

-1815-

FIELD NOTES

OF THE SURVEY OF THE

BOOK 1815

Subdivision Lines
of
Township No. 18 North, Range No. 4 East

1815

-1815-

Of the Gila and Salt River Basins Meridian,
In the Territory of Arizona

AS SURVEYED BY

Edgar C. Dietrich

United States Deputy Surveyor,

Under his Contract No. 123, dated September 15, 1891

Survey commenced January 27, 1891

Survey completed March 1, 1891

NAMES AND DUTIES OF ASSISTANTS.

John M. Prager, chairman

Frank Dietrich, chairman

Charles Tugan, member

William M. Harr, member

Ed. Ormby, member

Walter Parnall, flagman

Book No. 1815

BOOK 1815

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PRELIMINARY OATHS OF ASSISTANTS.

BOOK 1815

WE, John M. Dwyer and Frank Dietrich
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain over even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the subdivision lines of S. 18 N. R. 4 E.

John M. Dwyer, Chainman.
Frank Dietrich, Chainman.

Subscribed and sworn to before me this 27th
day of January, 1891905



Edgar C. Dietrich
U.S. Dep. Surveyor

WE, Charles Rogni and

do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of the subdivision lines of S. 18 N. R. 4 E.

Charles Rogni, Moundman.
Moundman.

Subscribed and sworn to before me this 27th
day of January, 1891905



Edgar C. Dietrich
U.S. Dep. Surveyor

WE, William M. Warr and Ira Owenby

do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given us, to the best of our skill and ability, in the survey of the subdivision lines of S. 18 N. R. 4 E.

Wm. Warr, Axman.
Ira Owenby, Axman.

Subscribed and sworn to before me this 27th
day of January, 1891905



Edgar C. Dietrich
U.S. Dep. Surveyor

I, Walter Percival, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of the subdivision lines of S. 18 N. R. 4 E.

Walter Percival, Flagman.

Subscribed and sworn to before me this 27th
day of January, 1891905



Edgar C. Dietrich
U.S. Dep. Surveyor

No notary-public available.

Chains

Survey commenced January 27, 1905, and started with a James W. Quinn and Co. light mountain transit, No. 4607, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other, reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs. The latitude arc reads 3 in excess being an index error. The instrument was examined, tested in the true meridian at Phoenix, found correct, and was approved by the surveyor general for Arizona, December 22, 1904. I examined the adjustments of the transit, and correct the level and collimation errors. Then, to test the solar apparatus, by comparing its indications, resulting from solar observations made during a.m. and p.m. hours, with a meridian determined by observations on Polaris, I proceeded as follows:

At the ... of arcs 1, 2, 35 and 36 on the S. limb of the sp., as heretofore described, latitude ~~34° 54' 23" N.~~ ^{34° 54' 23" N.} longitude ~~111° 53' 12" W.~~ ^{111° 53' 12" W.}; I set off 34° 51' N. on the lat. arc, 18° 22' S. on the decl. arc, and, at 3^h 45^m p.m., l.m.t., determined with the solar a meridian and mark a point thereof, on a stone firmly set in the ground, 5 chs. N. of the w.

At 1^h 54^m p.m., l.m.t., by my watch, which is correct, I observed Polaris at eastern elongation, in accordance with Manual of Instructions, and mark a point in the line thus determined on a peg driven in the ground, 5 chs. N. of my station.

January 27, 1905.

January 28. At 8:30 a.m., l.m.t., I lay off the azimuth of Polaris 1° 28' to the east, and mark the meridian thus determined, by cutting a small groove in the stone set January 27, on which the meridian falls 0.4 ins east of the mark determined by the solar.

At 8^h 40^m a.m., l.m.t., I set off 34° 51' on the lat. arc, 18° 13' S. on the decl. arc, and mark a point in the meridian determined with the solar by a cross on the stone already set 5 chs. N. of my station; this mark falls 0.3 ins east of the meridian established by the Polaris observation.

Chains

The solar apparatus, by p. m. and a. m. observations, defines positions for meridians, respectively about $0^{\circ} 10'$ east and 102° west of the meridian established by the Solaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at $8^h 39^m$ a. m. is $N. 14^{\circ} 28' E.$; the angle thus determined gives the mag. angl. $14^{\circ} 28' E.$

Thence I run

$N. 0^{\circ} 01' W.$ bet. sres. 35 and 36.

Over gently rolling land, through scattering cedar timber and some brush.

40.00 Set a sandstone, $18 \times 10 \times 8$ ins., $1\frac{1}{2}$ ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on R. face; from which
A cedar, 12 ins. diam., bears $N. 12^{\circ} 4' E.$, 62 lbs. dist., marked $\frac{1}{4}$ S 36 B S.

A cedar, 24 ins. diam., bears $S. 83^{\circ} W.$, 148 lbs. dist., marked $\frac{1}{4}$ S 35 B S. and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, R. of cor.

80.00 Set a sandstone, $18 \times 8 \times 6$ ins., $1\frac{1}{2}$ ins. in the ground, for cor. of sres. 25, 26, 35 and 36, marked with 1 notch on S. and E. edges; from which

A cedar, 7 ins. diam., bears $N. 62^{\circ} E.$, 222 lbs. dist., marked S 18 N R 4 E S 25 B S.

A cedar, 8 ins. diam., bears $S. 18^{\circ} W.$, 214 lbs. dist., marked S 18 N R 4 E S 35 B S.; run other lines within limit, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, R. of cor. Fits impracticable.

Land, gently rolling.

Soil, gravelly loam and stony; 2nd, 3rd and 4th rate.

Timber, scattering cedar, undergrowth, algaroba and mesquite.

Dense undergrowth, 80.00 lbs.

40.00 S. $89^{\circ} 52' E.$, on a random line bet. sres. 25 and 36.
Set temp. $\frac{1}{4}$ sec. cor.

80.06 Enter set E. body of Sp. in lbs. S. of cor. of sres. 25, 30, 31 and 36, as heretofore described.

Thence I run

$N. 89^{\circ} 56' W.$, on a true line bet. sres. 25 and 36.

Over mountainous land, ascending.

- 6 chains 2.00 S. slope of spur, ascend through dense algarovita brush.
- 9.85 Dry wash, 15 lbs. wide, course S.; ascend.
- 18.00 Thru dense brush, begin steep ascent.
- 22.00 Top of rocky spur, extending S. N.; ascend.
- 29.00 Foot, thence very gently rolling land, through scattering cedar timber and dense brush.
- 40.03 Set a sandstone, $18 \times 12 \times \frac{1}{4}$ ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
- 80.06 Set cor. of ores 25, 26, 35 and 36.
Land, gently rolling and mountainous.
Soil, gravelly loam, stony and rocky; 2nd, 3rd and 4th notes.
Timber, scattering cedar and pinon; undergrowth, algarovita and tortilla.
Mountainous or land covered with dense undergrowth, 80.06 chs.
- January 28: At this cor. Set off 15' 11" S. on the incl. arc, and at 12^h 4 m. l. m. t., observed the sun on the meridian; the resulting lat. is $34^{\circ} 53'$ within $0.4'$ of the proper lat.
-
- N. $0^{\circ} 01'$ W. bet. ores 25 and 26.
Very gently rolling land, through dense brush.
- 9.90 Dry wash, 10 lbs. wide, course S.E., ascend.
- 29.00 Remains of cliff dwellings, brars 5 chs. N.
- 29.80 Summit of cliff, 350 ft. high, brars N. W. and S. E.
Offset as follows:
West, 20.00 chs.; then, on the offset line:
N. $0^{\circ} 01'$ W., 10.20 chs.; then
East 20.00 chs. to the tunneling, on which, at
- 40.00 Set a sandstone, $18 \times 12 \times \frac{1}{4}$ ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; from which
- 52^{1/2} A copper, 15 ins. diam., brars N. $85^{\circ} \frac{1}{4}$ E., 85 lbs. dist., marked $\frac{1}{4}$ S 25 B S.
- A cedar, 12 ins. diam., brars S. $34^{\circ} \frac{1}{4}$ W., 37 lbs. dist., marked $\frac{1}{4}$ S 26 B S.
- 43.00 Dry wash, 20 lbs. wide, course N.; ascend through scattering cedar and dense brush.
- 45.50 Top, 350 ft. above $\frac{1}{4}$ sec. cor. brars E. and N.; ascend.
- 80.00 Set a sandstone, $18 \times 10 \times 6$ ins., 12 ins. in the ground, for

Chains
5 1/2

cor. off sres. 23, 24, 25 and 26, marked with 2 notches
on S. and 1 notch on E. edge, from which
A cedar, 36 ins. diam, bears N. 52 1/2° E., 100 lbs. dist, marked
S 18 N R 4 E S 24 B S.
A cedar, 12 ins. diam, bears S. 79 1/2° E., 65 lbs. dist, marked
S 18 N R 4 E S 25 B S.
A piñon, 6 ins. diam, bears S. 18 1/2° N., 33 lbs. dist, marked
S 18 N R 4 E S 26 B S; no other tree within limit, and raised
a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits
impracticable.
Land, mountains and gently rolling.
Soil, stony and rocky; 4 th. strata.
Timber, scattering cedar and piñon; undergrowth, algar-
rota, troptilla, and manzanita.
Mountains or land covered with dense undergrowth,
80.00 chs.

From cor. of sres. 23, 24, 25 and 26, S run
South, 2.00 chs. thence
S. 59° 56' E., 12.00 chs. thence
North, 2.00 chs. to line, thence
S. 59° 56' E., on a random line bet. sres. 24 and 25
Set temp. 1/4 sec. cor.
Edge of canyon. It being impracticable to chain the line
across the canyon, I set the flag around to E. side
on line and triangulate distance, which is 24.36 chs. Run N. 0° 04' E. on
base line from which flag set on line bears S. 78° 20' E. Tan 78-24 = 4.871 x 5 = 24.355 + 62.00 = 76.36 chs.
Thence off set S. 367 chs.; thence
S. 89° 58' E., 3.61 chs.
Intersect E. bay. of Spr. 14 lbs. S. of witness cor. of sres.
19, 24, 25 and 30, as heretofore described
Thence S run, from witness cor.
S. 89° 58' N., 3.61 chs.; thence
North, 3.67 chs. to line, on edge of canyon 800 ft. deep.
From this point, I triangulate to flag previously set
on N. edge of canyon; the distance is
Thence
S. 89° 58' N., on a true line bet. sres. 24 and 25.
Ascending along S. slope of spur, through scattering timber
Set a sandstone, 20 x 8 x 5 ins. in a mound of stone for 1/4
sec. cor. marked 1/4 on N. face, and raised a mound of
stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

578° 20' E.
24.36

8 chs

39.98
or

Chains
49.00 Top of slope; descend.
63.97 Offset S. 2.00 chs.; then
79.97 S 89°58' W. 16.00 chs.; then
North, 2.00 chs. to
the ev. of sres. 23, 24, 25 and 26.
Land, mountains.
Soil, stony and rocky; 4th rate.
Timber scattering cedar and pinon; undergrowth,
mangrove.
Mountains land, 79.97 chs.

January 26, 1905.

January 29: At 8^h 35^m a.m. l.m.t., Port off 34°53' in the
lat. arc; 17°57' S. on the decl. arc; and determine
meridian with the solar at the ev. of sres. 23, 24, 25
and 26.

Thinner & run

N. 0°1' W., bet. sres. 23 and 24.

Over mountains land, ascending through scattering
timber and dense mangrove brush.

2.00 Top of spur, extending S.W.; descend.

6.00 Edge of canyon, 500 ft. deep, course W.
It being impracticable to chain line across canyon, I
saw flag driven to spur on N. side and triangulate
distance, which is S 89°59' E. 3.00 chs. on a base line whence flag by
118°02' W. - Tang. 71°57' = 3.0686 x 3.00 = 9.21 chs. + 6.00 chs. = 15.21
Ascending.

15.21
23.50 Top of spur, 800 ft. above canyon, extending W.; descend.

30.00 Edge of canyon, 300 ft. deep, course W. Triangulate
across canyon to point on line on S. slope of spur,
the distance is 8.63: - Run 189°59' E. on line 4.00 chs. whence flag by 112°53' W.

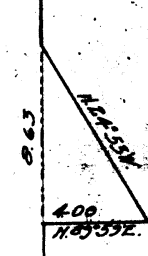
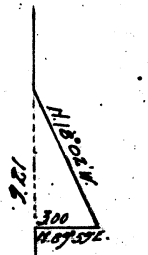
38.63 Ascending. $\tan 65°08' = 2.1576 \times 4.00 = 8.63 + 30.00 = 38.63$.

40.00 Set a white sandstone, 18 x 10 x 8 ins., in a mound of
stone, for $\frac{1}{4}$ sres. ev. marked $\frac{1}{4}$ on W. face; and raise
a mound of stone, 2 ft. base, 12 ft. high, W. of ev. this
impracticable.

44.00 Top of spur, 400 ft. above canyon, extending W.; descend.

48.00 Edge of canyon 400 ft. deep, course W.
Sand flag to top of mountain on N. side and tri-
angulate to point on line. The distance is 10.72 chs.
Run 189°59' W. 3.00 chs. on base line whence flag by 115°37' E. - $\tan 74°22' = 3.574 \times 3 = 10.72 + 48.00$

58.72 This point is about 1200 ft. above bottom of canyon;
thinner over top of mountain.



chains
80.00

Set a sandstone, $20 \times 10 \times 8$ ins., in a mound of stone, for
 ev. of sves. 13, 14, 23 and 24, marked with 5 notches on S.
 and 1 notch on E. edge, and raise a mound of stone,
 3 ft. base, 2 ft. high, W. of ev. Rts impracticable.
 Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, scattering fir, pine and cedar; under-
 growth, manzanita.

Mountains land, 8000 chs.

January 29: At this ev. Set off $179^{\circ} 55'$ S. on the decl. arc,
 and, at 12^h 3 m. t., observe the sun on the meridian;
 the resulting lat. is $34^{\circ} 53'$ within $0.4'$ of the proper
 lat.

40.00

N. $89^{\circ} 58' E.$, on a random line bet. sves. 13 and 24.

Set temp. $\frac{1}{4}$ sec. ev.

60.00

Offset South, 8.30 chs.; then, on the offset line.

N. $89^{\circ} 58' E.$, 19.88 chs.; to

79.88

Enter set E. edge of Sp. 122 lbs. S. of witness ev. of
 sves. 13, 18, 19 and 24, as heretofore described. This ev. is
 78.00 chs. N. on line bet. sves. 19 and 24.

Thence S. run from said W.C.

N. $89^{\circ} 59' W.$, 19.88 chs.; then

Offset North, 7.00 chs. to line, thence

N. $89^{\circ} 59' W.$, on a temp. line bet. sves. 13 and 24.

Over mountains land, descending through scattering
 timber.

80.00

Canyon, 2000 ft. deep, course S.W.; ascend.

89.94

Set a sandstone, $18 \times 8 \times 8$ ins., in a mound of stone, for $\frac{1}{4}$ sec.
 ev. marked $\frac{1}{4}$ on N. face, from which

OK

A pine, 24 ins. diam., bears N. $62^{\circ} \frac{1}{4} E.$, 127 lbs. dist., marked
 $\frac{1}{4}$ S $13^{\circ} B S.$

A pine, 14 ins. diam., bears S. $13^{\circ} \frac{1}{2} W.$, 94 lbs. dist., marked
 $\frac{1}{4}$ S $24^{\circ} B S.$

41.00

48.60

Run N.W. and S.E.; descend.

Drop gulch, 60 lbs. rock, course S.E.; ascend.

54.80

Top, bears N. and S., thence over top of mountain.

79.88

For ev. of sves. 13, 14, 23 and 24.

Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, scattering pine and fir; undergrowth,
 manzanita.

Cham Mountains land, 79.88 chs.

January 29, 1905.

January 30. At 8^h 40^m a.m. l.m.t. set off 345 on the lat. arc, 17° 40' S. on the decl. arc, and determine a meridian with the solar at the cor. of sres. 13, 14, 23 and 24.

Dinner 8 am

N. 001 W., bet sres. 13 and 14.

Along top of mountain, through scattering timber and dense mangrove bush.

26.110 Begin descent.

40.00 Set a sandstone 18 x 8 x 6 ins. in a mound of stone, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, from which a pinon, 8 ins. diam., bears N. 60° E., 117 lbs. dist., marked $\frac{1}{4}$ S. 13 B. S.

A pinon, 5 ins. diam., bears S. 18½° W., 42 lbs. dist.; marked $\frac{1}{4}$ S. 14 B. S.

51.30 Ench, 1000 ft. below cor. of sres. 13, 14, 23 and 24, 60 lbs. wide, course S. W., ascend. have dense bush.

80.00 Set a sandstone, 20 x 10 x 6 ins., in a mound of stone, for cor. of sres. 11, 12, 13 and 14, marked with 4 notches on S. and 1 notch on E. edge, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Site impracticable.

Round, mountains.

Soil, stony and rocky; 4th rate.

Timber scattering pine, pinon and cedar; undergrowth mangrove.

Mountains or land covered with dense undergrowth, 80.00 chs.

S. 89° 59' E. on a random line bet sres. 12 and 13.

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

79.92 Enter at E. bay. of Sp. 12 lbs. N. of cor. of sres. 7, 12, 13 and 18, as herefor described.

Dinner 8 am

N. 89° 54' W., on a random line bet sres. 12 and 13.

Along top of mountain, through scattering timber.

82.00 Descent bears N. and S.

89.96 Set a white sandstone, 20 x 10 x 8 ins., in a mound of stone for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise a mound

chains of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
58.00 Grad of gulch, course S.; ascend.
79.92 Spr cor. of sres. 11, 12, 13 and 14.
Land, mountainous.
Soil, stony and rocky; 4th rate.
Timber, scattering pine and fir; undergrowth, manzanita.
Mountainous land, 79.92 chs.
January 30: At this cor. I set off 15° 30' on the decl. arc. And at 12^h 4^m l.m.t. observe the sun on the meridian; the resulting lat. is 34° 54'.

34° 54' N

N. 0° 01' N., bet. sres. 11 and 12.
Over mountainous land, ascending through scattering timber.
18.00 Top of mountain, bears N.W. and S.W.; ascend.
40.00 Set a sandstone, 18 x 8 x 8 ins. in a mound of stone, for 4 sres. cor. marked ¼ gr N. from which a pinon, 10 ins. diam. bears N. 73 ¾° E. 216 lbs. dist. marked ¼ S 12° E.; no other tree within limit, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
42.00 Gulch, 30 lbs. wide, course S.W.; ascend.
68.00 Top of mountain, bears N.W. and S.W.
80.00 Set a sandstone, 20 x 10 x 10 ins. in a mound of stone, for cor. of sres. 1, 2, 11 and 12, marked with 5 notches on S. and 1 notch on E. edge, and raise a mound of stone 3 ft. base, 2 ft. high, N. of cor. Pits impracticable.
At this point I abandon the line north and east, on account of rough mountains and deep canyons over which it is impracticable to run.
Land, mountainous.
Soil, stony and rocky; 4th rate.
Timber, scattering pine and fir; undergrowth, manzanita.
Mountainous land, 80.00 chs.

January 30, 1905.

January 31: At 8^h 45^m a.m. l.m.t. I set off 34° 54' on the decl. arc; 17° 24' on the decl. arc; and determine

Chains a meridian with the solar at the cor. of secs. 2, 3, 34 and 35, on the S. bdy. of the S. 18 N., as heretofore described.

Shower 8 am
7.001' N., bet. secs. 34 and 35.

Over mountainous land, descending.

3.50 Dry wash, 10 lbs. wide, course S. N.; descend.

7.00 Spur, extending S. N.; descend.

12.20 Dry wash, 10 lbs. wide, course S. N.; ascend.

17.00 Spur, extending S. N.; descend.

27.10 Dry wash, 200 ft. below top of spur, 20 lbs. wide, course S. N.; ascend.

37.00 Top of ridge, 200 ft. above wash, bears N. and S. N.; descend through dense algarveta brush.

40.00 Set a sandstone 18x8x4 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

49.20 Dry wash, 20 lbs. wide, course S. N.; ascend.

53.00 Ridge, bears E. and N.; descend.

58.25 Dry wash, 20 lbs. wide, course N.; ascend.

61.00 Ridge, bears E. and N.; descend.

68.00 Dry wash, 10 lbs. wide, course N.; ascend.

74.00 Top of ridge, bears E. and N.; descend.

80.00 Set a sandstone, 18x10x4 ins., 12 ins. in the ground, for cor. of secs. 26, 27, 34 and 35, marked with notch on S. and 2 notches on E. edge. From which a cedar, 8 ins. diam., bears S. 33 1/4° E., 107 lbs. dist., marked S 18 N R 4 E S 35 B S.

A cedar, 15 ins. diam., bears N. 79 1/4° W., 126 lbs. dist., marked S 18 N R 4 E S 27 B S, in other trees within limit, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Under scattering cedar, undergrowth, algarveta and Astragalus.

Mountainous or land covered with dense undergrowth, 80.00 chs.

S. 89° 52' E., on a random line bet. secs. 26 and 35.

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

80.03 Enter sec. 7. and S. line 2 lbs. S. of cor. of secs. 25, 26, 35.

Chains

and 36.

Stinner / 8 run

N. $89^{\circ}53'$ W. on a true line bet. sur. 26 and 35.

Over gently rolling land, through scattering cedar and dense brush.

23.110 Descend, bears N. and S. W.

27.00 Dry wash, 20 lbs. wide, course S. W.; ascend.

32.50 Ridge, bears N. and S.; descend.

36.80 Dry wash, 30 lbs. wide, course S. W.; ascend.

37.10 Ridge, bears N. and S. W.; descend.

40.01 $\frac{1}{2}$ Set a sandstone, $18 \times 12 \times 4$ ins., 12 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; dig pits, $18 \times 18 \times 12$ ins. E. and W. of stone, 3 ft. dist. and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

47.00 Dry wash, 10 lbs. wide, course S.; ascend.

60.00 Ridge, bears N. and S.; descend.

69.00 Dry wash, 10 lbs. wide, course S. W.; ascend.

75.00 Ridge, bears N. and S. W.; descend.

80.03 Set cor. of sur. 26, 27, 34 and 35.

Land, mountainous and gently rolling, soil, gravelly and stony, 3rd and 4th rate.

Scatter, scattering cedar, undergrowth, algarrota and tasotilla.

Mountainous or land covered with dense undergrowth.

80.03 chs.
January 31: At this cor. Portoff $70^{\circ}23'$ S. on the arc. arc, and, at $12^h 6^m$ l.m.t., observe the sun on the meridian. The resulting lat. is $34^{\circ}53'$ or within .04' of the proper lat.

N. 001 N., bet. sur. 26 and 27.

Over mountainous land, ascending through dense brush.

7.50 Dry wash, 10 lbs. wide, course S. W.; descend.

20.00 Back of ridge, 130 ft. above wash, bears N. and S. W.; descend.

26.00 Dry wash, 20 lbs. wide, course S. W.; ascend.

35.00 Ridge, bears E. and W.; descend.

39.50 Dry wash, 15 lbs. wide, course S. W.; ascend.

40.00 Set a sandstone, $18 \times 8 \times 8$ ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

Chain 44.00	Top of ridge, bears E. and N.; descend.
60.00	Draw, 200 ft. below top of ridge, 2.5 hrs. wide, course S. W.; ascend.
69.00	Ridge, 200 ft. above draw, bears N. and S. E.; descend.
77.00	Dry wash, 180 ft. below top of ridge, 15 lbs. wide, course S. W.
80.00	Set a sandstone, 18 x 8 x 6 ins. in a mound of stone, for cor. of secs. 22, 23, 26 and 29, marked with 2 notches on S. and E. sides; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. But impracticable. Land, mountainous. Soil, gravelly and stony; 2nd and 4th north. Timber, scattering oak, undergrowth, algaroba and hontilla. Mountainous or land, covered with dense undergrowth, 80.00 chs.
40.00	S. 89° 53' E., on a random line bet. secs. 23 and 26. Set temp. 1/4 sec. cor.
80.09	Intersect N. and S. line 5 lbs. N. of cor. of secs. 23, 24, 25 and 26. Thinner S. line N. 89° 51' W., on a true line bet. secs. 23 and 26. Over mountainous land, ascending through scattering timber and dense mangrove brush.
2.00	Spr., extending S. W.; descend gradually.
17.00	Leave mangrove brush and begin steep descent over sandstone terraces.
30.00	Foot of steep descent, bears N. and S.
40.04 1/2	Set a sandstone, 18 x 8 x 4 ins., 12 ins. in the ground, for 1/4 sec. cor. marked 1/4 on N. face; from which
61	An oak, 6 ins. diam., bears S. 58° W., 29 lbs. dist., marked 1/4 S 26 B S.
	An oak, 7 ins. diam., bears N. 33° W., 226 lbs. dist., marked 1/4 S 23 B S.
41.25	Old dry well, bears 125 lbs. S.
43.50	Dry wash, 40 lbs. wide, course S., thence S. W.
45.00	Ascend.
54.00	Spr. extending S.; descend.
58.00	Sandstone pillar 200 ft. high, bears 500 chs. N.
72.75	Dry wash, 10 lbs. wide, course S. W.; ascend.

BOOK 1215

chains
74.40

80.09

Spur, extending S. W.; descend.

The cor. of secs. 22, 23, 26 and 27.

Soil, munitinons.

Soil, gravelly, stony and rich; 3rd and 4th cuts.

Timber, scattering cedar, oak and pine; undergrowth, manzanita, algarruta and frostilla.

Munitinons, or land covered with dense undergrowth, 80.09 chs.

January 31, 1905.

February 1: At 5^h 45^m a.m., l. p. t., set off 34[°] 53' N. the lat. and 17[°] 7' S. on the decl. arc and determine a meridian with the solar at the cor. of secs. 22, 23, 26 and 27.

Thence by

N. 00[°] W., lat. secs. 22 and 23.

Over level land, through dense brush.

9.00 Gravel spur; descend.

15.00 Ridge, bears N. W. and S. W.; ascend.

40.00 Set in dry wash, 20 lbs. near corner S. W.; ascend.

41.80 Set a sandstone, 18 x 10 x 8 ins., 12 ins. in the ground, for witness cor. to $\frac{1}{4}$ sec. cor. marked N 6 $\frac{1}{4}$ ° on N. face, from whichA cedar, 40 ins. diam., bears S. 35 $\frac{1}{4}$ ° E., 182 lbs. dist., marked N 6 $\frac{1}{4}$ ° S 23° B S.A cedar, 18 ins. diam., bears S. 22 $\frac{1}{4}$ ° W., 186 lbs. dist., marked N 6 $\frac{1}{4}$ ° S 22° B S.

From this cor. to sandstone bluffs 1000 ft. high, bear E. about 16.00 chs. dist.

56.00 Spur, 200 ft. above witness cor., extending N.; descend.

77.20 Dry wash, 20 lbs. near corner S. W.; ascend.

80.00 Set a sandstone, 18 x 14 x 10 ins., 12 ins. in the ground, for cor. of secs. 14, 15, 22 and 23, marked with 3 notches on S. and 2 notches on E. edge, from which

A pine, 6 ins. diam., bears S. 40° E., 23 lbs. dist., marked S 18° N R 4 E S 23° B S.

A pine, 14 ins. diam., bears S. 77 $\frac{1}{2}$ ° W., 128 lbs. dist., marked S 18° N R 4 E S 22° B S.A cedar, 8 ins. diam., bears N. 52° W., 203 lbs. dist., marked S 18° N R 4 E S 15° B S.; no other tree within limit, and raised a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. S. 18°

34-56 N

BOOK 1816

- 6 chains
18.50 Sharp, extending N.; descend.
- 23.50 bench, 15 lbs. wide, course S. W.; ascend.
- 26.75 Spur, extending N.; descend.
- 40.00 Set a sandstone, 20 x 12 x 5 ins., in a mound of stone,
for 1/4 sec. cr. marked 1/4 on N. face, from which
An oak, 4 ins. diam., bears S. 21° E., 29 lbs. dist., marked
1/4 S. 14 B S.
- An oak, 6 ins. diam., bears N. 70° W., 18 lbs. dist., marked
1/4 S. 15 B S.
- 41.00 Dry wash, 10 lbs. wide, course S. W.; ascend to
- 42.00 Set of red sandstone bluff, 800 ft. high, bears E.
and N. Sharp offset as follows:
West, 18.00 chs.; turn, on the offset line.
N. 0° 01' W., 38.00 chs. where I set a flag, then of foot
East, 18.00 chs. to turn line, at which point
- 80.00 Set a sandstone, 20 x 14 x 5 ins., in a mound of stone,
for cr. of secs. 10, 11, 14, and 15, marked with 4 notches on
S. and 2 notches on E. edge, from which
A pinon, 4 ins. diam., bears N. 45 3/4° E., 67 lbs. dist., marked
S 18 N 19 46 S 11 B S.
- An oak, 10 ins. diam., bears S. 26° E., 126 lbs. dist., marked
S 18 N 19 46 S 14 B S.
- A cedar, 8 ins. diam., bears S. 83 3/4° W., 159 lbs. dist., marked
S 18 N 19 46 S 15 B S. Another tree within limit, and
raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of
cr. is impracticable. Bluff 200 ft. high, bears 10 lbs.
E.
- Land, mountainous,
Soil, stony and rocky; 4th rate.
Timber, scattering cedar, pinon and oak; underground,
manganese and galena.
Mountainous or land covered with dense mangrove,
80.00 chs.

February 1, 1905.

Note: Heavy and continuous rain and snow for
entire week from February 2 to February 7.
February 7: At 8:25 a.m. l.m.t., I set off 34° 54' on
the level, 15° 20' S. on the decl. arc; and determined
a meridian with the solar at the cr. of secs. 10, 11,
14, and 15.

chains

impracticable.

Land, mountainous and level.

Soil, gravelly and stony; 3rd and 4th rate.

Timber, scattering cedar, pinon and pine; undergrowth, algarroba, manzanita and tototilla.

Mountainous land covered with dense undergrowth, 80.00 chs.

S. 89° 51' E., on a random line bet. surs. 14 and 23.

40.00 Set temp. $\frac{1}{4}$ sur. ev.

79.98 Enter set N. and S. line 10 chs. S. of ev. of surs. 13, 14, 23 and 24.

Thence S. 40° W.

N. 89° 55' W., on a true line bet. surs. 14 and 23.

Over mountainous land descending through scattering timber and manzanita brush.

9.00 Gulch, 40 chs. wide, course S. W.; ascend.

16.70 Top of spur, extending S. E.; descend.

20.30 Gulch 20 chs. wide, course S. E.; ascend.

39.99 Set a sandstone, 2 ft 8 in. in a mound of stone, for $\frac{1}{4}$ sur. ev. marked $\frac{1}{4}$ on N. face, and give a mound of stone, 2 ft. base, 1½ ft. high, N. of ev. Set impracticable.

47.00 Top of mountain, 200 ft. above gulch, bears N. and S.

62.00 Begin steep descent.

76.90 Dry wash, 15 chs. wide, course S. W.; ascend.

79.98 Set ev. of surs. 14, 15, 22 and 23.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, scattering pine, pinon and cedar; undergrowth, manzanita.

Mountainous land, 79.98 chs.

February 1. At this ev. Set off 17° 03' on the decl. arc, and, at 12:50 p. m. t., observe the sun on the meridian; the resulting lat. is. 34° 53'.

N. 0° 01' W., bet. surs. 14 and 15.

Over mountainous land, ascending through scattering cedar and dense brush.

8.00 Ridge, bears E. and W.; descend.

13.70 Dry wash, 20 chs. wide, course W.; ascend.

6 chains

Running to high bluff, immediately E. of cor. 11 and 12 which it is impracticable to chain, & sand flag arrived to top of bluff on line, and return to flag at 18.00 lbs. N. of cor. and triangulate distance which is as follows.
 $11 \times 14 \text{ brs } 5 \text{ } 74^{\circ} 47' 1/2'' \text{ E. } = \text{Tan. } 74^{\circ} 52' 1/2''$
 $3.6954 \times 8.00 = 29.56 - 18.00 \text{ chs} = 11.56 \text{ chs.}$

Shaner & rim

S. 89° 56' E., on a random line bet. secs. 11 and 14.

40.00 Set trip. 1/4 sec. cor.

79.84 Enter at N. and S. line 6 lbs. N. of cor. of secs. 11, 12, 13 and 14.

Shaner & rim

N. 89° 52' W., on a true line bet. secs. 11 and 14.

Over mountains land, descending through scattering timber and manzanito brush.

39.92 Set a sandstone, 20 x 8 x 6 ins., in a mound of stone, for 1/4 sec. cor. marked 1/4 on N. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

47.50 Enter, 30 lbs. with corner S. N.; ascend.

58.00 Spur, extending S. N.; descend.

79.84 Set cor. of secs. 10, 11, 14 and 15.

Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, scattering pine and cedar; undergrowth, manzanito.

Mountains land, 79.84 chs.

As the line from the above cor. N. bet. secs. 11 and 12, runs over red sandstone bluffs for nearly the entire distance, over which it is impracticable to chain, & rim, from cor. of secs. 10, 11, 14 and 15.

West, 18.00 chs.; Shaner & rim

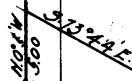
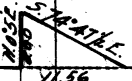
N. 0° 01' W., over mountains land, through cedar and pine timber and dense brush, 40.00 chs.

Set a point on line. Sand flag, top of bluff, east and triangulate the distance, which is 17.12 chs. a chain

East, 38 lbs. to true line bet. secs. 10 and 11, when at

40.00 Enter from sec. cor

Set a sandstone, 24 x 14 x 8 ins., in a mound of stone, for 1/4 sec. cor. marked 1/4 on N. face; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.



B
BOOK 1815

6 lines & then return to point on offset line, 18.00 chs.
 West of $\frac{1}{4}$ cor. and run
 N. 0° 1' W. 40.00 chs.; then
 Offset East, 18.00 chs. to true line, on which at
 80.00 distance from sec. cor.

Set a sandstone, $20 \times 12 \times 4$ ins., 15 ins. in the ground,
 for cor. of secs. 2, 3, 10 and 11, marked with 5 notches on
 S. and 2 notches on E. edge, from which
 A cedar, 5 ins. diam., bears S. $34\frac{1}{2}^\circ$ E., 63 lbs. dist., marked
 S 18 N R 4 E S 11 B S.

A cedar, 11 ins. diam., bears S. $70\frac{1}{4}^\circ$ W., 296 lbs. dist., marked
 S 18 N R 4 E S 11 B S.

A cedar, 6 ins. diam., bears N. 23° W., 44 lbs. dist., marked
 S 18 N R 4 E S 3 B S.; no other tree within limit, and raised
 a mound of stone, 2 ft. base, $\frac{1}{2}$ ft. high, N. of cor. Pits
 impracticable.

Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, cedar and fir; undergrowth, manzanita and
 algaroba.

Mountains or land covered with dense undergrowth,
 80.00 chs.

February 7: At this cor. I set off $15^\circ 18'$ S. in the old
 arc; and, at $12\frac{1}{4}$ m. t., observed the sun on the
 meridian. the resulting lat. is $34^\circ 56'$ or within 0.4
 of the proper lat.

27.00 S. $89^\circ 52'$ E., on a random line bet. secs. 2 and 11. Par. 18.15 E.
 W. edge of deep canyon, course S. W. I set a flag across
 canyon to point on line and triangulate distance,
 which is true. $\tan 19^\circ 58' E$ on base line 200 chs. whence flag on line by $5.72^\circ 28' E - \tan 72^\circ 26' = 3.159 \times$

55.43 Shorter & on line $> 9.00 = 28.43 \text{ chs} + 27.00 = 55.43 \text{ chs}$.

79.87 Intersect N. and S. line 9 lbs. N. of cor. of secs. 1, 2, 11 and 12.
 Shorter & on line

N. $89^\circ 48'$ W., on a true line bet. secs. 2 and 11.

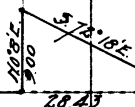
Along top of mountain, through scattering timber and
 manzanita brush.

17.50 Descend

24.57 Edge of canyon. The point for $\frac{1}{4}$ sec. cor. falls in canyon

53.00 W. edge of canyon.

Set a sandstone, $18 \times 7 \times 5$ ins. in a mound of stone, for



BOOK 1815

chains nitroo cor. to $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. pits impracticable. Thence along top of spr.

65.00 Begin steep descent over sandstone terraces.

79.87 Sec. cor. of secs. 2, 3, 10 and 11.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, scattering pinon and cedar; undergrowth, manzanita and algarrobo.

Mountainous land, 79.87 chs.

February 7, 1905.

February 8. At 8:50 a.m. l.m.t., set off 34.54 on the lat. arch, $15^{\circ} 01' 18''$ on the arch. and determine a meridian with solar at the cor. of secs. 2, 3, 10 and 11. Thence 8 am

N. $0^{\circ} 01' W.$, on a line b't. secs. 2 and 3.

Over mountainous land, ascending through scattering timber and dense brush.

10.00 Dry wash, 20 lbs. wide, course S. W.; enter heavy cedar and pinon timber; ascend.

11.20 Spr., extending S. W.; descend.

13.60 Dry wash, 20 lbs. wide, course S. W.; ascend.

22.00 Begin ascent of S. slope of mountain.

32.70 Top, bears E. and W.

62

Set a white sandstone, $18 \times 9 \times 6$ ins., in a mound of stone, for nitroo cor. to $\frac{1}{4}$ sec. cor. marked $W 6\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

38.00 Edge of canyon, 300 ft. deep, course S. W. & send the flag around to S. slope of mountain and triangulate distance which is 18.32

56.32 Ascending.

62.00 Top of E. slope of mountain; descend.

71.82 Enter sec. N. body of Spr. 6.34 chs. W. of ^{old} cor. of Spr. 18

and 19 N., Rs. 4 and 5 E., which is a sandstone, set in a mound of stone, marked and nitroo as described by the surveyor general. & destroy all marks on stone and having the referring to S. 18 N., R. 4 E.

Set a sandstone, $18 \times 12 \times 10$ ins., 12 ins. in the ground, for closing cor. of secs. 2 and 3, marked 6 on S.; with 2 grooves on E.

1815
1032

Top 589.59' on base line 5.00' from which flag on line by $11^{\circ} 15' 15'' E$: Top 74' 42" = $3.664 \times 5 = 18.32 + 38.00$

OOK 1815

chains
1/2
1/2

and 4 grooves on N. face, and raise a mound of stone, 3 ft. base, 2 ft. high, S. of cr. Pits impracticable.

Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, scattering cedar, pine and pine; undergrowth, manzanita and algarrota.

Mountains or land covered with dense undergrowth, 70.82 chs.

February 8, 1905.

February 9. At 8^h 35^m a.m. l.m.t., Port off 34° 51' on the lat. arc, 140° 42' on the lon. arc, and determine a meridian with the solar at the cr. of surs. 3, 4, 33 and 34, on the S. edge of the Sp. as heretofore described.

Shower 8 mm

N. 0° 02' W., bet. surs. 33 and 34.

Over mountains land, descending.

22.00 Dry wash, 20 lbs. wide, course S. E., enter dense algarrota brush; ascend.

40.00 Set a sandstone, 18 x 10 x 5 ins., 12 ins. in the ground, for 1/4 sur. cr. marked 1/4 on N. face; dig pits, 18 x 18 x 12 ins., N. and S. of stone 3 ft. dist., and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high, N. of cr.

41.00 Top of spur, extending E.; ascend.

47.00 Ridge, bears E. and N.; descend.

55.00 Dry wash, 10 lbs. wide, course S. E.; ascend.

59.00 Ridge, bears E. and N.; descend.

68.00 Dry wash, 10 lbs. wide, course S. E.; ascend.

80.00 Set a sandstone, 20 x 8 x 6 ins., 15 ins. in the ground, for cr. of surs. 27, 28, 33 and 34, marked with 4 notches on S. and 3 notches on E. edge; dig pits, 18 x 18 x 12 ins., in each sur. 5 1/2 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, N. of cr.

Land, mountains.

Soil, gravelly and stony; 3rd and 4th rate.

Timber, a few cedars; undergrowth, algarrota and hoshilla.

Mountains or land covered with dense undergrowth, 80.00 chs.

S. 89° 52' E., on a random line bet. surs. 27 and 34.

40.00 Set temp. 1/4 sur. cr.

80.00 Intersect N. and S. line 3 lbs. N. of cr. of surs. 26, 27,

chains

34 and 35.

Plumer P rim

N. $89^{\circ}51'$ W. on a true line bet. svs. 27 and 34.

Over mountains land, descending.

3.00 Dry wash, 10 lbs. wide, course S. W.; ascend.

9.00 Ridge, bears N. and S. W.; descend.

12.90 Dry wash, 40 lbs. wide, course S. W.; ascend.

20.00 Ridge, bears N. and S.; descend.

29.50 Dry wash, 10 lbs. wide, course S.; ascend.

36.00 Ridge, bears N. and S.; descend.

40.00 Set a sandstone, $18 \times 8 \times 6$ ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; found which is a red, 8 ins. diam., bears S. $87^{\circ}\frac{3}{4}'$ E., 48 lbs. dist., marked $\frac{1}{4}$ S 34 B S.

A cedar, 6 ins. diam., bears N. 25° W., 189 lbs. dist., marked $\frac{1}{4}$ S 29 B S.

49.10 Dry wash, 2 lbs. wide, course S. W.; ascend through dense brush.

80.00 The cor. of svs. 27, 28, 33 and 34.

Land, mountains.

Soil, gravelly and stony; 3rd and 4th parts.

Similar, scattering cedar, undergrowth, algarroba and tortilla.

Mountains or land covered with dense undergrowth, 80.00 lbs.

February 9. At this cor. I set off $14^{\circ}40'$ S. on the decl. arc; and, at 12^h 5^m P. M. T., observe the sun on the meridian, the resulting lat. is $34^{\circ}52'$

N. $0^{\circ}02'$ W., bet. svs. 27 and 28.

Over mountains land, ascending through dense brush.

16.50 Dry wash, 10 lbs. wide, course S. E.

31.00 Top of ridge, bears N. and S. W.; descend.

40.00 Set a sandstone, $18 \times 8 \times 6$ ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

42.00 Dry wash, 15 lbs. wide, course N. W.; ascend.

60.00 Ridge, bears N. and S. W.; descend.

68.50 Dry wash, 20 lbs. wide, course N. W.; ascend.

71.80 Dry wash, 10 lbs. wide, course N.

74.00 Ridge, bears N. and S. W.; descend.

BOOK 1815

Chains
78.00 Enter draw, course S. E.
80.00 Set a sandstone, $18 \times 8 \times 5$ ins., $\frac{1}{2}$ in. in the ground, for cor.
of sves. 21, 22, 27 and 28, marked with notches on S. and
3 notches on E. edge; dig pits, $18 \times 18 \times 12$ ins., in each sves.
5 ft. dist. and raise a mound of earth, 4 ft. base, 2 ft.
high, N. of cor.
Land mountains.
Soil, gravelly and stony; 3rd and 4th rate.
Timber, scattering cedar; undergrowth, algarrota and
trinitilla.
Mountains or land covered with dense undergrowth,
80.00 chs.

40.00 S. $89^{\circ} 51' E.$, on a random line bet. sves. 22 and 27
Set temp. $\frac{1}{4}$ sves. cor.
79.94 Enter set N. and S. line at cor. of sves. 22, 23, 26 and 27.
Shore S. run
N. $89^{\circ} 51' W.$, on a true line, bet. sves. 22 and 27.
Overgrownly rolling land, through scattering cedar timber
and dense algarrota brush.
39.97 Cuts in dry wash, 30 lbs. wide, course S. W.; ascend.
41.00 Set a sandstone, $18 \times 8 \times 6$ ins., $\frac{1}{2}$ in. in the ground, for
witness cor. to $\frac{1}{4}$ sves. cor. marked N. $6^{\circ} \frac{1}{2}$ on N. face; and
raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
47.00 Ridge, 150 ft. above wash, bears N. and S.; ascend.
55.00 Dry wash, 150 ft. below top of ridge, 15 lbs. wide, course
S.; ascend.
39.00 Ridge, bears N. and S.; descend.
77.00 Enter draw, course S.
79.94 The cor. of sves. 21, 22, 27 and 28.
Land, mountains and gently rolling.
Soil, gravelly and stony; 3rd and 4th rate.
Timber, scattering cedar; undergrowth, algarrota and
trinitilla.
Mountains or land covered with dense undergrowth,
79.94 chs.

February 9, 1905.

February 10: At 6^h 40^m a.m. l.m.t., I set off $34^{\circ} 53' N.$ the
lat. arc, $14^{\circ} 23' 8''$ on the circ. arc; and determine
meridian with the solar at the cor. of sves. 21, 22, 27

chains

and 28.

Plumer & run

N. 0° 02' W., bet. sres. 21 and 22.

28.00

Over mountainous land, ascending through dense brush. Top, bears N. W. and S. E.; descend along E. slope of ridge.

40.00

Set a sandstone, 18 x 10 x 4 ins., in a mound of stone, for

1/4 sec. cor. marked 1/4 on N. face, and raise a mound of

stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Rts impracticable.

73.00

Enter drain, course S. S. E.

80.00

Set a sandstone, 20 x 10 x 8 ins., 15 ins. in the ground, for

OK

cor. of sres. 15, 16, 21 and 22, marked

1/4

18 N on N.W., and

1 E on S.E. face, with 3 notches on S. and E. edges; from which

A cedar, 24 ins. diam., bears N. 26° W., 137 lbs. dist, marked

S 18 N R 4 E S 16 B S.; another tree, and raise a mound of

stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th water. Bitter, scattering cedar; undergrowth, algarrota and

Arctostaphylos. Mountainous or land covered with dense undergrowth, 80.00 chs.

40.00

S 89° 51' E., on a random line bet. sres. 15 and 22.

80.08

Set temp. 1/4 sec. cor.

Enter set N. and S. line 4 lbs. S. of cor. of sres. 14, 15, 22 and 23.

Plumer & run

N 89° 53' W., on a true line bet. sres. 15 and 22.

10.30

Over mountainous land, ascending through scattering cedar and dense brush.

18.00

Top of ridge, bears N.W. and S.W.; descend.

30.00

Enter valley, bears N.W. and S.W.

31.00

Strike across drain 6.00 chs N.

37.60

Very wash, 80 lbs. wide, course S. W.

40.04

Leave valley and ascend.

Set a sandstone, 18 x 8 x 6 ins., 15 ins. in the ground, for 1/4 sec. cor. marked 1/4 on N. face; from which

A cedar, 28 ins. diam., bears S. 11 1/2° E. 94 lbs. dist, marked 1/4 S 22 B S.

- 6 hrs. A road, 8 ins. diam., bears N. $26\frac{1}{2}^{\circ}$ W., 83 lbs. dist., marked $\frac{1}{4}$ S 15 B S.
- 43.50 Bridge, bears N. and S.; descend.
- 53.00 Enter draw, course S.
- 56.00 Dry wash, 10 lbs. wide, course S.
- 63.00 Leave draw; ascend.
- 69.00 Bridge, bears N. and S.; descend.
- 76.00 Enter draw, course S.
- 77.30 Dry wash, 20 lbs. wide, course S.
- 80.08 Spr. cor. of sec. 15, 16, 21 and 22.
Land, mountainous and level.
Soil, sandy, gravelly and stony; 3rd and 4th water.
Timber, scattering cedar and pinon; undergrowth,
manzanita, algarrota and tsittilla.
Mountains or land covered with dense undergrowth,
80.08 hrs.
- February 10. At this cor. I set off $14^{\circ} 21'$ S. on the decl.
arc; and, at 12th m. l. m. t., observed the sun on the
meridian; the resulting lat. is $34^{\circ} 53' N$ within 4'
of the proper lat.

- N. $0^{\circ} 02'$ W. lat. sec. 15 and 16.
Over level land, through dense algarrota brush.
- 8.00 Leave draw and ascend.
- 22.00 Top of spur, extending N.; descend.
- 40.00 Set a sandstone, $20 \times 12 \times 6$ ins., 15 ins. in the ground, for $\frac{1}{4}$ sec.
cor. marked $\frac{1}{4}$ on N. face; from which
A road, 5 ins. diam., bears N. $55\frac{3}{4}^{\circ}$ E., 81 lbs. dist., marked
 $\frac{1}{4}$ S 15 B S.
- A road, 5 ins. diam., bears N. $32\frac{1}{2}^{\circ}$ W., 69 lbs. dist., marked
 $\frac{1}{4}$ S 16 B S.
- 64.00 Deep gulch, 1 ch wide, course N.; ascend.
- 70.00 Bridge, bears N. and S. W.; descend.
- 75.50 Gulch, 15 lbs. wide, course S. W.; ascend.
- 80.00 Set a sandstone, $24 \times 14 \times 10$ ins., in a ground of stone, for
cor. of sec. 9, 10, 15 and 16, marked with 4 notches on S. and
3 notches on E. edge; from which
A road, 12 ins. diam., bears N. $53\frac{3}{4}^{\circ}$ E., 81 lbs. dist., marked
S 18 N R 4 E S 10 B S.
- A road, 18 ins. diam., bears S. $30\frac{1}{2}^{\circ}$ E., 63 lbs. dist., marked
S 18 N R 4 E S 15 B S.

6hms
E

A pinon, 5 ins. diam., bears S. $38\frac{1}{2}^{\circ}$ W., 236 lbs. dist., marked
S 18 N R 4 E S 16 B S.

A cedar, 14 ins. diam., bears N. $53\frac{1}{2}^{\circ}$ W., 46 lbs. dist., marked
S 18 N R 4 E S 9 B S.

Ground, mountainous and level.

Soil, gravelly, stony and rocky; 3rd and 4th rate.

Timber, scattering cedar and pinon; undergrowth, al-
garrota, manzanita and trinitilla.

Mountains or land covered with dense undergrowth,
80.00 lbs.

February 10, 1905.

February 11: At 8:50 a.m. l.m.t. & set off $84^{\circ} 54'$ in the
lat. and $14^{\circ} 3'$ S. on the decl. arc, and determine a
meridian with the solar at the cr. of sves. 9, 10, 15 and 16.
Shower & rain

S. $89^{\circ} 53'$ E., on a random line bet. sves. 10 and 15.

36.00 Set temp. $\frac{1}{4}$ sec. cr.

80.12 Enter set N. and S. line 2 lbs. S. of cr. of sves. 10, 11, 14
and 15.

Shower & rain

N. $89^{\circ} 54'$ W., on a true line bet. sves. 10 and 15.

Over mountainous land, descending through scattering
timber and dense brush.

5.00 Draw, 80 lbs. wide, course S.; ascend.

10.00 Spur, extending S. W.; descend.

12.00 Draw, 1 ch wide, course S.; ascend.

16.00 Spur, extending S. W.; descend.

27.00 Dry wash, 15 lbs. wide, course S.; ascend.

34.00 Begin steep ascent over sandstone terraces; leave dense brush.

41.00 Balls on face of bluff

44.00 Top of high, rocky ridge, bears N. and S.

OK Set a sandstone, $20 \times 10 \times 4$ ins., in a mound of stone, for
reference cr. to $\frac{1}{4}$ sec. cr. marked N. $6\frac{1}{4}^{\circ}$ on N. face; and raised
a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cr. Bits in-
practicable; descend.

58.50 Enter heavy timber and dense brush, bear N. and S.

67.30 Foot of steep descent.

75.50 Dry wash, 10 lbs. wide, course S. W.; ascend.

80.12 Set cr. of sves. 9, 10, 15 and 16.

Ground, mountainous.

BOOK

1815

6 hrs

Soil, gravelly, stony and rocky; 3rd and 4th rate.
 Timber, cedar, fir and oak; undergrowth, manzanita,
 algarrota and tsittila.

Mountains, mainly timbered or land covered with dense
 undergrowth, 80.12 chs.

February 11: At this cor. I set off $14^{\circ} 01' S.$ on the decl.
 arc; and, at 12^h 5 m. t., and observed the sun on the
 meridian; the resulting lat. is $34^{\circ} 54'$.

$N. 0^{\circ} 02' W.$, lat. sec. 9 and 10.

Over mountains, ascending through heavy timber
 and dense undergrowth.

38.00 Top of rocky spur, extending E.; descend.

40.00 Set a sandstone, $20 \times 6 \times 6$ ins. in a mound of stone, for
 $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; from which
 I erect, 16 ins. diam., bears $N. 51^{\circ} E.$, 80 lbs. dist., marked
 $\frac{1}{4}$ S 10 B S.

A cedar, 8 ins. diam., bears $N. 78^{\circ} 2' W.$, 126 lbs. dist., marked
 $\frac{1}{4}$ S 9 B S., near heavy timber.

45.00 Gulch, 20 lbs. wide, across E.; ascend.

47.00 Sharp spur, extending E.; descend.

48.70 Gulch, 20 lbs. wide, across E.; ascend.

52.00 Spur, extending E.; descend.

57.00 Gulch, 600 ft. below $\frac{1}{4}$ sec. cor., 20 lbs. wide, across S. E.;
 ascend.

72.00 Top of ridge, 500 ft. above gulch, bears E. and W.; ascend.

80.00 Set a sandstone, $20 \times 12 \times 4$ ins. in a mound of stone, for cor.
 of sec. 3, 4, 9 and 10, marked with 5 notches on S. and 3
 notches on E. edge; and raised a mound of stone, 3 ft. base,
 2 ft. high, W. of cor. Pts. impracticable.

Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, cedar and fir; undergrowth, manzanita
 and algarrota.

Mountains or land covered with dense undergrowth,
 80.00 chs.

February 11, 1905.

February 12: At 8^h 38^m a.m., l.m.t., I set off $34^{\circ} 55'$ on the
 lat. arc; $13^{\circ} 43' S.$ on the decl. arc; and determine a
 meridian with the solar at the cor. of sec. 3, 4, 9 and 10.

Chains	Plumer & run S 89° 54' E., on a random line bet. svs. 3 and 10.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.07	Intersect N. and S. line 8 lbs. N. of cor. of svs 2, 3, 10 and 11. Plumer & run N. 89° 51' W., on a true line bet. svs. 3 and 10. Over mountainous land, descending through scattering timber and dense brush.
14.00	Dry wash, 30 lbs. wide, course S.; ascend.
16.00	Plumer, extending S.; descend.
20.10	Dry wash, 15 lbs. wide, course S.; ascend.
25.00	Plumer, extending S.; descend.
37.00	Dry wash, 20 lbs. wide, course S.; ascend.
39.00	Plumer, bears N. and S.; descend.
40.03 $\frac{1}{2}$	Set a sandstone, 20 x 10 x 8 ins., in a mound of stone, for at $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
60.00	Gulch, 30 lbs. wide, course S. E.; begin ascent along N. slope of ridge.
75.80	Top of gap, bears N. and S.; descend.
80.07	the cor. of svs. 3, 4, 9 and 10. Land, mountainous. Soil, stony and rocky; 4th water. Timber, cedar, pine and fir; undergrowth, manzanita and algarrota. Mountainous or land covered with dense undergrowth, 80.07 chs. February 12: At this cor. Set off 13° 41' S. on the arch. arc; and, at 12 ^h 4 ^m l. m. t., observe the sun on the meridian; the resulting lat. is 34° 54' N. within $\frac{1}{4}$ of the proper lat.
1.80	N. 0° 02' W., on a true line bet. svs. 3 and 4. Over mountainous land, ascending, through dense brush.
27.15	Gulch, 15 lbs. wide, course, W.; ascend. E. slope of mountain, 800 ft. above gulch; begin steep descent, through scattering pine.
40.00	Set a cross (x) at the exact cor. point, for $\frac{1}{4}$ sec. cor. marked at $\frac{1}{4}$ on W. side of cross; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

1815

BOOK

Chains
58.20

Spring creek, 30 lbs. wide, 1200 ft. below top of E. slope of mountain, course N.; lower pine timber; ascend.

65.00 Top of N. slope of spur; descend.

68.00 Gulch, 20 lbs. wide, course S. W., thence S.; ascend.

70.68 Intersect N. edge of Spr. 6.52 chs. W. of cor. of secs. 35 and 36,

or

S. 19 N., R. 4 E., which is a sandstone, 6 x 6 x 6 ins. above ground, marked and witnessed as described by the survey general. & destroy marks on the two bearing trees S. of the line referring to S. 18 N., R. 4 E.

Set a sandstone, 20 x 8 x 6 ins. in a mound of stone, for closing cor. of secs. 3 and 4 marked 66 on S., with 3 grooves on E. and N. faces; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S. of cor. its impracticable.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, scattering pine, cedar, juniper and oak; undergrowth, manzanita and algaroba.

Mountainous or land covered with dense undergrowth,
70.68 chs.

February 12, 1905.

February 13: At 8^h 30^m a.m., l.m.t., I lay off 34° 51' in the lat. arc, 13° 23' S. on the arc, and determine a meridian with the solar at the cor. of secs. 32 and 33 on the S. edge of the Spr., as heretofore described.

Thence S. and

N. 0° 02' N., bet. secs. 32 and 33.

Over mountainous land, descending.

10.00 Dry wash, 15 lbs. wide, course S. E.; ascend.

12.00 Spur, extending S. E.; descend.

22.00 Dry wash, 10 lbs. wide, course S. E.; enter dense brush and ascend.

25.00 Spur, bears N. W. and S. E.; thence along E. slope of ridge

40.00 Set a malpais stone, 18 x 8 x 6 ins. 12 ins. in the ground, for 1/4 sec. cor. marked 1/4 on N. face; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.; descend.

53.50 Spur, 60 lbs. wide, course S. E.; ascend.

55.20 Ridge, bears N. W. and S. E.; descend.

60.50 Dry wash 10 lbs. wide, course S. E.; ascend.

64.00 Ridge, bears E. and W.; descend.

69.25 Dry wash, 10 lbs. wide, course S. E.; ascend.

chains
80.00
Set a sandstone, 18x8x6 ins., 12 ins. in the ground, for
cor. of srs. 28, 29, 32 and 33, marked with 1 notch on S.
and 4 notches on E. edge, and raised a mound of stone,
2 ft. base, 1 1/2 ft. high, N. of cor.
Land, mountains.
Soil, gravelly and stony; 3rd and 4th rate.
No timber, undergrowth, algarrota and testilla.
Mountains or land covered with dense undergrowth,
80.00 chs.

S. 89°52' E., on a random line bet. srs. 28 and 33.
40.00 Set temp. 1/4 sec. cor.
80.02 Enfranch. N. and S. line at cor. of srs. 27, 28, 33 and 34.
Placer & run
N. 89°52' W., on a line bet. srs. 28 and 33.
Over mountains land, descending through dense brush.
28.00 Dry wash, 15 lbs. wide, course S. W.; ascend.
36.00 Top of S. slope of ridge; descend.
40.01 Set a large, rough stone, 18x8x4 ins., in a mound of stone,
for 1/4 sec. cor. marked 1/4 on N. face; from which
A cedar, 12 ins. diam., bears N. 86 3/4° E., 56 lbs. dist., marked
1/4 S 28 B S.
A cedar, 18 ins. diam., bears S. 45° E., 104 lbs. dist., marked
1/4 S 33 B S.
55.00 Spring creek, 40 lbs. wide, course S.; ascend.
76.00 Ridge, bears N. W. and S. E.; descend.
80.02 Set cor. of srs. 28, 29, 32 and 33.

Land, mountains.
Soil, gravelly and stony; 3rd and 4th rate.
Timber, scattering cedar, undergrowth, ~~undergrowth~~, al-
garrota and testilla.
Mountains or land covered with dense undergrowth,
80.02 chs.

February 13. At this cor. I set off 13°21' S. on the steel
rod; and, at 12^h3^m p. m. t., observed the sun on the
meridian; the resulting lat. is 34°53' N., within 0°4'
of the proper lat.

N. 0°02' N., bet. srs. 28 and 29.
Over mountains land, ascending through scattering cedar
and dense brush.

8.00 Ridge, bars N. W. and S. E.; descend.
36.00 Point, bars E. and W.; enter gently rolling land.
40.00 Set a conglomerate stone, 18 x 8 x 4 ins., 12 ins. in the ground,
OK for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face; dig pits, 18 x 18 x 12
 $\frac{1}{2}$ ins., N. and S. of stone, 3 ft. dist., and raise a mound of
earth, 3 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
From this cor. from cabin land will bar about 20.00
chs. E.

44.00 Trail, bars N. W. and S. W.

62.70 Dry wash, 40 lbs. wide, course S. E.

73.00 Same wash, 40 lbs. wide, course S. W.

79.00 Set a sandstone, 18 x 8 x 6 ins., 12 ins. in the ground, for wit-
OK ness cor. to cor. of sres. 20, 21, 28 and 29, marked W 6 on
W. face, with 2 notches on S. and 4 notches on E. edge;
from which

A cedar, 15 ins. diam., bars S. 60° W., 320 lbs. dist., marked
W 6 S 18 N R 4 E S 29 B S

A cedar, 14 ins. diam., bars N. 22½° W., 119 lbs. dist., marked
W 6 S 18 N R 4 E S 20 B S. no other trees and raise a mound
of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

80.00 Earth in dry wash, 40 lbs. wide, course S. E.

Land, mountains, gently rolling and level.

Soil, sandy, gravelly and stony; 3rd and 4th rank.

Timber, scattering cedar; undergrowth, algaroba and
casahuate.

Mountains or land covered with dense undergrowth,
80.00 chs.

S. 89° 52' E., on a random line bet. sres. 21 and 28, from cor. point.
40.00 Set trip. $\frac{1}{4}$ sec. cor.

80.00 Enter at N. and S. line 2 lbs. N. of cor. of sres. 21, 22, 27
and 28.

Thinner Bar

N. 89° 51' W., on a line bet. sres. 21 and 28.

Over level land, through dense brush.

3.00 Bar, draw and descend.

12.00 Ridge, bars N. and S.; descend.

35.00 Dry wash, 20 lbs. wide, course S. W.; ascend.

39.50 Same, extending S.; descend.

40.00 Set a sandstone, 18 x 9 x 4 ins., 12 ins. in the ground, for
OK $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and raise a mound of

Chains

- stone, 2 ft. base, $\frac{1}{2}$ ft. high, N. of cor.
 47.00 Spring creek, 40 lbs. wide, course S.
 51.00 Ascent.
 60.00 Trail, bears N. and S. W.
 63.00 Ridge, bears N. and S.; descend.
 78.00 Enter draw, course S.
 80.00 The cor. point of secs. 20, 21, 28 and 29.

Land, mountainous and level.

Soil, gravelly and stony; 3rd and 4th water.

Timber, scattering cedar; undergrowth, algarrota and
 tesotilla.

Mountainous, or land covered with dense undergrowth,
 80.00 chs.

February 13, 1915.

February 14: At 8⁴² a.m. l.m.t., Port off 34° 52' in the
 lat. arc, 13° 03' S. on the decl. arc; and determine a
 meridian with the solar at the cor. point of secs. 20, 21, 28
 and 29.

Plumer sign

N. 0° 02' N., bet. secs. 20 and 21, from cor. point in wash.
 Over level land, through dense algarrota brush.

5.50 Dry wash, 40 lbs. wide, course S. W.

12.30 Dry wash, 20 lbs. wide, course S. W.

14.40 Same wash, course S. E.

30.60 Same wash, course S. W.

35.00 Draw, descend.

40.00 Set a sandstone, 18 x 10 x 8 ins., in a mound of stone, for $\frac{1}{4}$ sec.

OK up. marked from R. face; and raise a mound of stone, 2 ft.
 base, $\frac{1}{2}$ ft. high, N. of cor. Site impracticable.

48.00 Top of spur extending E.; descend.

60.00 Draw, 150 lbs. wide, course E., bear dense brush; ascend.

74.00 Top E. slope of spur; descend.

80.00 Set a sandstone, 20 x 6 x 4 ins., 15 ins. in the ground, for
 cor. of secs. 16, 17, 20 and 21, marked with 3 notches on S. and
 4 notches on E. edge; and raise a mound of stone, 2 ft.
 base, $\frac{1}{2}$ ft. high, N. of cor. Site impracticable.

Land, mountainous and level.

Soil, sandy, gravelly and stony; 3rd and 4th water.

Timber, scattering cedar; undergrowth, algarrota and tesotilla.

chains	Mountains or land covered with dense undergrowth, 80.00 chs.
40.00	S. 89° 51' E., on a random line bet. sves. 16 and 21. Set temp. $\frac{1}{4}$ ore. cov.
80.06	Enter set N. and S. line $\frac{1}{4}$ lks. S. of cov. of sves. 15, 16, 21 and 22. Shovel & run N. 89° 53' N., on a true line bet. sves. 16 and 21. Over mountains land, ascending through dense brush.
12.00	Top, bars N. and S.
27.00	Begin descent, bars N. and S.
39.20	Set a sandstone, 18 x 6 x 6 ins., 12 ins. in the ground, for witness cov. to $\frac{1}{4}$ ore. cov. marked N 6 $\frac{1}{4}$ on N. face; from which An ash, 12 ins. diam., bars N. 26 $\frac{1}{2}$ ° E., 80 lks. dist., marked N 6 $\frac{1}{4}$ S 18 B S.
	An ash, 12 ins. diam., bars S. 13 $\frac{1}{2}$ ° N., 148 lks. dist., marked N 6 $\frac{1}{4}$ S 24 B S.
40.03	The point for $\frac{1}{4}$ ore. cov. falls in Spring creek, 40 lks. wide, course S.
42.00	Asend.
58.00	Ridge, bars N. and S.; ascend.
59.00	Gravel, bars N. and S.
66.70	Dry wash, 30 lks. wide, course S.; ascend; have dense brush.
80.06	Set cov. of sves. 16, 17, 20 and 21. Land, mountains and hill. Soil, gravelly and stony; 3rd and 4th tract. Timber, a few cedars and ash; undergrowth, algarrota, tostilla and manzanito. Mountains or land covered with dense undergrowth, 80.06 chs.
	February 14: At this pt. I set off 13° 01' S. on the decl. arc; and, at 12 ^h 10 ^m l. m. t., observed the sun on the meri- dian; the resulting lat. is 34° 53' N.
	N. 0° 02' N., bet. sves. 16 and 17. Over mountains land, ascending.
6.50	Dry wash, 15 lks. wide, course S. E.; ascend.
17.00	Setber tanks, bar 8.00 chs. E.
20.00	Spur, extending S. E.; descend.
31.30	Dry wash, 20 lks. wide, course S. E.; enter dense brush.

- 6 chains
39.85 Set a sandstone, $18 \times 7 \times 4$ ins., 12 ins. in the ground, for witness cor. to $\frac{1}{4}$ sec. cor. marked $N 6 \frac{1}{4}^{\circ} W$ on N. face; from which
- A cedar, 6 ins. diam., bears $N. 56 \frac{1}{4}^{\circ} E.$, 82 lbs. dist., marked $N 6 \frac{1}{4}^{\circ} S 16^{\circ} 13' S$.
- A cedar, 6 ins. diam., bears $N. 54^{\circ} W$, 56 lbs. dist., marked $N 6 \frac{1}{4}^{\circ} S 17^{\circ} 13' S$.
- 40.00 Pable in small dry wash, course S.E.
- 41.00 Ascend through cedar timber.
- 55.00 Spruce, extending S.E.; descend.
- 70.00 Trail, bears $N. W.$ over S.E.
- 80.00 Set a sandstone, $18 \times 10 \times 4$ ins., 12 ins. in the ground, for cor. of secs. 8, 9, 16 and 17, marked with 4 notches on S. and E. faces; from which
- A cedar, 18 ins. diam., bears $S. 36 \frac{3}{4}^{\circ} W$, 120 lbs. dist., marked $S 18^{\circ} N R 4^{\circ} E S 17^{\circ} 13' S$.
- A cedar, 16 ins. diam., bears $N. 63 \frac{1}{2}^{\circ} W$, 83 lbs. dist., marked $S 18^{\circ} N R 4^{\circ} E S 17^{\circ} 13' S$; no other trees within limit, and raised mound of stone, 2 ft. base, $1 \frac{1}{2}$ ft. high, W. of cor. pits impracticable.
- Land, mountainous and level.
- Soil, gravelly and stony; 3rd and 4th rate.
- Timber, cedar; undergrowth, algaroba and manzanita.
- Mountains or land covered with dense undergrowth, 80.00 chs.

February 14, 1905.

- Note: Heavy rains and snow since the evening of February 14, prevented work until February 18.
- February 18: At $8^{h} 36^{m}$ a.m. l.m.t., S or Koff $34^{\circ} 54' N$ the lat. acc., $110^{\circ} 45' S$ on the circ. arc; and determine a meridian with the solar at the cor. of secs. 8, 9, 16 and 17.
- Thence S run
- $S. 89^{\circ} 53' E.$, on a random line bet. secs. 9 and 16.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 79.98 Return set N. and S. line 3 lbs. N. of cor. of secs. 9, 11, 15 and 16.
- Thence S run
- $N. 89^{\circ} 52' W$, on a true line bet. secs. 9 and 16.
- Over level land, through dense brush and heavy timber.
- 15.00 Dry wash, 40 lbs. wide, course S.E.; ascend.
- 23.00 Set, bears N. and S.; thence along S. slope of ridge.

1815

BOOK

chains
39.99OK
1/4

Set a sandstone, 20 x 12 x 4 ins., in a mound of stone, for 1/4 sec. cor. marked 1/4 on N. face; from which a cedar, 18 ins. diam., bears S. 30° E., 55 lbs. dist., marked 1/4 S 16 B S.

A cedar, 20 ins. diam., bears N. 8 1/4° W., 103 lbs. dist., marked 1/4 S 9 B S.; have hairy timber.

52.00 Begin strip, descend.

72.80 Spring creek, 40 lbs. wide, course S.; ascend.

79.98 Spr. cor. of secs. 8, 9, 16 and 17.

Land, mountains and bar.

Soil, gravelly, stony and rocky; 3rd and 4th roots.

Timber, cedar, fir and pine; undergrowth, man-
ginitis and algarrota.Mountains, heavily timbered or land covered with
dense undergrowth, 79.98 chs.

February 18: At this cor. set off 4° 38' S. on the decl. arc,
and, at 12 1/4 m. N. E., observe the sun on the meridian,
the resulting lat. is 34° 55' N. within 0° 04' of the proper
lat.

N. 0° 02' W., bet. secs. 8 and 9.

Over mountainous land, descending through scattering timber and
dense brush.

13.00 Spr. cor. bears N. W. and S. W.

14.50 Spring creek, 40 lbs. wide, course S. E.

30.00 Same creek, course S. W.

31.00 Spr. cor. bears N. W. and S. E.

33.00 Same creek, course S. E.; ascend.

37.00 Spr. cor. bears S. and W.; ascend.

40.00 Set a sandstone, 18 x 10 x 4 ins., 12 ins. in the ground, for 1/4
sec. cor. marked 1/4 on N. face; and raise a mound of stone,
2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

50.50 Spr., extending W.; ascend.

56.00 Deep gulch, 40 lbs. wide, course W.; ascend.

62.00 W. slope spur; ascend.

80.00 Set a sandstone, 18 x 10 x 6 ins., in a mound of stone, for cor.
of secs. 4, 5, 8 and 9, marked with 5 notches on S. and 4
notches on E. ridge; and raise a mound of stone, 2 ft. base,
1 1/2 ft. high, N. of cor. Pits impracticable.

Land, mountains.

Soil, gravelly, stony and rocky; 3rd and 4th roots.

Chams

Timber, scattering cedar and fir; undergrowth, man-
ginito and alder.
Mountains or land covered with dense undergrowth,
80.00 chs.

February 18, 1905.

February 19; At 8^h 40^m a.m., l.m.t., I set off 34° 55' N
the lat. arc; 11° 19' S. on the decl. arc; and determine
a meridian with the solar at ev. of sres. 4, 5, 8 and 9.

Thmer & run

S. 89° 52' E., on a random line bet. sres. 4 and 9.

40.00

Set temp. $\frac{1}{4}$ sec. ev.

49.95

Enter set N. and S. line 11 lbs. N. of ev. of sres. 3, 4, 9
and 10.

Thmer & run

N. 89° 47' E., on a true line bet. sres. 4 and 9.

Over mountainous land, descending through dense brush.

9.00

Gulch, 20 lbs. wide, course S. S. E.; ascend.

21.00

Spr, 700 ft. above gulch, extending S.; descend.

33.00

Gulch, 500 ft. below top of spr, 20 lbs. wide, course
S.; ascend.

39.00

Spr, extending S.

39.97 $\frac{1}{2}$

Set a sandstone, 18x10x4 ins., in a mound of stone, for
 $\frac{1}{4}$ sec. ev. marked $\frac{1}{4}$ on N. face; and raise a mound of
stone, 2 ft. base, $1\frac{1}{2}$ high, N. of ev. It's impracticable.

81*

41.00

Descend.

47.80

Gulch, 600 ft. below spr, 20 lbs. wide, course S.; ascend.

58.00

Spr, 400 ft. above gulch, extending S. N.; descend.

73.80

Enter gulch, 400 ft. below spr, course N.

77.60

Leave gulch, course N. N.

79.95

Arr. ev. of sres. 4, 5, 8 and 9.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, scattering cedar; undergrowth, manginito.

Mountains or land covered with dense undergrowth,

49.95 chs.

February 19: At this ev. I set off 11° 18' S. on the decl.
arc; and, at 12^h 5^m d.m.t., observe the sun on the
meridian; the resulting lat. is 34° 55'.

N. 0° 02' E., on a true line bet. sres. 4 and 5.

6 chains Over mountainous land, along W. slope of mountain through dense manzanito brush.
80 Gulch, 20 lbs. wide, course N. W.
3.50 Begin ascent.
19.50 Spring creek, 40 lbs. wide, course S. S. W.; ascend.
20.00 Drail, bars N. and S. W.
32.50 Dry gulch, course S. E.
40.00 Set a sandstone, 18 x 8 x 8 ins. in a mound of stone, for 1/4 sec. cor. marked 1/4 on W. face; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pit impracticable.
52.30 Gulch, 20 lbs. wide, course S. S. E.; begin steep ascent S. slope of mountain.
70.52 Enter sec 11. Bay of Sp. 6.73 chs. W. of cor. of secs. 34 and 35, S 19 N., R. 4 E. which is a sandstone, 6 x 6 x 6 ins. above ground, marked and witnessed as described by the surveyor general.
Set a sandstone, 18 x 10 x 6 ins. in a mound of stone, for gloom cor. of secs. 4 and 5, marked 66 on S.; with 4 grooves on E. and 2 grooves on W. face; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S. of cor. Pit impracticable.
Land, mountainous.
Soil, stony and rocky; 4th rate.
Timber, a few cedar, pine and oak; undergrowth, manzanito.
Mountainous land covered with dense undergrowth, 70.52 chs.
February 19, 1905.

34-54 N.

February 20: At 8^h 28^m a.m. l.m.t. lay off 34° 51' at the lat. arc; 10.58 d. on the arc, and determine a meridian with the solar at the cor. of secs. 5, 6, 31 and 32, on the S. bdy. of the Sp. as heretofore described.
Shaded Camp
N. 0° 3' W., bet. secs. 31 and 32.
Over mountainous land, ascending.
13.70 Enter dense foothill brush, bars N. and S. W.
25.50 Ridge, bars E. and W.; descend.
29.75 Dry wash, 10 lbs. wide, course E.; ascend.
32.50 Ridge, bars E. and W.; descend.

38.00 Foot, bars E. and W.; ascend.
 40.00 Ridge, bars E. and W.
 42.00 Set a sandstone, 20 x 10 x 8 ins, 15 ins. in the ground, for
 1/4 sec. cor. marked 1/4 on N. face; dig pits, 18 x 18 x 12
 ins., N. and S. of stone, 3 ft. dist. and raise a mound of
 earth, 3 1/2 ft. base, 1 1/2 ft. high, W. of cor.; descend.
 44.15 Dry wash, 10 fhs. wide, course E.; ascend.
 48.00 Spur, extending E.; descend.
 62.00 Dry wash, 20 fhs. wide, course E.; ascend.
 73.00 Ridge, bars E. and W.; descend.
 80.00 Set a sandstone, 18 x 10 x 8 ins, 12 ins. in the ground, for
 cor. of secs. 29, 30, 31 and 32, marked with 5 notches on E.
 and 1 notch on S. edge; dig pits, 18 x 18 x 12 ins., in wash
 sec., 5 1/2 ft. dist. and raise a mound of earth, 4 ft. base,
 2 ft. high, N. of cor.
 Land, mountainous.
 Soil, gravelly; 3rd rate.
 Timber, scattering cedar, undergrowth, hickory and
 algaroba.
 Mountainous or land covered with dense undergrowth,
 80.00 chs.

S. 89° 52' E., on a random line bet. secs. 29 and 32.
 40.00 Set temp. 1/4 sec. cor.
 80.05 Enter at N. and S. line 2 fhs. N. of cor. of secs. 28, 29,
 32 and 33.
 Shovel & run
 N. 89° 51' W., on a true line bet. secs. 29 and 32.
 Over mountainous land, ascending through dense brush.
 12.00 Trail, bars N. and S.
 16.00 Top of ridge, bars N. and S.; descend.
 25.00 Dry wash, 10 fhs. wide, course S.; intergrowth rolling land.
 38.00 Dry wash, 15 fhs. wide, course S.
 40.02 1/2 Set a sandstone, 18 x 8 x 4 ins, 12 ins. in the ground, for
 1/4 sec. cor. marked 1/4 on N. face; dig pits, 18 x 18 x 12 ins., E.
 and N. of stone, 3 ft. dist. and raise a mound of earth,
 3 1/2 ft. base, 1 1/2 ft. high, N. of cor.
 42.00 Ascend.
 48.00 Ridge, bars N. and S.; descend.
 57.00 Dry wash, 15 fhs. wide, course S. E.; ascend.
 80.05 On cor. of secs. 29, 30, 31 and 32.

6 chains

Land, mountains and gently rolling.
Soil, gravelly and stony; 2nd and 4th roots.
Timber, scattering cedar; mangrowth, kasitilla and
algavita.

Mountains or land covered with dense mangrowth,
80.05 chs.

February 20: At this cor. I set off $10^{\circ} 55' S.$ over the decl.
arc, and at $12^{\circ} 5^m$ l. m. t., observed the sun on the meri-
dian; the resulting lat. is $34^{\circ} 58' N.$ within $0' 04''$ of
the former lat.

$N. 89^{\circ} 52' W.$ on a random line bet. sres. 30 and 31.

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

79.42 Intersect $N.$ bdy. of the S. p. 3 lts. S. of cor. of sres. 25, 30,
31 and 36, as heretofore described.

Shmed & run

$S. 89^{\circ} 51' E.$, on a true line bet. sres. 30 and 31.

Over mountains land, descending through heavy cedar
timber.

29.40 Enter draw, course S.

30.45 Dry wash, 30 fms. wide, course S. E.; leave heavy timber.

34.90 Lower draw. Begin steep ascent.

39.42 Set a malpais stone, $18 \times 12 \times 5$ ins., in a mound of stone,
for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on $N.$ face, from which
81 A cedar, 12 ins. diam., bears $S. 82^{\circ} E. N.$ 59 lts. dist. marked
— $\frac{1}{4}$ S 31 B S. no other tree, and raise a mound of stone, 2 ft.
base, $1\frac{1}{2}$ ft. high $N.$ of cor. Fits impracticable.

47.40 Ridge, bears $N. W.$ and S. E.; descend.

59.30 Dry wash, 10 lts. wide, course S. E., ascend through dense
brush.

74.30 Ridge, bears $N.$ and S.; descend.

79.42 Set cor. of sres. 29, 30, 31 and 32.

Land, mountains and level.

Soil, gravelly and stony; 2nd and 4th roots.

Timber, cedar; mangrowth, algavita, mangonito and
kasitilla.

Mountains, heavily timbered or land covered with
dense mangrowth, 79.42 chs.

$N. 0^{\circ} 03' W.$ bet. sres. 29 and 30.

Over mountains land, descending through dense brush

- Chains
20.30 Dry wash, 20 lbs. wide, course E.
23.65 Dry wash, 15 lbs. wide, course S. E.; ascend.
36.00 Enter scattering cedar timber bars E. and W.
40.00 Set a sandstone, 18 x 12 x 4 ins., 12 ins. in the ground, for
OK $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face, from which
a cedar, 12 ins. diam, bars S. 45° E., 12 lbs. dist, marked
 $\frac{1}{4}$ S 29° B S.
A cedar, 10 ins. diam, bars S. 69 $\frac{1}{2}$ ° W., 115 lbs. dist, marked
 $\frac{1}{4}$ S 30° B S. and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft.
high, W. of cor.
44.00 Top of ridge, bars E. and W.; ascend.
80.00 Set a millstone, 18 x 12 x 6 ins., 12 ins. in the ground,
OK for cor. of secs. 19, 20, 29 and 30, marked with 2 notches on
S. and 5 notches on E. edge; and raise a mound of stone,
2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
Land, mountainous.
Soil, gravelly and stony; 3rd and 4th rate.
Timber, scattering cedar; undergrowth, algaroba and
manzanita.
Mountainous or land covered with dense undergrowth,
80.00 cont.

February 20, 1905.

- February 21: At 8^h 44^m a.m., l.m.t., set off 34° 53' N.
the lat. arc, 10° 36' S. on the arc; and determine
a meridian with the solar at the cor. of secs. 19, 20, 29
and 30.
Placed 8 am
S. 89° 51' E., on a random line bet. secs. 20 and 29.
40.00 Set temp. $\frac{1}{4}$ sec. cor.
79.98 Enter set N. and S. line 4 lbs. S. of cor. ^{point} of secs. 20, 21, 28
and 29.
Placed 8 am
N. 89° 53' W., on a line bet. secs. 20 and 29, from
cor point in wash.
Over level land, through dense algaroba brush.
4.00 Ascend.
25.00 Top of ridge, bars N. W. and S. E.; ascend.
39.99 Set a sandstone, 18 x 12 x 4 ins., 12 ins. in the ground, for
OK $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and raise a mound of
stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

6 hrs 42.50 Dry wash, 15 lbs. wide, course S. E.; ascend.
53.85 Dry wash, 10 lbs. wide, course S.
65.00 Top of ridge, bars N. W. and S. W.; descend.
79.98 Sh. cr. of sres. 19, 20, 29 and 30.
Land, mountains.
Soil, gravelly and stony; 3rd and 4th rats.
Timber, scattering cedar; undergrowth, algarrota.
Mountains or land covered with dense undergrowth,
79.98 chs.

N. 89° 51' W., on a random line bet. sres. 19 and 30.
40.00 Set temp. $\frac{1}{4}$ sec. cr.
79.38 Intersect N. bdy. of Sp. 2 lbs. N. of cr. of sres. 19, 24, 25
and 30, as here before described.
Thinner Sp. 1
S 89° 52' E., on a true line bet. sres. 19 and 30.
Over mountainous land, ascending through dense
algarrota bush.
6.00 Ridge, bars N. W. and S. E.; descend.
14.70 Gulch, 20 lbs. wide, course S.; ascend.
28.00 Ridge, bars N. and S.; descend.
39.38 Set a sandstone, 16 x 12 x 11 ins., in a mound of stone, for
 $\frac{1}{4}$ sec. cr. marked $\frac{1}{4}$ on N. face, and raise a mound of
stone, 2 ft. base, 12 ft. high, N. of cr. Pits impracticable.
40.15 Gulch, 25 lbs. wide, course S.; ascend.
68.00 Ridge, bars N. and S.; descend.
77.00 Gulch, 20 lbs. wide, course S.; ascend.
79.38 Sh. cr. of sres. 19, 20, 29 and 30.
Land, mountains.
Soil, gravelly and stony; 4th rats.
Timber, scattering cedar; undergrowth, algarrota and
mangonito
Mountains or land covered with dense undergrowth,
79.38 chs.
February 21. At this cr. Set off 10° 34' S. on the decl. and
and, at 12^h 3^m l. m. t., observe the sun on the meridian;
the resulting lat. is 34° 53' N.

N. 11° 03' W., bet. sres. 19 and 20.
Over mountainous land, ascending through dense bush.
15.00 Road sandstone bdy., bars 10.00 chs. E.

- 20.00 Top of ridge, bears N. W. and S. E.; descend.
- 29.50 Spot, bears E. and W.; ascend.
- 34.00 Spur, extending E.; descend.
- 40.00 Set a sandstone, 18 x 8 x 6 ins. in a mound of stone, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
- 51.80 Dry wash, 10 lbs. wide, course E.; ascend.
- 71.00 Spur, thence along E. slope of ridge.
- 80.00 Set a sandstone, 20 x 8 x 6 ins. in a mound of stone, for cor. of secs. 17, 18, 19 and 20, marked with 3 notches on E. and 5 notches on E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
- Land, mountainous.
- Soil, gravelly and stony; 3rd and 4th water.
- Shrub, a few cedars; smogwort, algarrota and trinitella.
- Mountainous or land covered with dense smogwort, 80.00 chs.

February 21, 1905.

February 22: At 8^h 35^m a.m. l.m.t., I set off 34° 54' N. on the lat. arc, 10° 14' S. on the mer. arc, and determine a meridian with the solar at the cor. of secs. 17, 18, 19 and 20.

Thence to run

S. 89° 53' E., on a random line bet. secs. 17 and 20.

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

80.03 Enter set N. and S. line at the cor. of secs. 16, 17, 20 and 21.

Thence to run

N. 89° 53' W., on a random line bet. secs. 17 and 20.

Over mountainous land, ascending.

85.00 Top of S. slope of ridge; ascend.

40.01 $\frac{1}{2}$ Set a sandstone, 18 x 8 x 6 ins. 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

42.50 Embank, 20 lbs. wide, course S.; ascend.

26.00 Spur, extending E.; descend, through dense brush.

Chains
78.50

80.03

Gravel, 20 lbs. wide, course S. ascend.

Str. cr. of srs. 17, 18, 19 and 20.

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rats.

Timber scattering over; undergrowth, algarrota.

Mountainous or land covered with dense undergrowth, 80.03 chs.

40.00

N. 89° 52' W., on a random line bet. srs. 18 and 19.

Set temp. $\frac{1}{4}$ sec. cr.

79.29 Entered N. body of Spr. 5 lbs. S. of cr. of srs. 13, 18, 19 and 24, as heretofore described.

Thence E. on

S. 89° 50' E., on a true line bet. srs. 18 and 19.

Over mountainous land, ascending through dense brush.

8.00

Spr. extending S.; descend.

15.50

Gravel, 20 lbs. wide, course S.; ascend.

22.50

Spr. extending S.; descend.

30.70

Gravel 15 lbs. wide, course S.; ascend.

37.00

Spr. runs N. and S. have dense brush and descend along S. slope of Casar mountain.

39.29

Set a sandstone, 20 x 12 x 8 ins. in a mound of stone, for $\frac{1}{4}$ sec. cr. marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cr. pits impracticable.

79.29

Str. cr. of srs. 17, 18, 19 and 20.

Land, mountainous

Soil, stony and rocky; 4th rat.

Timber, scattering over; undergrowth, algarrota and mangonito.

Mountainous or land covered with dense undergrowth, 79.29 chs.

February 22; At this cr. set off 10.12 S. on the old. cr.; and, at 12th l. m. k. observed the sun on the meridian; the resulting lat. is 34° 53' N. within 0.4' of the proper lat.

27.00

N. 0° 03' W., bet. srs. 17 and 18.

Over mountainous land, ascending

Enter dense mangonito brush, bears E. and W.

6 hams
32.00

Top, 400 ft. above sec. cor. bears E. and W. begin steep ascent of S. slope of Casner mountain.

40.00

8 1/4

Set a sandstone, 20 x 8 x 6 ins. in a mound of stone, for 1/4 sec. cor. marked 1/4 on W. face. and raised a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

65.50

80.00

8 1/4

Top of rim, 800 ft. above 1/4 sec. cor. bears E. and W. Set a malpais stone, 18 x 8 x 6 ins., 12 ins. in the ground for cor. of secs. 7, 8, 17 and 18, marked with 4 notches on S. and 5 notches on E. edge, from which A cedar, 24 ins. diam., bears S. 32 1/4 E, 49 lbs. dist, marked S 18 N R 4 E S 17 B S.

A cedar, 24 ins. diam., bears S. 34 1/2 W, 259 lbs. dist, marked S 18 N R 4 E S 18 B S.

A cedar, 12 ins. diam., bears N. 67 1/2 W, 92 lbs. dist, marked S 18 N R 4 E S 17 B S. no other tree within limit, and raised a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, scattering cedar, merrgrouth, manzanita, and algarrota.

Mountains of land covered with dense merrgrouth, 80.00 chs.

February 22, 1905.

February 23: At 8:30 a.m. l.m. t. Boat off 34° 54' N. the lat. and 9° 52' E. on the circ. arc. and determine a meridian with the solar at the cor. of secs. 7, 8, 17 and 18.

Turned S rim

S. 69° 53' E. on a random line bet. secs. 8 and 17.

40.00

Set temp. 1/4 sec. cor.

80.07

Intersect N. and S. line 5 lbs. N. of cor. of sec. 8, 9, 16 and 17.

Turned S rim

N. 69° 51' W. on a random line bet. secs. 8 and 17.

Over mountainous land, ascending through dense brush.

600

Span, extending N.; descend.

600

Soil, bears N. and S. W.

- 6 hrs 18.50 Dry wash, 20 lbs. wide, course N.W.; begin steep ascent of E. slope of Casner mountain.
- 40.03 Set a sandstone, 18 x 8 x 5 ins. in a mound of stone, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 12 ft. high, N. of cor. Pits impracticable.
- 25.00 Top of rim, 1200 ft. above sec. cor., bears N. N. W. about S. S. E.
- 80.07 The cor. of secs. 7, 8, 17 and 18.
Land, mountainous.
Soil, stony and rocky; 4th rate.
Timber, scattering cedar; undergrowth, manzanita and algaroba.
Mountains or land covered with dense undergrowth, 80.07 hrs.
- February 23. At this cor. Set off 9° 50' S. on the sec. line, and, at 12³⁴ m. l. m. t. observe the sun on the meridian; the resulting lat. is. 34° 54' N.
-
- 40.00 N. 89° 50' W., on a random line bet. secs. 7 and 18. Set temp. $\frac{1}{4}$ sec. cor.
- 79.24 Intersect N. copy of Sp. 3 lbs. N. of cor. of secs. 7, 12, 13 and 18, as heretofore described.
Former Sun
S 89° 51' E., on a true line bet. secs. 7 and 18.
Ascending W. slope of Casner mountain, through scattering timber.
- 10.40 Ridge bears N. and S.; descend.
- 15.70 Summit, bears N. and S.; ascend.
- 18.40 Ridge bears N. and S.; descend.
- 30.00 Summit, bears N. and S.; ascend.
- 39.24 Set a malpais stone, 18 x 6 x 6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, from which
A cedar, 18 ins. diam., bears N. 61° E., 158 lbs. dist., marked $\frac{1}{4}$ S. 7° 18' E.
A cedar, 24 ins. diam., bears S. 50° E., 143 lbs. dist., marked $\frac{1}{4}$ S. 18° E.
- 48.40 Ridge bears N. and S.; descend through dense brush.
- 60.00 Summit, bears N. and S.
- 79.24 The cor. of secs. 7, 8, 17 and 18.
Land, mountainous

Chain

Soil, stony; 4th rate.
 Timber, scattering cedar, pine and pine; undergrowth, algarrota.
 Mountains or land covered with dense undergrowth, 99.24 chs.

February 23, 1915.

February 24: At 8^h 23^m a.m. l.m.t. Port off 34° 54' N. str. lat. are; 9° 30' S. on the circ. arc; and determine a meridian with the solar at the cor. of srs. 7, 8, 17 and 18.

Thence S. run

N. 0° 03' W. but srs. 7 and 8.

Along top of mountain, through scattering cedar and dense brush.

6.00 Descend abruptly.

9.00 Port, 200 ft. below rim. Thence along E. slope of mountain over spurs extending E., through dense mangrove.

40.00 Falls over a calcareous ledge, bearing E. and N., on which but a cross (x) at the exact point, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. side of cross; and raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor. Pits impracticable.

51.00 Begin steep descent.

77.50 Gulch, 1000 ft. below rim, 20 chs. wide, covers E. thence S. E.; ascend.

80.00 Set a sandstone, 20 x 8 x 6 ins., in a mound of stone, for cor. of srs. 5, 6, 7 and 8, marked with 5 notches on S. and E. edges; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable. Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, scattering cedar; undergrowth, mangrove and algarrota.

Mountains or land covered with dense undergrowth, 80.00 chs.

February 24: At this cor. Port off 9° 25' S. on the circ. arc; and, at 12^h 06^m l.m.t. observe the sun on the meridian. the resulting lat. is 34° 54' N. or within 10' of the proper lat.

24-57

6 hams S. 89° 51' E., on a random line bet. srs. 5 and 8.
 40.00 Set camp. $\frac{1}{4}$ sec. cor.
 79.92 Intersect N. and S. line 12 lbs. N. of cor. of srs.
 4, 5, 8 and 9.

Thinner & run

N. 89° 46' W., on a true line bet. srs. 5 and 8.
 Over mountainous land, descending through
 dense manzanito brush.

3.30 Spring, creek, 40 lbs. wide, course S. S. E.; ascend.

4.00 Trail bears W. and S. W.

25.30 Spruce, extending S.; descend.

34.00 Gulch, 20 lbs. wide, course S.; ascend.

39.96 Set a sandstone, 18 x 7 x 4 ins., in a mound of stone,
 for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face, and raise
 a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of
 cor. Pits impracticable.

51.00 Spruce, extending S.; descend.

59.00 Gulch, 20 lbs. wide, course S.; ascend.

63.00 Spruce, extending S.; descend.

67.00 Gulch, 20 lbs. wide, course S.; ascend.

70.00 Spruce, extending S.; descend.

74.00 Gulch, 10 lbs. wide, course S.; ascend.

77.00 S. slope of spruce; descend.

79.92 Str. cor. of srs. 5, 6, 7 and 8.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber scattering cedar, pinon and pine; under-
 growth, manzanito.

Mountainous or land covered with dense under-
 growth, 79.92 lbs.

February 24, 1905.

Note: Heavy rains and snow since February 24,
 prevented work until the morning of March 1.
 March 1: At 8:20^{am} a. m. l. m. t. & set off 34° 50' N.
 on the lat. arc; 7° 38' S. on the decl. arc; and
 determine a meridian with the solar at the cor.
 of srs. 5, 6, 7 and 8.

Thinner & run

N. 89° 51' W., on a random line bet. srs. 6 and 7.

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

34° 50' N.

69.18 Portisret W. bay of Spr. 8 lbs. N. of cor. point of
sres. 1, 6, 7 and 12, in gulch.

Shower Run

S. 89° 54' E., on a true line bet. sres. 6 and 7.

Over mountains land, ascending.

26.00 Spr., 600 ft. above gulch, extending N. Shower
along N. slope of Shower mountain through scat-
tering timber and some brush.

37.00 Top of slope; begin steep descent.

39.18 Set a calcareous stone, 20 x 12 x 5 ins., in a mound
of stone, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; and
raise a mound of stone, 2 ft. base, $\frac{1}{2}$ ft. high, N.
of cor. Pits impracticable. From this old
cabin bears S. about 40.00 chs. dist.

42.70 Rusty trail bears N. and S. N.

76.00 Gulch, 900 ft. below sec. cor., 15 lbs. wide, course S.;
ascend.

79.18 Spr. cor. of sres. 5, 6, 7 and 8.

Land, mountains.

Soil, stony and rocky; 4th rate.

Timber, scattering cedar, pine, and fir; under-
growth, manzanita and algarrota.

Mountains or land covered with dense under-
growth, 79.18 chs.

March 1: At this cor. I set off 7.35 S. on the cor.
line; and, at 12.30 P. M. observed the sun on the
meridian; the resulting lat. is 34° 55' N.

N. 0° 03' N., on a true line bet. sres. 5 and 6.

Over mountains land, ascending through dense
manzanita brush.

80.00 Top of malpais plateau, 800 ft. above cor. of sres.
5, 6, 7 and 8. bears E. and N.

40.00 Set a malpais stone, 18 x 8 x 6 ins., 12 ins. in the ground
for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; from which
I draw, 30 ins. diam., bears S. 104° E., 158 lbs. dist., marked
 $\frac{1}{4}$ S. 5° 13' S.

A cedar, 20 ins. diam., bears S. 69° N., 55 lbs. dist., marked
 $\frac{1}{4}$ S. 6° 13' S.; and raised a mound of stone, 2 ft. base, $\frac{1}{2}$
ft. high, N. of cor.; begin descent from plateau.

Descent steep.

BOOK

1915

Chum
711.37

OK

Entrance N. body of Sp. 6.91 chs. W. of cor. of secs. 33 and 34, S. 19 N., R. 4 E., which is a calcareous stone, 6x6x6 ins. above ground, marked and witnessed as described by the surveyor general. ~~destroyed~~ ^{accused} of the
Set a white sandstone, 12x6x6 ins., 12 ins. in the ground, for closing cor. of secs. 5 and 6, marked 66 on S.; with 5 grooves on E. and 1 groove on W. face; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S. of cor. Pits impracticable. This cor. is about 600 ft. below 4 sec. cor. and stands 1 ch. from edge of canyon, 500 ft. deep, course N. W.

Soil, stony and rocky; 4th rate.

Timber, scattering cedar, pine and fir; undergrowth, manzanita and algaroba.

Mountains, or land covered with dense undergrowth, 711.37 chs.

March 1, 1915.

Note: I have destroyed all cor. established on the subdivision lines of this Sp. by Deputy Sheriff B. Marcus

General Description.

This Sp. is very mountainous and rugged in the east, north and northwest, with low ridges in the southern part. The soil is gravelly, stony and rocky, 4th rate. Cedar, pine and fir timber is found in the northern half of the Sp. There is good grazing in the central and southern portions of the Sp. Spring creek runs through the Sp., but only carries water during the winter months. The Mummy trail from Governor to Flagstaff traverses the northern part of the Sp. There are no settlers in the Sp.

Edgar C. Dietrich
U. S. Deputy Surveyor.

LIST OF NAMES.

BOOK 1815

A list of the names of the individuals employed by

Edgar C. Dietrich

, United States Deputy Surveyor, to assist in running, measuring, and

marking the lines and corners described in the foregoing field notes of the survey of

The Subdivision Lines of S. 18 N., R. 4 E.

showing the respective capacities in which they acted:

John M. Gray, Chainman.*Frank Dietrich*, Chainman.*Charles Pogue*, Moundman.*William M. Ware*, Axman.*Ira Owenby*, Axman.*Walter Percival*, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted

Edgar C. Dietrich

, United States Deputy Surveyor, in surveying all

those parts or portions of the

*Subdivision Lines of S. 18 N., R. 4 E.,*of the *Gila and**Salt River Bas &*meridian, *County*of *Arizona*

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

General for

*Arizona**John M. Gray*, Chainman.*E. C. Dietrich*, Chainman.*Charles Pogue*, Moundman.

, Moundman.

Wm Ware, Axman.*Ira Owenby*, Axman.*Walter Percival*, Flagman.

Subscribed and sworn to before me this

25

day of

March

189

1905

*Edgar C. Dietrich**U. S. Dep. Surveyor**No notary-public available*

BOOK 1815

I, Edgar C. Dietrich, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Frank S. Ingalls, United States Surveyor General for Arizona, bearing date of the 15 day of September, 1904, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Arizona, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of

The Subdivision Lines of T. 18 N., R. 4 E.

of the Gila and Salt River Base meridian, in the Territory of Arizona, which are represented in the foregoing field notes as having been surveyed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the United States Surveyor General for Arizona and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey; and should any fraud be detected, I will suffer the penalty of perjury under the provisions of an Act of Congress approved August 8, 1846.

Edgar C. Dietrich
United States Deputy Surveyor.

Subscribed by said Edgar C. Dietrich, and sworn to before me }
this eleventh day of July, 1905.



Frank S. Ingalls
United States Surveyor General.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, A.T., July 25 1905, 189

The foregoing field notes of the survey of the subdivisional lines of T. 18 N., R. 4 E., of the Gila and Salt River Base and Meridian, in the Territory of Arizona

executed by Edgar C. Dietrich, U.S. deputy surveyor under his contract No. 123, dated September 15 1904, 189, 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.~~