

Accepted Title E-
May 20-1912.

FIELD NOTES

OF THE SURVEY OF THE

Temporary Subdivision of T. 16 1/2 N. R. 13 W

Resurvey of the South Standard Parallel North
through East of Range 13 West

2273

2273

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

In the ^{Terr.} State of Arizona

EXECUTED BY

John J. Hess

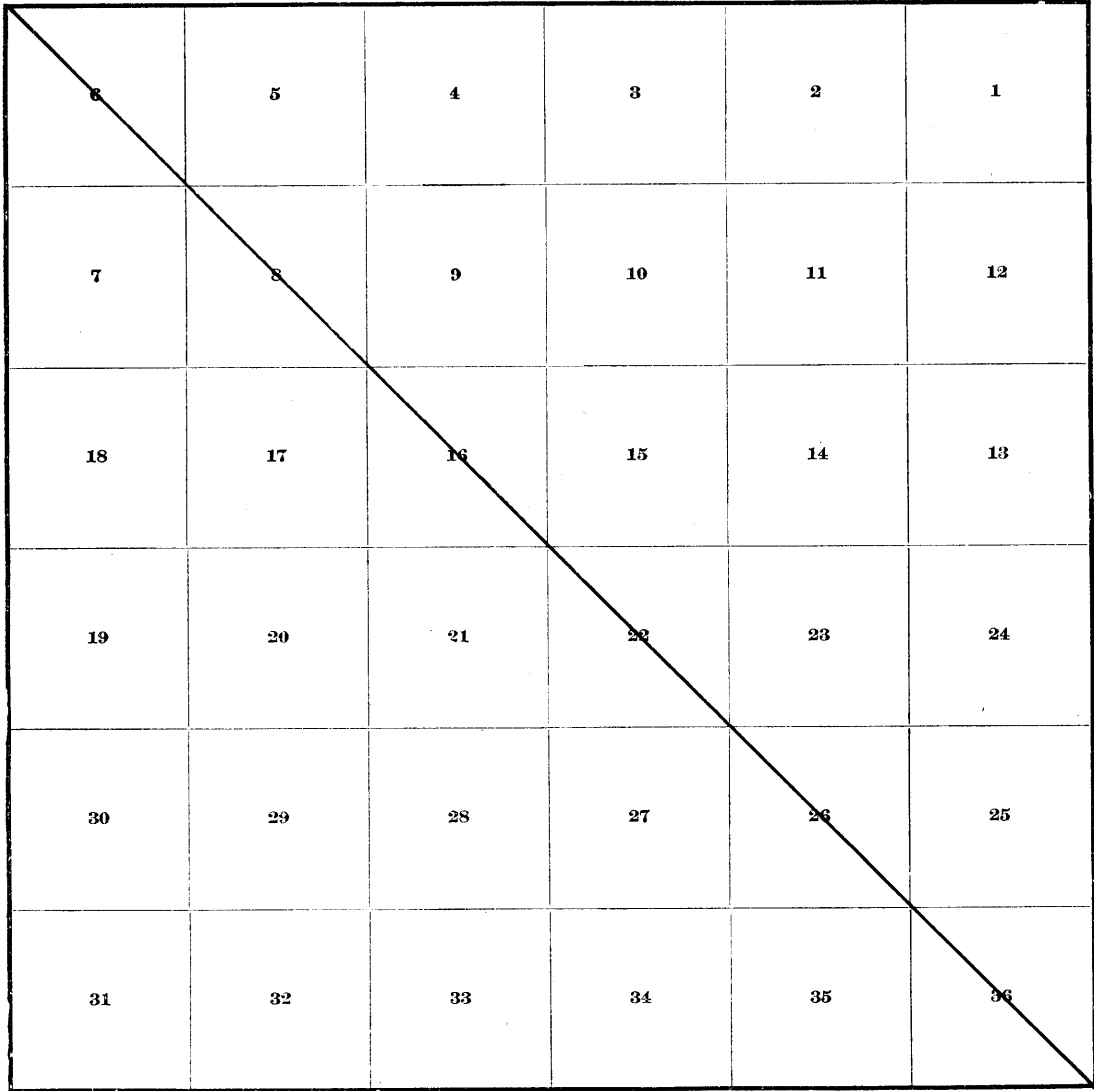
In the capacity of U. S. Surveyor Mansueti, under instructions dated August 25, 1910,
issued by the United States Surveyor General to govern surveys included in
Group No. 4, which were approved by the Commissioner of the General Land
Office, September 9, 1910., pursuant to authority contained in the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

Survey commenced May 4, 1911.

Survey completed 9, 1911.

INDEX DIAGRAM.

Township _____, Range _____



INDEX DIAGRAM.

Township 16 1/2 N, Range 13 W

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PRELIMINARY OATHS OF ASSISTANTS.

BOOK 2273

1B 34

WE, A. C. Lyon and J. H. Bates
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the subdivision lines of Tp. 16 1/2 N. Rg. 13 W.

A. C. Lyon, Chainman.

J. H. Bates, Chainman.

Subscribed and sworn to before me this 3rd
day of May, 19 11



John P. Hesse
U. S. Surveyor

WE, J. R. R. Bates 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 Tp. 16 1/2 N. Rg. 13 W.

R. L. Bates, Moundman.

_____, Moundman.

Subscribed and sworn to before me this 3rd
day of May, 19 11



John P. Hesse
U. S. Surveyor

WE, Ed. Brockway and J. P. Ellis

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 Tp. 16 1/2 N. Rg. 13 W.

Ed. Brockway, Axman.

J. P. Ellis, Axman.

Subscribed and sworn to before me this 3rd
day of May, 19 11



John P. Hesse
U. S. Surveyor

I, L. E. Flanagan, 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 Tp. 16 1/2 N. Rg. 13 W.

L. E. Flanagan, Flagman.

Subscribed and sworn to before me this 3rd
day of May, 19 11



John P. Hesse
U. S. Surveyor

Subdivision of Township 16¹/₂ North, Range 13 West.

1. C

Chains.

Survey commenced May 4, 1911, and executed with an A. Lietz Company light mountain transit No. 5631, 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 instrument was examined and approved by the Supervising Surveyor.

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

At the cor. of secs. 2, 3, 34 and 35 on the S. bdy. of the Tp., described in Book "Q," latitude 34°46'01" N.; longitude 113°35'31" W., at 4h.46m. a.m., l.m.t., I observe 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.

At 6 a.m., l.m.t., I lay off the azimuth of Polaris 1°26' to the west, and mark the meridian thus determined by a cross on a stone firmly set in the ground, 5 chs. N. of the cor.

At 7h.00m. a.m., l.m.t., I set off 34°46' N. on the lat. arc; 15°46¹/₂' N. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of the cor.; this mark falls 0.2 ins. east of the meridian established by the Polaris observation.

At 5h.00m. p.m., l.m.t., I set off 34°46' N. on the lat. arc; 15°53¹/₂' N. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of the cor.; this mark falls 0.2 ins. west of the meridian established by the Polaris observation.

The solar apparatus, by p.m. and a.m. observations, defines positions for meridians respectively about 0'11" east and west of the meridian established by the Polaris observations; therefore, I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 7h.15m. a.m., is N. 14°30' W.; the angle thus determined gives the magnetic decl. 14°30' E.

From the cor. of secs. 2, 3, 34 and 35 on the S. bdy. of the Tp. I now run,

N. 0°01' W., bet. secs. 34 and 35.

Over rolling hills, through dense brush.

29.80 Cross wash 60 lks. wide, course W.

38.50 Cross wash, 30 lks. wide, course W.

40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for ¹/₄ sec. cor., marked on brass cap ¹/₄ S 34 in W., and S 35 in E. half; and raise a mound of stone 2 ft. base, 1¹/₂ ft. high, W. of cor. Pits impracticable.

46.10 Cross wash, 20 lks. wide, course W.

53.00 Cross wash, 100 lks. wide, course W.

56.00 Cross wash, 20 lks. wide, course W.

72.40 Cross wash, 25 lks. wide, course W.

75.00 Cross wash, 20 lks. wide, course W.

80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 26, 27, 34 and 35, marked on brass cap,

T 16¹/₂ N R 13 W in N. half;

S 27 in NW.;

S 26 in NE.;

S 35 in SE., and

S 34 in SW. quadrant, and raise a mound of stone 2

ft. base, 1¹/₂ ft. high, W. of cor.

2. Subdivision of Township 16 $\frac{1}{2}$ North, Range 13 West.

Chains.

Pits impracticable.
Land, rolling hills.
Soil, rocky and gravelly, 3rd rate.
No timber.
Undergrowth, greasewood, mesquite and scrub cedar.

- N.0°01'W. bet. secs.26 and 27.
Over rolling hills, through dense brush.
- 39.00 Cross wash 100 lks.wide, course W.
- 40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 27 in W. and S 26 in E.half; from which,
A mesquite 8 ins.diam., bears N.84°33'W., 105 lks. dist., marked $\frac{1}{4}$ S 27 B T.
A black willow 8 ins.diam., bears S.15°40'E., 9 lks. dist., marked $\frac{1}{4}$ S 26 B T.
- 40.80 Cross wash, 30 lks.wide, course W.
- 80.00 Set an iron post 3 ft. long, 2 ins.diam., 24 ins. in the ground for cor.of secs.22,23,26 and 27, marked on brass cap,
T 16 $\frac{1}{2}$ N R 13 W on N,half;
S 22 in NW.,
S23 in NE.,
S 26 in SE., and
S 27 in SW.quadrant; and raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high,W.of cor. Pits impracticable.
Land, rolling hills.
Soil, calcareous, 3rd rate.
No timber.
Undergrowth, greasewood, palo verde, mesquite and scrub cedar.
- May 4: At this cor. I set off 15° 49'N.on the decl.arc; and observe the sun on the meridian at noon; the resulting lat.is 34° 48'N.

- N.0°01'W., bet.secs. 22 and 23.
Over rolling hills, through dense brush.
- 17.50 Cross wash, 40 lks.wide, course W.
- 18.00 Cross wash, 60 lks.wide, course W.
- 40.00 Set an iron post 3 ft. long, 1 in.diam., 26 ins. in the ground for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 22 in W. and S 23 in E.half; and raise a mound of stone 2 ft.base, 1 $\frac{1}{2}$ ft. high,W.of cor. Pits impracticable.
- 69.10 Intersect 4th.Standard Parallel North 94 lks.E.of the cor. of Tps.17 N.,Rgs.12 and 13 W. hereinafter described and set an iron post 2 ins.diam., 24 ins. in the ground for closing cor.of secs.22 and 23, marked on brass cap,
C C S of center,
T 17 N R 12 W R 13 W S 31 S 36 in N.half;
S 23 in SE., and
S 22 in SW.quadrant; and raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, S.of cor. Pits impracticable.
Land, rolling hills.
Soil, rocky, granite and malpais, 4th rate.
No timber.
Undergrowth, greasewood, paloverde and mesquite.
May 4, 1911.

May 5: From the cor.of secs.3,4,33 and 34 on the S.bdy. of the Tp.described in Book "Q," I now run,
N.0°02'W., bet. secs.33 and 34.
Over rolling land, through dense brush.

Subdivision of Township 16¹/₂ North, Range 13 West. 3.

Chains.
 13.50m Right bank of Big Sandy River, dry, brs. NW. and SE., and along in dry bed of river.
 40.00 Point for $\frac{1}{4}$ sec. cor., falls in bed of river, and as the cor. cannot be established on line within 20.00 chs. of its true point, therefore I run west 8.00 chs., and set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for witness $\frac{1}{4}$ sec. cor., marked on brass cap W C $\frac{1}{4}$ on W. half, S 34 in E., and S. 33 in W. half; from which,
 A cottonwood 12 ins. diam., bears N. 9° W., 70 lks. dist., marked $\frac{1}{4}$ S 33 B T.
 A cottonwood 14 ins. diam., bears S. 50 $\frac{1}{2}$ ° W., 43 lks. dist., marked $\frac{1}{4}$ S 33 B T.
 80.00 Point for cor. of secs. 27, 28, 33 and 34 falls in bed of Big Sandy River.
 Land, level.
 Soil to 13.50 chs. sandy loam, medium texture, dry, 1st rate; 13.50 to 80.00 chs. loose sand; worthless.
 Timber, cottonwoods along river.
 Undergrowth, catclaw, mesquite and arrowweed.
 May 5: At this cor. I set off 16° 06 $\frac{1}{2}$ ' N, on the decl. arc; and observe the sun on the meridian at noon; the resulting lat. is 34° 47' N.

 East on a random line, bet. secs. 27 and 34, from true cor. point.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.06 Intersect N. and S. line 12 lks. N. of the cor. of secs. 26, 27, 34 and 35.
 Thence I run,
 N. 89° 55' W., on a true line, bet. secs. 27 and 34.
 Descending over rolling hills, through dense brush.
 29.00 Over level land.
 40.03 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 27 in N. and S 34 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
 42.82 Cross fence bears N. and S.
 51.30 Cross fence bears N. and S., and over cultivated land.
 51.40 Cross irrigating ditch, 5 lks. wide, course S.
 57.80 Leave cultivated land, left bank of Big Sandy River, brs. NW. and SE., and over dry bed of river.
 80.06 The true point for cor. of secs. 27, 28, 33 and 34.
 Land, level and rolling hills.
 Soil to 29.00 chs. gravel and rocks, 4th rate; 29.00 chs. to 57.80 chs. sandy loam, rich, dry, medium texture; 57.80 to 80.06 chs., loose sand, worthless.
 Timber, a few cottonwoods.
 Undergrowth, greasewood, palo verde, catclaw and mesquite.
 May 5, 1911.

 May 6: At 7h.00m. a.m., l.m.t., I set off 34° 47' N. on the lat. arc; 16° 21' N. on the decl. arc; and determine a meridian with the solar at the true point for cor. of secs. 27, 28, 33 and 34.
 Thence I run,
 N. 0° 02' W., bet. secs. 27 and 28.
 Over dry bed of Big Sandy River.
 40.00 Point for $\frac{1}{4}$ sec. cor. falls in bed of river, and as the witness cor. cannot be established on line within 20.00 chs. of the true point; therefore, I run West 10.20 chs., and set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for witness $\frac{1}{4}$ sec. cor., marked on brass cap,

4. Subdivision of Township 16 $\frac{1}{2}$ North, Range 13 West.

Chains.

- W C $\frac{1}{4}$ in W.half;
 S 28 in E.half; from which
 A cottonwood 40 ins. diam., bears N.6 $\frac{1}{2}$ $^{\circ}$ E., 32 lks.
 dist., marked W C $\frac{1}{4}$ S 27 B T.
 A cottonwood 36 ins. diam., bears S.62 $\frac{1}{2}$ $^{\circ}$ W., 16 lks.
 dist., marked W C $\frac{1}{4}$ S 28 B T.
- 49.59 Cross road, bears E.and W.
 80.00 Point for cor.of secs.21,22,27 and 28 falls in bed of Big
 Sandy River.
 E. M. Carrow's house bears N.39 $^{\circ}$ 15'W., 14.12 chs. dist.
 Land, level.
 Soil, loose sand, 4th rate.
 Timber, cottonwood.
 Undergrowth, arrowweed and watermote.
-
- S.89 $^{\circ}$ 55'E. on a random line, bet. secs.22 and 27, from
 true point for cor.
 40.00 Set temp. $\frac{1}{4}$ sec.cor.
 80.02 Intersect N.and S. line 9 lks.N.of the cor. of secs.22,23,
 26 and 27.
 Thence I run,
 N.89 $^{\circ}$ 51'W., on a true line, bet. secs.22 and 27.
 Descending over rolling hills, through dense brush.
- 12.00 Cross wash, 15 lks.wide, course NW.
 40.01 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the
 ground for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 22 in
 N., and S 27 in S.half; and raise a mound of stone
 2 ft.base, 1 $\frac{1}{2}$ ft. high, N.of cor. Pits impracticable.
- 40.50 Cross wash, 20 lks.wide, course SW.
 43.00 Cross wash, 100 lks.wide, course SW.
 45.00 Cross wash 50 lks.wide, course SW.
 61.00 Left bank of Big Sandy River, bears N.and S., and over
 dry bed of river.
- 80.02 True point for cor.of secs.21,22, 27 and 28.
 Land, level and rolling hills.
 Soil, sandy and rocky; 4th rate.
 Timber, a few cottonwoods along river.
 Undergrowth, greasewood, palo verde, mesquite and watermote.
 May 6: At this cor. I set off 16 $^{\circ}$ 23 $\frac{1}{2}$ 'N.on the decl.arc;
 and observe the sun on the meridian at noon; the re-
 sulting lat.is 34 $^{\circ}$ 48'N.
-
- From true point for cor.of secs.21,22,27 and 28, I run,
 N.0 $^{\circ}$ 02' W., bet. secs.21 and 22.
 Over dry bed of Big Sandy River.
- 39.00 Left bank of Big Sandy River bears SE.and NW., and over
 level land, through dense brush.
- 40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the
 ground for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 21 in
 W.and S 22 in E.half; dig pits 18x18x12 ins.N. and S.
 of post 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$ ft.
 base, 1 $\frac{1}{2}$ ft. high, W.of cor.
- 44.79 Cross fence bears NW.and SE.
 51.55 Cross same fence bears NE.and SW.
 53.64 Cross same fence bears NW.and SE.
 66.45 Cross same fence bears NE.and SW.
 66.50 Set an iron post 3 ft. long, 2 ins.diam., 24 ins. in the
 ground for witness cor. to closing cor. of secs.21
 and 22, marked on brass cap,
 W C C C N.of center,
 T 17 N R 13 W S 35 S 36 in N.half;
 S 22 in SE., and
 S 21 in SW.quadrant; dig pits 24x18x12 ins.cross-
 wise on each line, E.and W., 3 ft. and S.of post 7 ft
 dist., and raise a mound of earth 4 ft.base, 2 ft.high,

Subdivision of Township 16 $\frac{1}{2}$ North, Range 13 West.

5.

Chains.

S. of cor.
 67.45 Left bank of Big Sandy River bears NE. and SW., and over
 dry bed of river.
 68.80 Intersect 4th. Standard Parallel North, 91 lks. E. of the
 true point for Standard cor. of secs. 35 and 36, here-
 inafter described.
 Land, level.
 Soil, sandy loam, rich, medium texture, dry; 1st rate, ex-
 cept river bed, which is loose sand, worthless.
 Timber, cottonwood.
 Undergrowth, mesquite, catclaw and watermote.
 May 6, 1911.

May 7: From the cor. of secs. 4, 5, 32 and 33 on the S. bdy.
 of the Tp. described in Book "Q," I now run,
 N. 0° 02' W., bet. secs. 32 and 33.
 Over rolling hills, through dense brush.
 8.00 Cross wash, 15 lks. wide, course SE.
 23.00 Cross wash, 10 lks. wide, course E.
 29.75 Cross wash, 10 lks. wide, course E.
 36.90 Cross wash, 20 lks. wide, course E.
 40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the
 ground for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 32 in
 W., and S 33 in E. half; from which,
 A scrub cedar 12 ins. diam., bears N. 67 $\frac{1}{2}$ ° W., 94
 lks. dist., marked $\frac{1}{4}$ S 32 B T.
 A palo verde 6 ins. diam., bears S. 50 $\frac{1}{2}$ ° E., 34 lks.
 dist., marked $\frac{1}{4}$ S 33 B T.
 41.10 Cross wash, 35 lks. wide, course E.
 44.30 Cross wash, 20 lks. wide, course E.
 80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the
 ground for cor. of secs. 28, 29, 32 and 33, marked on
 brass cap,
 T 16 $\frac{1}{2}$ N R 13 W in N. half,
 S 29 in NW.,
 S 28 in NE.,
 S 33 in SE., and
 S 32 in SW. quadrant; and raise a mound of stone
 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
 Land, rolling hills.
 Soil, decomposed granite, 3rd rate.
 No timber.
 Undergrowth, greasewood, mesquite, catclaw, palo verde and
 scrub cedar.
 May 7: At this cor. I set off 16° 40 $\frac{1}{2}$ ' N. on the decl.
 arc; and observe the sun on the meridian at noon; the
 resulting lat. is 34° 47' N.

East, on a random line, bet. secs. 28 and 33.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 79.96 Intersect N. and S. line 2 lks. S. of the true point for
 cor. of secs. 27, 28, 33 and 34.
 Thence I run,
 S. 89° 59' W. on a true line, bet. secs. 28 and 33.
 Over dry bed of Big Sandy River.
 7.00 Right bank of Big Sandy River, bears N. and S.
 10.30 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the
 ground for witness cor. to cor. of secs. 27, 28, 33 and 34,
 marked on brass cap,
 W C N of center;
 T 16 $\frac{1}{2}$ N R 13 W in N. half;
 S 28 in NW.,
 S 27 in NE.,
 S 34 in SE., and
 S 33 in SW. quadrant; dig pits 18x18x12 ins. NW.

6. Subdivision of Township 16 $\frac{1}{2}$ North, Range 13 West.

Chains.

- NE., SE., and SW. of post 5 $\frac{1}{2}$ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.
- 19.50 Cross road, bears N. and S.
- 39.98 Set an iron post 3 ft. long, 1 in. diam., 26 ins., in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 28 in N. and S 33 in S. half; and raise a mound of earth 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
- 79.96 The cor. of secs. 28, 29, 32 and 33.
Land, rolling hills.
Soil, decomposed granite, 3rd rate.
No timber.
Undergrowth, greasewood, catclaw, palo verde, water mate and scrub cedar.

May 7, 1911.

May 8: At 7h.00m.a.m., l.m.t., I set off 34°47'N. on the lat. arc; 16°54 $\frac{1}{2}$ 'N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 28, 29, 32 and 33.

- Thence I run,
N. 0°02'W., bet. secs. 28 and 29.
Over rolling hills, through dense brush.
- 7.30 Wash, 20 lks. wide, course NE.
- 26.75 Cross wash, 15 lks. wide, course E.
- 40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 29 in W., and S 28 in E. half; and raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
- 41.25 Cross wash, 75 lks. wide, course SE.
- 48.75 Cross wash, 80 lks. wide, course E.
- 79.40 Cross wash, 15 lks. wide, course E.
- 80.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for cor. of secs. 20, 21, 28 and 29, marked on brass cap,
T 16 $\frac{1}{2}$ N R 13 W in N. half;
S 20 in NW.,
S 21 in NE.,
S 28 in SE., and
S 29 in SW. quadrants; and raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
Land, rolling hills.
Soil, decomposed granite, 3rd rate.
No timber.
Undergrowth, mesquite, catclaw, palo verde, greasewood and scrub cedar.

- N. 89°59'E. on a random line, bet. secs. 21 and 28.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 79.86 Intersect N. and S. line, 12 lks. S. of the true point for cor. of secs. 21, 22, 27 and 28.
Thence I run,
S. 89°54'W., on a true line, bet. secs. 21 and 28.
Over dry bed of Big Sandy River.
- 11.65 Right bank of Big Sandy River.
- 11.93 Cross fence brs. N. and S., and over cultivated land.
- 17.00 Set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for witness cor. to cor. of secs. 21, 22, 27 and 28, marked on brass cap,
W C N of center,
T 16 $\frac{1}{2}$ N R 13 W in N. half;
S 21 in NW.,
S 22 in NE.,
S 27 in SE., and
S 28 in SW. quadrant; from which,
A cottonwood 24 ins. diam., bears S. 0°33' E., 149 lks. dist., marked W C T 16 $\frac{1}{2}$ N R 13 W S 28 B T.

Chains.

- No other trees available. Dig pits 18x18x12 ins., NW., NE., SE. and SW. of post 5¹/₂ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.
- 26.30 Cross irrigating ditch 5 lks. wide, course SE.
- 26.36 Cross wire fence brs. NW. and SE., Leave cultivated land.
- 27.30 Cross irrigating ditch 6 lks. wide, course SE.
- 30.15 Cross road, brs. N. and S., and ascend over rolling hills.
- 39.93 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap
 $\frac{1}{4}$ S 21 in N., and
 S 28 in S. half; dig pits 18x18x12 ins E. and W. of post, 3 ft dist., and raise a mound of earth 3¹/₂ ft. base, 1¹/₂ ft. high, N. of cor.
- 79.86 The cor. of secs. 20, 21, 28 and 29.
 Land, level and rolling hills.
 Soil to 11.65 chs. loose sand, 4th rate; 11.65 chs. to 27.30 chs. very sandy loam; rich dry, medium texture, 1st rate; 27.30 chs. to 79.86 chs. decomposed granite, 3rd rate.
 No timber
 Undergrowth, greasewood, mesquite, catclaw, palo verde.
 May 8: At this cor. I set off 16°57' N. on the decl. arc; and observe the sun on the meridian at noon; the resulting lat. is 34°48' N.

- N. 0°02' W., bet. secs. 20 and 21.
 Over rolling hills, through dense brush.
- 16.40 Cross wash, 50 lks. wide, course E.
- 25.30 Cross wash, 20 lks. wide, course E.
- 40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4}$ S 20 in W., and S 21 in E. half; dig pits 18x18x12 ins., N. and S. of post 3 ft. dist., and raise a mound of earth 3¹/₂ ft. base, 1¹/₂ ft. high, W. of cor.
- 46.00 Cross wash, 15 lks. wide, course E.
- 57.35 Cross wash, 20 lks. wide, course E.
- 69.02 Intersect 4th. Standard Parallel North, 94 lks. E. of the standard cor. of secs. 34 and 35, hereinafter described, and set an iron post 3 ft. long, 2 ins. diam., 24 ins. in the ground for closing cor. of secs. 20 and 21, marked on brass cap,
 C C S of center;
 T 17 N R 13 W S 34 S 35 in N. half;
 S 21 in SE., and
 S 20 in SW. quadrant; and raise a mound of stone 2 ft. base, 1¹/₂ ft. high, S. of cor. Pits impracticable.
 Land, rolling hills.
 Soil, decomposed granite, 3rd rate.
 No timber.
 Undergrowth, greasewood, palo verde and scrub cedar.
 May 8, 1911.

GENERAL DESCRIPTION.

This township is all rolling hills, and the soil is generally a decomposed granite. The Big Sandy River runs through the center of the township from N. to S., and the bottom land along the river is a rich sandy loam, which produces abundant crops with irrigation. There is no agricultural land in the township outside of this strip, and the survey was therefore confined to the lines necessary to include this land. There is one settler in sec. 21. There is no timber in the township, except some cottonwoods along river.

8. Fourth Standard Parallel North. through Range 13 West.

Chains.

- May 9, 1911: At 7h.00m.a.m., l.m.t., I set off $34^{\circ} 48\frac{1}{2}'$ N. on the lat.arc; $17^{\circ} 11' N.$ on the decl.arc; and determine a meridian with the solar at the standard cor. of Tps.17 N., Rgs.12 and 13 W., which I reestablish as follows:
- T 17 N in N.half,
 - R 13 W S36 in NW., and
 - R 12 W S 31 in NE.quadrant; and raise a mound of stones 2 ft.base, $1\frac{1}{2}$ ft.high,N.of cor. Pits impracticable.
- Thence I run,
West on S.bdy.of sec.36.
Descending over rolling hills, through dense brush.
- 40.00 Difference between measurements of 40.00 chs. by two sets of chainmen is 6 lks.; position of middle point,
By 1st set 40.03 chs.,
By 2nd set. 39.97 chs., the mean of which is
- 40.00 Set an iron post 3 ft. long, 3 ins.diam., 26 ins. in the ground for standard $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 36 in N.half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high,N.of cor. Pits impracticable.
- 61.60 Cross fence, brs. N.and S.
77.48 Bears fence bears NE. and SW.
Difference between measurements of 78.00 chs. by two sets of chainmen is 4 lks.; position of middle point
By 1st set. 78.02 chs.
By 2nd set. 77.98 chs., the mean of which is
- 78.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for W C to standard cor. of secs. 35 and 36, marked on brass cap,
W C S of center,
T 17 N R 13 W S 35 S 36 in N.half; dig pits 24x18x12 ins. crosswise on each line, E.and W. 3 ft. and N.of post 7 ft. dist., and raise a mound of earth 4 ft. base, 2 ft.high,N.of cor.
- 78.50 Left bank of Big Sandy River, and over dry bed of river.
80.00 Point for cor.falls in bed of river.
Land, rolling hills and level.
Soil to 67.00 chs. gravelly, 3rd rate; 67.00 chs. to 78.50 chs. very sandy loam, medium texture, 2nd rate; 78.50 to 80.00 chs. loose sand, 4th rate.
No timber.
Undergrowth, greasewood, palo verde, mesquite and catclaw.
- May 9: At this cor. I set off $17^{\circ} 13' N.$ on the lat.arc; and observe the sun on the meridian at noon; the resulting lat.is $34^{\circ} 48\frac{1}{2}' N.$
-
- West on S.bdy.of sec.35, from true point for cor.
Over dry bed of river, covered with tangled mass of brush.
- 20.60 Right bank of Big Sandy River, bears N.and S.
21.96 Fence bears N.and S.
24.63 Road bears N.and S.
29.50 Irrigating ditch, 5 lks.wide, course S.
30.98 Irrigating ditch, 6 lks.wide, course S.
31.54 Fence bears N.and S.
35.20 Brush bears N.and S.
35.36 Road, bears N.and S.
Difference between measurements of 40.00 chs. by two sets of chainmen is 4 lks.; position of middle point
By 1st set, 40.02 chs.
By 2nd set, 39.98 chs., the mean of which is
- 40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground for standard $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 35 in N.half; dig pits 18x18x12 ins.E.and W.of

Fourth Standard Parallel North through Range 13 West. 9.

Chains.

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

45.30 Ascend over rolling hills.
Difference between measurements of 80.00 chs. by two sets of chainmen is 6 lks., position of middle point
By 1st set, 80.03 chs.
By 2nd set 79.97 chs., the mean of which is

80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for standard cor. of secs 34 and 35, marked on brass cap,
T 17 N R 13 W in N. half;
S 34 in NW., and
S 35 in NE. quadrant; dig pits 24x18x12 ins., cross-wise on each line E. and W. 3 ft. and N. of post 7 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, N. of cor.

Land, level and rolling.
Soil to 20.60 chs. loose sand, 4th rate; from 20.60 chs. to 45.30 chs. sandy loam, medium texture, dry, some alkali, 2nd rate; from 45.30 chs. to 80.00 chs. decomposed granite, 4th rate.
Timber, a few cottonwoods.
Undergrowth, catclaw, mesquite, water mote, greasewood, palo verde.

May 9, 1911.

All attempts to find a corner standing on this standard through Range 13 West, proved unavailing, although the line was run entirely through the Range in an endeavor to pick up another corner on the line. For this reason the Standard was resurveyed west from the standard corner of Tps. 17 N., Rgs. 12 and 13 W.

John P. Hesse
U. S. Transitman.

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

40

BOOK 2273

LIST OF NAMES.

A list of the names of the individuals employed by John P. Hesse

Transitman

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

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

lines of Tp. 16 1/2 N. Rg. 13 W.

showing the respective capacities in which they acted:

A. E. Lyon, Chainman.

J. N. Bates, Chainman.

R. L. Bates, Moundman.

....., Moundman.

Ed. Brockway, Axman.

J. P. Ellis, Axman.

L. C. Flanagan, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted John P. Hesse

Transitman

United States ~~Deputy Surveyor~~, in surveying all

those parts or portions of the subdivision lines of Tp. 16 1/2 N. Rg. 13 W.

of the Gila and

Salt River meridian, Territory of Arizona, which are represented

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

General for Arizona

A. E. Lyon, Chainman.

J. N. Bates, Chainman.

R. L. Bates, Moundman.

....., Moundman.

Ed. Brockway, Axman.

J. P. Ellis, Axman.

L. C. Flanagan, Flagman.

Subscribed and sworn to before me this 9th

day of May, 1911



John P. Hesse

U. S. Transitman

1145
BOOK 2273

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, John D. Hesse, ^{Transitman} United States Deputy Surveyor, do solemnly swear that, in pursuance of ^{instructions} a contract received from Frank P. Ingalls United States Surveyor General for Oregon, bearing date of the 25th day of August, 1910, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Oregon, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the Subdivision lines of T. 16 1/2 N. R. 13W.

_____ of the 5 S. 20 R. meridian, in the County of Oregon, 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 Oregon and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

John D. Hesse
United States Deputy Surveyor.

Subscribed by said John D. Hesse, and sworn to before me }
this 6th day of June, 1911

Frank P. Ingalls
U.S. Dist. Court for Oregon



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL.

Horace Craig January 4, 1912
The foregoing field notes of the survey of the fragmentary Subdivision of T. 16 1/2 N. R. 13W and Resurvey of a portion of the Fourth Standard Parallel North through Range 13 West 5 S. 20 R. Meridian, Oregon

executed by John D. Hesse N. D. Transitman
under his contract No. 2, dated August 25, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

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.