

FIELD NOTES

OF THE SURVEY OF THE

2302

the Subdivided Lines of T 21 N. R 13 W.

2302

2302

Of the *G. S. R.* Meridian,

In the State of *Territory of Arizona*
EXECUTED BY

W. D. DeCar

In the capacity of U. S. *Measurer* Surveyor, under instructions dated *Sept. 16*, 1910.,
issued by the United States Surveyor General to govern surveys included in
Group No. *9*, which were approved by the Commissioner of the General Land
Office, *Sept. 28*, 1910., pursuant to authority contained in the Act of
Congress dated *July 27*, 1899.

Survey commenced *Jan. 15*, 1911

Survey completed *July 7*, 1911

2302

2302

291A

BOOK 2302

INDEX DIAGRAM.

Township 21 N., Range 13 W.

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

Note: For South Bdy. see Book 6, Group 10
 " N. E. & W. Bds. " " A. " "

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

Meanders Page _____

30
1B

BOOK 2302

PRELIMINARY OATHS OF ASSISTANTS.

WE, Theodore Alden and Geo. Etz and Norman Cook, Sidney Waite
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 subdivisional lines embraced under Group 9

Theodore Alden
Geo. Etz

Norman Cook, Chainman.
Sidney Waite, Chainman.

Subscribed and sworn to before me this 17th
day of Jan, 1901

Wolcott
Transitionman



WE, Chas J Schwartz and Sidney Waite and Theo Alden
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 subdivisional lines embraced under Group 9.

C. J. Schwartz, Moundman.
Theodore Alden, Moundman.

Subscribed and sworn to before me this 17th
day of January, 1901

Wolcott
Transitionman



WE, Gus Kuetzig 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 subdivisional lines embraced under Group 9.

_____, Axman.
Gus Kuetzig, Axman.

Subscribed and sworn to before me this 17th
day of January, 1901

Wolcott
Transitionman



I, Elmer Welch and Paul Dial, 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 subdivisional lines embraced under Group 9.

Elmer Welch, Flagman.
Paul Dial

Subscribed and sworn to before me this 17th
day of January, 1901

Wolcott
Transitionman



Subdivision of Township 21 North, Range 13 West. 1.

Chains.

Survey commenced January 15, 1911, and executed with a Buff & Berger engineer's transit, No. 672, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other, reading to 30" of arc. I examine the adjustments of the transit and find them to be 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:

Jan. 15: At my camp in Hackberry, Arizona, in latitude $35^{\circ}23'N.$; longitude, $113^{\circ}43'W.$; I set off $35^{\circ}23'N.$ on the latitude arc; $21^{\circ}13'S.$ on the declination arc; and at 9:00 a.m., l.m.t., determine with the solar a meridian, and mark the point thereof on a stake firmly set in the ground about 5 chs. N. of my station.

At 11h.46m.p.m., l.m.t., I observe Polaris as western elongation, in accordance with Manual of Instructions, and mark a point in the line thus determined, on a stake set in the ground about 5 chs. N. of my station.
January 15, 1911.

January 16: At 8 a.m., I lay off the azimuth of Polaris, $1^{\circ}25'$ to the east, and mark the meridian thus determined by a tack set in a stake about 5 chs. N. of my station; this point falls about 0.3 ins. west of the point determined by the solar.

At 9:00 a.m., l.m.t., I set off $35^{\circ}23'N.$ on the lat. arc; $21^{\circ}02'S.$ on the decl. arc; and determine a meridian with the solar; this point falls on the mark established by the Polaris observation. I therefore conclude that the adjustments of my instrument are satisfactory.

The magnetic bearing of the true meridian, at 9:30 a.m. is $14^{\circ}25'W.$; the angle thus determined gives the magnetic decl. $14^{\circ}25'E.$

January 17: At the Standard cor. of secs. 35 and 36, described in Book C, Group 10, I set off $20^{\circ}49'S.$ on the decl. arc; $35^{\circ}10'N.$ on the lat. arc, and determine a true meridian at 8h.0m. a.m., l.m.t.

Thence I run, N. $0^{\circ}1'W.$, bet. secs. 35 and 36.

Over rough, broken, hilly land; ascend.

- 1.75 Top of ridge, brs. E. and W.; descend over rough, rolling hills, through moderately high brush, palo negro, scattering cedar.
- 13.00 Descend abruptly to gulch.
- 18.40 Foot of abrupt descent.
- 20.00 Center of wash, 100 lks. wide, course S. $70^{\circ}W.$
- 21.45 Ascend abruptly, 50 ft.; thence ascend gradually.
- 37.60 Top of ridge, brs. E. and W.
- 38.20 Descend abruptly.
- 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, S $35^{\circ}\frac{1}{4}$ on W., and S 36 on E. half, from which, A cedar tree 6 ins. diam., brs. S. $52^{\circ}21'E.$, 36 lks. dist., marked $\frac{1}{4}$ S 36 B T. Raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- 41.50 Bottom of gulch, 100 lks. wide, course W.; ascend.
- 44.50 Top of ridge, brs. E. and W.; descend.
- 47.00 Bottom of gulch, course W.; ascend.
- 75.00 Top of ascent.
- 76.00 Descend.
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins.

2. Subdivision of Township 21 North, Range 13 West.

Chains

in the ground for cor. of secs. 25, 26, 35 and 36, marked on brass cap,

T. 21 N, R. 13 W in N. half;

S 26 in NW.,

S 25 in NE.,

S 36 in SE., and

S 35 in SW. quadrants; from which,

A cedar tree 24 ins. diam., brs. N. $50^{\circ}58'E.$, 205

lks. dist., marked T 21 N, R 13 W S 25 B T.

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, rough, hilly.

Soil, rocky, unfit for cultivation, 3rd rate.

Scattering scrub cedars, palo negro, and other brush.

East, on a random line, bet. secs. 25 and 36.

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

79.93 Intersect E. bdy. of Tp. at point 5 lks. S. of cor. of secs.

25, 30, 31 and 36; whence I run,

S. $89^{\circ}58'W.$, on a true line, bet. secs. 25 and 36.

Descend abruptly along NW. slope of ridge.

5.00 Foot of abrupt descent; descend gradually.

39.96 Foot of descent.

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 25 in N., and

S 36 in S. half; from which,

A cedar tree, 6 ins. diam., brs. S. $39^{\circ}26'W.$, 72 lks.

dist., marked $\frac{1}{4}$ S 36 B T.; raise a mound of

stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

Ascend along N. slope of bank of wash.

77.00 Top of ascent; descend steep NW. slope.

79.93 Cor. of secs. 25, 26, 35 and 36.

Land, rough, hilly.

Soil, stony along the line, but in narrow valley to north, a sandy loam, 2nd rate.

No timber.

Jan. 17, 1911: At this cor., at 12h. 10m. p.m., l.m.t., I set off $20^{\circ}49\frac{1}{2}'S.$ on the decl. arc; and observe the sun on the meridian. The resulting lat. is $35^{\circ}10'$

N.

N. $0^{\circ}1'W.$, bet. secs. 25 and 26.

Over broken, hilly land; descend NW. slope.

4.00 Foot of slope, brs. E. and W.

5.00 Wash, 100 lks. wide, course W.

5.69 Road, brs. N. $70^{\circ}E.$ and S. $70^{\circ}W.$

23.00 Foot of point brs. E. and NE.

38.00 Center of wash, 100 lks. wide, course SW.

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 26 in W., and

S 25 in E. half; and dig pits 18x18x12 ins. N. and

S. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

42.00 Ascend.

45.00 Ascend bluff of wash, abruptly.

47.00 Top of bluff 50 ft. high, brs. N. $30^{\circ}E.$ and S. $30^{\circ}W.$

Descend.

50.00 Edge of bluff, brs. N. $60^{\circ}E.$ and S. $60^{\circ}W.$; descend precipitously.

52.00 Foot of bluff.

Subdivision of Township 21 North, Range 13 West. 3.

Chains.

53.00 Center of gulch, course SW.; ascend.
 55.30 Top of point, brs.N.30°E.and N.50°E.
 60.50 Descend abruptly.
 63.00 Foot of descent.
 65.50 Wash,50 lks. wide, course SW.; ascend.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for cor.of secs.23,24,25 and 26, marked on brass cap,
 T 21 N, R 13 W in N, half;
 S 23 in NW.,
 S 24 in NE.,
 S 25 in SE., and
 S 26 in SW. quadrants, from which,
 A cedar tree 8 ins.diam., brs.S.15°42'W., 75 lks. dist., marked T 21 N, R 13 W, S 26 B T.
 A cedar tree 7 ins.diam., brs: S.69 $\frac{3}{4}$ °E., 112 lks. dist., marked T 21 N, R 13 W S 25 B T.
 A cedar tree 6 ins.diam., brs.N.43°50'E., 83 lks. dist., marked T 21 N, R 13 W S 24 B T.
 No other tree available. Dig pits 24x18x12 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,broken, rolling.
 Soil, 3rd rate, gravelly.
 No timber.
 Fair grazing.
 Undergrowth, scattering cedar, and other brush.

N.89°58'E., on a random line, bet. secs.24 and 25.
 40.00 Set temp. $\frac{1}{4}$ sec.cor.
 79.90 Intersect E.bdy.of Tp. at point 9 lks.N.of cor.of secs. 19,24,25 and 30; whence I run,
 N. 89°58'W., on a true line, bet. secs.24 and 25.
 Over rolling,broken land; descend NW.slope.
 10.00 Wash,10 lks.wide, course WSW.
 31.00 Wash,50 lks.wide, course S.80°W.
 39.95 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 24 in N., and
 S 25 in S.half; from which
 A cedar tree 6 ins.diam., brs.S.68°20'E., 168 lks.dist., marked $\frac{1}{4}$ S 25 B T.
 A cedar tree 6 ins.diam., brs.N.4°W., 203 lks. dist., marked $\frac{1}{4}$ S 24 B T.
 70.00 Wash, 50 lks.wide, course SW.; ascend.
 73.00 Top of ascent.
 76.00 Top of point, brs.SW.and NE.; descend abruptly.
 79.00 Foot of abrupt descent.
 79.90 To cor.of secs.23,24,25 and 26.
 Land, rolling,broken.
 Soil, 3rd rate, gravelly.
 Scattering cedars and palo negro.
 Fair grazing.

Jan. 17, 1911.

Jan.18,1911.
 At 8h.a.m.,1.m.t., at the cor.of secs. 23,24,25 and 26, I set off 35°11' N. on the lat.arc; and 20°37 $\frac{1}{2}$ 'S.on the decl. arc, and determine a true meridian with the solar.
 Thence I run,

4. Subdivision of Township 21 North, Range 13 West.

Chains.

- N.0°1'W. bet. secs.23 and 24.
Over rolling land; ascend through scattering cedars.
- 4.00 Top of ascent; descend.
- 26.00 Foot of descent, enter valley.
- 32.00 Wash, 100 lks. wide, course S.75°W.
Proceed over level bottom land, through moderately dense brush.
- 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 23 in W., and S 24 in E. half; and dig pits 18x18x12 ins. N. and S. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- 44.93 Road brs. NW. and SE.; at 1 ch. W. turns N.15°W.
- 46.20 Wash from N.30°E. to S.75°W.
- 50.00 Leave valley; ascend abruptly.
- 52.65 Top of point of bluff, brs. NE. and SW.; descend steep slope.
- 55.50 Foot of steep descent.
Proceed over level land, through dense brush, and scattering cedars and catclaws.
- 67.00 Wash, 25 lks. wide from N.10°E. to S.35°W.
- 71.00 Same wash, course S.10°E.
- 73.00 Same wash from N.15°E. to S. 5°W.
- 80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 13, 14, 23 and 24, marked on brass cap,
T 21 N R 13 W in N. half;
S 14 in NW.,
S 13 in NE.,
S 24 in SE., and
S 23 in SW. quadrants; from which,
A cedar tree 7 ins. diam., brs. S.39 $\frac{1}{4}$ °W., 184 lks. dist., marked T 21 N, R 13 W, S 23 B T.
A cedar tree 6 ins. diam., brs. N.38 $\frac{1}{4}$ °E., 123 lks. dist., marked T 21 N, R 13 W S 13 B T.
A cedar tree 5 ins. diam., brs. S.84 $\frac{3}{4}$ °E., 124 lks. dist., marked T 21 N, R 13 W S 24 B T.
No other tree available. Dig pits 24x18x12 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, rolling, broken.
Soil, 3rd rate, gravelly, sandy.
Undergrowth, scattering cedars, and other brush.
Fair grazing.
-
- S.89°58' E., on a random line, bet. secs. 13 and 24.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.10 Intersect E. bdy. of Tp. at point 5 lks. N. of cor. of secs. 13, 18, 19 and 24; whence I run, N.89°58'W., on a true line, bet. secs. 13 and 24.
Over broken, hilly land; descend gradually.
- 28.00 Top of bluff, brs. NE. and SW.; descend abruptly.
- 30.50 Foot of descent.
- 33.50 Gulch, 50 lks. wide, course SW. 70 ft. deep; ascend abruptly.
- 36.80 Top of abrupt ascent.
- 40.05 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 13 in N., and S 24 in S. half; from which,
A cedar tree 6 ins. diam., brs. N.48 $\frac{1}{2}$ °E., 56 lks. dist., marked $\frac{1}{4}$ S 13 B T.
A cedar tree 9 ins. diam., brs. S.7°E., 96 lks. dist., marked $\frac{1}{4}$ S 24 B T.
Proceed over rough hilly land.

Chains.

- 50.58 Gulch, 60 lks. wide, course SW.; ascend.
- 60.00 Top of ascent.
- 67.00 Edge of bluff, brs. NE. and SW.; descend abruptly.
- 70.00 Foot of descent.
- 77.50 Wash, 25 lks. wide, course S.; ascend.
- 80.10 To cor. of secs. 13, 14, 23 and 24.
Land, broken, hilly.
Soil, 3rd rate, gravelly.
No timber.
Undergrowth, scattering cedar, palo negro; fair grass.
At this cor. at 12h. 10m. p.m., 1.m.t., I set off 20°37½'S.
on the decl. arc; and observe the sun on the meridian;
the resulting lat. is 35°12'N.

N. 0°1'W., bet. secs. 13 and 14.
Over rolling broken land; ascend gradually, through scattering cedars.

- 21.00 Ascend abruptly.
- 23.50 Top of bluff, brs. NE. and SW.
- 30.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,
¼ S 13 in E., and
S 14 in W, half; from which,
A cedar tree, 5 ins. diam., brs. S. 52°20'E., 77 lks. dist., marked ¼ S 13 B T.
A cedar tree 4 ins. diam., brs. S. 34°W., 17 lks. dist., marked ¼ S 14 B T.
- 70.00 Center of draw, course SW.
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for cor. of secs. 11, 12, 13 and 14, marked on brass cap,
T 21 N, R 13 W in N. half;
S 11 in NW.,
S 12 in NE.,
S 13 in SE., and
S 14 in SW. quadrants, and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor.
Land, broken, rolling.
Soil, 2nd and 3rd rate, sandy, gravelly.
No timber.
Undergrowth, scattering cedars, and other brush.

S. 89°56'E. on a random line, bet. secs. 12 and 13.

- 40.00 Set temp. ¼ sec. cor.
- 79.96 Intersect E. bdy. of Tp. at point 9 lks. S. of cor. of secs. 7, 12, 13 and 18; whence I run,
West, on a true line, bet. secs. 12 and 13.
Over rolling, broken land; descend gradually through dense cedars and other brush.
- 20.00 Draw, course SW.; ascend gradually.
- 28.00 Ascend steep E. slope.
- 35.00 Top of ridge, brs. NE. and SW. Descend abruptly.
- 39.98 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for ¼ sec. cor., marked on brass cap,
¼ S 12 in N., and
S 13 in S. half; from which,
A cedar tree 6 ins. diam., brs. N. 15¾°E., 18 lks. d dist., marked ¼ S 12 B T.
A cedar tree 6 ins. diam., brs. S. 39¾°W., 55 lks. dist., marked ¼ S 13 B T.
- 52.00 Bottom of gulch, course SW.; ascend.
- 57.00 Top of ascent, near S. point of mesa; descend.

6. Subdivision of Township 21 North, Range 13 West.

Chains

70.00 Draw, course SW.; ascend.
 77.25 Top of ascent.
 78.00 Top of ridge, brs. NE. and SW.
 79.96 To cor. of secs. 11, 12, 13 and 14.
 Land, rough, broken, rolling.
 Soil, 3rd rate, gravelly, sandy.
 No timber.
 Undergrowth, cedar, and other dense brush.
 Fair grazing.

Jan. 18, 1911.

Jan. 19, 1911.

At 8h.a.m., 1.m.t., at the Standard cor. of secs. 34 and 35 on S.bdy., I set off 20° 25' S. on the decl. arc, and 35° 10' N. on the lat. arc, and determine a true meridian with the solar; thence I run, N. 0° 1' W., bet. secs. 34 and 35, from true cor. point in wash, 2 chs. E. of witness cor., over rolling, broken land. Wash from N. to SW.

6.00 Wash from N. 2° W. Upper Little Sandy.
 8.50 E. bank of wash, 4 ft. high, proceed along top of E. bank.
 23.50 Center of wash, course S. 20° W.
 34.00 Road, from N. 20° E. to S. 20° W.; ascend foothills.
 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 W., and $\frac{1}{4}$ S 35 in E. half, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 43.00 Descend to draw.
 49.00 Bottom of draw, road, brs. SE. and NW.
 Ascend over very rough, rocky, granite hills, barren.
 55.37 Top of ridge, brs. E. and W.; descend abruptly.
 59.00 Rocky gulch, course E.; ascend over barren granite boulders.
 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for cor. of secs. 26, 27, 34 and 35, marked on brass cap,
 T 24 N, R 13 W in N. half; and
 S 27 in NW.,
 S 26 in NE.,
 S 35 in SE., and
 S 34 in SW. quadrants, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 Set a flag on a boulder at point 2 chs. W. of cor.
 Land, rolling, broken, rough, mountainous.
 Soil, 3rd and 4th rate, gravelly, stony.
 No timber.
 Undergrowth, low scattering greasewood in valleys.

East on a random line, bet. secs. 26 and 35.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.10 Intersect cor. of secs. 25, 26, 35 and 36; whence I run, West, on a true line, bet. secs. 26 and 35.
 Over heavily rolling land.
 19.00 Road brs. SW. and NE.
 20.00 Wash, 100 lks. wide, course SW.
 40.05 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 26 in N., and $\frac{1}{4}$ S 35 in S. half; and 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.
 51.00 Center of Little Sandy Wash, 200 lks. wide, course SSW.

Subdivision of Township 21 North, Range 13 West.

7.

Chains

53.50 Foot of main slope of mountainous road, brs.N.and S.; ascend.
 72.93 Top of ridge, brs.N.and S.
 80.10 To cor.of secs.26,27,34 and 35.
 Land, rolling, mountainous.
 Soil, 3rd rate, gravelly, stony.
 No timber.
 Undergrowth, cacti, greasewood; fair grass in valley.
 At this cor. at 12h.11m.,p.m.,l.m.t., I set off $20^{\circ}25\frac{1}{2}'$ S, on the decl.arc, and observe the sun on the meridian.
 The resulting lat.is $35^{\circ}10'N$.

N. $0^{\circ}1'W$., bet. secs.26 and 27.
 Over rough, barren, granite boulders, and ledges.
 32.00 Descend abruptly.
 39.00 Rough rocky gulch 150 ft. deep, course E.; 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 27 in W., and S 26 in E.half, and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft. high,W.of cor.
 Proceed over high granite pillars, across crevices, with great difficulty.
 No soil or vegetation.
 Drainage to east.
 80.00 Foot of granite bluff, 50 ft. high brs.N. and W.
 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins.in the ground for cor.of secs.22,23,26 and 27, marked on brass cap,
 T 21 N, R 13 W in N.half;
 S 22 in NW.,
 S 23 in NE.,
 S 26 in SE., and
 S 27 in SW. quadrants, and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft. high,W.of cor.
 Land, rough, broken, very stony, mountainous.
 Soil, 4th rate, barren, stony.
 No timber or undergrowth.

East, on a random line, bet. secs.23 and 26.
 40.00 Set temp. $\frac{1}{4}$ sec.cor.
 80.00 Intersect cor.of secs. 23,24,25 and 26; whence I run, West, on a true line, bet. secs.23 and 26.
 Over rolling broken land; descend.
 Through mesquite, catclaw, greasewood, and other brush; descend gradually.
 10.00 Foot of descent.
 40.00 Center of wash, 100 lks.wide, course SW.
 41.60 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for witness cor. to $\frac{1}{4}$ sec.cor., marked on brass cap,
 W C $\frac{1}{4}$ in N.half;
 S 23 in NE., and
 S 26 in SE. quadrants; from which,
 A mesquite tree 6 ins.diam., brs.S. $46\frac{1}{4}^{\circ}$ E., 74 lks. dist., marked W C $\frac{1}{4}$ S 26 B T.
 A mesquite tree 5 ins.diam., brs. N. $22\frac{1}{4}^{\circ}$ E., 49 lks. dist., marked W C $\frac{1}{4}$ S 23 B T.
 52.00 Wash, of Little Sandy, 150 lks.wide, course S.
 52.50 Road, brs.N.and S.
 Foot of main slope; ascend foothills of mountains, brs. N.and S.
 Over rough barren, granite boulders and ledges.

8. Subdivision of Township 21 North, Range 13 West.

Chains.

- 80.00 To cor. of secs. 22, 23, 26 and 27.
Land, mountainous, broken, rolling.
Soil, 2nd, 3rd and 4th rate, gravelly, stony.
No timber.
Undergrowth, mesquite, catclaw, greasewood, cacti.
Fair grass in valleys.

Jan. 19, 1911.

-
- Jan. 20, 1911.
At 8h. a.m., l.m.t., at the cor. of secs. 22, 23, 26 and 27,
I set off $35^{\circ} 11' N.$ on the lat. arc; and $20^{\circ} 13' N.$ on the
decl. arc; and determine a true meridian with the solar.
Thence I run,
 $N. 0^{\circ} 1' W.$, bet. secs. 22 and 23.
Over very rough, broken, stony, mountainous land.
- 5.00 Bottom of gulch, course E.
Leave granite. and ascend over malpais stones, through
scattering cedars and palo negro.
- 17.00 Top of ridge, brs. E. and W.; descend.
- 22.00 Gulch, 50 ft. deep, course E.
- 34.00 Gulch, 150 ft. deep, course E.
- 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 22 in W., and
S 23 in E. half, and raise a mound of stone 2 ft.
base, 2 ft. high, W. of cor.
Cor. on top of ridge, brs. E. and W.; descend.
- 46.00 Gulch, course E.; ascend.
- 52.63 Ridge, brs. E. and W.; descend over rolling E. slope of
mountains.
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in
the ground for cor. of secs. 14, 15, 22 and 23, marked on
brass cap,
T 21 N R 13 W in N. half;
S 15 in NW.,
S 14 in NE.,
S 23 in SE., and
S 22 in SW. quadrants, and dig pits 24x18x12 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, mountainous, broken.
Soil, 3rd rate, stony, gravelly.
No timber.
Undergrowth, scattering cedar, palo negro, cacti.

-
- East, on a random line, bet. secs. 14 and 23.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 79.98 Intersect N. and S. line at point 2 lks. N. of cor. of secs.
13, 14, 23 and 24; whence I run,
 $N. 89^{\circ} 59' W.$, on a true line, bet. secs. 14 and 23.
Over rolling, broken, hilly, stony land.
- 8.00 Ascend.
- 12.00 Top of ascent; descend gradually.
- 15.55 Road, brs. NW. and SE.
- 31.00 Gulch, 50 lks. wide, course SW.; ascend.
- 36.00 Ridge, brs. NNE. and SSW.; descend.
- 39.99 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 14 in N. half, and
S 23 in S. half, and from which,
A cedar tree 6 ins. diam., brs. $N. 36\frac{1}{4}^{\circ} E.$, 100 lks.
dist., marked $\frac{1}{4}$ S 14 B T.
A cedar tree 6 ins. diam., brs. $S. 3\frac{1}{2}^{\circ} E.$, 155 lks.
dist., marked $\frac{1}{4}$ S 23 B T.

Subdivision of Township 21 North, Range 13 West.

9.

Chains

- 47.15 Road, brs.N.10°W. and S.10°E.
 49.00 Gulch, 150 lks.wide, course SSW.
 52.50 Ridge, brs.N.and S., near S.point, descend.
 55.00 Foot of descent.
 57.00 Wash, 300 lks.wide, course S.; Little Sandy.
 61.00 Foot of slope of mountains, brs.N.and S.; ascend over stony land.
 79.98 To cor. of secs. 14, 15, 22 and 23.
 Land, mountainous, broken.
 Soil, 3rd rate, stony, gravelly.
 No timber.
 Undergrowth, cedar, palo negro, cacti.
 Fair grazing.
 At this cor. at 12h.11m.p.m., l.m.t., I set off 20°13' S. on the decl.arc, and observe the sun on the meridian; the resulting lat.is 35°12' N.

- N.0°1'W., bet. secs.14 and 15.
 Over rolling, broken, E.slope; descend.
 4.25 Gulch, 50 lks.wide, course E.; ascend through scattering cedars.
 37.50 Top of ascent; descend abruptly.
 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 15 in W., and
 S 14 in E.half; from which,
 A cedar tree 12 ins.diam., brs.N.51 $\frac{3}{4}$ °W., 127 lks. dist., marked $\frac{1}{4}$ S 15 B T.
 A cedar tree, 8 ins.diam., brs.N.17°E., 164 lks. dist., marked $\frac{1}{4}$ S 14 B T.
 40.50 Gulch, course E.; ascend.
 43.00 Top of ascent,
 46.00 Descend.
 51.25 Gulch, 80 lks.wide, 75 ft. deep, course E.; ascend.
 55.00 Top of bluff of gulch, brs.E.and W.
 78.00 Descend.
 79.00 Gulch, 3 chs.wide, course S.75°E.
 80.00 Set an iron post 3 ft. long, 2 ins.diam., 24 ins. in the ground for cor.of secs.10,11,14 and 15, marked on brass cap,
 T 21 N, R 13 W in N.half;
 S 10 in NW.,
 S 11 in NE.,
 S 14 in SE., and
 S 15 in SW. quadrants, from which,
 A cedar tree 16 ins.diam., brs.S.40 $\frac{1}{2}$ ° W., 67 lks. dist., marked T 21 N, R 13 W S 15 B T.
 A cedar tree 8 ins.diam., brs.N.69 $\frac{1}{4}$ °W., 133 lks. dist., marked T 21 N, R 13 W, S 10 B T.
 A cedar tree 6 ins.diam., brs.N.51 $\frac{1}{2}$ °E., 127 lks. dist., marked T 21 N R 13 W S 11 B T.
 A cedar tree 7 ins.diam., brs.S.43 $\frac{1}{2}$ °E., 227 lks. dist., marked T 21 N, R 13 W, S 14 B T.
 Land, mountainous, broken.
 Soil, 3rd rate, stony.
 Scattering timber.
 Undergrowth, scattering cedar, palo negro.

- S.89° 59'E., on a random line, bet. secs.11 and 14.
 40.00 Set temp. $\frac{1}{4}$ sec.cor.
 80.06 Intersect cor.of secs.11,12,13 and 14; whence I run, N.89°59' W., on a true line, bet. secs.11 and 14.
 Over heavily rolling, broken land; descend through scattering cedars.
 31.00 Wash, 2 chs.wide, course SW.; ascend gradually.

10. Subdivision of Township 21 North, Range 13 West.

Chains.

- 40.03 Set an iron post, 1 in. in diam., 3 ft. long, 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 11 in N., and S 14 in S. half; and 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.
- 44.00 Ascend abruptly.
- 46.00 Top of abrupt ascent.
- 65.10 Road, brs. N. and S.
- 65.60 Edge of bluff, brs. N. and S.; descend abruptly.
- 70.00 Foot of bluff, ascend abruptly.
- 73.50 Top of bluff of Little Sandy, brs. N. and S.
- 76.30 Old road to ranch, brs. NW. and SE.
- 76.75 Edge of bluff, brs. NW. and SE.; descend.
- 80.06 To cor. of secs. 10, 11, 14 and 15.
Land, broken, mountainous, rolling.
Soil, 3rd rate, stony.
Scattering timber.
Undergrowth, cedar, palo negro.
Fair grass in valley.

Jan. 20, 1911.

On this day discharged George Etz and Theodore Alden.

Jan. 21, 1911.

At 8h. a.m., 1.m.t., at the Standard Cor. of secs. 33 and 34 on S. bdy. of Tp., I set off $35^{\circ}10'N.$ on the lat. arc; and $20^{\circ}0'S.$ on the decl. arc, and determine a true meridian with the solar.

Thence I run,

N. $0^{\circ}2'W.$, bet. secs. 33 and 34.

Over mountainous, broken land; ascend through scattering brush.

- 9.00 Top, thence descend along E. slope of malpais mountain.
- 29.00 Descend abruptly.
- 29.50 Foot of bluff of canyon, brs. N. $15^{\circ}W.$ and S. $15^{\circ}E.$
- 30.00 Center of canyon, course S. $15^{\circ}E.$
- 30.50 Foot of bluff, N. side of canyon; ascend abruptly.
- 31.00 Top of bluff; ascend, W. slope of mountain.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 33 in W., and S 34 in E. half; from which,
A cedar tree 6 ins. diam., brs. N. $56\frac{1}{2}^{\circ}E.$, 81 lks. dist., marked $\frac{1}{4}$ S 34 B T.
A palo negro tree 5 ins. diam., brs. N. $68\frac{1}{2}^{\circ}W.$, 45 lks. dist., marked $\frac{1}{4}$ S 33 B T.
- 42.00 Descend diagonally.
- 52.15 Kingman-PreScott road, bears E. and W.
- 58.00 Bottom of descent; ascend.
- 65.00 Ascend abruptly.
- 66.50 Foot of granite bluff 75 ft. high; ascend precipitously.
- 66.75 Top of bluff, brs. NW. and SE.
Proceed over huge granite boulders, rough mountainous land; ascend.
- 71.50 Edge of precipitous granite bluff, 150 ft. high; descend abruptly.
- 76.00 Canyon, course SW.; ascend precipitously.
- 80.00 Top of bluff, brs. SW. and NE.
Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for cor. of secs. 27, 28, 33 and 34, marked on brass cap,
T 21 N, R 13 W in N. half,
S 28 in NW.,
S 27 in NE.,
S 34 in SE., and
S 33 in SW. quadrants, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Subdivision of Township 21 North, Range 13 West.

11.

Chains.

Land, mountainous, broken.
Soil, 3rd and 4th rate, stony.
No timber.
Undergrowth, scattering cedar, palo negro, cacti.

-
- East, on a random line, bet. secs. 27 and 34.
40.00 Set temp. $\frac{1}{4}$ sec. cor.
80.04 Intersect N. and S. line at point 2 lks. S. of cor. of secs. 26, 27, 34 and 35; whence I run, S. $89^{\circ}59'W.$, on a true line, bet. secs. 27 and 34. Over mountainous land; ascend abruptly.
1.50 Top of granite ridge, brs. N. and S.; descend precipitously.
4.00 Foot of granite ridge.
23.00 Canyon 50 lks. wide, course SE.; ascend gradually.
40.02 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 27 in N., and S 34 in S. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
46.00 Top of rocky ridge, brs. N. and S.; descend abruptly.
53.00 Bottom of canyon, course S.; ascend precipitously.
64.00 Top of precipitous ascent; thence ascend gradually.
68.00 Top of ascent; descend.
75.00 Edge of bluff, brs. NE. and SW.; descend precipitously.
78.00 Canyon, 50 lks. wide, course SW.; ascend precipitously.
79.75 Top of granite bluff of canyon, brs. NE. and SW.
80.04 To cor. of secs. 27, 28, 33 and 34.

Land, mountainous.
Soil, 3rd rate, stony.
No timber.
Undergrowth, scattering cedar, palo negro, cacti.
Clouds obscure the sun at noon; impossible to observe latitude.

-
- N. $0^{\circ}2'W.$, bet. secs. 27 and 28.
40.00 Over rough mountainous land; ascend huge granite boulders. Set a granite stone 18x12x7 ins., on bedrock in mound of stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. No bearings available. Impracticable to set iron post. Descend abruptly.
47.50 Bottom of gulch, 200 ft. deep, course SE.; ascend steep slope of malpais mesa, over boulders.
63.00 Top of edge of mesa, 1 ch. W. of point, brs. NE. and SW.
65.40 Edge of vertical bluff of mesa, brs. E. and W.; descend.
65.50 Foot of bluff; continue steep descent.
70.40 Canyon, 400 ft. deep, course E.; ascend steep S. slope.
80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 21, 22, 27 and 28, marked on brass cap,
T 21 N R 13 W in N. half,
S 21 in NW.,
S 22 in NE.,
S 27 in SE., and
S 28 in SW. quadrants, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
Land, mountainous.
Soil, 3rd rate, stony.
No timber or undergrowth.
Fair grass on mesa.

-
- N. $89^{\circ}59'E.$ on a random line, bet. secs. 22 and 27.
40.00 Set temp. $\frac{1}{4}$ sec. cor.

12. Subdivision of Township 21 North, Range 13 West.

Chains:

- 80.08 Intersect N. and S. line at point 5 lks. S. of cor. of secs. 22, 23, 26 and 27; whence I run, S. $89^{\circ}57'W.$, on a true line, bet. secs. 22 and 27. Over mountainous land; ascend precipitously.
- .10 Top of bluff, continue to ascend.
- 1.00 Top of granite reef, 50 ft. high, brs. N. and S.; descend precipitously.
- 13.00 Rocky gulch, course N.
- 23.00 Top of bluff; ascend precipitously.
- 38.00 Top of granite bluff, brs. N. and S.
- 40.04 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 22 in N. half, and S 27 in S. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
- 41.10 Top of mesa, brs. N. and S.; ascend on same.
- 65.00 Top of lower mesa, about 2 chs. S. of N. edge, and foot of higher mesa; ascend diagonally SE. slope of mesa, over large malpais boulders.
- 80.08 To cor. of secs. 21, 22, 27 and 28. Land, mountainous, broken. Soil, 3rd rate, stony. No timber. Undergrowth, scattering cedar, palo negro.
- Jan. 21, 1911.
- Jan. 22, 1911.
Did not work.
On this day employed Elmore Welsh as flagman, as Paul Dial was detailed as teamster.

-
- Jan. 23, 1911.
At 8h. a.m., l.m.t., at the cor. of secs. 21, 22, 27 and 28, I set off $35^{\circ}11'N.$ on the lat. arc, and $19^{\circ}33'S.$ on the decl. arc, and determine a true meridian with the solar. Thence I run, N. $0^{\circ}2'W.$, bet. secs. 21 and 22. Over mountainous land; ascend steep SE. slope of mesa.
- 1.25 Foot of perpendicular bluff,
- 2.00 Top of bluff, brs. N. $85^{\circ}E.$ & S. $85^{\circ}W.$, continue to ascend.
- 10.00 Top of ascent.
- 12.00 Begin descent.
- 18.00 Edge of bluff of mesa, brs. E. and W.; descend abruptly.
- 22.00 Gulch, 50 lks. wide, course NE.; ascend abruptly.
- 30.50 Top of point of slope; descend abruptly.
- 39.00 Foot of steep slope.
- 39.90 Gulch, 50 lks. wide, course NE.; 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 21 in W., and S 22 in E. half, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Proceed along E. slope of mountain.
- 53.00 Gulch, N. $30^{\circ}E.$
- 78.00 Gulch, course N. $70^{\circ}E.$; ascend.
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for cor. of secs. 15, 16, 21 and 22, marked on brass cap, T 21 N, R 13 W in N. half; S 16 in NW., S 15 in NE., S 22 in SE., and S 21 in SW. quadrants, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Land, rough mountains. Soil, 3rd rate, stony. No timber. Undergrowth, scattering cedar, cacti. Fair grass on mesas.
-

Subdivision of Township 21 North, Range 13 West.

13.

Chains

- 40.00 N.89°57'E., on a random line, bet. secs.15 and 22.
Set temp. $\frac{1}{4}$ sec.cor.
- 79.92 Intersect N and S. line at point 12 lks. N.of cor. of
secs. 14,15, 22 and 23; whence I run,
N.89°58' W., on a true line, bet. secs.15 and 22.
Over mountainous land; ascend.
- 20.00 Top of ascent; descend through scattering palo negro, and
other brush.
- 39.86 Junction of 2 gulches, one from S. and one from SW.,
course N.
- 39.96 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 15 in N., and
S 22 in S.half, and raise a mound of stone 2 ft.base,
 $1\frac{1}{2}$ ft. high, N.of cor. Ascend.
- 48.00 Top of point, brs.S.and N.; descend.
- 57.00 Gulch, 50 lks.wide, course SE.; ascend.
- 59.00 Top of point; descend.
- 65,00 Gulch, 50 lks.wide, course NE.; ascend steep E.slope, over
large boulder, through dense brush.
- 79.92 To cor.of secs.15,16,21 and 22.
Land, mountainous, very rough.
Soil, 3rd rate, stony.
No timber; undergrowth, scattering cedar, palo negro,
and other brush.
Fair grass.
At this cor. at 12h.12m.p.m., 1.m.t., I set off 19°32 $\frac{1}{2}$ 'S.
on the decl.arc, and observe the sun on the meridian;
the resulting lat.is 35°12'N.
-
- N.0°2'W., bet. secs.15 and 16.
Over steep E. slope of mountain, through scattering palo
negro and dense brush.
- 17.00 Gulch, course SE.; ascend abruptly steep slope of mesa.
- 34.50 Top of rim of mesa, brs.N.70°E. and S.70°W., 2 chs.W.
of point of mesa.
- 40.00 Set an igneous stone 22x10x7 ins. on bedrock, in mound
of stone for $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on W.face, and raise
a mound of stone 2 ft.base, $1\frac{1}{2}$ ft. high, W.of cor.; im-
practicable to set iron post.
Ranch house of David Kayser brs.N.12°7'E. about 52 chs.
dist.
- 41.50 Descend abruptly.
- 50.50 Foot of steep descent; continue to descend through
dense brush.
- 80.00 Set an iron post 2 ins.diam., 3 ft. long, 24 lbs. in the
ground for cor.of secs.9,10,15 and 16, marked on brass
cap,
T 21 N, R 13 W in N.half;
S 9 in NW.,
S 10 in NE.,
S 15 in SE., and
S 16 in SW. quadrants, and raise a mound of stone
2 ft.base, $1\frac{1}{2}$ ft. high, W.of cor.
Land, rough, broken, mountainous.
Soil, 3rd rate, stony.
No timber.
Undergrowth, scattering cedar, palo negro, and other
brush. Fair grass.
-
- 40.00 S.89°58'E., on a random line, bet. secs.10 and 15.
Set temp. $\frac{1}{4}$ sec.cor.
- 79.94 Intersect N.and S. line at point 2 lks.S.of cor.of secs.
10,11,14 and 15; whence I run,

14. Subdivision of Township 21 North, Range 13 West.

Chains.

- N.89°59'W. on a true line, bet. secs.10 and 15.
- Over mountainous land; ascend abruptly.
- 25.00 Top of ridge, brs.NW.and SE.; descend steep slope.
- 38.50 Bottom of gulch, course N.20°E.; ascend.
- 39.97 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 10 in N., and S 15 in S.half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high,N.of cor.
- 54.00 Gulch,150 ft. deep, course NE.; ascend.
- 63.00 Ridge, brs.NE.and SW.; descend.
- 72.00 Bottom of descent; ascend.
- 79.94 The cor.of secs.9,10,15 and 16.. Land, rough,broken,mountainous. Soil, 3rd rate, stony. No timber. Undergrowth; scattering cedar, palo negro, and other brush. Fair grass.

Jan. 23, 1911.

Jan.24, 1911:

At 8h.a.m.,1.m.t., at the standard cor.of secs. 32 and 33 on the S.bdy.of Tp., I set off 35°10'N., on the lat. arc; and 19°19'S. on the decl.arc, and determine a true meridian with the solar.

Thence I run,

N.0°3'W., bet. secs.32 and 33.

Over heavily rolling land, through scattering cedar brush.

- 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 W., and

S 33 in E.half; from which,

A cedar tree 10 ins.diam., brs.S.4 $\frac{1}{2}$ °E., 110 lks. dist., marked $\frac{1}{4}$ S 33 B T.

A cedar tree 10 ins. diam., brs.S.83°W., 115 lks. dist., marked $\frac{1}{4}$ S 32 B T.

- 61.38 Road, Kingman to Prescott, brs.S.60°E., and N.60°W.

- 68.90 Enter main wash, course SE.

- 77.25 Leave main wash; ascend gradually.

- 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,

T 21 N, R 13 W in N.half;

S 29 in NW.,

S 28 in NE.,

S 33 in SE., and

S 32 in SW. quadrants, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high,W.of cor., from which,

A cedar tree 10 ins.diam., brs.N.80°W., 162 lks. dist., marked T 21 N, R 13 W S 29 B T.

No other trees available.

Land, rolling,broken.

Soil, 3rd rate, stony.

No timber; undergrowth, scattering palo negro, cedar, and other brush.

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

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

Subdivision of Township 21 North, Range 13 West.

15.

Chains

- 80.04 Intersect N. and S. line at point 7 lks. S. of cor. of secs. 27, 28, 33 and 34; whence I run, S. $89^{\circ}57'W.$, on a true line, bet. secs. 28 and 33. Over barren granite ledges, sloping S.
- 20.00 Gulch, 50 lks. wide, course SE. Leave granite ledges; ascend gradually.
- 28.00 Arroyo, course S.
- 40.02 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 28 in N. half; and S 33 in S. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
- 66.00 Arroyo, course S. $30^{\circ}E.$
- 78.00 Descend.
- 80.04 To cor. of secs. 28, 29, 32 and 33. Land, rolling, broken. Soil, 3rd rate, stony. No timber. Undergrowth, scattering palo negro, cedar, and other brush. At this cor. at 12h. 12m. p.m., 1.m.t., I set off $19^{\circ}18\frac{1}{2}'S.$ on the decl. arc, and observe the sun on the meridian. The resulting lat. is $35^{\circ}10\frac{1}{2}'N.$

- N. $0^{\circ}3'W.$, bet. secs. 28 and 29. Over mountainous land; ascend gradually.
- 2.00 Top of broken mesa; ascend SW. slope, NW. and SE.
- 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 29 in W., and S 28 in E. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- 57.00 Top of W. point of volcanic mountain, about 600 ft. above valley, brs. E. about 25 chs.; thence along W. slope.
- 78.50 Gulch, course W.
- 80.00 Set an iron post 2 ins. diam., 3 ft. long, 24 ins. in the ground for cor. of secs. 20, 21, 28 and 29, marked on brass cap,
T 21 N, R 13 W in N. half,
S 20 in NW.
S 21 in NE.,
S 28 in SE., and
S 29 in SW. quadrants, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- Land, mountainous.
Soil, 3rd rate, stony.
No timber.
Undergrowth, scattering cedar, palo negro, and other brush.

- N. $89^{\circ}57'E.$ on a random line, bet. secs. 21 and 28.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.12 Intersect N. and S. line at point 20 lks. N. of cor. of secs. 21, 22, 27 and 28; whence I run, N. $89^{\circ}54'W.$, on a true line, bet. secs. 21 and 28. Over mountainous land; ascend steep slope of mesa, through scattering palo negro and cacti, over large malpais boulders.
- 4.80 Top of mesa, brs. N. $30^{\circ}E.$, and S. $30^{\circ}W.$
- 21.00 Top of ascent.
- 28.00 Edge of bluff of mesa, brs. N. and S.; descend abruptly.
- 35.00 Head of gulch, course S. $60^{\circ}W.$
- 40.06 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,

16. Subdivision of Township 21 North, Range 13 West.
Chains,

80.12 $\frac{1}{4}$ S. 21 in N. half,
S 28 in S. half, and raise a mound of stone 2 ft.
base, $1\frac{1}{2}$ ft. high, N. of cor.
To cor. of secs. 20, 21, 28 and 29.
Land, mountainous, broken, stony,
Soil, 3rd rate.
No timber.
Undergrowth, scattering palo negro, cedar, cacti.
Fair grass on mesa.
On evening of this date employed Sidney Waite as chain-
man.

Jan. 24, 1911.

Jan. 25, 1911.

Rainy, stormy all day. No work done.

Jan. 26, 1911.

At 8h. a.m., 1 p.m.t., at the cor. of secs. 20, 21, 28 and 29,
I set off $35^{\circ}11'N.$ on the lat. arc; and $18^{\circ}50'S.$ on the
decl. arc; and determine a true meridian with the solar.

Thence I run,
 $N.0^{\circ}3'W.$, bet. secs. 20 and 21.

Over mountainous land; ascend along W. slope., through
dense palo negro.

7.00 Top of point of slope; descend gradually.

16.45 Gulch, near head, course S., $60^{\circ}W.$

30.50 Gulch, course S. $60^{\circ}W.$

39.00 Gulch, S. $45^{\circ}W.$

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 20 in W., and

S 21 in E. half; and raise a mound of stone 2 ft.
base, $1\frac{1}{2}$ ft. high, W. of cor.

48.00 Gulch, 50 lks. wide, course S. $60^{\circ}W.$

Ascend SW. slope.

80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in
the ground for cor. of secs. 16, 17, 20 and 21, marked on
brass cap,

T 21 N, R 13 W in N. half;

S 17 in NW.,

S 16 in NE.,

S 21 in SE., and

S 20 in SW. quadrants, and raise a mound of stone

2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Land, mountainous.

Soil, 3rd rate, very stony.

No timber.

Undergrowth, palo negro, cacti. Fair grazing.

40.00 S. $89^{\circ}54'E.$, on a random line, bet. secs. 16 and 21.
Set temp. $\frac{1}{4}$ sec. cor.

79.96 Intersect N. and S. line at point 14 lks. S. of cor. of
secs. 15, 16, 21 and 22; whence I run,
West, on a true line, bet. secs. 16 and 21.

Over mountainous land; ascend steep E. slope of mesa,
through scattering palo negro and dense brush, over
large malpais boulders.

24.90 Top of hog back, about 600 ft. above cor.

N. point of mesa, brs. N. and S. Descend steep W. slope.

35.00 Gulch, 250 ft. deep, course N.; ascend.

39.98 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 16 in N., and

S 21 in S. half; and raise a mound of stone 2 ft.

base, $1\frac{1}{2}$ ft. high, N. of cor.

Chains.

60.00 Top of high hog back connecting two mesas, N. and S.
Descend precipitous W. slope.
79.96 To cor. of secs. 16, 17, 20 and 21.
Land, mountainous.
Soil, 3rd rate, stony.
No timber.
Undergrowth, scattering cedar, palo negro, cacti.
Good grass on mesas.
At this cor. at 12h. 13m. p.m., l.m.t., I set off $18^{\circ}49'S.$,
on the decl. arc; and observe the sun on the meridian.
The resulting lat. is $35^{\circ}12'N.$

N. $0^{\circ}3'W.$, bet. secs. 16 and 17.

Over mountainous land; ascend S. slope, through palo negro
and other brush.

6.00 Ascend precipitous S. slope, angle of 29° .
16.10 Top of bluff, 800 ft. high, brs. E. and W.; ascend gradually.
17.00 Top of ridge, brs. NW. and SE.; descend.
19.00 Descend abruptly.
37.00 Gulch, course N. $60^{\circ}E.$; heads 6 chs. W.
Ascend steep SE. slope.
40.00 Set a malpais stone $22 \times 10 \times 7$ ins., 15 ins. in the ground,
for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a mound
of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
46.00 Top of point of slope of mesa, brs. W.; descend.
57.00 Gulch, 300 ft. deep, course SE.; ascend.
68.00 Top of steep ascent; ascend gradually.
70.00 Top of ridge, brs. E. and W.
Descend diagonally.
80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins.
in the ground for cor. of secs. 8, 9, 16 and 17, marked
on brass cap,
T 21 N, R 13 W in N. half,
S 8 in NW.,
S 9 in NE.,
S 16 in SE., and
S 17 in SW. quadrants, and raise a mound of stone
2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
Land, mountainous.
Soil, 3rd rate, stony.
No timber.
Undergrowth, palo negro, cedar, cacti. Fair grass on
mesa.

East, on a random line, bet. secs. 9 and 16.

40.00 Set temp. $\frac{1}{4}$ sec. cor.
80.00 Intersect N. and S. line at point 7 lks. N. of cor. of secs.
9, 10, 15 and 16; whence I run,
N. $89^{\circ}57'W.$, on a true line, bet. secs. 9 and 16.
Over mountainous land; ascend through dense palo negro,
and other brush.
15.00 Wash, 55 lks. wide, course NE.
27.65 Gulch, course NE.
38.50 Wire fence brs. N. $60^{\circ}W.$, and S. $60^{\circ}E.$
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 9 in N., and
S 16 in S. half; and raise a mound of stone 2 ft.
base, $1\frac{1}{2}$ ft. high, N. of cor.
Continue ascent along NNE. slope.
80.00 To cor. of secs. 8, 9, 16 and 17.
Land, mountainous.
Soil, 3rd rate, stony.
No timber.

18. Subdivision of Township 21 North, Range 13 West.

Chains.

Undergrowth, scattering cedar, palo negro, and other brush.

Fair grass on mesa.

Jan. 26, 1911.

Jan. 27, 1911. Employed Murrie Carrow as axeman.

Jan. 27, 1911.

At 8h. a.m., 1.m.t., at the Standard cor. of secs. 31 and 32, on the S.bdy. of Tp. I set off 35°10' N. on the lat. arc, and 18°35' S. on the decl. arc, and determine a true meridian with the solar.

Thence I run,

N. 0°3' W., bet. secs. 31 and 32.

Over heavily rolling land, through scattering cedars and cacti chollas.

Soil is a loose sandy gravel, with heavy clay sub-soil.

15.50 Top of ridge, 200 lks. W. of E. end, brs. E. and W.; descend.

17.00 Enter valley, brs. S. 60° E.; leave cedars.

28.27 Wash, 20 lks. wide, course S. 60° E.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 31 in W., and S 32 in E. half, and dig pits 18x18x12 ins. N. and S. of cor. 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high, W. of cor.

44.00 Wash 200 lks. wide, course S. 45° E.

59.00 Leave valley; ascend.

61.00 Top of ridge, brs. S. 60° E. and N. 60° W.; enter dense cedars.

76.53 Kingman-Prescott road, brs. E. and W.

80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 29, 30, 31 and 32, marked on brass cap,

T 21 N, R 13 W in N. half;

S 30 in NW.,

S 29 in NE.,

S 32 in SE., and

S 31 in SW. quadrants, and from which,

A cedar tree 6 ins. diam., brs. S. 69° E., 78 lks. dist., marked T 21 N R 13 W S 32 B T.

A cedar tree 6 ins. diam., brs. N. 58° E., 66 lks. dist., marked T 21 N, R 13 W S 29 B T.

A cedar tree 8 ins. diam., brs. N. 53° W., 135 lks. dist., marked T 21 N, R 13 W S 30 B T.

A cedar tree 6 ins. diam., brs. S. 17 1/2° W., 43 lks. dist., marked T 21 N, R 13 W S 31 B T.

Land, mountainous, rolling.

Soil, 2nd and 3rd rate, gravelly.

Cedar timber.

Undergrowth, scattering cedar, cacti.

Good native grass in valleys.

East, on a random line, bet. secs. 29 and 32.

40.00 Set temp. 1/4 sec. cor.

80.02 Intersect N. and S. line at point 5 lks. S. of cor. of secs. 28, 29, 32 and 33; whence I run, S. 89° 58' W., on a true line, bet. secs. 29 and 32.

Over rolling land, through scattering cedars, and dense palo negro.

2.70 Enter main wash, course S. 30° E.

9.70 Leave wash.

Subdivision of Township 21 North, Range 13 West.

19.

Chains.

- 14.00 Leave valley, brs. S.30°E.; ascend gradually.
- 40.01 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 29 in N., and S 32 in S. half, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
- 80.02 To cor. of secs. 29, 30, 31 and 32.
At this cor. at 12h. 13m. p.m. 1, m.t., I set off 18°34' S. on the decl. arc, and observe the sun on the meridian. The resulting lat. is 35° 10 $\frac{1}{2}$ ' N.
Land, rolling.
Soil, 2nd and 3rd rate, gravelly, sandy.
No timber.
Undergrowth, cedar, palo negro, cacti. Good grass.
-
- West, on a random line, bet. secs. 30 and 31.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 79.94 Intersect W. bdy. of Tp. at point 9 lks. S. of cor. of secs. 25, 30, 31 and 36; whence I run, S. 89°56'E., on a true line, bet. secs. 30 and 31.
Over rolling, broken, land, through scattering cedars, palo negro and scrub oak.
- 5.00 Wash, 40 lks. wide, course S. 60°E.
- 39.94 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 30 in N., and S 31 in S. half, and from which,
A cedar tree 6 ins. diam., brs. N. 5°W., 3 lks. dist., marked $\frac{1}{4}$ S 30 B T.
A cedar tree 8 ins. diam., brs. S. 24°E., 160 lks. dist., marked $\frac{1}{4}$ S 31 B T.
- Ascend.
- 43.00 Top of ridge, brs. S. 60°E. and N. 60°W.
- 67.88 Kingman-PreScott road, brs. N. 60°W. and S. 60°E.
- 79.94 The cor. of secs. 29, 30, 31 and 32.
Land, rolling.
Soil, 2nd and 3rd rate, sandy, gravelly.
Scattering timber.
Undergrowth, cedar, palo negro, scrub oak.
Good native grass in draws.
-
- N. 0°3'W., bet. secs. 29 and 30.
- Over heavily rolling land, through scattering cedar, scrub oak, palo negro; good bunch grass.
- 11.70 Wash, 20 lks. wide, course S. 60°E.
- 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 30 in W., and S 29 in E. half; and from which,
A cedar tree 4 ins. diam., brs. N. 29 $\frac{1}{2}$ °E., 73 lks. dist., marked $\frac{1}{4}$ S 29 B T.
A cedar tree 10 ins. diam., brs. N. 76 $\frac{1}{4}$ °W., 23 lks. dist., marked $\frac{1}{4}$ S 30 B T.
- 65.60 Wash, 20 lks. wide, course S. 60°E.
- 80.00 Wash, 80 lks. wide, course S. 60°E.
- 81.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for witness cor. to cor. of secs. 19, 20, 29 and 30, marked on brass cap,
W C, N of center,
T 21 N, R 13 W in N. half,
S 19 in NW.,
S 20 in NE.,
S 29 in SE., and
S 30 in SW. quadrants, and raise a mound of stone

20. Subdivision of Township 21 North, Range 13 West.
Chains.

2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
Land, heavily rolling.
Soil, 2nd and 3rd rate, sandy, gravelly.
Scattering timber.
Undergrowth, scattering cedar, scrub oak, palo negro.
Good grazing.

Jan. 27, 1911.

Jan. 28, 1911., Moved camp. No work.
Jan. 29, 1911. Stormy, rainy all day. No field work.

Jan. 30, 1911:

At 8h.a.m., l.m.t., at the true point for cor. of secs. 19,
20, 29 and 30, I set off $36^{\circ}11'N.$ on the lat. arc; and
 $17^{\circ}48'S.$ on the decl. arc, and determine a true meridian
with the solar.

Thence I run,
 $N.39^{\circ}58'E.$ on a random line, bet. secs. 20 and 29.

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

80.04 Intersect N. and S. line at point 2 lks. S. of cor. of secs.
20, 21, 28 and 29; whence I run,

$S.89^{\circ}57'W.$, on a true line, bet. secs. 20 and 29.

Over heavily rolling land, through scattering cedars, palo
negro, and cacti.

3.00 Gulch, 50 lks. wide, course NW.

30.00 Gulch, 50 lks. wide, course SW.

40.02 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 20 in N., and

S 29 in S. half; and raise a mound of stone 2 ft.

base, $1\frac{1}{2}$ ft. high, W. of cor.

54.00 Wash, 100 lks. wide, course S, $30^{\circ}E.$

59.60 Leave wash to S. $60^{\circ}E.$

64.50 Wash, 50 lks. wide, from S. $60^{\circ}W.$ to E.

80.04 To true point for cor. of secs. 19, 20, 29 and 30.

Land, rolling.

Soil, 2nd and 3rd rate, sandy, gravelly.

No timber.

Undergrowth, cedar, palo negro, scrub oak, cacti.

Fair grazing.

$N.89^{\circ}56'W.$, on a random line, bet. secs. 19 and 30, from
true cor. point in wash.

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

79.86 Intersect W. bdy. at point 15 lks. N. of cor. of secs. 19, 24,
25 and 30; whence I run,

$N.89^{\circ}58'E.$, on a true line, bet. secs. 19 and 30.

Over heavily rolling land, through dense cedars, scatter-
ing palo negro and cacti.

Soil, light sandy loam, covered with good bunch grass.

39.86 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 19 in N., and

S 30 in S. half; from which,

A cedar tree 12 ins. diam., brs. $N.26^{\circ}E.$, 89 lks.
dist., marked $\frac{1}{4}$ S 19 B T.

A cedar tree 6 ins. diam., brs. S 137 lks. dist.,
marked $\frac{1}{4}$ S 30 B T.

59.00 Point of ridge, brs. S. $60^{\circ}E.$, descend gradually, NE. slope.

79.86 True point for cor. of secs. 19, 20, 29 and 30 in wash,
course S. $60^{\circ}E.$

Land, rolling.

Chains.

Soil, 2nd rate, sandy.
 Scattering timber.
 Undergrowth, scattering cedar, scrub oak, palo negro, cacti, and other brush. Good grass.
 At this cor. at 12h. 13m.p.m., l.m.t., I set off $17^{\circ}47'S.$, on the decl. arc, and observe the sun on the meridian. The resulting lat. is $35^{\circ} 11\frac{1}{2}'N.$

From true cor. point, I run,
 $N.0^{\circ}3' W.$, bet. secs. 19 and 20.
 Over heavily rolling land; ascend gradually through scattering cedar, palo negro and cacti.
 Good grazing; drainage to SE.
 1.00 Witness cor. for cor. of secs. 19, 20, 29 and 30.
 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 19 in W., and S 20 in E. half; and dig pits 18x18x12 ins. N. and S. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 54.65 Main wash, 200 lks. wide, course SE.
 79.00 Wash 20 lks. wide, course $S.30^{\circ}W.$
 80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 17, 18, 19 and 20, marked on brass cap,
 T 21 N, R 13 W in N. half;
 S 18 in NW.,
 S 17 in NE.,
 S 20 in SE., and
 S 19 in SW. quadrants; from which,
 A cedar tree 6 ins. diam. brs. $S.66^{\circ}E.$, 86 lks. dist., marked T 21-N, R 13 W S 20 B T.
 No other tree available. Raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 Land heavily rolling.
 Soil, 2nd rate, sandy, gravelly.
 No timber.
 Undergrowth, cedar, palo negro, scrub oak, cacti.
 Good grazing in places.

N. $89^{\circ} 57' E.$, on a random line, bet. secs. 17 and 20.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.00 Intersect N. and S. line at point 2 lks. N. of cor. of secs. 16, 17, 20 and 21, whence I run,
 $S, 89^{\circ}58'W.$, on a true line, bet. secs. 17 and 20.
 Over mountainous land, through scattering cedar and palo negro.
 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 17 in N., and S 20 in S. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
 74.20 Wash, 30 lks. wide, course S.
 79.00 Wash, 20 lks. wide, course $S.30^{\circ}W.$
 80.00 To cor. of secs. 17, 18, 19 and 20.
 Land, rolling.
 Soil, 3rd rate, gravelly, sandy.
 No timber.
 Undergrowth, cedar, palo negro, cacti.
 Fair grazing.

Jan. 30, 1911.

Jan. 31, 1911. Rainy, stormy all day. No field work.

Chains.

Feb. 1, 1911.

At 8h.a.m., 1.m.t., at the cor. of secs. 17, 18, 19 and 20, I set off $17^{\circ}14\frac{1}{2}'S.$ on the decl. arc, and $35^{\circ}12'N.$ on the lat. arc, and determine a true meridian with the solar.

Thence I run, $S.89^{\circ}58'W.$, on a random line, bet. secs. 18 and 19.

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

79.80 Intersect W. bdy. of Tp. at point 2 lks. S. of cor. of secs. 13, 18, 19 and 24; whence I run, $N.89^{\circ}59'E.$ on a true line, bet. secs. 18 and 19.

Over rolling land, through dense cedars.

5.00 Wash, 50 lks. wide, course $S.30^{\circ}E.$

20.00 Top of ridge, brs. SE. and NW.; descend.

39.60 Wash, 20 lks. wide, course SE.

39.80 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 18 in N., and

S 19 in S. half; and from which,

A cedar tree, 6 ins. diam., bears $S.15^{\circ}W.$, 61 lks. dist., marked $\frac{1}{4}$ S 19 B T.

A cedar tree 8 ins. diam., brs. $N.74^{\circ}W.$, 90 lks. dist., marked $\frac{1}{4}$ S 18 B T.

54.30 Main wash, 200 lks. wide, course $S.30^{\circ}E.$

79.80 To cor. of secs. 17, 18, 19 and 20.

Land, rolling.

Soil, 3rd rate, gravelly.

Scattering timber.

Undergrowth, cedar, palo negro, cacti. Good grazing.

$N.0^{\circ}3'W.$, bet. secs. 17 and 18.

Over mountainous land; ascend gradually through scattering cedar, palo negro, and cacti.

22.00 Wash, 20 lks. wide, course $S.30^{\circ}E.$

8.00 Wash, 30 lks. wide, course $S.30^{\circ}W.$

10.30 Wash, 20 lks. wide, course $S.30^{\circ}E.$

28.60 Wash, 50 lks. wide, course $S.30^{\circ}W.$

32.20 Wash, 50 lks. wide, course $S.30^{\circ}E.$

36.25 Wash, 50 lks. wide, course $S.30^{\circ}W.$

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 18 in W., and

S 17 in E. half, and raise a mound of stone 2 ft.

base, $1\frac{1}{2}$ ft. high, W. of cor.

80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for cor. of secs. 7, 8, 17 and 18, marked on brass cap,

T 21 N R 13 W in N. half;

S 7 in NW.,

S 8 in NE.,

S 17 in SE., and

S 18 in SW. quadrants; and dig pits $24 \times 18 \times 12$ ins.,

in each sec. $5\frac{1}{2}$ ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

A sharp granite peak brs. NE., about 25 chs.

Land, rolling, broken, mountainous.

Soil, 3rd rate, gravelly.

No timber.

Undergrowth, scrub oak, cedar, cacti, palo negro.

At this cor. at 12h. 13m. p.m., 1.m.t., I set off $17^{\circ}13\frac{1}{2}'S.$ on the decl. arc, and observe the sun on the meridian.

The resulting lat. is $35^{\circ}13'N.$

$N.89^{\circ}58'E.$, on a random line, bet. secs. 8 and 17.

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

Chains.

- 80.10 Intersect N. and S. line at point 5 lks. N of cor. of secs. 8, 9, 16 and 17; whence I run, West, on a true line, bet. secs. 8 and 17. Over mountainous land; ascend steep NE. slope, over large boulders, through dense palo negro and other brush.
- 20.00 Top of ascent; descend.
- 24.00 Descend abruptly, 50 ft., thence descend precipitously.
- 40.05 Set a malpais stone 18x12x6 ins., 12 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
- 44.00 Gulch, 50 lks. wide, course SW.; ascend SE. slope.
- 52.00 Top of S. slope of granite peak; descend SW. slope.
- 80.10 To cor. of secs. 7, 8, 17 and 18. Land, mountainous, broken. Soil, 3rd rate, stony. No timber. Undergrowth, scrub oak, cedar, palo negro, cacti.

- S. 89°59'W., on a random line, bet. secs. 7 and 18.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 79.45 Intersect W. bdy. of Tp. at point 2 lks. N. of cor. of secs. 7, 12, 13 and 18; whence I run, N. 89°58'E., on a true line, bet. secs. 7 and 18. Over broken, rolling land, through scattering cedar, palo negro and cacti. Good grass in places.
- 23.30 Wash, 30 lks. wide, course SE.
- 32.60 Main wash, 150 lks. wide, course S. 30°E.
- 38.20 Wash, 30 lks. wide, course SW.
- 39.45 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 7 in N., and S 18 in S. half; and raise a mound of stone 2 ft. high, 2 ft. base, N. of cor.
- 56.80 Wash, 30 lks. wide, course S. 30°W.
- 79.45 To cor. of secs. 7, 8, 17 and 18. Land, rolling, broken. Soil, 3rd rate, gravelly. No timber. Undergrowth, cacti, scrub oak, cedar, palo negro. Feb. 1, 1911.

- Feb. 2, 1911.
- At 8h. a.m., 1.m.t., at the cor. of secs. 11, 12, 13 and 14, I set off 35°13'N. on the lat. arc, and 16°57 $\frac{1}{2}$ 'S. on the decl. arc, and determine a true meridian with the solar; thence I run, N. 0°1'W., bet. secs. 11 and 12. Over broken, rolling land, through scattering cedars and other brush.
- 14.00 Foot of descent, draw, course SW.; ascend.
- 20.00 Top of low ridge, brs. NE. and SW.; descend.
- 24.00 Wash, 50 lks. wide, course SW.; 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 11 in W., and S 12 in E. half; from which, A cedar tree 6 ins. diam., brs. S. 77 $\frac{3}{4}$ °W., 142 lks. dist., marked $\frac{1}{4}$ S 11 B T. No other bearings available. Dig pits 18x18x12 ins. N. and S. of cor., 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
- 58.00 Top of low ridge, brs. NE. and SW.; descend.
- 71.00 Wash, 40 lks. wide, course SW.; ascend through dense cedar.

24. Subdivision of Township 21 North, Range 13 West.

Chains.

- 80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 1, 2, 11 and 12, marked on brass cap,
 T 21 N, R 13 W in N. half;
 S 2 in NW.,
 S 1 in NE.,
 S 12 in SE., and
 S 11 in SW. quadrants, from which,
 A cedar tree 9 ins. diam., brs. S. 65° W., 38 lks. dist., marked T 21 N, R 13 W S 11 B T.
 A cedar tree 6 ins. diam., brs. S. 27½° E., 39 lks. dist., marked T 21 N, R 13 W S 12 B T.
 A cedar tree 9 ins. diam., brs. N. 26° W., 16 lks. dist., marked T 21 N R 13 W S 2 B T.
 A cedar tree 6 ins. diam., brs. N. 78¾° E., 85 lks. dist., marked T 21 N, R 13 W S 1 B T.
- Land, rolling, broken.
 Soil, 3rd rate, gravelly, some lime.
 Cedar timber; few cedar posts.
 Undergrowth, cedar, palo negro, cacti.

-
- East, on a random line, bet. secs. 1 and 12.
 40.00 Set temp. ¼ sec. cor.
 79.97 Intersect E. bdy. of Tp. at cor. of secs. 1, 6, 7 and 12.
 Whence I run,
 West, on a true line, bet. secs. 1 and 12.
 Over broken, rough, hilly land, through scattering cedar.
 39.98½ Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,
 ¼ S 1 in N. half, and
 S 12 in S. half, and raise a mound of stone 2 ft. base, 1½ ft. high, N. of cor.
 45.75 Top of ridge, brs. NE. and SW.; descend, and enter dense cedars.
 54.00 Wash, 20 lks. wide, course SW.; ascend.
 66.00 Top of rise, brs. SW. and NE.; descend.
 79.97 To cor. of secs. 1, 2, 11 and 12.
 Land, heavily rolling, broken.
 Soil, 3rd rate, gravelly.
 Cedar timber. Few cedar posts.
 Undergrowth, cedar, cacti. Fair grazing.
 At this cor. at 12h. 13m. p.m., l.m.t., I set off 16° 56' S. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 35° 14' N.

-
- N. 0° 1' W., on a random line, bet. secs. 1 and 2.
 40.00 Set temp. ¼ sec. cor.
 79.95 Intersect N. bdy. of Tp. at point 5 lks. E. of cor. of secs. 1, 2, 35 and 36. Whence I run,
 S. 0° 3' E., on a true line, bet. secs. 1 and 2.
 Over broken, rolling land, through scattering cedar.
 11.00 Wash, 10 lks. wide, course SW.
 39.95 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,
 ¼ S 2 in W., and
 S 1 in E. half, from which,
 A cedar tree 7 ins. diam., brs. S. 86¼° E., 91 lks. dist., marked ¼ S 1 B T.
 A cedar tree, 6 ins. diam., brs. S. 40½° W., 217 lks. dist., marked ¼ S 2 B T.
- Descend gradually.
 41.00 Draw, 4 chs. wide, course SW.; ascend gradually.
 49.00 Top of rise; descend.
 52.00 Gulch, 30 lks. wide, course SW.; ascend.

Chains.

60.00 Ridge brs. SE. and NW.; descend.
 69.00 Draw, course W.; ascend.
 77.00 Top of rise; descend gradually.
 79.95 To cor. of secs. 1, 2, 11 and 12.
 Land, rolling, broken.
 Soil, 2nd and 3rd rate, sandy, gravelly.
 Scattering timber.
 Undergrowth, scattering cedar. Fair grazing.
 Feb. 2, 1911.

Feb. 3, 1911.

At 8h. a.m., 1.m.t., at the cor. of secs. 10, 11, 14 and 15,
 I set off $35^{\circ}13'N.$ on the lat. arc, and $16^{\circ}40'S.$ on
 the decl. arc, and determine a true meridian with the
 solar.

Thence I run,

$N.0^{\circ}1'W.$, bet. secs. 10 and 11.

Over broken, rolling land, through scattering cedar.

Ascend precipitously.

3.50 Top of bluff, brs. NW. and SE.

4.80 Top of ridge, brs. NW. and SE.; road to ranch brs. NW. and
 SE.

5.50 Descend steep NE. slope.

9.00 Foot of steep slope; descend gradually.

10.00 Ascend.

13.00 Top of point of ridge, brs. NW. and SE.; descend.

24.50 Center of wash, Little Sandy, 100 lks. wide, course SE.

Ascend over stony hilly 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 10 in W., and

S 11 in E. half, from which,

A cedar tree 6 ins. diam., brs. $S.67^{\circ}E.$, 131 lks. dist.,
 marked $\frac{1}{4}$ S 11 B T.

A cedar tree, 16 ins. diam., brs. $S.85\frac{1}{4}^{\circ}W.$, 261 lks.
 dist., marked $\frac{1}{4}$ S 10 B T.

56.50 Top of bank of Little Sandy, 15 ft. high, brs. NE. and SW.

56.75 Foot of bank.

58.00 Wash, Little Sandy, 150 lks. wide, course SW.

61.50 Road, Hackberry-Sandy, brs. NW. and SE.

Ascend over rolling valley of Little Sandy.

80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the
 ground for cor. of secs. 2, 3, 10 and 11, marked on
 brass cap,

T 21 N, R 13 W in N. half;

S 3 in NW.,

S 2 in NE.,

S 11 in SE., and

S 10 in SW. quadrants, and dig pits 24x18x12 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, rolling, broken.

Soil, 3rd rate, sandy, gravelly.

Scattering timber.

Undergrowth, cedar.

Fair grazing.

$S.89^{\circ}59'E.$, on a random line, bet. secs. 2 and 11.

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

79.98 Intersect N. and S. line at point 2 lks. N. of cor. of secs.
 1, 2, 11 and 12; whence I run,

$N.89^{\circ}58'W.$, on a true line, bet. secs. 2 and 11.

Over rolling, broken, land; ascend through scattering cedar.

Chains.

- .75 Top of rise, descend.
 39.99 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 2 in N., and S 11 in S. half, from which
 A cedar branch 14 ins. diam., brs. N. 48° W., 212 lks. dist., marked $\frac{1}{4}$ S 2 B T.
 A cedar tree 6 ins. diam., brs. S. 61 $\frac{1}{4}$ ° E., 329 lks. dist., marked $\frac{1}{4}$ S 11 B T.
 43.50 Draw, 4 chs. wide, course SW.; ascend.
 63.50 Ridge, brs. NE. and SW.; descend.
 79.50 Enter valley.
 79.98 To cor. of secs. 2, 3, 10 and 11.
 Land, rolling.
 Soil, 3rd rate, gravelly.
 Scattering timber; few cedar posts.
 Undergrowth, scattering cedar, cacti. Good grazing.
 Clouds obscure the sun at noon. Impossible to observe latitude.

- N. 0° 3' W., on a random line, bet. secs. 2 and 3.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 79.96 Intersect N. bdy. of Tp. at point 2 lks. E. of cor. of secs. 2, 3, 34 and 35; whence I run, S. 0° 4' E., on a true line, bet. secs. 2 and 3.
 Over rolling land, in valley.
 39.96 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 3 in W., and S 2 in E. half; and dig pits 18x18x12 ins. N. and S. of cor. 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 46.00 Little Sandy Wash, 50 lks. wide, course S. 15° E.
 71.00 Little Sandy Wash 50 lks. wide, course S. 10° W.
 79.96 To cor. of secs. 2, 3, 10 and 11.
 Land, rolling.
 Soil, 2nd rate, sandy, gravelly.
 No timber or undergrowth.
 Good grazing.

Feb. 3, 1911.

Feb. 4, 1911. Rainy, stormy all day. No field work.

Feb. 5, 1911.

- At 8h. a.m., 1 m. t., at the cor. of secs. 9, 10, 15 and 16, I set off 35° 13' N. on the lat. arc, and 16° 5' S. on the decl. arc, and determine a true meridian with the solar.
 Thence I run, N. 0° 2' W., bet. secs. 9 and 10.
 Over rough, rolling land, through scattering cedar and palo negro, and other brush.
 8.80 Gulch, 50 lks. wide, course NE.
 20.20 Wash, 15 lks. wide, course SE.; 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 9 in W., and S 10 in E. half; dig pits 18x18x12 ins. N. and S. of cor. 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 Ranch house of David Kayser brs. S. 23° E.
 Ascend over rough hilly land.

Subdivision of Township 21 North, Range 13 West.

37.

Chains.

- 60.60 Ridge, brs.E.and W.; descend abruptly to gulch, 100 ft. deep.
- 65.00 Gulch, course E.; ascend.
- 70.72 Ridge, brs.E.and W.; descend.
- 80.00 Set an iron post 3 ft. long, 2 ins.diam. 24 ins. in the ground for cor. of secs. 3, 4, 9 and 10, marked on brass cap,
 T 21 N, R 13 W in N.half;
 S 4 in NW.,
 S 3 in NE.,
 S 10 in SE., and
 S 9 in SW. quadrants, and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor.
 Land, mountainous, broken.
 Soil, 3rd rate, stony, gravelly,
 No timber.
 Undergrowth, scattering cedar, cacti, etc.
-
- S.89° 59' E., on a random line, bet. secs.3 and 10.
- 40.00 Set temp. ¼ sec.cor.
- 80.00 Intersect N.and S. line at point 2½ lks.S.of cor.of secs. 2, 3, 10 and 11; whence I run,
 West, on a true line, bet. secs.3 and 10
 Over level valley land.
- 1.80 Center of Little Sandy Wash, 150 lks.wide, course S.
- 4.30 Road, Hackberry-Sandy, brs.N.and S.
- 5.66 Road to Kayser's Ranch, brs.NE.and SW.
 Leave valley; ascend rough rocky hills.
- 35.80 Descend.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec.cor., marked on brass cap,
 ¼ S 3 in N., and
 S 10 in S.half, from which,
 A cedar tree 8 ins.diam., brs.N.76°W., 73 lks. dist., marked ¼ S 3 B T.
 A cedar tree 8 ins.diam., brs.S.103 lks.dist., marked ¼ S 10 B T.
- 44.00 Draw, course SE.; ascend.
- 80.00 To cor.of secs.3,4,9 and 10.
 Land, mountainous, broken, rolling,
 Soil, 2nd and 3rd rate, sandy, gravelly, stony.
 Scattering timber.
 Undergrowth, scattering cedar, cacti. Fair grazing.
 At this cor. at 12h.13m.p.m., 1.m.t., I set off 16°3½'S.on the decl.arc, and observe the sun on the meridian; the resulting lat.is 35° 14'N.
-
- N.0°4' W., on a random line bet. secs.3 and 4.
- 40.00 Set temp. ¼ sec.cor.
- 80.02 Intersect N.bdy. of Tp. at point 3 lks.E. of cor. of secs. 3, 4, 33 and 34; whence I run,
 S.0°5'E., on a true line, bet. secs.3 and 4.
 Over rough, broken, mountainous land; ascend, through scattering cedar.
- 34.25 Top of E. point of malpais ridge, brs.E.and W.; descend.
- 40.02 Set an igneous stone 20x12x8 ins., 15 ins. in the ground for ¼ sec.cor., marked ¼ on W.face, and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor.
- 50.00 Gulch, 50 lks.wide, course N.60°E.
- 79.00 Gulch, course E.; ascend.
- 80.02 To cor. of secs. 3, 4, 9 and 10.
 Land, mountainous.

28. Subdivision of Township 21 North Range 13 West.

Chains.

Soil, 3rd rate, gravelly.
 No timber.
 Undergrowth, scattering cedar. Fair grazing in places.
 Feb. 5, 1911.

Feb. 6, 1911.

At 8h. a.m., 1.m.t., at the cor. of secs. 8, 9, 16 and 17,
 I set off $35^{\circ}13'N.$ on the lat. arc; and $15^{\circ}47'S.$ on the
 decl. arc, and determine a true meridian with the solar.

Thence I run,
 $N.0^{\circ}3'W.$, bet. secs. 8 and 9.

Descend steep N. slope of mountain, through dense brush
 and palo negro.

- 15.00 Gulch, 30 lks. wide, course SE.; ascend steep.
 22.88 Top of steep ascent; ascend gradually.
 40.00 Top of point, brs. SE. and NW.; descend gradually.
 Set a malpais stone 20x12x6 ins. on bedrock, in mound of
 stone for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face, and raise a
 mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 Impracticable to set iron post.
 48.00 Gulch, 50 lks. wide, course SE.; ascend.
 66.00 Top of ridge, brs. $N.80^{\circ}W.$ and $S.80^{\circ}E.$
 72.00 Gulch, course E.; ascend.
 80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the
 ground for cor. of secs. 4, 5, 8 and 9, marked on brass cap,
 $T\ 21\ N,$ $R\ 13\ W$ in N. half
 $S\ 5$ in NW.,
 $S\ 4$ in NE.,
 $S\ 9$ in SE., and
 $S\ 8$ in SW. quadrants, and raise a mound of stone
 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 Land, rough, mountainous.
 Soil, 3rd rate, stony.
 No timber.
 Undergrowth, scattering cedar.
 Fair grazing.

- $S.89^{\circ}57'E.$, on a random line, bet. secs. 4 and 9.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.04 Intersect N. and S. line at point 7 lks. S. of cor. of secs.
 3, 4, 9 and 10; whence I run,
 West, on a true line, bet. secs. 4 and 9.
 Over rolling broken, stony land; ascend NE. slope of ridge,
 through dense palo negro and other brush.
 36.00 Top of ascent; descend NW. slope.
 40.02 Set a malpais stone 24x14x10 ins., 18 ins. in the ground
 for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound
 of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
 Impracticable to set iron post.
 53.00 Head of gulch, course N.; at 2 chs. N. turns E.; ascend.
 72.65 Top of ridge, brs. NW. and SE., ends 10 chs. SE.
 80.04 To cor. of secs. 4, 5, 8 and 9.
 Land, mountainous.
 Soil, 3rd rate, stony.
 No timber.
 Undergrowth, scattering cedar, palo negro.
 Fair grazing.
 At this cor. at 12h. 14m. p.m., 1.m.t., I set off $15^{\circ}45'S.$,
 on the decl. arc, and observe the sun on the meridian.
 The resulting lat. is $35^{\circ}14'N.$

Subdivision of Township 21 North, Range 13 West.

29.

Chans.

N.0°5'W., bet. secs.4 and 5, on a random line.

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

80.20 Intersect N.bdy;of Tp. at point 9 lks.E. of cor.of secs. 4,5,32 and 33; whence I run, S.0°9'E., bet .secs. 4 and 5.

Over mountainous land, along stony E.slope; descend gradually.

5.00 Canyon,400 ft. deep, course ENE.; ascend abruptly.

14.00 Top of steep ascent; continue to ascend.

23.00 Top of ridge, brs.E.and W.; descend.

37.00 Gulch,500 ft. deep, course SE.; ascend NE. slope.

40.20 Set a malpais stone 14x12x12 ins. on bed-rock, in mound of stone for $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on W.face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high,W.of cor.

Impracticable to set,iron post.

41.00 Ascend precipitous NE.slope.

46.00 Top of steep ascent; continue to ascend.

50.00 Top of spur, brs.SE,and NW.

53.00 Edges of bluff, brs.SE,and NW.; descend precipitously.

65.00 Foot of precipitous descent.

80.20 To cor.of secs.4,5,8 and 9.

Land, mountainous, very rough.

Soil, 3rd rate, gravelly, stony.

No timber.

Undergrowth, cedar, palo negro.

Fair grazing.

Feb. 6, 1911.

Feb. 7, 1911.

At 8h. a.m., 1.m.t., at the cor. of secs. 7,8,17 and 18, I set off 35°13'N. on the decl.arc, and 15° 28'S.on the decl.arc, and determine a true meridian with the solar

Thence I run,

N.0°3'W., bet. secs.7 and8.

Over mountainous land; ascend through scattering palo negro.

5.00 Ascend steep, rough granite hill.

10.00 Top of hill, continue to ascend diagonally SW. slope, through dense brush, over granite boulders.

27.00 Top of ridge, brs.NE.and SW.; descend.

39.00 Gulch, brs.S.70°W.; 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-7 in W., and S 8 in E.half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high,W.of cor.

40.20 Top of ridge, brs.E.and W.;descend.

50.00 Gulch, course W.; ascend.

69.00 Top of ridge, brs.E.and W.; descend.

76.60 Gulch, course S.75°W., ascend.

80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 5,6, 7 and 8, marked on brass cap,

T 21 N, R 13 W in N.half;

S 6 in NW.,

S 5 in NE.,

S 8 in SE., and

S 7 in SW. quadrants, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high,W.of cor.

Land, rough, mountainous.

Soil, 3rd rate, stony.

No timber.

Undergrowth, cedar, palo negro, and other brush,

Fair grazing in places.

30. Subdivision of Township 21 North, Range 13 West.

Chains.

- East, on a random line, bet. secs. 5 and 8.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.14 Intersect N. and S. line at point 14 lks. S. of cor. of secs. 4, 5, 8 and 9; whence I run, S. $89^{\circ}54'W.$, on a true line, bet. secs. 5 and 8. Over mountainous land; ascend steep stony E. slope of mountains, through scattering cedar and palo negro.
- 17.00 Gulch, course SE.; ascend steep NE. slope.
- 40.07 Set a malpais stone $24 \times 15 \times 8$ ins., 18 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Impracticable to set iron post.
- 49.00 Top of ridge, 800 ft. above cor., brs. N. and S.
- 49.30 Edge of bluff of ridge, brs. N. and S.; descend precipitously over volcanic shale.
- 80.14 To cor. of secs. 5, 6, 7 and 8:
Land, mountainous, broken, stony.
Soil, 3rd rate, stony.
No timber.
Undergrowth, scattering cedar, palo negro, and other brush.
Fair grazing on mesas to N. and S. of line.
At this cor. at 12h. 14m. p.m., 1.m.t., I set off $15^{\circ}27'S.$ on the decl. arc, and observe the sun on the meridian. The resulting lat. is $35^{\circ}14'N.$

- S. $89^{\circ}58'W.$, on a random line, bet. secs. 6 and 7.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 79.40 Intersect W. bdy. of Tp. at point 3 lks. N. of cor. of secs. 1, 6, 7 and 12; whence I run, N. $89^{\circ}57'E.$, on a true line, bet. secs. 6 and 7. Over heavily rolling land, through dense palo negro, and other brush.
- 39.40 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
- 53.00 Wash, 200 lks. wide, course S.
- 79.40 To cor. of secs. 5, 6, 7 and 8.
Land, rolling, broken.
Soil, 2nd and 3rd rate, gravelly, stony.
No timber.
Undergrowth, scrub oak, palo negro, cedar and other brush.
Fair grazing.

- N. $0^{\circ}9'W.$, on a random line, bet. secs. 5 and 6.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.08 Intersect N. bdy. of Tp. at point 7 lks. E. of cor. of secs. 5, 6, 31 and 32; whence I run, S. $0^{\circ}12'E.$, on a true line, bet. secs. 5 and 6. Over mountainous land, along broken W. slope.
- 4.00 Draw, course WSW.
- 40.08 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 6 in W., and S 5 in E. half, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Proceed over rolling, rocky hills, through dense brush.
- 50.00 Ascend.
- 58.60 Top of ridge, brs. E. and W.; descend.
- 67.00 Gulch, course W.; ascend.
- 80.00 To cor. of secs. 5, 6, 7 and 8.
Land, mountainous, broken.
Soil, 3rd rate, stony, gravelly.
No timber.

Chains.

Undergrowth, scattering cedar, palo negro.
Fair grass.

Feb. 7, 1911.

GENERAL DESCRIPTION.

This township is composed of rough foot-hills, rough granite and malpais mountains, and the narrow valleys of the Big Sandy and its tributaries. The hills in the eastern portion are of granite formation, and produce a fair growth of bunch grass, though they contain no water.

The narrow valley of the Big Sandy flows in a southerly direction east of the center. This valley contains no living water. The mountains between the Big Sandy and its main tributary to the west are composed both of granite and malpais. In secs. 21, 22, 27 and 28, there are numerous small springs. In the SW. quarter of sec. 10 is the ranch house of David Kayser, at which is a large spring of pure water. West of the mountains is a narrow valley of the main tributary of the Big Sandy, extending between rough foot-hills on either side, and containing no living water. This township is chiefly valuable for grazing purposes.

W. J. ...
U. S. Transitman.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by W. O. Secor

Transition
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 subdivisitional lines surveyed under Group 9.

showing the respective capacities in which they acted:

Theodore Alden, Geo. Ely, Norman Cotte and Sidney Waitz, Chainman.

Waitz, Chainman.

Chas. J. Schwartz, Sidney Waitz and Theodore Alden, Moundman.

Alden, Moundman.

Gus Waitz, Axman.

Elmer Welch, Axman.

and Paul Dial, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted W. O. Secor

Transition
United States ~~Deputy Surveyor~~, in surveying all those parts or portions of the Subdivisitional lines surveyed under Group 9.

of the Gila and Salt River Base & meridian, Ter. 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.

Norman Cotte, Chainman.

Sidney Waitz, Chainman.

B. J. Schwartz, Moundman.

Theodore Alden, Moundman.

Gus Waitz, Axman.

Elmer Welch, Axman.

Paul Dial, Flagman.

Subscribed and sworn to before me this 18th day of May, 1901



W. O. Secor
U.S. Transition

6333

BOOK 2302 FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, W. O. Secor, United States Deputy Surveyor, do solemnly swear that, in pursuance of ^{instructions} a contract received from Frank S. Ingalls, United States Surveyor General for Arizona, bearing date of the 16th day of Sept., 1900, 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 subdivision lines embraced under Group 9 - Arizona

of the G. S. R. meridian, in the County 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.

Subscribed by said W. O. Secor, and sworn to before me }
this 28th day of July, 1901 }
W. O. Secor United States Deputy Surveyor.
Frank S. Ingalls

E. H. Owen, Clerk, U. S. District Court,
Southern District of California,
By E. H. Owen Deputy



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Ariz. March 25, 1902

The foregoing field notes of the survey of the subdivision lines of P21 N. R13W., G. S. R. Meridian, Arizona

executed by W. O. Secor U. S. Deputy Surveyor under his contract No. 9, dated Sept. 16, 1900, 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.