence, parallels highway.
	58.48	Proportional distance:
		Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with a lava stone, 10x6x6 ins., deposited at the base, for closing cor. of secs. 2 and 3, with brass cap mkd.
		T9N R29E
	-	\$ 34
		S 3 S 2 R29E CC 1937
	-	From cor., a fence which runs E: and W., bears S., 35
	•	iks. dist.
	60.75	Fence cor., bears S. 14 lks. dist., from which fences extend N. and W., enter and continue along a lane.
	78.20	Irrigation ditch 5 ft. wide, 1 ft. deep, course N.
	79.10	Draw, 6 ft. wide, 2 ft. deep, course NW.
	81. 08	The standard cor. of secs. 33 and 34, which is a lime- stone, 14x10x6 ins., 8 ins, below the surface of the ground, in a lane which extends N. and E., mkd. with 3 notches on the west edge. I reset this cor. 20 ins, below the surface of the ground.
		At a secure point \$. 30 lks. dist. from cor.,
		Set an iron post, 3 ft. long., 2 ins. diam., 27 ins. in the ground, for witness standard cor. of secs. 33 and 34, with brass cap mkd.

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	·	Portion of Range 29 E.	ζ.
C.	hains		T
0.		W S C T9N R29E S 33 S 34	
		T8N R29E S 3 1937	
	.કેટ	Land, Level: Soil, sandy loam and somewhat rocky, 1st to 3d rate. Timber, none; undergrowth, none.	
	u Kir	N. 89° 46' W., on true line along the S. bdy. of sec. 33.	-
		Asc. 59 ft. over rolling cultivated land; along fence.	
	26.70	A lane, 80 lks. wide, bears S. and W.; follow along same; from this point: a windmill, bears N. 54° W., a windmill, bears S. $31\frac{1}{2}$ ° W., and the chimney of a frame house, bears S. $6\frac{1}{2}$ ° W.	
	37 . 80	Leave lane, bears NW. and E.; leave cultivated land and enter scattering juniper timber.	
	40•23	The ½ sec. cor., which is a lava stone, 15x10x6 ins., set in a small mound of stone, mkd. ½ on top.	
		At point for cor., with the original stone set alongside.	
		Set an iron post, 3 ft. long, 1 in. diam., 28 ins. in the ground, for standard & sec. cor., with brass cap mkd.	
* }	•	S C ½ S 33 1937	-
		from which	
4		An original bearing tree:	
		A juniper stump, 8 ins. diam., bears S. 31 & E., 19 lks. dist., mkd. & S B T. I destroy marks on this tree.	
	·	New bearing trees:	
:		A juniper, 8 ins. diam., bears N. 37° E., 53 lks. dist., mkd. 2 S 33 S C B T.	
		A juniper, 6 ins. diam., bears N. $6\frac{1}{3}$ ° W., 15 lks. dist., mkd. B T.	
4		A windmill, bears N. 2° W.	
		A windmill, bears S. 40%° E.	
	,	The chimney of a frame house, bears S. $57\frac{3}{4}$ ° E.	
ŧ,	*	S. 88° 27' W., on true line along the S. bdy. of sec. 33.	
		Asc. 40 ft. over a NE. slope.	
	4.80	Road, bears N. to Springerville and S. to rodeo grounds.	
	4•93	The SE. cor. of a graveyard; thence across mesa, bears N. and S.	

Resurvey of the Second Standard Parallel North Thru a Portion of Range 29 E.

	Chains	
	8.00	Leave mesa, bears N. and S.; desc. 126 ft. over a NW. slope.
	10.60	The SW. cor. of a graveyard, bears N., 40 lks. dist.
	11.35	l wire telephone line, bears NW. and SE.
	12.55	Irrigation ditch, 10 ft. wide, course M., from SE.
	20.26	Road, bears N. and W. in a winding lane.
	37.07	Fence cor., bears N. 42 lks. dist., from which fences extend N. and E.
	37-20	Fence cor., bears S., 41 lks. dist., from which fences extend S. and E., a fence follows along line.
	37.22	2 wire telephone line, bears N. and S.
	37-50	Graded road, bears N. and S.
	37.86	5 wire power line, bears N. and S.
	37•91	Fence, bears N. and S.; enter lane, 10 lks. wide.
	39.25	The S. side of an adobe house, 12x24 ft., bears N., 15 lks. dist.
	40 .24	Proportional distance, at a point under a property fence, which follows along line; accepted as the dividing property line by adjacent land owners.
		Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with a lava stone, 8x8x2 ins., mkd. X, deposited at the base, for standard cor. of secs. 32 and 33, with brass cap mkd.
		SC T9N R29E S 32 S 33
~		T8N R29E S 4 1937
-		Land, level to rolling. Soil, dark loam; 1st to 2nd rate. Timber, some scattering juniper near \(\frac{1}{4}\) sec. cor.; undergrowth, none.
	_	
		S.;89° 00' W., on true line along the S. bdy. of sec. 32.
		Over rolling land; along a property line fence.
	4.10	Irrigation ditch, 3 ft. wide, 1 ft. deep, course N.
. ·	10.50	A house, 15x30 ft., covered with tar paper, bears S., 30 lks. dist.
	10.95	4 strand barbed wire fence, parallels highway.
*	11.65	Springerville-Eagar highway, bears N. 25% E. and
		S. 25 W.

	Portion of Range 29 E. ECON
Chains	
12.40	Fence and telephone line, parallel highway.
17.15	Lane, 20 ft. wide, bears S. from line fence.
37.27	Fence cor., from which fences extend N., S., E. and W.
40.24	Proportional distance, at a point under a property fence, which follows along line; accepted as the dividing property line by adjacent land owners.
	Set an iron post, 3 ft. long, 1 in. diam., 27 ins. in the ground, with a lava stone, 8x8x2 ins., mkd. X, deposited at the base, for standard 4 sec. cor., with brass cap mkd.
	s c <u>4</u> s 32
	1937
,	S. 89° 58' W., on true line along the S. bdy. of sec. 32.
	Over bottom land, along a property line fence.
13.20	Enter willows, bear N. and S.
14.45	Right bank of the Little Colorado River, 40 lks. wide, 4 ft. deep, course N. from V.; property line fence becomes winding.
17.60	Left bank of the Little Colorado River, course E. from SE.
17.70	Proportional distance:
	Set an iron post, 3 ft. long, 2 ins. diam., 27 ins. in the ground, for closing cor. of secs. 4 and 5, with brass cap mkd.
	T9N R29E S 32
	S 5 S 4 T8N R29E
	1937
	of stone, 3 ft. base, 2 ft. high, S. of cor.
21.30	Irrigation ditch, 2 ft. wide, 6 ins. deep, course N.; leave willows, bear N. and S., and asc. over a small rocky bluff.
22.20	Top of bluff, bears NE. and SW.; thence over nearly level, rocky land.
22.50	4 strand barbed wire fence, follows irregularly along top of bluff.
40.23.	Proportional distance:
	Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for standard cor. of secs. 31 and 32, with brass cap mkd.

Resurvey of the Second Standard Parallel North Thru a Portion of Range 29 E.

	Chains	SC *
		T9N R29E S 31 S 32
		T8N R29E
	e i i i i	\$ 5 1937
		raise a mound
		of stone, 3 ft. base, 2 ft. high, N. of cor.
	9 ·	Land, nearly level. Soil, dark loam, 1st rate, and rocky, 3d rate. Timber, none; undergrowth, willows along river bottom.
		S. 89° 58' W., on true line along the S. bdy. of sec. 31.
		Over rocky, rolling land.
í	9.20	Unimproved road, bears N. $15\frac{1}{2}$ ° E., and S. $15\frac{1}{2}$ ° W.
	40.23	Proportional distance:
		Set an iron post, 3 ft. long, 2 ins. diam., 20 ins. in the ground to bedrock, and in a mound of stone, 4 ft. base, 20 ins. high, for standard \(\frac{1}{4} \) sec. cor., with brass cap mkd.
		s c
		1937
	80.46	The standard cor. of Tps. 9 M., Rs. 28 and 29 E., here-inbefore described.
		Land, nearly level to rolling. Soil, very rocky over sandy loam; 3d rate. Timber, none; undergrowth, none.
		FINAL TEST OF SOLAR ATTACHMENT.
		July 25, 1937: In the NW. 7 of sec. 28, T. 8 N., R. 29 E., 9 a.m., app. time, I set off 34° 04' N. on the lat. arc; 19° 40' 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 app. noon, with the lat. arc unchanged, I observe the sun on the meridian; the resulting reading of the declination arc is 19° 38 ' N., which agrees with the computed declination.
	1 12	At 3 p.m., app. time, I set off 34° 04' N., on the lat. arc; 19° 37' N. on the decl. arc; and repeat the test of the solar; the line of sight agrees with the meridian established by Polaris observation.



BOOK 4146

4--680 (Revised May 1934)

FIELD ASSISTANTS

NAMES	CAPACITY
Norton B. Stephenson	Principal Assistant
Ellis W. Murphy	Chainman
Bithel L. Sizemore	Flagman
Edwin Forbes Gutzman	Axman
George Erhardt, Jr.	Axman
William J. Martin	Axman
Raymond S. Davis	Axman
Roy M. Clifton	Axman
· · · · · · · · · · · · · · · · · · ·	
<u> </u>	

CERTIFICATE OF UNITED STATES SURVEYOR

BOOK 4146

Roger F. V