

<sup>4-679.</sup>  
Subdivisional  
Book H.

FIELD NOTES BOOK 2378

NOV. 24. 1913

OF THE SURVEY OF THE

Subdivisional Lines of T18N191900.

Of the *Silver Lake River Base and* Meridian,  
*Arizona*

AS SURVEYED BY

*William D. Alexander*, United States Deputy Surveyor,

Under his Contract No. *156*, dated *May 26*, 1909

Survey commenced *December 18*, 1911

Survey completed *January 1*, 1912.

BOOK 2378

For NAMES AND DUTIES OF ASSISTANTS.

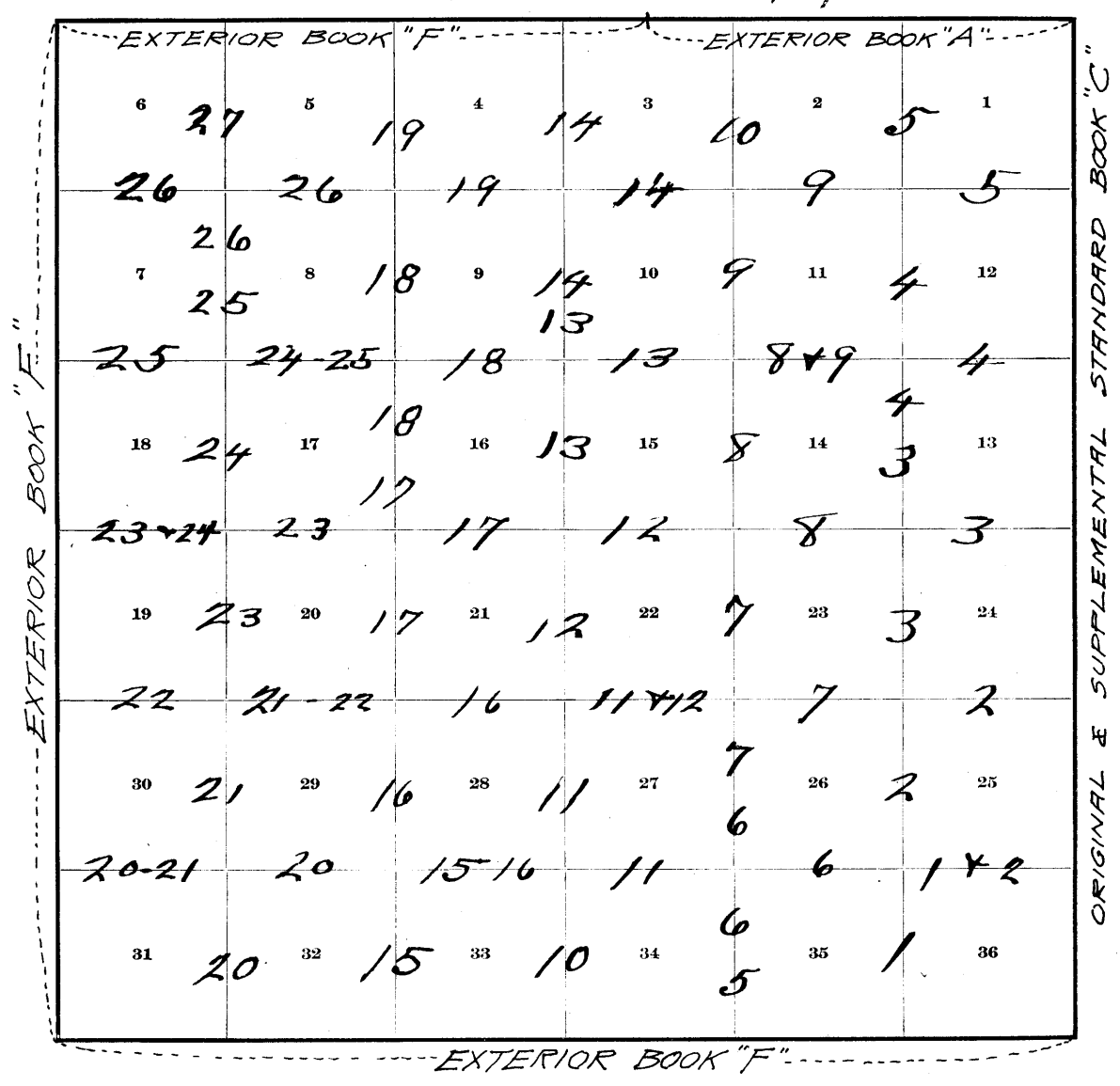
See Subdivisional Books "B" & "G"

A series of horizontal dashed lines for recording names and duties of assistants.

BOOK 2378

# INDEX DIAGRAM.

Township 18 N, Range 19 W



Meanders Page

WE, \_\_\_\_\_ and \_\_\_\_\_  
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 \_\_\_\_\_

\_\_\_\_\_, *Chainman.*

\_\_\_\_\_, *Chainman.*

Subscribed and sworn to before me this \_\_\_\_\_ }  
day of \_\_\_\_\_, 19 \_\_\_\_\_ }



WE, \_\_\_\_\_ 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 \_\_\_\_\_

\_\_\_\_\_, *Moundman.*

\_\_\_\_\_, *Moundman.*

Subscribed and sworn to before me this \_\_\_\_\_ }  
day of \_\_\_\_\_, 19 \_\_\_\_\_ }



WE, \_\_\_\_\_ 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 \_\_\_\_\_

\_\_\_\_\_, *Axman.*

\_\_\_\_\_, *Axman.*

Subscribed and sworn to before me this \_\_\_\_\_ }  
day of \_\_\_\_\_, 19 \_\_\_\_\_ }



I, \_\_\_\_\_, 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 \_\_\_\_\_

\_\_\_\_\_, *Flagman.*

Subscribed and sworn to before me this \_\_\_\_\_ }  
day of \_\_\_\_\_, 19 \_\_\_\_\_ }



Subdivision of Township 18 North, Range 19 West.

Chains.

Survey commenced December 18, 1911, and was executed with a Young and Sons' light mountain transit No. 7520, the horizontal limb having two double verniers placed opposite to each other, and reading to single minutes of arc, which is also the least reading of the latitude and declination arcs.

The instrument was examined, tested on the true meridian at Phoenix, Arizona, found correct, and approved by the U. S. Surveyor General, June 25, 1904.

I commence at the cor. of secs. 1, 2, 35 and 36 on the S. bdy. of the township, recently established and described by me. Lat. 34° 53' 57" N.; long. 114° 13' 29" W.

At 4h. 0m. p.m., l.m.t., I set off 23° 19 1/2' S. on the decl. arc; 34° 54' N. on the lat. arc, and determine a meridian with the Smith Solar Attachment to this instrument. I mark the line thus determined by a tack driven in a stake about five chains north of my station.

December 18, 1911.

December 19, 1911. At 1h. 37m. a.m., l.m.t., I observe Polaris at its western elongation in accordance with the instructions in the Manual, and mark the line thus determined by a tack driven in a stake set about five chains north of my station.

At 8h. 0m. a.m., l.m.t., I turn off the azimuth of Polaris 1° 25 1/2' to the east, and mark true meridian by a tack driven in the stake set yesterday by solar observation. The solar meridian by p.m. observation is 1/4 of an inch east of the true meridian.

At 9h. 0m. a.m., l.m.t., I set off 34° 54' N. on the lat. arc; 23° 22 1/2' S. on the decl. arc, and determine a meridian with the solar, and find that this line falls one eighth of an inch west of the true meridian. I conclude after a thorough examination of the plate bubbles and the standard adjustments of the instrument which I find correct, that the entire instrument is in satisfactory adjustment.

Thence I run, N. 0° 04' W. between secs. 35 and 36.

Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus brush.

Ascend.

11.50 Spur bears W. Descend along cliffs and ledges generally sloping to the west.

40.00 Set a malpais stone 12x15x24 ins., 18 ins. in the ground for the 1/4 sec. cor., marked 1/4 on the W. face, and raise a mound of stones 3 ft. base, 1 1/2 ft. high, W. of cor.

Pits impracticable.

Ascend.

58.00 Sharp rocky spur, bears W. Descend.

80.00 Rock in place 4x6x4 ft. above ground, marked with a cross (x) at the exact cor. point, notch on the S. and E. sides for cor. of secs. 25, 26, 35 and 36, and raise a mound of stones 3 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

Land, extremely mountainous, and covered with loose rock. Soil, 4th rate, rocky.

Scattering greasewood and cactus brush.

No grass.

Mountainous land, covered with loose rock, and exceptionally difficult to survey, 80.00 Chains.

Thence I run, N. 89° 57' E., on a random line, between secs. 25 and 36.

40.00 Set a temp. 1/4 sec. cor.

80.02 Intersect the 5th. Guide Meridian West, 7 lks N. of the cor. of secs. 25, 30, 31 and 36, recently established

## 2. Subdivision of Township of Township 18 North, Range 19 W.

Chains.

and described by me.

Thence I run,  
West, on a true line, between secs. 25 and 36.  
Over extremely mountainous land, covered with loose rock,  
scattering greasewood and cactus brush.

Descend steep slope.

22.00 Wash, 50 lks. wide, course NNW. in canyon; ascend.

33.00 Rock ridge, bears NW. and SE. Descend.

38.00 Small wash, 10 lks. wide, course NW. Ascend.

40.01 Set a malpais stone 10x15x15 ins., 10 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits  
impracticable.

49.40 Spur, bears N. Descend.

50.20 Gulch, course N. Ascend.

52.50 Spur, bears N. Descend.

55.00 Gully, course N. Ascend.

58.00 Spur bears NNW. Descend.

65.00 Gully, bears north; ascend.

74.50 Rocky spur, bears N. Descend.

80.02 The cor. of secs. 25, 25, 35 and 36, hereinbefore described.

Land, extremely mountainous.

Soil, 4th rate, rocky.

Surface covered with loose rock and boulders; scattering  
greasewood and cactus brush.

No grass.

Mountainous land, covered with loose rock and boulders,  
and exceptionally difficult to survey, 80.02 chs.

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At noon, at the above cor., I set off  $23^{\circ}23\frac{1}{2}'S$  on the decl.  
arc, and observe the sun on the meridian. The result-  
ing latitude reading is  $34^{\circ}55'N$ .

Thence I run,

N.  $0^{\circ}04'W$ . between secs. 25 and 26.Over extremely mountainous land, covered with loose rock  
and malpais boulders, scattering greasewood and cactus  
brush. Descend.

5.00 Wash, 40 lks. wide, course SW. in canyon. Ascend.

31.00 Top of bench bears NE. and SW. of the canyon rim.

Continue ascent.

40.00 Set a malpais stone, 10x12x24 ins., 18 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise  
a mound of stones, 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.Thence over sharply rolling land, covered with malpais  
rocks.

64.00 Descend.

70.00 Wash, 20 lks. wide, course NW. in rocky gorge; ascend.

80.00 Set a malpais stone, 6x9x17 ins., 12 ins. in the ground  
for the cor. of secs. 23, 24, 25 and 26, marked with 2  
notches on the S. and 1 notch on the E. edges, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.

Land mountainous, and covered with boulders.

Soil, 4th rate, stony.

Scattering greasewood and cactus brush,

Scattering grass.

Mountainous land, covered with boulders, and exception-  
ally difficult to survey, 80.00 chs.-----

Thence I run,

East, on a random line, between secs. 24 and 25.

40.00 Set temp.  $\frac{1}{4}$  sec. cor.80.00 Intersect the 5th Guide Meridian West at the cor. of secs.  
19, 24, 25 and 30, recently reestablished and described  
by me.

Thence I run,

West, on a true line, between secs. 24 and 25.

Mountainous land covered with malpais boulders and dense

Subdivision of Township 18 North, Range 19 West.

3.

Chains.

undergrowth of greasewood and cactus.  
 Descend into deep gorge.  
 10.00 Wash, 20 lks. wide, course N. in deep gorge. Ascend.  
 28.00 Spur, bears NE. Descend.  
 32.00 Small gulch, course NE. Ascend.  
 40.00 Set a malpais stone 10x10x12 ins., 8 ins. in the ground  
 for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
 a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
 Pits impracticable.  
 60.00 Top of ascent, over rolling land; descending.  
 80.00 The cor. of secs. 23, 24, 25 and 26, hereinbefore described.  
 Land, mountainous and rolling; covered with boulders.  
 Soil, 4th rate, stony.  
 Dense undergrowth of greasewood and cactus.  
 No grass.  
 Mountainous land, covered with dense undergrowth, 60.00  
 chs.  
 Rolling land, covered with dense undergrowth, 80.00 chs.  
 Mountainous land, and land covered with dense undergrowth  
 and boulders, and exceptionally difficult to survey,  
 86.00 chs.  
 December 19, 1911.

December 20, 1911.  
 Thence I run,  
 N. 0° 04' W. between secs. 23 and 24.  
 Ascend over mountainous land, covered with dense greasewood  
 and cactus, undergrowth, and covered with boulders.  
 12.50 Top; descend.  
 39.50 Wash, 20 lks. wide, course NE.  
 Ascend.  
 40.00 A malpais stone (boulder) in place 20x20x18 ins. above  
 ground, marked cross (x) at the cor. point,  $\frac{1}{4}$  on the  
 W. face for the  $\frac{1}{4}$  sec. cor., and raise a mound of stones  
 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Descend.  
 54.00 Draw, course NNW. Ascend.  
 80.00 Set a malpais stone 8x10x15 ins., 10 ins. in the ground,  
 for the cor. of secs. 13, 14, 23 and 24, marked with 3  
 notches on the S. and 1 notch on the E. edges, and  
 raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of  
 cor. Pits impracticable.  
 Land, mountainous, covered with boulders.  
 Dense undergrowth of greasewood and cactus.  
 Soil, 4th rate, stony.  
 Some grass dried.  
 Mountainous land, covered with boulders and brush, and  
 exceptionally difficult to survey, 80.00 chains.

At 9h. On, a.m., 1.m.t., at the above cor., I set off 34°  
 56 $\frac{1}{2}$ ' N. on the lat. arc; 23° 23 $\frac{1}{2}$ ' S. on the decl. arc,  
 and determine a meridian with the solar.  
 Thence I run,  
 East, on a random line, between secs. 13 and 24.  
 40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
 89.94 Intersect the 5th. Guide Meridian West, 2 lks. S. of the  
 cor. of secs. 13, 18, 19 and 24, recently reestablished  
 and described by me.  
 Thence I run,  
 S. 89° 59' W. on a true line, between secs. 13 and 24.  
 Over extremely mountainous land, covered with malpais  
 rock; scattering greasewood and cactus brush.  
 Descend.  
 21.00 Wash, 50 lks. wide, course N. Ascend.  
 39.97 Set a malpais stone 10x10x12 ins., 8 ins. in the ground  
 for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
 a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
 Pits impracticable.  
 Continue ascent.

## 4. Subdivision of Township 18 North, Range 19 West.

Chains.

- 79.94 The cor. of secs. 13, 14, 23 and 24, hereinbefore described. Land, mountainous, covered with boulders. Soil, 4th rate, stony. Scattering greasewood and cactus brush, and very little grass. Mountainous land, covered with boulders and exceptionally difficult to survey, 79.94 chs.
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- Thence I run,  
N. 0° 04' W., between secs. 13 and 14.  
Over mountainous land, covered with malpais boulders, scattering greasewood and cactus brush.  
Descend.
- 1.25 Wash, 15 lks. wide, course NNE. Ascend.
- 5.00 Descend.
- 23.00 Wash, 60 lks. wide, course E. Ascend steep mountain side.
- 40.00 Set a malpais stone 20x20x24 ins., 18 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- 48.00 Top of flat top mountain.  
Descend.
- 57.50 Rocky gorge course E. Ascend.
- 63.00 Spur, bears E. Descend.
- 80.00 Set a sandstone rock 7x7x18 ins., 12 ins. in the ground for the cor. of secs. 11, 12, 13 and 14, marked with 4 notches on the S. and 1 notch on the E. edges, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable. Cor. on NE. slope of high mountain.  
Land, extremely mountainous, and covered with boulders and loose rock, scattering greasewood and cactus brush. Soil, 4th rate, rocky.  
No grass.  
Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chs.
- 
- Thence I run,  
N. 89° 59' E., on a random line, between secs. 12 and 13.
- 40.00 Set a temp.  $\frac{1}{4}$  sec. cor.
- 79.20 Intersect the 5th Guide Meridian West, 3 lks. S. of the cor. of secs. 7, 12, 13 and 18; recently reestablished and described by me.
- Thence I run,  
S. 89° 58' W., on a true line, between secs. 12 and 13.  
Over rolling and mountainous land, covered with boulders, and dense brush of greasewood and cactus, and some oakshaw.
- Ascending over rolling land.
- 39.95 Set a porphyry stone 12x12x20 ins., 15 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable. Ascend NE. slope of mountain; leave dense brush.
- 79.90 The cor. of secs. 11, 12, 13 and 14, hereinbefore described. Sharply rolling land, covered with dense undergrowth, 39.95 chs. Mountainous land, covered with scattering brush, 39.95 chs. Surface covered with boulders and loose rock. Soil, 4th rate, stony.  
No grass.  
Mountainous land, covered with boulders, or land covered with dense undergrowth and boulders, and exceptionally difficult to survey, 79.90 chains.
- 
- At noon, at the above cor., I set off 23° 24' S. on the decl. arc, and observe the sun on the meridian. The



Subdivision of Township 18 North Range 19 West.

Chains.

resulting latitude reading is  $4^{\circ}57\frac{1}{2}'N$ .  
 Thence I run,  
 $N.0^{\circ}04'W.$ , between secs. 11 and 12.  
 Descending mountainous land, covered with boulders and scattering greasewood and cactus undergrowth.  
 Land slopes to the NE.  
 18.50 Rocky gulch, course NE. Ascend.  
 22.50 Spur, bears NE. Descend.  
 40.00 Set a sandstone rock  $2\frac{1}{2} \times 2 \times 20$  ins., 15 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 44.30 Wash, 15 lks. wide, course E. Ascend.  
 55.00 Broad spur bears E. Descend.  
 80.00 Set a malpais stone  $8 \times 12 \times 20$  ins., 15 ins. in the ground for the cor. of secs. 1, 2, 11 and 12, marked with 5 notches on the S. and 1 notch on the E. edges, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, 4th rate, covered with boulders. Scattering greasewood and cactus brush,  
 Mountainous land, covered with boulders, and exceptionally difficult to survey, 80.00 chs.

Thence I run,  
 $N.89^{\circ}58'E.$ , on a random line, between sec. 1 and 12.  
 40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
 80.00 Intersect the 5th. Guide Meridian West, 7 lks. N. of the cor. of secs. 1, 6, 7 and 12, recently established and described by me.  
 Thence I run,  
 $N.89^{\circ}59'W.$  on a true line, between secs. 1 and 12.  
 Over rolling land covered with dense undergrowth of greasewood, cactus and catsclaw.  
 Surface covered with malpais boulders.  
 Gradually ascending.  
 40.00 Set a malpais stone  $6 \times 8 \times 1\frac{1}{2}$  ins., 10 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.  
 80.00 The cor. of secs. 1, 2, 11 and 12, hereinbefore described.  
 Land, gently rolling.  
 Soil, 3rd rate, covered thickly with malpais boulders. Dense undergrowth of greasewood, cactus, and catsclaw.  
 Land, covered with undergrowth, dense and with malpais boulders, and difficult to survey, 80.00 chs.  
 December 20, 1911.

December 21, 1911.  
 Thence I run,  
 $N.0^{\circ}04'W.$ , on a random line, between secs. 1 and 2.  
 40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
 77.85 Intersect the N. bdy. of the Tp., 2 lks. west of the cor. of secs. 1, 2, 35 and 36, previously established and described by me.  
 Thence I run,  
 $S.0^{\circ}03'E.$ , on a true line, bet. secs. 1 and 2.  
 Over rolling land, covered with dense undergrowth of greasewood, cactus and catsclaw.  
 Surface covered with malpais boulders.  
 Descend.  
 9.50 Wash, 20 lks. wide, in gulch, course NEE. Ascend.  
 11.00 Descend.  
 13.50 Wash, 60 lks. wide, course NE. Ascend.  
 23.00 Descend.  
 32.00 Draw, course E.; ascend.  
 37.85 Set a malpais stone  $5 \times 8 \times 1\frac{1}{2}$  ins., 12 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise

6. Subdivision of Township 18 North, Range 19 West, 1888

Chains.

a mound of stones 3 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

45.00 Ridge, bears E. and W. Descend.

75.00 Draw, course SE. Ascend.

77.85 The cor. of secs. 1, 2, 11 and 12, hereinbefore described. Land, rolling, covered with malpais boulders. Soil, 3rd rate, stony. Dense undergrowth of greasewood, cactus, and catclaw. Scattering grass, very dry. Rolling land, covered with dense undergrowth and boulders and exceptionally difficult to survey, 77.85 chs.

Then I proceed to the cor. of secs. 3, 3, 34 and 35 on the S. bdy. of the Tp., recently established and described by me.

At this cor. at noon, I set off 23° 25 1/2' S. on the decl. arc, and observe the sun on the meridian. The resulting latitude reading is 34° 54' N.

Thence I run, N. 0° 04' W., between secs. 34 and 35. Over extremely mountainous land, covered with loose rock and malpais boulders, scattering greasewood and cactus brush. Ascend steep bank of canyon slope to the SE.

20.00 Top of rim; thence flatter ascent.

40.00 A malpais stone or boulder in place 24x18 ins. x 3 ft. above ground, marked cross (x) at the corner point, 1/4 on the W. face, and raise a mound of stone 3 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable. Continue ascent.

80.00 Set a malpais stone 6x6x15 ins., 10 ins. in the ground for the cor. of secs. 26, 27, 34 and 35, marked with 1 notch on the S. and 2 notches on the E. edges, and raise a mound of stones 3 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable. Land, extremely mountainous, and covered with boulders. Soil, 4th rate, stony. Scattering greasewood and cactus brush. No grass. Mountainous land, covered with boulders and exceptionally difficult to survey, 80.00 chs.

Thence I run, N. 89° 57' E. on a random line, between secs. 26 and 35.

40.00 Set a temporary sec. cor.

80.04 The cor. of secs. 25, 26, 35 and 36 hereinbefore described, brs. S. 9 lks. Thence I run, N. 89° 59' W. on a true line, between secs. 26 and 35. Over extremely mountainous land covered with loose rock and boulders; scattering greasewood and cactus brush. Descend.

6.60 Wash, 20 lks. wide in canyon, course SW. Ascend.

31.00 Sharp spur, bears SW. Descend precipitous slope.

37.70 Witness corner. Set a malpais stone 6x8x14 ins., 10 ins. in the ground as a witness corner to the 1/4 sec. cor., marked 1/4 on the N. face, and W. C. on the NE. side, and raise a mound of stones 3 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

40.02 Point for 1/4 sec. cor. is in wash of deep canyon, course S., width, 300 lks.; and fringed with large boulders and loose rock, impracticable to perpetuate. Ascend over loose sliding rock.

52.00 Top of high ridge, bears N. and S. Descend.

68.00 Wash, 50 lks. wide, in canyon, course SE. Ascend.

80.04 The cor. of secs. 26, 27, 34 and 35, hereinbefore described. Land, extremely mountainous, and covered with loose rock and boulders. Scattering greasewood and cactus brush.

Chains.

Soil, 4th rate, stony.  
 No grass.  
 Mountainous land, covered with loose rock, and exceptionally difficult to survey, 80.04 chains.  
 December 21, 1911.

December 22, 1911.

Thence I run,  
 N. 0° 04' W., between secs. 26 and 27.  
 Over mountainous land, covered with boulders; scattering greasewood and cactus brush.

Ascend.

55.00 Descend into canyon. Descend over sliding rock.

10.20 Wash, 20 lks. wide, in canyon, course E.

Ascend over sliding rock.

35.00 Ridge, bears E. and W. Descend over sliding rock into canyon.

40.00 Bench of firm rock. Set a malpais stone 10x10x14 ins. 10 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Continue descent over boulders.

48.00 Wash, 40 lks. wide in canyon, course E. Ascend.

50.00 Spur brs. SW. Descend.

53.00 Wash, 20 lks. wide, course SW. in canyon; ascend.

58.00 Spur bears E. Descend.

66.20 Wash, 35 lks. wide, course SE. in same canyon as at 53.00. Ascend steep slope, covered thickly with boulders.

80.00 Set a sandstone rock, 8x13x20 ins., 15 ins. in the ground for the cor. of secs. 22, 23, 26 and 27, marked with 2 notches on the S. and E. edges, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Corner is situated on a SW. slope.

Land extremely mountainous, covered with boulders and loose rock.

Soil, 4th rate, stony.

Scattering greasewood and cactus

No grass.

Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chs.

At 9h. Am. a.m., 1. m. t., at the above cor., I set off 23° 25' S. on the decl. arc; 34° 55 $\frac{1}{2}$ ' N. on the lat. arc, and determine a meridian with the solar.

Thence I run,

S. 89° 59' E. on a random line, between secs. 23 and 26.

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

80.02 The cor. of secs. 23, 24, 25 and 26, hereinbefore described, brs. 9 lks. N.

Thence I run,

S. 89° 57' W. on a true line, between secs. 23 and 26, over mountainous land, covered with boulders; scattering greasewood and cactus brush.

Descend.

12.00 Wash, 15 lks. wide, course NNW. in canyon; ascend.

40.02 A malpais stone (boulder) in place 14x16x10 ins. above ground, marked on the N. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.

Continue ascent.

68.00 Broad ridge, bears NW. and SE. Descend.

80.02 The cor. of secs. 22, 23, 26 and 27, hereinbefore described.

Land, mountainous, covered with malpais boulders.

Soil, 4th rate, stony.

Scattering greasewood and cactus brush.

Scattering grass extremely dry.

Mountainous land, covered with boulders and exceptionally difficult to survey, 80.02 chs.

## 8. Subdivision of Township 36 North, Range 19 West.

Chains.

- Thence I run,  
N. 0° 04' W., between sections 22 and 23.  
Over mountainous land, covered with malpais boulders,  
scattering greasewood and cactus brush, with occasion-  
al yucca plant.
- Ascend.  
20.00 Top of high ridge, elevation approximately 3500 feet above  
sea level.
- Descend.  
40.00 Set a malpais stone 8x10x14 ins., 10 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.
- Commence abrupt descent into deep canyon.  
61.40 Wash, 40 lks. wide, course E., in deep canyon. Ascend  
steep slope.
- 80.00 Set a malpais stone 12x15x18 ins., 12 ins. in the ground  
for the cor. of secs. 14, 15, 22 and 23, marked with 3  
notches on the S. and 2 notches on the E. edges, and  
raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.
- Land, extremely mountainous and covered with boulders.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus brush, and yucca plant.  
Scattering dry grass.  
Mountainous land, covered with boulders, and exceptionally  
difficult to survey, 80.00 chs.
- 
- At noon, at the above cor., I set off 23° 25' 18" on the  
decl. arc, and observe the sun on the meridian. The  
resulting lat. reading is 34° 56' 1" N.
- Thence I run,  
N. 89° 57' E. on a random line, between secs. 14 and 23.  
40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
80.04 The cor. of secs. 13, 14, 23 and 24, hereinbefore described,  
hrs. 3.2 lks.
- Thence I run,  
S. 89° 58' W. on a true line, between secs. 14 and 23.  
Over rolling land, covered with boulders; slope is to  
the NNE.  
Land covered with dense greasewood, cactus and catsclaw  
brush.
- Ascending gradually.  
3.00 Wash, 10 lks. wide, course NE.  
9.00 Low ridge, bears NNE and SSW.  
Descend.
- 13.00 Wash, 25 lks. wide, course NNE. Ascend.  
25.00 Enter mountainous land. Ascend steep slope; enter scat-  
tering brush.
- 40.02 Set a malpais stone 7x10x22 ins., 17 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
Pits impracticable.
- $\frac{1}{4}$  sec. cor. on steep slope fronting east. Continue ascent.  
59.00 Slope changes from east to south.  
80.04 The cor. of secs. 14, 15, 22 and 23, hereinbefore described.  
Rolling land, covered with boulders and dense greasewood,  
cactus and catsclaw brush, 25.00 chs.  
Mountainous land, covered with boulders and scattering  
greasewood, cactus and catsclaw brush, 55.00 chs.  
No grass.  
Soil, 4th rate, stony,  
Land, covered with boulders and dense undergrowth, or  
mountainous land covered with boulders, and exception-  
ally difficult to survey, 80.04 chs.
- 
- Thence I run,  
N. 0° 04' W. between secs 14 and 15

Chains.

Over mountainous land, covered with boulders, scattering greasewood and cactus brush.  
Ascend.  
12.00 Ridge, bears E. and W. Descend.  
23.00 Descend abruptly canyon rim, bears E. and W.  
40.00 Set a malpais stone 10x10x18 ins., 12 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high N. of cor.  
Pits impracticable.  
Continue steep descent.  
70.00 Wash, 15 lks. wide, course E. Ascend.  
76.50 Spur bears E.; descend.  
80.00 Set a porphyry stone, 6x8x18 ins., 12 ins. in the ground for the cor. of secs. 10, 11, 14 and 15, marked with 4 notches on the E. and 2 notches on the N. edges, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, extremely mountainous.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus brush.  
Surface covered with boulders and loose rock, no grass.  
Mountainous land covered with boulders & loose rock & exceptionally difficult to survey 80.00 chs.  
December 22, 1911.

December 23, 1911.

Thence I run,  
N. 89° 58' E., on a random line, bet. secs. 11 and 14.  
40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
79.98 The cor. of secs. 1, 2, 11 and 12, hereinbefore described, brs. 3.5 lks.  
Thence I run,  
West, on a true line, between secs. 11 and 14.  
Over mountainous land, covered with boulders; scattering undergrowth of greasewood, cactus, catsclaw.  
Ascend rocky NNE. slope.  
14.00 Spur bears N. from mountain. High point of the mountain is about 5 chs. SE.  
Descend.  
39.99 Set a malpais stone 7x9x15 ins., 10 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, N. of cor.  
Pits impracticable.  
Enter rolling land, covered with dense greasewood, and continue descent.  
56.00 Wash, 10 lks. wide, course SE. Ascend.  
79.98 Cor. of secs. 10, 11, 14 and 15, hereinbefore described.  
Land, mountainous and rolling, covered with boulders.  
Soil, 4th rate, stony.  
Dense undergrowth of greasewood. No grass.  
Mountainous land, covered with boulders 40.00 chains.  
Rolling land, covered with boulders and dense greasewood brush, 39.98 chains.  
Mountainous land covered with boulders or rolling land, covered with boulders and dense brush, and exceptionally difficult to survey, 79.98 chains.

At 9h. On a.m., 1.m.t., at the above cor., I set off 23° 24' S. on the decl. arc; 34° 57' N. on the lat. arc, and determine a meridian with the solar.

Thence I run,  
N. 0° 04' W., between secs. 10 and 11.  
Over gently rolling land, covered with boulders and dense greasewood, cactus and catsclaw undergrowth.  
Along easterly slope.  
21.00 Wash, 5 lks. wide, course E. Ascend.  
29.00 Drainage divide, bears E. and W. Descend.  
40.00 Set a malpais stone, 8x10x13 ins., 9 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, W. of cor.

## 10. Subdivision of Township 18 North, Range 19 West.

Chains.

- Pits impracticable.  
Ascend.
- 43.00 Spur bears W. Descend.  
45.00 Wash, 5 lks. wide, course NE. Ascend.  
50.00 Ridge bears E. and W. Descend.  
80.00 Set a malpais stone 6x8x14 ins., 10 ins. in the ground for the cor. of secs. 2, 3, 10 and 11, marked with 5 notches on the S. and 2 notches on the E. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.  
Rolling land, covered with malpais boulders.  
Dense undergrowth of greasewood, cactus, and catsclaw.  
Soil, 3rd rate, stony.  
Scattering dry grass.  
Land, covered with boulders and dense undergrowth, and exceptionally difficult to survey, 80.00 chs.
- 
- Thence I run, on a random line, between secs. 2 and 11.  
East, on a random line, between secs. 2 and 11.  
40.00 Set a temp. ¼ sec. cor.  
79.98 The cor. of secs. 1, 2, 11 and 12, hereinbefore described, bears S. 2 lks.  
Thence I run,  
N. 89° 59' W., on a true line, between secs. 2 and 11.  
Over mountainous land covered with boulders and loose rock; scattering greasewood and cactus brush.  
Ascend.
- 25.00 Rock spur, bears NE. Descend.  
39.99 Set a malpais stone 6x8x14 ins., 10 ins. in the ground for the ¼ sec. cor., marked ¼ on the N. face, and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
- 40.40 Wash, 10 lks. wide, course NE. in gulch; ascend.  
61.25 High ridge, rock, bears N. and S. Descend.  
68.50 Wash, 10 lks. wide, course N. in gulch. Ascend.  
79.98 The cor. of secs. 2, 3, 10 and 11, hereinbefore described.  
Land, mountainous, and covered with boulders.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus brush.  
Hoggrass.  
Mountainous land, covered with boulders, and exceptionally difficult to survey, 79.98 chs.
- 
- At noon, at the above cor., I set off 23° 25½' S. on the decl. arc, and observe the sun on the meridian. The resulting lat. reading is 34° 58½' N.
- Thence I run,  
N. 0° 04' W. between secs. 2 and 3, on a random line.  
40.00 Set a temp. ¼ sec. cor.  
77.90 Intersect the N. bdy. of the township, 2 lks. west of the corner of secs. 2, 3, 34 and 35, previously established and described by me.  
Thence I run,  
S. 0° 03' E., on a true line, between secs. 2 and 3.  
Over mountainous land, covered with rock and boulders; scattering greasewood and cactus brush.  
Ascend.
- 18.00 Red ridge, bears SE. and NW. Descend.  
37.90 Set a malpais stone 6x9x14 ins., 10 ins. in the ground for the ¼ sec. cor., marked ¼ on the W. face, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
- 42.00 Wash, 10 lks. wide, course E. in gulch. Ascend.  
55.00 Rocky spur, bears E. Descend.  
66.00 Wash, 100 lks. wide, course E. Enter dense greasewood, catsclaw, and cactus.  
72.00 Wash, 100 lks. wide, course NEE.  
77.50 Wash, 40 lks. wide, course NE.



Chains.

77.90 Cor. of secs. 2, 3, 10 and 11, hereinbefore described.  
Land, mountainous and covered with boulders and rock.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus undergrowth, 66.00 chs.  
Dense greasewood, catsclaw, and cactus undergrowth, 11.90  
chs.  
Mountainous land, covered with boulders, and exceptionally  
difficult to survey, 77.90 chs.

December 23, 1911.

-----  
December 24, 1911.

I then proceed to the cor. of secs. 3, 4, 33 and 34 on the  
S. bdy. of the township recently established and de-  
scribed by me.

Thence I run,

N. 0° 05' W., bet. secs. 33 and 34.

Ascending over extremely mountainous land, covered with  
malpais boulders, scattering greasewood and cactus  
brush.

5.00 Descend.  
10.00 Wash, 8 lks. wide, course SW. Ascend.  
15.00 Descend.  
22.50 Wash, 15 lks. wide, course SW. Ascend very steep slope  
fronting to the SE.  
40.00 Set a porphyry stone 10x14x20 ins., 15 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.  
Continue steep ascent.  
47.50 Ascent becomes less abrupt.  
80.00 Set a malpais stone 7x14x18 ins., 12 ins. in the ground  
for the cor. of secs. 27, 28, 33 and 34, marked with 1  
notch on the S. and 3 notches on the E. edges, and  
raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of  
cor. Pits impracticable.  
Land, extremely mountainous, and covered with boulders  
and rock.  
Soil, 4th rate and stony.  
Scattering greasewood and cactus brush.  
Scattering dry grass.  
Mountainous land, covered with boulders and rock, and  
exceptionally difficult to survey, 80.00 chains.

-----  
At 9h. 00m. a.m., 1 m.t., at the above cor., I set off 23°  
24' S. on the decl. arc; 34° 55' N. on the lat. arc, and  
determine a meridian with the solar.

Thence I run,

N. 89° 57' E. on a random line, bet. secs. 27 and 34.

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

80.06 The cor. of secs. 26, 27, 34 and 35 hereinbefore described,  
brs. S. 14 lks.

Thence I run,

N. 89° 57' W., on a true line, between secs. 27 and 34.

Over mountainous land, covered with malpais boulders,  
scattering greasewood and cactus brush.

Ascend.

25.00 Descend.

35.30 Rocky gorge 10 lks. wide, course S. Ascend.

37.00 Spur bears S. Descend.

38.90 Wash, 10 lks. wide, course SE. in rocky gorge. Ascend.

40.03 Set a malpais stone, 6x6x12 ins., 8 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and  
raise a mound of stone 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of  
cor. Pits impracticable.

Continue ascent.

80.06 The cor. of secs. 27, 28, 33 and 34, hereinbefore described.

Land, mountainous.

Soil, 4th rate, stony.

## 12. Subdivision of Township 18 North, Range 19 West.

Chains.

Scattering greasewood and cactus undergrowth.  
Surface covered with malpais boulders.  
No grass.  
Mountainous land, covered with boulders, and exceptionally difficult to survey, 80.06 chs.

Thence I run,  
N. 0° 05' W. on a line, between secs. 27 and 28.

Over mountainous land, covered with malpais rocks, scattering greasewood and cactus brush.

- 6.00 Descend steep slope, fronting NW.  
30.00 Rocky gulch, course W. Ascend.  
38.60 Witness corner. Set a malpais stone 10x14x16 ins., 11 ins. in the ground for a witness corner to the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, W. of cor. I also mark the stone W C on the NE. side near the top.  
40.00 Point for the  $\frac{1}{4}$  sec. cor. comes on sliding bank of boulders sloping to the west. Impracticable to perpetuate corner here.  
Descend.  
44.00 Enter canyon wash, 200 lks. wide, course SSW.  
Thence up rough canyon wash, covered with boulders.  
62.00 Leave canyon wash, 100 lks. wide, course S. from NE. Ascend abruptly..  
80.00 Set a porphyry stone 10x10x30 ins., 23 ins. in the ground for the cor. of secs. 21, 22, 27 and 28, marked with 2 notches on the S. and 3 notches on the E. edges, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, extremely mountainous, covered with loose rock and boulders.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus brush.  
No grass.  
Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chs.

At noon, at the above cor., I set off 23° 25' S. on the decl. arc, and observe the sun on the meridian. The resulting latitude reading is 34° 55 $\frac{1}{2}$ ' N.

Thence I run,  
S. 89° 57' E., on a random line, between secs. 22 and 27.

- 40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
80.04 The cor. of secs. 22, 23, 26 and 27, hereinbefore described, bra. N. 2 lks.

Thence I run,  
N. 89° 58' W., on a true line, between secs. 22 and 27.

Descend over mountainous land, covered with malpais boulders, scattering greasewood and cactus undergrowth.

- 8.00 Wash, 15 lks. wide, course SSE. Ascend.  
40.02 Set a malpais stone 7x10x24 ins., 18 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.  
Descend.  
64.00 Draw, course SE.; ascend.  
80.04 The cor. of secs. 21, 22, 27 and 28, hereinbefore described.  
Land, mountainous, covered with boulders.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus brush.  
No grass.  
Mountainous land, covered with boulders, and exceptionally difficult to survey, 80.04 chains.

Thence I run,  
N. 0° 05' W., between secs. 21 and 22.



## Subdivision of Township 18 North, Range 19 West.

13.

|         |   |
|---------|---|
| Chains. | Over rolling land, covered with malpais boulders, and dense undergrowth of greasewood and cactus.<br>Descend.   |
| 36.50   | Wash, 10 lks. wide, course E. Ascend.   |
| 40.00   | Set a malpais stone 6x9x21 ins., 16 ins. in the ground for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the W. face, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.  |
| 50.00   | Descend.  |
| 80.00   | Set a malpais stone 7x9x24 ins., 18 ins. in the ground for the cor. of secs. 15, 16, 21 and 22, marked with 3 notches on the E. and S. edges, 18 N on the NE., and 19 W on the SE. faces; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.<br>Land, rolling.<br>Surface covered with malpais boulders.<br>Soil, 4th rate, stony.<br>Dense undergrowth of greasewood, and cactus, with some yucca plant.<br>Scattering dry grass.<br>Land, covered with boulders and dense undergrowth, and exceptionally difficult to survey, 80.00 chs.<br>December 24, 1911. |
| -----   |   |
|         | December 25, 1911.<br>Thence I run,<br>S. 89° 58' E., on a random line, bet. secs. 15 and 22,   |
| 40.00   | Set a temp. $\frac{1}{4}$ sec. cor.   |
| 80.04   | The cor. of secs. 14, 15, 22 and 23, brs. N. 5 lks.<br>Thence I run,<br>West on a true line, between secs. 15 and 22.<br>Over mountainous land, near top of south slope, scattering greasewood and cactus brush.<br>Surface covered with boulders and loose rock.<br>Ascend.  |
| 29.890  | Spur bears S. Descend.  |
| 37.00   | Wash, 15 lks. wide, course SSE in canyon. Ascend.   |
| 40.02   | Ptr. for $\frac{1}{4}$ sec. cor. falls on steep sliding bank, impracticable to perpetuate.  |
| 46.80   | Witness corner. Set a malpais stone 7x9x18 ins., 12 ins. in the ground for a witness corner to $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the N. face, W. C on the NE. side near the top, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.   |
| 80.04   | Continue ascent along S. bank of wash about 300 lks. dist. The cor. of secs. 15, 16, 21 and 22. hereinbefore described.<br>Land, mountainous, covered with boulders and loose rocks.<br>Soil, 4th rate, stony.<br>Scattering greasewood and cactus undergrowth.<br>No grass.<br>Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.04 chains.  |
| -----   |   |
|         | Thence I run,<br>N. 0° 05' W., between secs. 15 and 16.<br>Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus brush.<br>Descend.   |
| 2.00    | Wash, 10 lks. wide, course E. Ascend.   |
| 23.00   | Top of high ridge, bears E. and W. Descend.   |
| 30.00   | Head of draw, course E. Ascend.   |
| 40.00   | Set a malpais stone 10x12x13 ins., 9 ins. in the ground for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the W. face, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.   |
| 47.00   | Ridge, bears E. and W. Descend precipitous slope to the north.  |
| 76.00   | Wash, 25 lks. wide, course E. Ascend.   |
| 80.00   | Set a malpais stone 5x15x22 ins., 17 ins. in the ground   |

## 14. Subdivision of Township 18 North, Range 19 West.

Chains.

- for the cor. of secs. 9, 10, 15 and 16, marked with 3 notches on the E. and 4 notches on the S. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
- Corner situated on top of a ridge, bears E. and W. Land, extremely mountainous, and covered with boulders and loose rock.
- Soil, 4th rate, stony.
- Scattering greasewood and cactus brush.
- No grass.
- Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chs.
- 
- Thence I run,  
East, on a random line, between secs. 10 and 15.
- 40.00 Set a temp. ¼ sec. cor.
- 80.02 The cor. of secs. 10, 11, 14 and 15, brs. N. 7 lks.
- Thence I run,  
S. 89° 57' W. on a true line, between secs. 10 and 15.
- Over mountainous land, covered with boulders and scattering greasewood and cactus brush.
- Ascend slope, facing east.
- 8.50 Point from lone hill. Top about 300 lks. NW.
- Descend SW. slope.
- 40.01 Set a malpais stone 9x10x23 ins., 18 ins. in the ground for the ¼ sec. cor., marked ¼ on the N. face, and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
- 47.00 Wash, 10 lks. wide, course NEE. Ascend.
- 56.00 Spur bears NNE. Descend.
- 62.00 Wash, 125 lks. wide, course NEE. Ascend.
- 80.02 The cor. of secs. 9, 10, 15 and 16, hereinbefore described.
- Land, mountainous and covered with boulders.
- Soil, 4th rate, stony.
- Scattering greasewood and cactus brush.
- No grass.
- Mountainous land, covered with boulders and exceptionally difficult to survey, 80.02 chs.
- 
- At noon, at the above cor., I set off 23° 23½' S. on the decl. arc, and observe the sun on the meridian. The resulting lat. reading is 34° 57½' N.
- Thence I run,  
N. 0° 05' W., between secs. 9 and 10.
- Over mountainous land, covered with boulders; scattering greasewood and cactus brush, with some catclaw.
- Descend.
- 9.00 Draw, course NE. Ascend.
- 16.00 Descend.
- 25.00 Wash, 20 lks. wide, course SE. Ascend.
- 34.00 Saddle, bears E. and W. Butte about 600 lks. E. Descend.
- 40.00 Set a sandstone rock, 8x14x18 ins., 12 ins. in the ground for the ¼ sec. cor., marked ¼ on the W. face, and raise a mound of stone 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
- 41.00 Head of gully, course NE. Ascend.
- 45.00 Spur bears NE. Descend.
- 52.00 Gulch, course NEE. Ascend.
- 61.00 Spur, bears E. Descend.
- 67.00 Wash, 150 lks. wide, course E. Ascend.
- 76.00 Spur bears SSE. Descend.
- 80.00 Set a malpais stone 8x10x20 ins., 15 ins. in the ground for the cor. of secs. 3, 4, 9 and 10, marked with 3 notches on the E. and 5 notches on the S. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
- Land, mountainous and covered with boulders.
- Soil, 4th rate, stony.

Chains.

Heavy undergrowth of catslaw, cactus, and greasewood.  
No grass.  
Mountainous land, covered with boulders and brush, and exceptionally difficult to survey, 80.00 chs.

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Thence I run,  
N. 89° 57' E., on a random line, between secs. 3 and 10.  
40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
80.02 The cor. of secs. 2, 3, 10 and 11, hereinbefore described,  
brs. 2 lks. S.  
Thence I run,  
S. 89° 58' W. on a true line, between secs. 3 and 10.  
Over sharply rolling land, covered with boulders and  
dense catslaw, cactus, and greasewood undergrowth.  
0.50 Wash, 30 lks. wide, course NE.  
22.50 Wash, 50 lks. wide, course NEE.  
35.00 Wash, 100 lks. wide, course NEE. Ascend.  
40.01 Set a malpais stone 10x10x14 ins., 10 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
Pits impracticable.  
Continue ascent.  
51.50 Spur brs. S. Descend.  
61.00 Gulch, 5 lks. wide, course SW. Ascend.  
65.00 Spur brs. S. Descend.  
68.00 Small alkali spring 200 lks. S.  
68.30 Wash, 8 lks. wide, course SSE. in gulch.  
72.00 Wash, 100 lks. wide, course SE. Ascend.  
75.00 Small ridge, brs. N. and S. Descend.  
78.00 Wash, 200 lks. wide, course SE.  
80.02 Cor. of secs. 3, 4, 9 and 10, hereinbefore described.  
Land, sharply rolling. Surface covered with malpais boulders.  
Soil, 4th rate, stony.  
Dense undergrowth of catslaw, cactus, and greasewood.  
No grass.  
Sharply rolling land, covered with boulders and dense  
undergrowth, and exceptionally difficult to survey,  
80.02 chs.

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At 4h. 0m. p.m., 1.m.t., at the above cor., I set off 23°  
21' S. on the decl. arc; 34° 58 $\frac{1}{2}$ ' N. on the lat. arc, and  
determine a meridian with the solar.

Thence I run,  
N. 0° 05' W., on a random line, between secs. 3 and 4.  
40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
77.85 Intersect the N. bdy. of the township, 7 lks. W. of the cor.  
of secs. 33, 34, 3 and 4, recently established and de-  
scribed by me.  
Thence I run,  
S. 0° 02' E. on a true line, between secs. 3 and 4.  
Over mountainous land, covered with malpais boulders; scat-  
tering greasewood and cactus brush,  
Ascend.  
1.00 Descend.  
21.15 Descend E. and W. bluff of flat top mountain.  
23.00 Descend steep slope, covered with malpais boulders.  
37.85 At foot of steep slope. Set a malpais stone 10x10x18 ins.  
12 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on  
the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$   
ft. high, W. of cor. Pits impracticable.  
Enter dense greasewood and cactus undergrowth.  
Continue a more gradual descent over malpais boulders.  
76.30 Wash 200 lks. wide, course SE.  
77.85 The cor. of secs. 3, 4, 9 and 10, hereinbefore described.  
Land, mountainous.  
Soil, 5th rate, stony.  
Dense greasewood and cactus undergrowth.

16. Subdivision of Township 18 North, Range 10 West.

Chains.

No grass.  
Surface covered with malpais boulders.  
Mountainous land, covered with boulders and dense undergrowth in part 77.85 chs.  
December 25, 1911.

December 26, 1911.  
I then proceed to the cor. of secs. 4, 5, 32 and 33, on the S. bdy. of the Tp., recently established and described by me.

At this cor., at 9h. On a.m., 1.m.t., I set off 34°54'N. on the lat. arc; 23°21½'S. on the decl. arc, and determine a meridian with the solar.

Thence I run, N.0°05'W., between secs. 32 and 33, Over sharply rolling land, covered with boulders; dense undergrowth of greasewood, cactus, and catsclaw.

Descend. 8.50 Wash, 10 lks. wide, course E. Ascend.

17.50 Ruins of small stone house brs. east, 12 chains. Spring carrying about 2 miners inches of warm water brs. east 17 chains. Water of fair quality, but rather alkaline.

34.00 Spur bears east. Descend.

40.00 Set a malpais stone 9x14x16 ins., 11 ins. in the ground for the ¼ sec. cor., marked ¼ on the W. face, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

42.00 Gully, course E. Ascend.

60.00 SE. point of very high mountain brs. west about 40 chs. Descend along a slope fronting east. Warm Springs Canyon wash, course south, parallels this line about 600 lks. east.

74.00 Witness corner. Set a malpais stone 6x15x18 ins., 12 ins. in the ground for the witness corner to cor. of secs. 28, 29, 32 and 33, marked with 1 notch on the S. and 4 notches on the east edges, and WC on the NE. face, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

80.00 True point for cor. of secs. 28, 29, 32 and 33 falls in Warm Springs Canyon wash, course SSE, 400 lks. wide, the corner point being situated about 100 lks. from the west bank. Impracticable to establish corner here. Land, sharply rolling; covered with boulders. Soil, 3rd and 4th rate, stony. Dense undergrowth of greasewood, cactus, and catsclaw. Sharply rolling land, covered with dense undergrowth, and boulders, and exceptionally difficult to survey, 80.00 chs.

From true point for cor. to secs. 28, 29, 32 and 33, I run, N.89°57'E., on a random line, between secs. 28 and 33.

40.00 Set a temp. ¼ sec. cor. 79.95 The cor. of secs. 27, 28, 33 and 34, hereinbefore described.

Thence I run, S.89°57'W., on a true line, between secs. 28 and 33. Descend over extremely mountainous land, covered with boulders and loose rock.

Scattering greasewood and cactus brush. 35.00 Wash, 30 lks. wide, course SW. in canyon. Ascend.

39.98 Set a malpais stone 10x16x20 ins. in the ground for the ¼ sec. cor., marked ¼ on the N. face, and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

53.00 Spur, bears SSW. Descend.

66.00 Gulch, course S. Ascend.

73.00 Spur bears S. Descend.

77.00 Enter Warm Springs Canyon wash, course SSE. Enter dense brush.

79.96 True point for cor. of secs. 28, 29, 32 and 33, hereinbefore

Chains.

described.

Land extremely mountainous, 77.00 chs.  
 Flat land, covered with dense brush, 2.96 chs.  
 Surface covered with boulders and loose rock, 79.96 chs.  
 Undergrowth of greasewood, cactus and catslaw.  
 Soil, 4th rate, stony.  
 No grass.  
 Mountainous land, or land covered with dense undergrowth,  
 the whole covered with boulders, and exceptionally  
 difficult to survey, 79.96 chs.

At noon, at the above cor. point, I set off  $23^{\circ}22'S$  on  
 the decl. arc, and observe the sun on the meridian. The  
 resulting latitude reading is  $34^{\circ}55'N$ .

Thence I run,

$N.0^{\circ}05'W.$ , between secs. 28 and 29.

Over extremely mountainous land, covered with sliding  
 rock and boulders.

Dense undergrowth, greasewood, cactus and catslaw.  
 Ascend.

4.00 Leave Warm Springs Canyon Wash. Ascend steep rough  
 slope covered with sliding rock, slope faces SW.

Leave dense undergrowth, and enter scattering of same  
 character.

30.00 Prominent rocky point on spur, bears W. Descend.

40.00 Set a sandstone boulder,  $6 \times 12 \times 18$  ins., 12 ins. in the  
 ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and  
 raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of  
 cor. Pits impracticable.

44.00 Gully, course SW. Ascend, over rough SW. slope.

80.00 Set a sandstone boulder,  $7 \times 10 \times 30$  ins., 23 ins. in the  
 ground for the cor. of secs. 20, 21, 28 and 29, marked with  
 two notches on the S. and 4 notches on the E. edges, and  
 raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of  
 cor. Pits impracticable.

Land, extremely mountainous, and covered with boulders  
 and loose rock.

Soil, 4th rate, stony.

Scattering greasewood and cactus undergrowth.

No grass.

Mountainous land, covered with boulders and loose rock,  
 and exceptionally difficult to survey, 80.00 chs.

Thence I run,

$N.89^{\circ}57'E$  on a random line, between secs. 21 and 28.

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

80.02 Cor. of secs. 21, 22, 27 and 28 hereinbefore described, bro.  
 $S.2$  lks.

Thence I run,

$S.89^{\circ}58'W.$ , on a true line, between secs. 21 and 28.

Over extremely mountainous land, covered with boulders,  
 scattering greasewood and cactus brush.

10.00 Descend steep SW. slope into deep canyon at least 500 feet  
 deep.

40.01 Set a malpais stone  $10 \times 10 \times 18$  ins., 12 ins. in the ground  
 for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
 a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
 Pits impracticable.

46.00 Wash of deep canyon, 100 lks. wide, course SAE. Ascend.  
 Steep rough slope to the NE.

76.00 Top of ridge bears SE. and NW. Descend.

80.02 The cor. of secs. 20, 21, 28 and 29, hereinbefore described.

Land, extremely mountainous, covered with boulders and  
 loose rock.

Scattering greasewood and cactus undergrowth.

Soil, 4th rate, stony.

Mountainous land, covered with boulders and loose rock,  
 and exceptionally difficult to survey, 80.02 chs.

December 26, 1911.

## 18. Subdivision of Township 18 North, Range 19 West.

Chains.

- December 27, 1911.  
Thence I run,  
N.0°05'W., between secs.20 and 21.  
Over extremely mountainous land, covered with loose rock  
and boulders.  
Scattering greasewood and cactus brush.  
Ascend.
- 5.00 High ridge, bears NW. and SE. Descend.  
35.00 Deep canyon wash, 50 lks. wide, course SE. Ascend.  
40.00 Set a malpais stone 7x11x22 ins., 17 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits  
impracticable.  
Continue ascent SW. slope.
- 73.00 Ridge, brs. NNW. and SSW. Descend.  
80.00 Set a malpais stone 7x11x18 ins., 12 ins. in the ground  
for the cor. of secs. 16, 17, 20 and 21, marked with 3 n  
notches on the S. and 4 notches on the E. edges, and  
raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.  
Land, extremely mountainous, and covered with boulders and  
loose rock.  
Soil, 4th rate, stony.  
Scattering greasewood and cactus brush.  
No grass.  
Mountainous land, covered with boulders and loose rock,  
and exceptionally difficult to survey, 80.00 chs.
- 
- At 9h. 0m., a.m., 1.m.t., at the above cor., I set off 23°  
19 $\frac{1}{2}$ ' S. on the decl. arc; 34°56 $\frac{1}{2}$ ' N. on the lat. arc, and  
determine a meridian with the solar.
- Thence I run,  
N.89°58'E., on a random line, between secs. 16 and 21.  
40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
80.00 Cor. of secs. 15, 16, 21 and 22, hereinbefore described, brs.  
S. 7 lks. dist.
- Thence I run,  
N.89°59'W., on a true line, between secs. 16 and 21.  
Ascend NE. slope over mountainous land, covered with boul-  
ders and scattering undergrowth of greasewood and cactus.
- 30.00 High ridge, bears NNW. and SSE. Descend.  
40.00 Set a malpais stone, 10x12x20 ins., 15 ins. in the ground,  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
Pits impracticable.
- 41.00 Gully: course S. Ascend.  
44.50 Spur bears S. Descend.  
49.50 Wash, course SSE. 20 lks. wide. Ascend.  
80.00 The cor. of secs. 16, 17, 20 and 21, hereinbefore described.  
Land, mountainous.  
Soil, 4th rate, stony, covered with boulders.  
Scattering greasewood and cactus undergrowth.  
No grass.  
Mountainous land, covered with boulders, and exception-  
ally difficult to survey, 80.00 chs.
- 
- Thence I run,  
N.0°05'W., between secs. 16 and 17.  
Over rolling land, covered with boulders and dense  
greasewood and cactus undergrowth.
- 30.00 Descend.  
35.00 Wash, 5 lks. wide, course E. Ascend.  
40.00 Set a malpais stone 8x10x13 ins., 9 ins. in the ground  
for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise  
a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable.
- 41.00 Small wash, 5 lks. wide, course SSE. Ascend.  
55.70 Divide, bears E. and W. Descend.



Subdivision of Township 18 North Range 19 West.

19.

|         |   |
|---------|---|
| Chains. |   |
| 74.50   | Deep gully, course E. Ascend.   |
| 80.00   | Set a malpais stone 6x11x18 ins., 12 ins. in the ground for the cor. of secs. 8, 9, 16 and 17, marked with 4 notches on the S. and E. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.                          |
|         | Soil, 4th rate, stony. Land rolling.  |
|         | Surface covered with malpais stones.  |
|         | Scattering grass.   |
|         | Dense undergrowth of greasewood and cactus.   |
|         | Land covered with boulders and dense undergrowth, and exceptionally difficult to survey, 80.00 chs.   |
| -----   |   |
|         | At noon, at the above cor., I set off 23° 21' S. on the decl. arc, and observe the sun on the meridian. The resulting lat. reading is 34° 57½' N.   |
|         | Thence I run,   |
|         | S. 89° 59' E., on a random line, between secs. 9 and 16.  |
| 40.00   | Set a temp. ¼ sec. cor.   |
| 80.02   | The cor. of secs. 9, 10, 15 and 16 hereinbefore described, brs. S. 3 lks.   |
|         | Thence I run,   |
|         | N. 89° 58' W. on a true line, between secs. 9 and 16.   |
|         | Over extremely mountainous land, covered with loose rock and malpais boulders.  |
|         | Scattering greasewood and cactus undergrowth.   |
|         | Ascend.   |
| 33.00   | Ridge, brs. NNE. and SSW. Descend.  |
| 40.01   | Set a malpais stone 8x12x14 ins., 10 ins. in the ground for the ¼ sec. cor., marked ¼ on the N. face, and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor. Pits impracticable.   |
| 44.00   | Descend steep slope, facing NW.   |
| 64.00   | Wash, 20 lks. wide, course NNE. in canyon. Ascend.  |
| 80.02   | The cor. of secs. 8, 9, 16 and 17, hereinbefore described. Land, extremely mountainous, covered with boulders and loose rock.   |
|         | Soil, 4th rate, stony.  |
|         | Scattering greasewood and cactus brush.   |
|         | No grass.   |
|         | Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.02 chs.   |
|         | December 27, 1911.  |
| -----   |   |
|         | December 28, 1911.  |
|         | Thence I run,   |
|         | N. 0° 05' W., between secs. 8 and 9.  |
|         | Over extremely mountainous land, covered with boulders and loose rock.  |
|         | Scattering greasewood and cactus brush.   |
|         | Descend.  |
| 12.00   | Deep side gully, course E. Ascend.  |
| 28.00   | Ridge, bears E. and W. Descend.   |
| 34.85   | Witness corner. Set a sandstone 5x14x22 ins., 17 ins. in the ground for the witness corner to ¼ sec. cor., marked ¼ on the W. face, W C on the NE. side near the top, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable. |
|         | Descend steep malpais bluffs, almost impassable. Course E. and W.   |
| 40.00   | Point for ¼ sec. cor. on side of cliff, 30 ft. sheer wall. Impracticable to establish cor. at this place.   |
|         | Descend over loose rock and malpais boulders.   |
| 62.40   | Deep canyon, course E., width 150 lks. Ascend.  |
| 80.00   | Set a malpais stone 8x8x15 ins., 10 ins. in the ground for the cor. of secs. 4, 5, 8 and 9, marked with 5 notches on the S. and 4 notches on the E. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.            |

## 20. Subdivision of Township 18 North, Range 19 West.

Chains.

Cor. on SW. slope of rock ridge, bears SE.  
Land, extremely mountainous, and covered with malpais  
boulders.

Soil, 4th rate, stony.

Scattering greasewood and cactus brush.

No grass.

Mountainous land, covered with boulders & exceptionally  
~~difficult to survey, 80.00 chains.~~

Thence I run,

S.89°58'E. on a random line, between secs.4 and 9.

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

80.04 The cor.of secs.3,4,9 and 10, hereinbefore described, brs.  
N. 5 lks  $\frac{1}{4}$

Thence I run,

West, on a true line, between secs. 4 and 9.

Over mountainous land, covered with boulders and loose  
rock; scattering greasewood and cactus brush.

Ascend.

20.00 Ridge, bears NW and SE. Descend.

30.00 Wash, 5 lks.wide, course SE. in gulch. Ascend.

36.00 Ridge, bears SE. Descend.

40.02 Set a malpais stone 8x10x12 ins., 8 ins. in the ground,  
for the  $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on the N.face; and raise  
a mound of stones 3 ft.base,  $1\frac{1}{2}$  ft. high, N.of cor.

Pits impracticable.

40.30 Wash, 10 lks.wide, course S. in gulch; spring with about  
1 miner's inch of water, brs.S.150 lks. Water fair,  
but alkaline.

Ascend.

66.00 High rocky spur, bears SE. Descend.

80.04 The cor.of secs. 4, 5, 8 and 9, hereinbefore described.

Land, extremely mountainous, covered with boulders and  
loose rock.

Soil, 4th rate, stony.

Scattering greasewood and cactus brush.

No grass.

Mountainous land, covered with boulders and loose rock  
and exceptionally difficult to survey, 80.04 chs.

At 10h. On. a.m., 1.m.t., at the above cor., I set off 23°  
17 $\frac{1}{2}$ 'S. on the decl.arc; 34°58 $\frac{1}{2}$ 'N. on the lat.arc, and  
determine a meridian with the solar.

Thence I run,

N.0°55'W.on a random line, between secs.4 and 5.

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

77.95 Intersect the N.bdy.of the township, 12 lks.W.of the true  
point for cor.of secs. 4, 5, 32 and 33. W.C is 500  
lks.W.

Thence I run, from true point for cor.

South on a true line, between secs.4 and 5.

Over extremely mountainous land, covered with loose rock  
and large malpais boulders.

Scattering greasewood and cactus brush.

5.00 Leave wash, course SE. Ascend steep slope of sliding  
rock.

35.20 High ridge, bears SE. and NW. Descend.

37.95 Set a malpais stone 6x8x15 ins., 10 ins. in the ground for  
the  $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on W.face, and raise a mound  
of stones 3 ft.base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits im-  
practicable.

Descend abruptly.

56.00 Draw, course SE. Ascend.

67.00 High ridge, brs. SE and NW. Descend.

77.95 The cor.of secs, 4, 5, 8 and 9, hereinbefore described on  
steep SW.slope.

Land, extremely mountainous, covered with loose rock and  
boulders.



Chains.

Soil, 4th rate, stony.  
Scattering greasewood and cactus brush. No grass.  
Mountainous land, covered with loose rock and boulders,  
and exceptionally difficult to survey, 77.95 chs.

At noon, at the above cor., I set off  $23^{\circ}17\frac{1}{2}'S$  on the decl. arc, and observe the sun on the meridian. The resulting latitude reading is  $34^{\circ}58\frac{1}{2}'N$ .  
December 28, 1911.

December 29, 1911.

I then proceed to the true point for the cor. of secs. 5, 6, 31 and 32 on the S. bdy. of the Tp., which was perpetuated by a witness corner situated 5.75 lks.  $N.89^{\circ}57'E$  as previously described by me.

From true point for cor., I run,  $N.0^{\circ}06'W$ , between secs. 31 and 32.

Over extremely mountainous land, covered with loose rock, very scattering greasewood and cactus brush.  
Ascend very steep slope.

- 4.00 Spur bears E. Descend cliffs, bear NNW. and SSE.  
20.00 Ascend along SE. slope of cliffs and loose rock, very difficult of progress.  
40.00 Set a quartz porphyry stone, 6x6x18 ins., 12 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable. This cor. is at base of cliff fronting NE.  
Descend.  
61.50 Gorge, course NW. Ascend SW. slope of high rough mountain.  
74.40 Spur bears SW. Descend.  
80.00 Set a malpais stone 6x8x18 ins., 12 ins. in the ground for the cor. of secs. 29, 30, 31 and 32, marked with 1 notch on the S. and 5 notches on the E. edges, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, extremely mountainous.  
Very precipitous slopes covered with loose rock.  
Soil, 4th rate, rocky.  
Scattering greasewood and cactus brush.  
No grass.  
Mountainous land, covered with loose rock, and exceptionally difficult to survey, 80.00 chains.

At 9h. 0m. a.m., l.m.t., at the above cor., I set off  $34^{\circ}55'N$  on the lat. arc;  $23^{\circ}14'S$  on the decl. arc, and determine a meridian with the solar.

Thence I run,  $N.89^{\circ}57'E$ , on a random line, between secs. 29 and 32.

- 40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
80.20 True point for the cor. of secs. 28, 29, 32 and 33, brs. 5 lks. S.

Thence I run,  $S.89^{\circ}59'W$  on a true line, between secs. 29 and 32.

- 1.30 Leave Warm Springs Canyon wash, course SE.  
Ascend steep slope to high mountain, covered with loose rock.  
22.50 Ascend cliffs, bear N. and S.  
40.10 Pits for  $\frac{1}{4}$  sec. cor. falls on rock slide below cliff, impracticable to perpetuate corner here.  
48.00 Ascend 75 ft. cliff, N. and S.  
48.80 Witness corner to  $\frac{1}{4}$  sec. cor., rock in place 3x3x4 ft. above ground, porphyry marked W C on the NE. side,  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of corner. Pits impracticable.  
Continue ascent over sliding rock.  
65.00 Cross top of high mountain, bears NW. and SE. This

## 22. Subdivision of Township 16 North, Range 19 West.

Chains.

- point is fully 1500 feet above cor. of secs. 28, 29, 32 and 33.  
Descend over loose rock and boulders.
- 80.20 The cor. of secs. 29, 30, 31 and 32, hereinbefore described. Land, extremely mountainous, covered with boulders and sliding rock.  
Soil, 4th rate, rocky.  
Scattering greasewood and cactus brush.  
No grass.  
Mountainous land, covered with loose rock and boulders, and exceptionally difficult to survey, 80.20 chs.
- 
- At noon, at the above cor., I set off  $23^{\circ} 14' 18''$  S. on the decl. arc, and observe the sun on the meridian; the resulting lat. reading is  $34^{\circ} 55' N$ .  
Thence I run,  
S.  $89^{\circ} 57' W$ . on a random line, between secs. 30 and 31.
- 40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
79.50 Intersect the west boundary of the township, 7 lks. S. of the cor. of secs. 28, 30, 31 and 32, recently established and described by me.  
Thence I run,  
East, on a true line, between secs. 30 and 31.  
Over extremely mountainous land, covered with boulders and sliding rock; scattering greasewood and cactus brush.  
Ascending westerly slope of high mountain.
- 39.50 Set a porphyry stone  $8 \times 8 \times 16$  ins., 11 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
Pits impracticable.  
Descend.
- 41.25 Wash, 30 lks. wide, course S. in gorge. Ascend.  
50.00 Spur, bears S. Descend.  
52.30 Wash, 10 lks. wide, course S. in canyon. Ascend.  
70.00 Spur bears S. Descend.  
76.00 Rocky gorge, course SW. Ascend.  
79.50 The cor. of secs. 29, 30, 31 and 32 hereinbefore described. Land, extremely mountainous.  
Soil, 4th rate, rocky.  
Surface covered with loose sliding rock and boulders; scattering greasewood and cactus brush.  
No grass.  
Mountainous land, covered with loose rock and boulders, and exceptionally difficult to survey, 79.50 chs.  
December 29, 1911.
- 
- December 30, 1911.  
Thence I run,  
N.  $0^{\circ} 06' W$ ., between secs. 29 and 30.  
Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus brush.  
Ascend.
- 17.00 Cross top of high mountain, bears NW. and SE. Descend steep sliding rock surface. Slope is to the NE.  
40.00 Set a malpais stone  $8 \times 10 \times 20$  ins., 15 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
Pits impracticable. Continue steep descent.
- 45.00 Gully, course NE. Ascend.  
52.00 Spur bears E. Descend.  
70.00 Wash, course E. Ascend.  
79.50 Ridge bears SSE. and NWW. Descend.  
80.00 Set a porphyry <sup>stone</sup>  $10 \times 10 \times 18$  ins., 12 ins. in the ground for the cor. of secs. 19, 20, 29 and 30, marked with 2 notches on the S. and 5 notches on the E. edges, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land extremely mountainous, and covered with boulders and rock.

Subdivision of Township 18 North, Range 19 West.

Chains.

Soil, 4th rate, stony  
 Scattering greasewood and cactus undergrowth.  
 No grass.  
 Mountainous land, covered with boulders and loose rock,  
 and exceptionally difficult to survey, 80.00 chs.

At 9h. On a.m., 1 p.m., at the above cor., I set off  $34^{\circ} 55\frac{1}{2}'N.$  on the lat. arc;  $23^{\circ} 11'S.$  on the decl. arc, and determine a meridian with the solar.

40.00 Thence I run,  
 N.  $89^{\circ} 59'E.$  on a random line, between secs. 20 and 29.  
 79.94 Set a temp.  $\frac{1}{4}$  sec. cor.  
 The cor. of secs. 20, 21, 28 and 29 hereinbefore described,  
 brs. 2 lks. S.  
 Thence I run,  
 West, on a true line, between secs. 20 and 29.  
 Over extremely mountainous land covered with boulders  
 and loose rock, scattering greasewood and cactus brush.  
 39.97 Descending steep E. bank of Warm Springs Canyon.  
 Set a porphyry stone  $9 \times 13 \times 18$  ins., 12 ins. in the ground  
 for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise  
 a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.  
 Pits impracticable.  
 47.00 Continue rough, steep descent.  
 Enter flat of Warm Springs Canyon wash, course SE. Enter  
 dense undergrowth of catsclaw, cactus and greasewood.  
 54.00 Leave flat of Warm Springs Canyon wash, course SE. Leave  
 dense undergrowth of catsclaw, cactus and greasewood.  
 Enter scattering greasewood and cactus brush.  
 Ascend steep slope fronting NE., covered with boulders  
 and loose rock.  
 70.00 Prominent spur, bears SSE. Descend.  
 75.00 Rocky gulch, course S. Ascend.  
 79.94 The cor. of secs. 19, 20, 29 and 30, hereinbefore described.  
 Extremely mountainous land, 72.94 chs., covered with  
 scattering greasewood and cactus brush.  
 Warm Springs Canyon wash, 7.00 chains, covered with dense  
 catsclaw, cactus, and greasewood brush.  
 Land, covered with boulders and loose rock, 79.94 chs.  
 Soil 4th rate, stony.  
 Scattering grass, dry and worthless.  
 Land, covered with boulders and loose rock, and lands  
 mountainous or covered with dense undergrowth, and ex-  
 ceptionally difficult to survey, 79.94 chs.

40.00 Thence I run,  
 West, on a random line, between secs. 19 and 30.  
 79.40 Set a temp.  $\frac{1}{4}$  sec. cor.  
 True point for the cor. of secs. 19, 24, 25 and 30 on the west  
 boundary of the township brs. north 5 lks. Corner has  
 been perpetuated by a witness corner, recently set by  
 me and located 100 lks. south.  
 Thence from the true point for the cor.,  
 S.  $89^{\circ} 58'E.$  on a true line, between secs. 19 and 30.  
 Over extremely mountainous land, covered with dense cats-  
 claw, cactus, and greasewood undergrowth.  
 Surface covered with boulders and loose rock.  
 Ascend.  
 5.00 Leave wash, 100 lks. wide; course turns from SWW. to W.  
 10.00 Spur bears N. Descend.  
 15.00 Enter same wash, 60 lks. wide, course WNW. Thence along  
 the south side of the same.  
 16.00 Leave same wash, course WSW. Ascend.  
 17.50 Spur bears N. Descend.

## 24. Subdivision of Township 18 North, Range 19 West.

| Chains. |   |
|---------|---|
| 28.00   | Center of same wash, 50 lks. wide, course WNW. Ascend steep mountain side. Enter scattering greasewood and cactus brush.  |
| 39.40   | Set a porphyry stone 6x6x14 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the N. face, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.<br>Continue ascent over loose rock.   |
| 45.70   | Spur bears S. Descend.  |
| 50.00   | Ascend.   |
| 57.60   | High rock ridge, bears N. and S. Descend.   |
| 70.50   | Gulch, course SE. Ascend.   |
| 74.70   | Spur bears SSE. Descend.  |
| 79.40   | The cor. of secs. 19, 20, 29 and 30, hereinbefore described. Land, extremely mountainous, and covered with boulders and loose rock.<br>Scattering greasewood and cactus brush, 51.40 chs.<br>Dense catsclaw, cactus and greasewood brush, 28.00 chs.<br>Soil, 4th rate, stony.<br>Very small amount of dry grass.<br>Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 79.40 chs.  |
| -----   |   |
|         | At noon at the above cor., I set off $23^{\circ} 11' S.$ on the decl. arc, and observe the sun on the meridian. The resulting lat. reading is $34^{\circ} 55\frac{1}{2}' N.$<br>Thence I run,<br>$N. 0^{\circ} 06' W.$ , between secs. 19 and 20.<br>Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus undergrowth.<br>Descend.   |
| 1.00    | Gully, course E. Ascend.  |
| 9.00    | Ridge, bears SSE. Descend.  |
| 36.00   | Wash, 25 lks. wide, course E. Ascend.   |
| 38.00   | Spur, bears SSE. and NWW. Descend.  |
| 40.00   | Set a malpais stone 7x12x14 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the W. face, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.<br>Descend.   |
| 57.00   | Warm Springs Canyon wash 200 lks. wide, course SSE. Ascend.   |
| 68.00   | Spur bears W. Descend.  |
| 71.00   | Ascend.   |
| 79.50   | Ascend cliff, NW. and SE., height 100 ft.   |
| 80.00   | Set a malpais stone, 6x14x15 ins., 10 ins. in the ground for the cor. of secs. 17, 18, 19 and 20, marked with 3 notches on the S. and 5 notches on the E. edges, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.<br>Land, extremely mountainous, and covered with boulders and loose rock.<br>Soil, 4th rate, stony.<br>Scattering greasewood and cactus brush; some catsclaw in the Warm Springs Canyon wash.<br>Some grass.<br>Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chains. |
| -----   |   |
|         | Thence I run,<br>East, on a random line, between secs. 17 and 20.   |
| 40.00   | Set a temp. $\frac{1}{4}$ sec. cor.   |
| 79.98   | The cor. of secs. 16, 17, 20 and 21, hereinbefore described<br>brs. 5 lks. N.<br>Thence I run,<br>$S. 89^{\circ} 58' W.$ , on a true line, bet. secs. 17 and 20.<br>Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus undergrowth.<br>Ascend.   |

Chains.

2.50 High ridge, bears NNW. and SSE. Descend.  
 24.50 Wash, 15 lks. wide, course S. Ascend.  
 39.99 Set a malpais stone, 10x12x18 ins., 12 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.  
 Ascend.  
 52.00 Ridge bears SE. and NW. Descend rough E. bank of Warm Springs Canyon.  
 79.98 The cor. of secs. 17, 18, 19 and 20, hereinbefore described. Land, extremely mountainous, and covered with boulders and loose rock.  
 Soil, 4th rate, stony.  
 Scattering greasewood and cactus brush.  
 No grass.  
 Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 79.98 chs.  
 December 30, 1911.

December 31, 1911.

Thence I run,  
 N. 89° 58' W., on a random line, between secs. 18 and 19.  
 40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
 79.20 Intersect the W. bdy. of the township, 5 lks. north of the cor. of secs. 13, 18, 19 and 24, recently established and described by me.  
 Thence I run,  
 East, on a true line, between secs. 18 and 19.  
 Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus undergrowth.  
 Descend.  
 18.00 Rocky gully, course SE. Ascend.  
 32.00 Spur, bears SE. Descend.  
 39.20 Set a porphyry stone 6x14x15 ins., 10 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.  
 Ascend.  
 39.60 Spur, bears N. Descend.  
 69.70 Warm Springs Canyon, course SE., width 100 lks.  
 Ascend.  
 78.00 Ascend cliff hrs. NW. and SE.  
 79.20 The cor. of secs. 17, 18, 19 and 20, hereinbefore described. Land, extremely mountainous, and covered with boulders and loose rock.  
 Soil, 4th rate, stony.  
 Scattering greasewood, cactus and catsclaw.  
 Scattering dry grass.  
 Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 79.20 chs.

At 9h. 0m. a.m., 1.m.t., at the above cor., I set off 23° 07' S. on the decl. arc; 34° 56 $\frac{1}{2}$ ' N. on the lat. arc, and determine a meridian with the solar.

Thence I run,  
 N. 0° 06' W., between secs. 17 and 18.  
 Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus brush.  
 Ascend.  
 39.00 Warm Springs Canyon rim, bears NW. and SE.  
 Continue ascent.  
 40.00 Set a limestone rock, 6x10x16 ins., 11 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Thence along rough westerly slope.  
 60.00 Descend.  
 72.00 Rocky spur bears W. Descend.

## BOOK 2378

## 26. Subdivision of Township 18 North, Range 19 West.

|         |  |
|---------|--|
| Chains. |  |
| 74.00   | Ascend.  |
| 76.00   | Rocky spur bears west. Descend.  |
| 80.00   | Set a malpais stone 12x12x16 ins., 11 in. in the ground for the cor. of secs. 7, 8, 17 and 18, marked 4 notches on the S. and 5 notches on the E. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable. |
|         | Corner is situated on the steep westerly slope.  |
|         | Land extremely mountainous, and covered with boulders and loose rock.  |
|         | Soil, 4th rate, stony.   |
|         | Scattering greasewood and cactus brush.  |
|         | No grass.  |
|         | Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chs.  |
| -----   |  |
|         | Thence I run,<br>N. 89° 58' E., on a random line, between secs. 8 and 17.  |
| 40.00   | Set a temp. ¼ sec. cor.  |
| 79.96   | The cor. of secs. 8, 9, 16 and 17 hereinbefore described, bears 2 lks. S.  |
|         | Thence I run,<br>S. 89° 59' W., on a true line, between secs. 8 and 17.  |
|         | Ascend over rolling land, covered with boulders.   |
|         | Dense undergrowth of greasewood and cactus.  |
| 39.98   | Set a malpais stone, 8x12x15 ins., 10 ins. in the ground for the ¼ sec. cor., marked ¼ on the N. face, and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor. Pits impracticable.   |
| 45.00   | Top of very high ridge, bears N. and S. Descend.   |
| 79.96   | The cor. of secs. 7, 8, 17 and 18, hereinbefore described.   |
|         | Land, sharply rolling.   |
|         | Soil, 4th rate, stony, covered with boulders.  |
|         | Dense undergrowth of greasewood and cactus.  |
|         | No grass.  |
|         | Land, covered with boulders and dense undergrowth, and exceptionally difficult to survey, 79.96 chs.   |
| -----   |  |
|         | At noon at the above cor., I set off 23° 07' S. on the decl. arc, and observe the sun on the meridian. The resulting lat. reading is 34° 57½' N.   |
|         | Thence I run,<br>West, on a random line, between secs. 7 and 18.   |
| 40.00   | Set a temp. ¼ sec. cor.  |
| 79.10   | Intersect the W. bdy. of the township, 5 lks. north of the corner of secs. 7, 12, 13 and 18, recently established and described by me.   |
|         | Thence I run,<br>N. 89° 58' E., on a true line, between secs. 7 and 18.  |
|         | Over extremely mountainous land, covered with loose rock and boulders; scattering greasewood and cactus brush.   |
|         | Descend malpais boulder slide.   |
| 15.00   | Warm Springs Canyon, was 100 lks. wide, course SE.   |
|         | Ascend very steep slope, covered with loose rock.  |
| 35.50   | Ascend perpendicular 70 ft. cliff, course NW. and SE.  |
| 39.10   | Set a limestone rock, 6x15x18 ins., 12 ins. in the ground for the ¼ sec. cor., marked ¼ on the N. face, and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor. Pits impracticable.  |
|         | This corner is situated on top of spur, bears S.   |
|         | Descend.   |
| 42.00   | Descend cliffs, bears NW. and SE.  |
| 56.00   | Wash, 30 lks. wide, course SE. in canyon. Ascend.  |
| 59.00   | Spur bears S. Descend.   |
| 71.00   | Wash, 20 lks. wide, course SW. in canyon. Ascend steep bank.   |
| 79.10   | The cor. of secs. 7, 8, 17 and 18, hereinbefore described.   |
|         | Land, extremely mountainous, and covered with loose rock.  |



Chains.

Soil, 4th rate, stony.  
 Scattering greasewood and cactus undergrowth.  
 No grass.  
 Mountainous land, covered with loose rock and exceptionally difficult to survey, 79.10 chs.

Thence I run,  
 N.0°06'W., between secs 7 and 8.  
 Over mountainous westerly slope, covered with boulders and loose rock; scattering greasewood and cactus brush.

- 5.00 Descending.
  - 14.00 Steep draw, course W. Ascend.
  - 20.00 Rocky spur, bears W. Descend.
  - 27.00 Gulch, course NW. Ascend.
  - 35.00 Spur, brs. E. and W. Descend.
  - 40.00 Descend bluffs, bears E. and W.
  - Set a malpais stone 6x8x15 ins., 10 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
  - Continue descent into canyon.
  - 46.10 Wash, 20 lks. wide, course SW. in canyon. Ascend.
  - 51.00 Ridge, bears E. and W. Descending W. Descend.
  - 57.80 Wash, 20 lks. wide, course SW. in canyon. Ascend.
  - 80.00 Set a malpais stone 6x8x14 ins., 10 ins. in the ground for the cor. of secs. 5, 6, 7 and 8, marked with 5 notches on the S. and E. edges, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.
- Land extremely mountainous, and covered with boulders and loose rock.  
 Soil, 4th rate, stony.  
 Scattering undergrowth of greasewood and cactus.  
 No grass.  
 Mountainous land, covered with boulders and loose rock, and exceptionally difficult to survey, 80.00 chs.  
 December 31, 1911.

January 1, 1912.

- Thence I run,  
 N.89°59'E. on a random line, between secs. 5 and 8.
- 40.00 Set a temp.  $\frac{1}{4}$  sec. cor.
- 79.94 The cor. of secs. 4, 5, 8 and 9, hereinbefore described, brs. S. 9 lks.
- Thence I run,  
 N.89°57'W., on a true line, bet. secs. 5 and 8.
- Over extremely mountainous land, covered with boulders and loose rock; scattering greasewood and cactus brush.
- Descend.
- 8.00 Wash, 20 lks. wide, course SE. Ascend.
- 17.00 Rock spur bears SE. Descend.
- Thence along steep S. slope, covered with boulders and loose rock.
- 39.97 Set a malpais stone 5x10x18 ins., 12 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$  ft. high, N. of cor. Pits impracticable. Continue descent.
- 45.00 Boulder covered wash in canyon, course ESE. This is a prominent canyon heading about one half a mile WNW. Ascend steep slope covered with boulders.
- 65.00 Top ridge bears NW. and SE. Descend.
- 79.94 The cor. of secs. 5, 6, 7 and 8, hereinbefore described. Land, extremely mountainous, and covered with boulders and loose rock.
- Soil, 4th rate, stony.  
 Scattering greasewood and cactus brush.  
 No grass.  
 Mountainous land covered with boulders and loose rock, and exceptionally difficult to survey, 79.94 chs.

## 28. Subdivision of Township 18 North, Range 19 West.

Chains.

At 9h. On a.m., 1 m. to, at the above cor., I set off  $34^{\circ}58\frac{1}{2}'$  N. on the lat. arc;  $23^{\circ}02\frac{1}{2}'$  S. on the decl. arc, and determine a meridian with the solar.

Thence I run,  
S.  $89^{\circ}58'$  W. on a random line, between secs. 6 and 7.

40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
79.00 Intersect the W. bdy. of the township, 7 lks. south of the corner of secs. 1, 6, 7 and 12, recently established and described by me.

Thence I run,  
S.  $89^{\circ}59'$  E. on a true line, between secs. 6 and 7.  
Over mountainous land, covered with malpais boulders and dense greasewood and cactus undergrowth.

Descend.  
19.00 Ascend.  
29.00 Ridge, bears N. and S. Descend.  
35.00 Wash, 10 lks. wide, course N. in gulch. Ascend.  
39.00 Set a malpais stone 6x10x12 ins., 8 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the N. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.

44.00 Descend. Ridge bears N. and S.  
62.60 Wash, 10 lks. wide, course SSW. in gorge. Ascend.  
79.00 The cor. of secs. 6, 7 and 8, hereinbefore described.  
Land, mountainous, covered with malpais boulders.; covered with dense undergrowth of greasewood and cactus.  
Scattering grass.  
Soil, 4th rate, stony.  
Mountainous land, covered with malpais boulders and dense undergrowth, and exceptionally difficult to survey, 79.00 chs.

Thence I run,  
N.  $0^{\circ}06'$  W., between secs. 5 and 6, on a random line.  
Over sharply rolling land covered with malpais boulders.  
Dense undergrowth of greasewood and cactus.  
Ascend.

40.00 Set a temp.  $\frac{1}{4}$  sec. cor.  
78.00 Intersect the north boundary of the township 18 lks. west of the corner of secs. 5, 6, 31 and 32, recently established and described by me.

Thence I run,  
S.  $0^{\circ}02'$  W., on a true line, between secs. 5 and 6.  
Over sharply rolling land, covered with malpais boulders and dense greasewood and cactus undergrowth.

Descend.  
16.00 Wash, 10 lks. wide, course SW. Ascend.  
23.00 Descend.  
38.00 Set a malpais stone 6x8x12 ins., 8 ins. in the ground for the  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on the W. face, and raise a mound of stones 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Continue descent.  
78.00 The cor. of secs. 5, 6, 7 and 8, hereinbefore described.  
Land sharply rolling.  
Soil, 4th rate, stony.  
Dense undergrowth of greasewood and cactus.  
Surface covered with malpais boulders.  
No grass.  
Land, covered with boulders and dense undergrowth, and exceptionally difficult to survey, 78.00 chs.  
January 1, 1912.

GENERAL DESCRIPTION.

Township 18 North, Range 19 West embraces land apparently of a worthless character, there being not an acre of tillable land within the boundaries thereof. The soil is practically all 4th rate, stony, no timber, and



Chains.

the brush generally scattering greasewood and cactus, with occasionally small patches of catsclaw. There is for all practical purposes no grass for grazing, as there is very little of the same in scattered patches. A spring carrying approximately two miners inches of water rises in the SW.  $\frac{1}{4}$  of sec. 33. The water is quite appreciably warm and rather alkaline. There are two springs in the northern part of the township, one being situated near the north  $\frac{1}{4}$  cor. in sec. 9, and the other being in the NW.  $\frac{1}{4}$  of sec. 10. Both are alkaline, but of fair domestic quality. The southwestern half of the township is drained by Warm Springs Canyon and its tributaries; while the northeastern half drains northeasterly into the Sacramento Wash. The center of the main range of the Ute Mountains passes in a northwesterly and southeasterly direction through the middle of this township. The entire area is mountainous, and in some cases nearly impassable. This surface was in a former geological period capped by a lava outflow, which has since been disintegrated by the air and elements and washed away, leaving high ridges and cutting deep canyons, and leaving the whole area peppered with black malpais boulders. The surface varies in elevation from 4200 to 2200 feet above the sea. There are no settlers within this township. The climatic conditions are very irregular, the region being very hot in the summer, temperature reaching nearly 120° F. in the shade, while in winter it is very cold and windy. The rainfall varies from 0 to 14 ins. in depth per year, and is torrential in character. A few wild burros were seen during the progress of this survey, but otherwise no animal life was in evidence probably due to the scarcity of feed, there being no nutritious grasses in appreciable quantity.

January 1, 1912.

*William F. Alexander*  
U. S. Deputy Surveyor.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

See Subdivisional Books "B" & "G"

BOOK 2378

LIST OF NAMES.

BOOK 2378

A list of the names of the individuals employed by \_\_\_\_\_, 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 \_\_\_\_\_

showing the respective capacities in which they acted:

- \_\_\_\_\_, Chainman.
\_\_\_\_\_, Chainman.
\_\_\_\_\_, Moundman.
\_\_\_\_\_, Moundman.
\_\_\_\_\_, Axman.
\_\_\_\_\_, Axman.
\_\_\_\_\_, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted \_\_\_\_\_, United States Deputy Surveyor, in surveying all those parts or portions of the \_\_\_\_\_

\_\_\_\_\_ of the \_\_\_\_\_ meridian, \_\_\_\_\_ of \_\_\_\_\_, 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 \_\_\_\_\_

- \_\_\_\_\_, Chainman.
\_\_\_\_\_, Chainman.
\_\_\_\_\_, Moundman.
\_\_\_\_\_, Moundman.
\_\_\_\_\_, Axman.
\_\_\_\_\_, Axman.
\_\_\_\_\_, Flagman.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_



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30  
BOOK 2878 For FINAL OATH OF UNITED STATES DEPUTY SURVEYOR. 2878  
See Subdivisional Books "B" & "G"

I, \_\_\_\_\_, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from \_\_\_\_\_ United States Surveyor General for \_\_\_\_\_, bearing date of the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, 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 \_\_\_\_\_, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of \_\_\_\_\_ of the \_\_\_\_\_ meridian, in the \_\_\_\_\_ of \_\_\_\_\_, 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 \_\_\_\_\_ and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

\_\_\_\_\_  
United States Deputy Surveyor.

Subscribed by said \_\_\_\_\_, and sworn to before me }  
this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_ }



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

*Phoenix Arizona Feb. 26, 1913*, 19\_\_\_\_

The foregoing field notes of the survey of \_\_\_\_\_

*The Subdivision Lines in Tp. 18 North, Range 19 West,  
Gila and Salt River Base & Meridian  
Arizona*

executed by *William B. Alexander, U.S. Deputy Surveyor*  
under his contract No. *156*, dated *May 26*, 19*09*, 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.