

FIELD NOTES

OF THE SURVEY OF THE

Part of West boundary, and

Part of Subdivision lines

of

TOWNSHIP 28 NORTH, RANGE 12 WEST,

(In the Hualpai Indian Reservation)

Of the Gila and Salt River Base and Meridian,

In the State of Arizona.

EXECUTED BY

Glenn F. Sawyer,

U.S. Transitman,

In the capacity of U. S. Surveyor, under instructions dated February 26, 1920, issued by the United States Surveyor General to govern surveys included in Group No. 109, which were approved by the Commissioner of the General Land Office, March 10, 1920, and Assignment Instructions, dated November 22, 1920.

Survey commenced November 30, 1920

Survey completed December 3, 1920

3555

3555

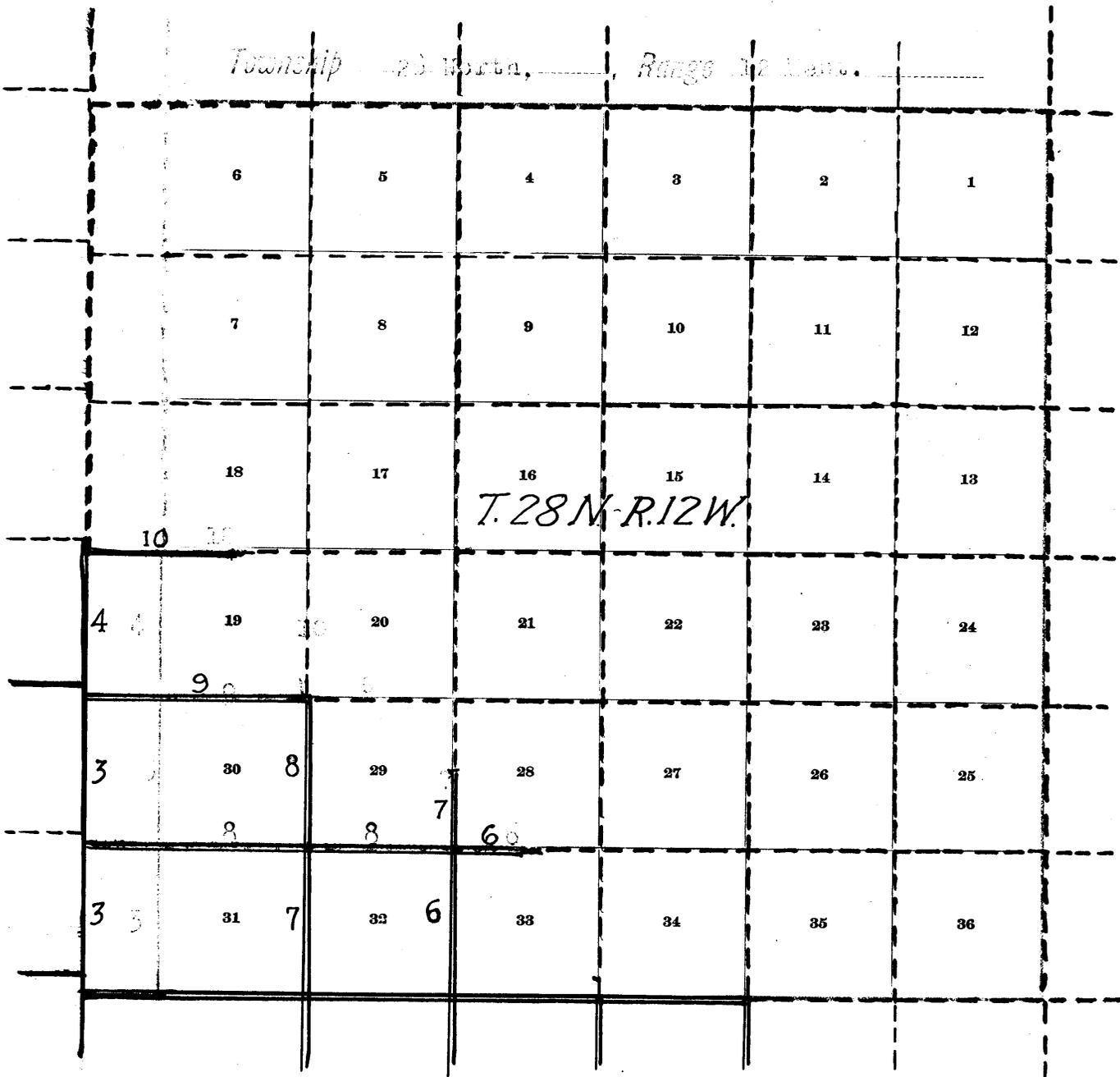
114
119

Book "G"

Group 109 - - - - Arizona.

BOOK 3555

INDEX DIAGRAM.



————— Lines surveyed under Group 109.

----- Unsurveyed.



DATE DIAGRAM

Book "G"

Group 109 - - - Arizona

Township 28 North, Range 12 West.

11-30-20 11-30-20 11-30-20 11-30-20 11-30-20

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

For dates of survey of this line, see Book "F" of this group.

Red lines indicate surveys by Glenn F. Sawyer, U.S.T.
on dates shown thereon.

Black lines indicate unsurveyed portions.

Surveys hereinafter described executed by Glenn F. Sawyer, U.S. Transitman, on dates shown on diagram on page 1 hereof, using Young and Sons' light mountain transit No. 8389. For description of instruments and certificate of approval, see Book "B".

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

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

Nov. 30, 1920. At my camp in sec. 29, T. 28 N., R. 12 W., G. and S. R. B. and M., Arizona, lat. $35^{\circ}47\frac{1}{2}'$ N., long. $113^{\circ}35'$ W., at 2 hrs. 53 M. a.m., l.m.t., I observe Polaris at eastern elongation, in accordance with the Manual of Instructions, and mark a point in the line thus determined by a stake driven in the ground, 10 chs. N. of my station.

At 7 hrs. 30 m., a.m., l.m.t., I lay off the azimuth of Polaris, $102^{\circ}2\frac{1}{2}'$ to the West, and mark the meridian thus determined by a tack in a stake, firmly driven in the ground, 10 chs. N. of my station.

At 8 hrs. 0 m., a.m., l.m.t., I set off $35^{\circ}47\frac{1}{2}'$ N. on the lat. arc; $21^{\circ}36\frac{1}{2}'$ S. on the decl. arc; and determine a meridian with the solar which agrees with the true meridian.

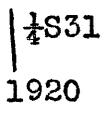
At apparent noon, with the lat. arc reading $35^{\circ}47'$ the proper latitude for the point where I am working, I observe the sun on the meridian carried by back and foresights from camp; the resulting decl. is $21^{\circ}40\frac{1}{2}'$ S. which is the computed decl. of the sun.

At camp at 4 hrs. 0 m., p.m., l.m.t., I set off $35^{\circ}46\frac{1}{2}'$ N. on the lat. arc; $21^{\circ}39\frac{1}{2}'$ S. on the decl. arc; and determine a meridian with the solar, which agrees with the true meridian.

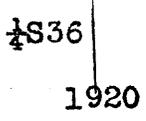
As all of the solar observations during the usual hours of solar work come within $1'30''$ of the true meridian, I conclude that the adjustments of the solar are satisfactory.

Survey of Part of the
West Boundary of T. 28 N., R. 12 W.

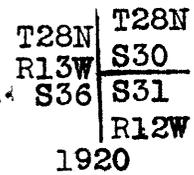
Chains From the cor. of Ts. 27 and 28 N., R. 12 W., described in Book "F",
North along W. bdy. of sec. 31.
Over heavily rolling land thru scattering undergrowth.
9.39 The cor. of Ts. 27 and 28 N., R. 13 W., described in Book "H".
Asc. 45 ft.
16.00 Desc.
18.50 Head of draw, course W. Asc. 35 ft.
25.90 Spur, slopes E. Desc. 60 ft.
40.00 Set an iron post, 3 ft. long, 1 in. diam., 12 ins. in the ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor. of sec. 31, T. 28 N., R. 12 W.; and raise a mound of stone around post, with brass cap marked



Thence along E. slope.
45.00 Spur, slopes NE. Desc. 155 ft.
49.39 (40.00 chs. North of the cor. of Ts. 27 and 28 N., R. 13 W.)
Set an iron post, 3 ft. long, 1 in. diam., 6 ins. in the ground, with marked (x) stone, for $\frac{1}{4}$ sec. cor. of sec. 36, T. 28 N., R. 13 W.; and raise a mound of stone around post, with brass cap marked



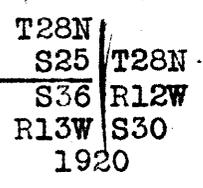
Continue descent.
55.00 Draw, course NE. Asc. 40 ft.
60.50 Spur, slopes E. Desc. 55 ft.
64.40 Same draw, course NW. Asc. 195 ft.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 10 ins. in the ground, on bed rock, with marked (x) stone, for cor. of secs. 30 and 31, T. 28 N., R. 12 W.; and raise a mound of stone around post, with brass cap marked



Land, heavily rolling and mountainous.
Soil, gravelly loam, 3rd and 4th rates.
No timber.
Undergrowth, sagebrush and cactus.
Good grass.



9.39 North along the W. bdy. of sec. 30.
Over mountainous land, through scattering undergrowth.
Desc. 110 ft.
(80.00 chs. North of the cor. of Ts. 27 and 28 N., R. 13 W.)
Set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for cor. of secs. 25 and 36, T. 28 N., R. 13 W., marked on brass cap



And raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
Continue descent.
13.80 Draw, course SW. Asc. 110 ft.
21.50 Spur, slopes SW. Thence across mesa.

Survey of Part of the
West Boundary of T. 28 N., R. 12 W.

Chains 40.00	Set an iron post, 3 ft. long, 1 in. diam., 8 ins. in the ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor. of sec. 30, T. 28 N., R. 12 W.; and raise a mound of stone around post, with brass cap marked															
	$\frac{1}{4}$ S30 1920															
45.00 49.39	Desc. 150 ft. (40.00 chs. North of the cor. of secs. 25 and 36, T. 28 N., R. 13 W.) Set an iron post, 3 ft. long, 1 in. diam., 6 ins. in the ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor. of sec. 25, T. 28 N., R. 13 W.; and raise a mound of stone around post, with brass cap marked															
	$\frac{1}{4}$ S25 1920															
53.60 80.00	Continue descent. Draw, course SW. Asc. 330 ft. Set an iron post, 3 ft. long, 2 ins. diam., 6 ins. in the ground, on bed rock, with marked (x) stone, for cor. of secs. 19 and 30, T. 28 N., R. 12 W.; and raise a mound of stone around post, with brass cap marked															
	<table style="margin: auto; border-collapse: collapse;"> <tr><td></td><td style="border-left: 1px solid black; padding-left: 5px;">T28N</td><td></td></tr> <tr><td style="border-right: 1px solid black; padding-right: 5px;">T28N</td><td style="border-left: 1px solid black; padding-left: 5px;">S19</td><td></td></tr> <tr><td style="border-right: 1px solid black; padding-right: 5px;">R13W</td><td style="border-left: 1px solid black; padding-left: 5px;">S30</td><td></td></tr> <tr><td style="border-right: 1px solid black; padding-right: 5px;">S25</td><td style="border-left: 1px solid black; padding-left: 5px;">R12W</td><td></td></tr> <tr><td></td><td style="border-left: 1px solid black; padding-left: 5px;">1920</td><td></td></tr> </table>		T28N		T28N	S19		R13W	S30		S25	R12W			1920	
	T28N															
T28N	S19															
R13W	S30															
S25	R12W															
	1920															
	Cor. falls on spur, slopes W. Land, mountainous. Soil, gravelly loam, 3rd and 4th rates. Timber, none. Undergrowth, sagebrush and cactus. Fair grass.															

4.40 9.39	North along W. bdy. of sec. 19. Over mountainous land, through scattering undergrowth. Desc. 175 ft. (80.00 chs. North of the cor. of secs. 25 and 36, T. 28 N., R. 13 W.) Set an iron post, 3 ft. long, 2 ins. diam., 8 ins. in the ground, on bed rock, with marked (x) stone, for cor. of secs. 24 and 25, T. 28 N., R. 13 W.; and raise a mound of stone around post, with brass cap marked															
	<table style="margin: auto; border-collapse: collapse;"> <tr><td></td><td style="border-left: 1px solid black; padding-left: 5px;">T28N</td><td></td></tr> <tr><td></td><td style="border-left: 1px solid black; padding-left: 5px;">S24</td><td style="border-left: 1px solid black; padding-left: 5px;">T28N</td></tr> <tr><td></td><td style="border-left: 1px solid black; padding-left: 5px;">S25</td><td style="border-left: 1px solid black; padding-left: 5px;">R12W</td></tr> <tr><td style="border-right: 1px solid black; padding-right: 5px;">R13W</td><td style="border-left: 1px solid black; padding-left: 5px;">S19</td><td></td></tr> <tr><td></td><td style="border-left: 1px solid black; padding-left: 5px;">1920</td><td></td></tr> </table>		T28N			S24	T28N		S25	R12W	R13W	S19			1920	
	T28N															
	S24	T28N														
	S25	R12W														
R13W	S19															
	1920															
15.30 22.80 24.66 38.00 40.00	Continue descent. Draw, course W. Asc. 70 ft. Spur, slopes W. Desc. 40 ft. Draw, course SW. Asc. 190 ft. Spur, slopes W. Desc. 25 ft. Set an iron post, 3 ft. long, 1 in. diam., 8 ins. in the ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor. of sec. 19, T. 28 N., R. 12 W.; and raise a mound of stone around post, with brass cap marked															
	$\frac{1}{4}$ S19 1920															
	Desc. 40 ft.															

Survey of Part of the
West Boundary of T. 28 N., R. 12 W.

3555
5

Chains
49.39

(40.00 chs. North of the cor. of secs. 24 and 25, T. 28 N., R. 13 W.) Set an iron post, 3 ft. long, 1 in. diam., 20 ins. in the ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor. of sec. 24, T. 28 N., R. 13 W.; and raise a mound of stone around post, with brass cap marked

$\frac{1}{4}$ S24

1920

49.90
55.40
80.00

Draw, course W. Asc. 60 ft.
Spur, slopes W. Desc. 175 ft.
Set an iron post, 3 ft. long, 2 ins. diam., 28 ins. in the ground, for cor. of secs. 18 and 19, T. 28 N., R. 12 W.; marked on brass cap

T28N
T28N S18
R13W S19
S24 R12W

1920

Land, mountainous.
Soil, gravelly loam, 3rd and 4th rates.
Timber, none.
Undergrowth, cedar and sagebrush.
Fair grass.



Survey of Part of the
Subdivision of T. 28 N., R. 12 W.

Chains From the cor. of secs. 4, 5, 32 and 33, on the N. bdy. of
Tp., described in Book "F",
N.003'W. bet. secs. 32 and 33.
Over rolling land, through scattering undergrowth.
15.00 Desc. 20 ft.
30.70 Draw, course E. Asc. 20 ft.
35.00 Spur, slopes E. Desc. 25 ft.
40.00 Set an iron post, 3 ft. long, 1 in. diam., 28 ins. in the
ground, for $\frac{1}{4}$ sec. cor., marked on brass cap

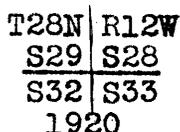


From which

- A cedar, 12 ins. diam., brs. N. $66\frac{1}{2}^{\circ}$ E.,
134 lks. dist., marked $\frac{1}{4}$ S33 BT.
- A cedar, 14 ins. diam., brs. N. $35\frac{1}{2}^{\circ}$ W.,
250 lks. dist., marked $\frac{1}{4}$ S32 BT.

Continue descent.

42.00 Draw, course E. Asc. 50 ft.
48.80 Spur, slopes E. Desc. 70 ft.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 24 ins. in the
ground, for cor. of secs. 28, 29, 32 and 33, marked on
brass cap



From which

- A cedar, 12 ins. diam., brs. N. $20\frac{1}{4}^{\circ}$ E.,
96 lks. dist., marked T28N R12W S28 BT.
- A cedar, 14 ins. diam., brs. S. 33° E.,
70 lks. dist., marked T28N R12W S33 BT.
- A cedar, 6 ins. diam., brs. S. $33\frac{1}{2}^{\circ}$ W.,
115 lks. dist., marked T28N R12W S32 BT.
- A cedar, 10 ins. diam., brs. N. 10° W.,
46 lks. dist., marked T28N R12W S29 BT.

Land, rolling.

Soil, 3rd rate.

Timber, cedar.

Undergrowth, sagebrush and cactus.

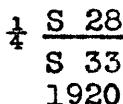
Good grass.

East on a true line, bet. secs. 28 and 33.

Over heavily rolling land, through scattering timber and
undergrowth.

Desc.

3.00 Draw, course N. Asc. 30 ft.
7.50 Spur, slopes N. Desc. 40 ft.
27.50 Draw, course NE. Asc. 25 ft.
34.50 Spur, slopes N. Desc. 190 ft.
40.00 Set an iron post, 3 ft. long, 1 in. diam., 18 ins. in the
ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec.
cor.; and raise a mound of stone around post, with
brass cap marked



Edge of canyon, 2500 ft. deep, bearing N. and S. at about
65.00 chs. prevents any further survey on this line.

Land, heavily rolling.

Soil, 3rd and 4th rates.

Timber, cedar.

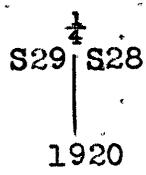
Undergrowth, sagebrush and cactus.

Good grass

Survey of Part of the
Subdivision of T. 28 N., R. 12 W.

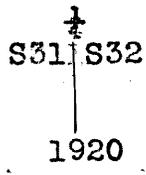
6555

Chains From the cor. of secs. 28, 29, 32 and 33.
N.003'W. bet. secs. 28 and 29.
Over rolling land, through scattering timber and under-
growth.
19.50 Desc. 305 ft., over mountainous land.
40.00 Set an iron post, 3 ft. long, 1 in. diam., on bed rock
with marked (x) stone, for $\frac{1}{4}$ sec. cor.; and raise a
mound of stone around post, with brass cap marked

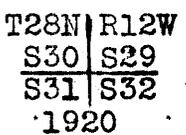


Edge of canyon, bearing N.70°W. and S.70°E. at about
50.00 chs. prevents any further survey on this line.
Land, rolling and mountainous.
Soil, 3rd and 4th rates.
Timber, scattering cedar.
Undergrowth, sagebrush and cactus.
Good grass.

From the cor. of secs. 5, 6, 31 and 32, on the S. bdy. of
Tp., described in Book "F",
N.003'W. bet. secs. 31 and 32.
Over rolling land, through scattering timber and under-
growth.
Asc. 80 ft.
14.50 Spur, slopes NE. Desc. 30 ft.
20.50 Draw, course NW. Asc. 50 ft.
29.00 Spur, slopes SW. Desc. 75 ft.
40.00 Set an iron post, 3 ft. long, 1 in. diam. 12 ins. in the
ground, with marked (x) stone, for $\frac{1}{4}$ sec. cor.; and raise
a mound of stone around post, with brass cap marked



Desc. 30 ft.
42.10 Draw, course W. Asc. 30 ft.
45.00 Spur, slopes W.. Desc. 50 ft.
51.00 Draw, course SW. Asc. 105 ft.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 20 ins. in the
ground, on bed rock, in a mound of stone, for cor. of
secs. 29, 30, 31 and 32, marked on brass cap



- From which
- A cedar, 10 ins. diam., brs. N.62 $\frac{1}{2}$ °E.,
181 lks. dist., marked T28N R12W S29 BT.
 - A cedar, 14 ins. diam., brs. S.71°E.,
232 lks. dist., marked T28N R12W S32 BT.
 - A cedar, 12 ins. diam., brs. S.57 $\frac{1}{4}$ °W.,
140 lks. dist., marked T28N R12W S31 BT.
 - A cedar, 10 ins. diam., brs. N.38 $\frac{1}{2}$ °W.,
150 lks. dist., marked T28N R12W S30 BT.

Land, rolling.
Soil, gravelly loam, 3rd and 4th rates.
Timber, cedar.
Undergrowth, sagebrush and cactus.
Fair grass.

Survey of Part of the
Subdivision of T. 28 N., R. 12 W.

Chains East on a random line, bet. secs. 29 and 32 .
40.00 Set temp. $\frac{1}{4}$ sec. cor.
80.24 Intersect N. and S. line, 7 lks. N. of the cor. of secs.
28, 29, 32 and 33.
Thence N.89°57'W. on a true line, bet. secs. 29 and 32.
Over rolling land, through scattering timber and under-
growth.
Asc. slightly.

15.00 Spur, slopes N. Desc. 40 ft.
21.00 Draw, course NE. Asc. 30 ft.
30.00 Spur, slopes NE. Desc. 25 ft.
35.00 Draw, course NE. Asc. 40 ft.

40.12 Set an iron post, 3 ft. long, 1 in. diam., 10 ins. in the
ground in a mound of stone, for $\frac{1}{4}$ sec. cor., marked on
brass cap

$\frac{1}{4}$ S 29
S 32
1920

From which

A pinyon, 4 ins. diam., brs. N. 35 $\frac{1}{4}$ °E.,
150 lks. dist., marked BT.

A cedar, 8 ins. diam., brs. S. 7°W.,
102 lks. dist., marked $\frac{1}{4}$ S32 BT.

Asc.

65.00 Low ridge, brs. NW. and SE. Desc. 30 ft.

80.24 The cor. of secs. 29, 30, 31 and 32.

Land, rolling.

Soil, sandy and gravelly, 3rd rate.

Timber, cedar.

Undergrowth, sagebrush and cactus.

Fair grass.

40.00 West on a random line, bet. secs. 30 and 31.
116.92 Set temp. $\frac{1}{4}$ sec. cor.
Fall 10 lks. N. of the cor. of secs. 30 and 31, on the W.
bdy. of Tp., hereinbefore described.
Thence N.89°57'E. on a true line, bet. secs. 30 and 31.
Over rolling land, through scattering timber and under-
growth.

Asc.

28.90 Spur, slopes W. Desc. 80 ft.

37.30 Draw, course S. Asc. 225 ft.

76.92 Set an iron post, 3 ft. long, 1 in. diam., 4 ins. in the
ground, with marked (x) stone, for $\frac{1}{4}$ sec. cor.; raise
a mound of stone around post, with brass cap marked

$\frac{1}{4}$ S 30
S 31
1920

Continue ascent, 110 ft.

93.40 Spur, slopes S. Desc. 20 ft.

97.90 Draw, course SW. Asc. 30 ft.

105.90 Thence over rolling land.

116.92 The cor. of secs. 29, 30, 31 and 32.

Land, rolling and mountainous.

Soil, gravelly loam, 3rd and 4th rates.

Timber, cedar.

Undergrowth, sagebrush and cactus.

Fair grass.

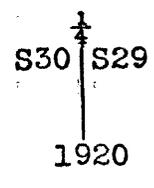
N.0°3'W. bet. secs. 29 and 30.

Over rolling land, through scattering timber and under-
growth.

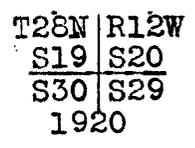
Survey of Part of the
Subdivision of T. 28 N., R. 12 W.

Chains

Asc.
 1.00 Spur, slopes SW. Desc. 40 ft.
 11.00 Draw, course NW. Thence over level land.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor.; and raise a mound of stone around post, with brass cap marked



Asc. 140 ft.
 51.75 Spur, slopes W. Desc. 640 ft., over broken N. slope.
 80.00 Set an iron post, 3 ft. long, 2 ins. diam., 14 ins. in the ground, on bed rock, with marked (x) stone, for cor. of secs. 19, 20, 29 and 30; and raise a mound of stone around post, with brass cap marked

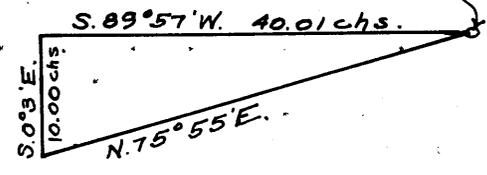


Land, level, rolling and mountainous.
 Soil, sandy and rocky, 2nd and 4th rates.
 Timber, cedar.
 Undergrowth, sagebrush.
 Fair grass.

As it is impossible to get within 10 chs. of the true point for $\frac{1}{4}$ sec. cor. of secs. 20 and 29, because of deep impassable canyon, this line remains unsurveyed.

S. 89° 57' W. on a random line, bet. secs. 19 and 30.
 Impossible to chain across deep canyon. Set a flag ahead

The cor. of secs. 19, 20, 29 and 30.



on line, from which I measure a base S. 0° 3' E. 10.00 chs., from the S. end of which, flag at the cor. of secs. 19, 20, 29 and 30 brs. N. 75° 55' E.. The three angles of the triangle are therefore 140° 2', 75° 58' and 90°, the sum of which is 180°. The distance triangulated is given by $\tan. 75° 58' \times 10.00 = 4.00086 \times 10.00 = 40.01$ chs. Thence N. 89° 57' E. 0.01 chs. to

40.00 Set temp. $\frac{1}{4}$ sec. cor.
 117.00 Fall 34 lks. N. of the cor. of secs. 19 and 30, on the W. bdy. of Tp., hereinbefore described. Thence N. 89° 47' E. on a true line, bet. secs. 19 and 30. Over mountainous land, through scattering undergrowth. Desc. 115 ft.

14.00 Head of draw, course SW. Asc. 130 ft.
 48.00 Spur, slopes SE. Desc. 285 ft.
 77.00 Set an iron post, 3 ft. long, 1 in. diam., 14 ins. in the ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec. cor.; and raise a mound of stone around post, with brass cap marked

Survey of Part of the
Subdivision of T. 28 N., R. 12 W.

Chains

$\frac{1}{4}$ S 19
S 50
1920

This cor. is on edge of vertical wall, 2500 ft. high,
bearing NE. and SW.
77.01 Thence by triangulation.
115.20 (Approx.) Wall of canyon, brs. NE. and SW. Thence over
level land.
117.00 The cor. of secs. 19, 20, 29 and 30.
Land, rolling and mountainous.
Soil, sandy loam, 2nd rate.
No timber.
Undergrowth, sagebrush and cactus.
Fair grass.

As it is impossible to get within 10 chs. of the true
point for $\frac{1}{4}$ sec. cor. of secs. 19 and 20 because of
deep impassable canyon, this line remains unsurveyed.

From the cor. of secs. 18 and 19, on the W. bdy. of Tp.,
hereinbefore described,
N.89°47'E. on a true line, bet. secs. 18 and 19.
Over mountainous land, through scattering undergrowth.
Desc.
2.10 Draw, course NW. Asc. 205 ft.
13.70 Spur, slopes NW. Thence over level land.
30.00 Desc.
60.50 Gulch, course NE.
76.90 Set an iron post, 3 ft. long, 1 in. diam, 18 ins. in the
ground, on bed rock, with marked (x) stone, for $\frac{1}{4}$ sec.
cor.; and raise a mound of stone around post, with brass
cap marked

$\frac{1}{4}$ S 18
S 19
1920

(Position for $\frac{1}{4}$ sec. cor. computed from length of line
between secs. 19 and 30 minus convergency.)
85.60 Top of bluff, 3000 ft. high, brs. N. and S. Impossible
to survey any further on this line.
Land, mountainous and level.
Soil, gravelly loam, 3rd and 4th rates.
No timber.
Undergrowth, sagebrush and cactus.
Fair grass.

Boundaries of that Part of T. 28. N., R. 12 W.
 Surveyed under this Group.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes		Departures	
			N. chs.	S. chs.	E. chs.	W. chs.
South Boundary	West	196.88				196.88
West Boundary	North	160.00	160.00			
Subdivisional Boundary	N. 89° 47' E.	117.00	.45		117.00	
	S. 00 3' E.	80.00		80.00	.07	
	S. 89° 57' E.	80.24		.07	80.24	
	S. 00 3' E.	80.00		80.00	.07	
Convergency					.06	
Totals			160.45	160.07	197.44	196.88
Error in lat.			160.07		196.88	
Error in dep.			0.38		0.56	

Final Field Test for Instrument No. 8389.

Dec. 7, 1920: at our camp at Milkweed Tank, near the center of sec. 10, T. 26 N., R. 12 W., G. and S. R. B. and M., lat. $35^{\circ}39\frac{1}{2}'$ N., long. $113^{\circ}33'$ W., using the meridian established as described in Book "E", at 9 hrs. 0 m., a.m., l.m.t., I set off $35^{\circ}39\frac{1}{2}'$ N on the lat. arc.; $22^{\circ}36'$ E. on the decl. arc. and determine a meridian with the solar which agrees with the true meridian.

At apparent noon, with the lat. arc. unchanged, I observe the sun on the meridian; the resulting decl. is $22^{\circ}37\frac{1}{2}'$ S., which is the computed decl. of the sun.

At 3 hrs. 0 m., p.m., l.m.t., with the lat. arc unchanged, I set off $22^{\circ}37\frac{1}{2}'$ S. on the decl. arc. and determine a meridian with the solar which agrees with the true meridian.

As all of the solar observations during the usual hours of solar work come within $1'30''$ of the true meridian, I conclude that the adjustments of the solar have been satisfactory during this survey.

General Description.

The portion of T. 28 N., R. 12 W. surveyed under this Group consists of high rolling and mountainous land, bordered on the north by a deep canyon, beyond which it is impossible to extend the survey. The soil is sandy, gravelly and rocky, 3rd and 4th rates, with a scattering growth of cedar timber and sagebrush and cactus undergrowth. There are no settlers in this township. No water is found except in the bottom of the canyons. No evidence of mineral was observed.

CERTIFICATE OF UNITED STATES TRANSITMAN.

BOOK 3555

I, Glenn F. Sawyer, U. S. Transitman, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 109, Arizona, bearing date of the 26th day of February, 1920, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the West boundary, and Subdivision lines of TOWNSHIP 28 NORTH, RANGE 12 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona, which are represented in and by diagram on page 1 hereof 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 U. S. Surveyor General, for Group 109, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Place Animas, New Mexico

Glenn F. Sawyer
U. S. Transitman

Date: April 16 1923

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, MAY 24 1923, 1923.

The foregoing field notes of the survey of Part of the West boundary, and Part of the Subdivision lines of TOWNSHIP 28 NORTH, RANGE 12 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by Glenn F. Sawyer, U. S. Transitman, under his special instructions dated Feb. 26, 1920, for Grp. 109, Arizona, xxx, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Francis DeLoach
U. S. Surveyor General.

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