

# FIELD NOTES

Accepted G. L. O. letter "E" dated Dec. 17, 1910  
OF THE SURVEY OF THE

North Boundary of I. S. R. & E.

Of the Gila and Salt River Meridian,

In the State of Arizona

EXECUTED BY

Alford N. Oliver

In the capacity of U. S. Assistant Surveyor, under instructions dated Aug. 25, 1910, issued by the United States Surveyor General to govern surveys included in Group No. 5, which were approved by the Commissioner of the General Land Office, September 9, 1910, pursuant to authority contained in the Act of Congress dated March 4, 1911.

Survey commenced August 5, 1911.

Survey completed August 7, 1911.

# INDEX DIAGRAM.

Township \_\_\_\_\_, Range \_\_\_\_\_

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

BOOK 2327

# INDEX DIAGRAM.

Township 18 D, Range 26 E  
1 2 3 3 3

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

Meanders Page .....

1901A  
BOOK 2327

PRELIMINARY OATHS OF ASSISTANTS.

WE, R. A. Coombs and R. L. Bates  
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the north boundary of Tp. 18 S. Rg. 26 E.

R. A. Coombs, Chainman.  
R. L. Bates, Chainman.

Subscribed and sworn to before me this 4th day of August, 1911

John P. Hesse

U. S. Transitman.



WE, I. E. E. Mills and-

do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of the north boundary of Tp. 18 S. Rg. 26 E.

I. E. Mills, Moundman.  
Moundman.

Subscribed and sworn to before me this 4th day of August, 1911

John P. Hesse

U. S. Transitman.



WE, E. Barnes and

do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given us, to the best of our skill and ability, in the survey of the north boundary of Tp. 18 S. Rg. 26 E.

E. Barnes, Axman.  
Axman.

Subscribed and sworn to before me this 4th day of August, 1911

John P. Hesse

U. S. Transitman.



I, P. B. Hilderbran, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of the north boundary of Tp. 18 S. Rg. 26 E.

P. B. Hilderbran, Flagman.

Subscribed and sworn to before me this 4th day of August, 1911

John P. Hesse

U. S. Transitman.



Chains.

Survey commenced August 4, 1911, and executed with a W. and L. E. Gurley solar compass, not numbered. The horizontal limb is provided with two double verniers placed opposite to each other, reading to single minutes of the arc; which is also the least count of the verniers of the latitude and declination arcs. The instrument was examined and approved by the Supervising Surveyor.

I examine the adjustments of the compass, and find them correct; 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, I proceed as follows: At camp near the cor. of Ts. 17 and 18 S., Rs. 25 and 26 E., latitude,  $31^{\circ}54'13''$  N.; longitude,  $109^{\circ}45'29''$  W., I set off  $31^{\circ}54'$  N. on the lat. arc;  $17^{\circ}22'$  N. on the decl. arc, and at 5h.00m.p.m., l.m.t., determine with the solar a meridian, and mark a point thereof, on a stone firmly set in the ground 5 chs. N. of my station.

At 10h.41m.p.m. by my watch, which has correct 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, on a peg driven in the ground 5 chs. N. of my station.

August 4, 1911.

August 5, 1911: At 6h.30m.a.m., l.m.t., I lay off the azimuth of Polaris  $1^{\circ}23'$  to the west, and mark the meridian thus determined by cutting a small groove in the stone set August 4, on which the meridian coincides with the mark determined with the solar.

At 7h.00m.a.m., l.m.t., I set off  $31^{\circ}54'$  N. on the lat. arc;  $17^{\circ}13'$  N. on the decl. arc, and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of my station; this mark coincides with the meridian determined by the Polaris observation. The solar apparatus by p.m. and a.m. observations defines positions for meridians, respectively, which coincide with the meridian established by the Polaris observations; therefore, I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 7h.15m.a.m., l.m.t. is  $N13^{\circ}15'W.$ ; the angle thus determined gives the mag. decl.  $13^{\circ}15'E.$

I commence at the cor. of Ts. 17 and 18 S., Rs. 26 and 27 E., as described by the Surveyor General, but rebuild Aug. 7.

Thence I run,

West, on a random line, along the N. bdy. of Tp. 18 S., R. 26 E., setting temp.  $\frac{1}{4}$  sec. and sec. cors. at intervals of 40.00 chs., and at 477.43 chs. intersect W. bdy. of Tp. 126 lks. S. of cor. of Ts. 17 and 18 S., Rs. 25 and 26 E.; a stone marked and witnessed as described by the Surveyor General.

The falling answers to a correction of  $0^{\circ}09'$  or 21 lks. S. per mile, counting from the NW. cor. of the Tp.

August 5, 1911.

August 7: At 7h.00m.a.m., l.m.t., I set off  $31^{\circ}54'$  N. on the lat. arc;  $16^{\circ}40'$  N. on the decl. arc, and determine a meridian with the solar at the cor. of Ts. 17 and 18 S., Rs. 25 and 26 E.

Thence I run,

$S.89^{\circ}51'E.$ , bet. secs. 6 and 31, marking and blazing true line.

Over level land, through dense brush.

## 2. North boundary of Township 18 South, Range 26 East.

192

Chains.	
37.43	Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 31 in N., and S 6 in S. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, N. of cor.
77.43	Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 5, 6, 31 and 32, marked on brass cap, T 17 S in N., T 18 S in S., and R 26 E in W. half; S 31 in NW., S 32 in NE., S 5 in SE., S 6 in SW. quadrant; dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor. Land, level. Soil, coarse gravel and rock, 3rd rate. No timber. Undergrowth, oak brush and greasewood.
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	S. 89°51'E., bet. secs. 5 and 32. Over level land.
39.39	Foot of hill; ascend.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 32 in N. and S 5 in S. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
80.00	Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 4, 5, 32 and 33, marked on brass cap, T 17 S in N., T 18 S in S., R 26 E in W. half; S 32 in NW., S 33 in NE., S 4 in SE., and S 5 in SW. quadrant; dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor. Land, level and rolling. Soil, sandy loam, mixed with gravel; dry, coarse texture; 2nd rate. No timber. No undergrowth.
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	S. 89°51'E. bet. secs. 4 and 33. Ascending.
23.71	Top of ridge, bears N. and S.; descend.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 33 in N. and S 4 in S. half; raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
60.40	Cross wash, 7 lks. wide, course N., ascend.
73.94	Top of ridge, brs. N. and S.; descend.
80.00	Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, marked on brass cap, T 17 S in N., T 18 S in S., and R 26 E in W. half; S 33 in NW., S 34 in NE., S 3 in SE., and S 4 in SW. quadrant; raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Chains.

Land, hilly.  
Soil, rocky, coarse, dry, 4th rate.  
No timber.  
No undergrowth.  
August 7: At this cor. I set off  $16^{\circ} 36' N.$  on the decl. arc, and observe the sun on the meridian at noon; the resulting lat. is  $31^{\circ} 54' N.$

193

S.  $89^{\circ} 51' E.$ , bet. secs. 3 and 34.  
Descending.  
28.06 Over level land.  
40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap,  $\frac{1}{4}$  S 34 in N., and S 3 in S. half; dig pits  $18 \times 18 \times 12$  ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 2, 3, 34 and 35, marked on brass cap,  
T 17 S in N.,  
T 18 S in S., and  
R 26 E in W. half;  
S 34 in NW.,  
S 35 in NE.,  
S 2 in SE., and  
S 3 in SW. quadrant; dig pits  $18 \times 18 \times 12$  ins. in each sec.  $5\frac{1}{2}$  ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.  
Land, level and hilly.  
Soil, sandy loam, over 2 ft. deep; dry, medium texture; 1st rate, except 28,06 chs., which is rocky, coarse and dry, 4th rate.  
No timber.  
No undergrowth.

S.  $89^{\circ} 51' E.$ , bet. secs. 2 and 35.  
Over level land.  
25.69 Cross wash, 25 lks. wide, course NW.  
32.67 J. F. Potter's house, bears S. 161 lks. dist.  
40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap,  $\frac{1}{4}$  S 35 in N. and S 2 in S. half; dig pits  $18 \times 18 \times 12$  ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 1, 2, 35 and 36, marked on brass cap,  
T 17 S in N.,  
T 18 S in S., and  
R 26 E in W. half,  
S 35 in NW.,  
S 36 in NE.,  
S 1 in SE., and  
S 2 in SW. quadrant; dig pits  $18 \times 18 \times 12$  ins. in each sec.  $5\frac{1}{2}$  ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.  
Land, level.  
Soil, sandy loam over 2 ft. deep; dry, medium texture; 1st rate.  
No timber.  
No undergrowth.

S.  $89^{\circ} 51' E.$  bet. secs. 1 and 36.  
Over level land.  
.76 Cross road, bears N. and S.  
12.73 James Hopkins' house, bears S. 127 lks. dist.  
40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap  $\frac{1}{4}$  S 36

194  
BOOK 2327

Chains.

80.00 in N. and S 1 in S. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high, N. of cor.  
The cor. of Tps. 17 and 18 S., Rs. 26 and 27 E. (See Book "D" for reestablishment.)

Land, level.

Soil, sandy loam over 2 ft. deep; dry, medium texture; 1st rate.

No timber.

No undergrowth.

Aug. 7, 1911.

NOTE: For general description see Subs. T. 18 S., R. 26 E.

*Alfred N. Oliver*  
U. S. Transitman.

*Transitman*

FINAL OATHS OF ~~DEPUTY~~ SURVEYOR AND HIS ASSISTANTS.

5  
195

BOOK 2327

LIST OF NAMES.

A list of the names of the individuals employed by John F. Hesse  
Transitman  
United States Deputy Surveyor, to assist in running, measuring, and  
marking the lines and corners described in the foregoing field notes of the survey of the north  
boundary of Tr. 18 S. Rg. 26 E.

showing the respective capacities in which they acted:

- R. L. Bates, *Chainman.*
- R. A. Coombs, *Chainman.*
- F. E. Mills, *Moundman.*
- E. Barnes, *Arman.*
- P. B. Hilderbran, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Alfred N. Oliver  
Transitman  
United States Deputy Surveyor, in surveying all  
those parts or portions of the north boundary of Tr. 18 S. Rg. 26 E.

of the Gila and  
Salt River meridian, Territory of Arizona, which are represented  
in the foregoing field notes as having been surveyed by him and under his direction; and that said survey  
has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the  
corner monuments established, according to the instructions furnished by the United States Surveyor  
General for Arizona.

- R. A. Coombs, *Chainman.*
- R. L. Bates, *Chainman.*
- E. E. Mills, *Moundman.*
- E. Barnes, *Arman.*
- P. B. Hilderbran, *Flagman.*

Subscribed and sworn to before me this 7th.  
day of August, 19 11

John F. Hesse  
U. S. Transitman.



796  
BOOK 2327

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

*Transitman*

I, Alfred N. Oliver, United States ~~Deputy Surveyor~~ <sup>Transitman</sup>, do solemnly swear that, in pursuance of ~~a contract~~ <sup>instructions</sup> received from Frank S. Ingalls United States Surveyor General for Arizona, bearing date of the 25 day of August, 1910, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Arizona, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the north boundary of Tp. 18 S. Rg. 36 E.

..... of the Gila and Salt River meridian, in the Territory of Arizona, which are represented in the foregoing field notes as having been surveyed by me, and under my direction; and I do further solemnly swear 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 United States Surveyor General for Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

*Alfred N. Oliver*  
United States ~~Deputy Surveyor~~ <sup>Transitman</sup>.

Subscribed by said John J. Messe, and sworn to before me }  
this 18th day of July, 1912

and by said Alfred N. Oliver, Aug. 7, 1912 Frank S. Ingalls  
SEAL  
SURVEYOR-GENERAL OF ARIZONA

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

*Francis Craig*, Aug. 3, 1912

The foregoing field notes of the survey of the North Boundary of

T18R36E

executed by Alfred N. Oliver under ~~this~~ <sup>Group</sup> contract No. 5, dated Aug. 25, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

*Frank S. Ingalls*  
United States 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.

United States Surveyor General.