

1802

BOOK 1802
INDEX DIAGRAM.

Township 31 N., Range 2 E.

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Meanders Page.....

WE, A. N. Oliver and William Wallace Oliver
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 subdivisional lines of Twp. 31 N. Rg. 2 E.

A. N. Oliver, Chainman.
William Wallace Oliver, Chainman.

Subscribed and sworn to before me this 18th
day of February 1904, 189



John P. Hesse
U.S. Dep. Surveyor.

WE, _____ and _____
do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of _____

_____, Moundman.
_____, Moundman.

Subscribed and sworn to before me this _____
day of _____, 189



WE, I. G. L. Finley and _____
do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given ^{me} us, to the best of ^{my} our skill and ability, in the survey of the subdivisional lines of Twp. 31 N. Rg. 2 E.

I. G. L. Finley, Axman.
_____, Axman.

Subscribed and sworn to before me this 18th
day of February 1904, 189



John P. Hesse
U.S. Dep. Surveyor.

I, George Cassidy, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of the subdivisional lines of Twp. 31 N. Rg. 2 E.

George Cassidy, Flagman.

Subscribed and sworn to before me this 18th
day of February 1904, 189



John P. Hesse
U.S. Dep. Surveyor.

chains

Survey commenced February 15, 1904 and executed with a W. and L. C. Gurley light mountain transit with solar attachment. Transit is not numbered. The horizontal limb is provided with two double verniers placed opposite to each other, reading to single minutes of arc, which is also the count of the latitude and declination arcs.

The instrument was examined, tested on the true meridian at Phoenix, found correct, and was approved by the surveyor general for Arizona.

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 my camp which is one half mile north of the 1/4 sec. cor. bet. sec. 23 and 26 Pp. 31 N. Rg. 2 E.; latitude $36^{\circ} 04' 13''$ N.; longitude $111^{\circ} 58' 01''$ W.; at $9^h 41.3^m$ p. m. by my watch which has correct l. m. t., I observe Polaris at western elongation, in accordance with Manual of Instructions, and mark a point in the line thus determined, on a peg driven in the ground 6 chs. N. of my station.

February 15, 1904.

February 16: At $7^h 45^m$ a. m. l. m. t. I lay off the azimuth of Polaris $1^{\circ} 29'$ to the east, and mark the meridian thus determined by cutting a small groove in a stone set firmly

chains

the ground.

At 8^h00^m a.m. l.m.t. I set off 36°04' N. on the lat. arc, 12°38' S. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 6 chs. N. of my station: this mark falls ^{east of} ~~on~~ the meridian established by the Polaris observation.

At 3^h00^m p.m. l.m.t. I set off 36°04' N. on the lat. arc, 12°32' S. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 6 chs. N. of my station: this mark falls on the meridian established by the Polaris observation.

The solar apparatus, by p.m. and a.m. observations defines positions for meridians, respectively about 0'10" east and 0'12" 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 9^h a.m. is N. 14°30' W.; the angle thus determined gives the mag. decl. 14°30' E.

February 16, 1904

February 17: Stormy weather prevented work to day.

February 17, 1904

Subdivision of Twp. 31 N. Rg. 2 E.

For determination of meridian see E. Bdy. Feb. 18, 1904

chains

- N. $0^{\circ} 01' W.$ bet. secs 23 and 24.
Over level land through dense cedar and piñon timber.
- 32.00 A point from which smoke stack at N.W. cor. of Bright Angel Pavern Power house bears N. $33^{\circ} 30' W.$
- 35.62 Cross road bears E. and W.
- 36.00 A point from which smoke stack at N.W. cor. of Bright Angel Pavern Power house bears N. $77^{\circ} 40' W.$
- 37.60 Cross S. P. and G. C. R.R. bears S. $65^{\circ} W.$ and N. $65^{\circ} E.$ 90 ft. to end.
- 40.00 Set a lime stone $24 \times 12 \times 4$, 12 ins. in the ground to bed rock, with a mound of stone around it, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face; from which
A cedar 8 ins. diam., bears S. $27 \frac{3}{4}^{\circ} E.$ 37 lks. dist. marked $\frac{1}{4} S 24 BT.$
A piñon 18 ins. diam. bears S. $38 \frac{3}{4}^{\circ} W.$ 24 lks. dist. marked $\frac{1}{4} S 23 BT.$
From this $\frac{1}{4}$ sec. cor. the S. E. cor. of the foundation of the Bright Angel Pavern, under construction, bears N. $65^{\circ} 23' W.$ 71 lks. dist. building is 200×100 ft.
From this $\frac{1}{4}$ sec. cor. the S. E. cor. of the Bright Angel Hotel, about 300×50 feet bears N. $65^{\circ} W.$ 21.45 lks. dist.
- 43.88 The rim of the Grand Cañon of the Colorado River.
Land, level.
Soil, rocky and gravelly; 4% rate.
Timber, cedars and piñon.
Heavily timbered land 43.88 chs.

Not being able to run the line bet. sec. 23, 24 and 24 and to

Subdivision of Tps. 31 N. Rg. 2 E.

Chains

run a random line bet. secs. 13 and 24, I now go to the cor. of secs. 13, 18, 19 and 24 on the east bdy. of the Tps, previously described and run thence
 N. 89° 53' W bet. secs. 13 and 24.
 Over level land through heavy cedar and pinon timber.
 10.25 Cross road bears S. W.
 13.00 Cross road bears N. W.
 14.57 The rim of the Grand Cañon of the Colorado River
 Land, level.
 Soil, rocky; 4 $\frac{1}{2}$ rats.
 Timber, cedar and pinon.
 Heavily timbered land 14.57 chs.

February 18, 1904

February 19. At 8⁴⁵ a.m. l.m. & I set off 25° 07' on the lat. arc; 11° 35' on the decl. arc; and determine a meridian with the solar at the cor. of secs. 22, 23, 26 and 27 which is a sandstone 16x8x4 ins. above ground marked and witnessed as described by the surveyor general Pheneas D. run

N. 0° 01' W. bet. secs. 22 and 23.

Over rolling land through heavy pine and cedar timber.

40.00 Set a limestone 18x10x4 ins. 12 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face; from which
 A pine 4 ins. diam. bears N. 77° 15' E. 25 lbs. dist. marked $\frac{1}{4}$ S 23 BT.
 A pine 6 ins. diam. bears N. 89° W. 15 lbs. dist. marked $\frac{1}{4}$ S 22 BT.

59.44 Cross draw 100 lbs wide, course S. W.

80.00 Set a limestone 16x8x3 ins. 11 ins. in the ground for cor. of secs. 14, 15, 22 and 23, marked with 3 notches on S.

chains

and 2 notches on E. edges; from which
 A cedar 6 ins. diam. bears N. 42 1/2° E. 16 lks.
 dist. marked T31NR2ES14BT.

A pinon 6 ins. diam. bears S. 42° E. 25 lks.
 dist. marked T31NR2ES23BT.

A cedar 8 ins. diam. bears S. 27° W. 57 lks.
 dist. marked T31NR2ES22BT.

A pinon 4 ins. diam. bears N. 33° W. 45 lks.
 dist. marked T31NR2ES15BT.

Land, rolling.

Soil, rocky; 4th rate.

Timber, cedar and piñon.

Heavily timbered land 80.00 chs.

S. 89° 55' E. on a ^{true} random line bet. secs.
 14 and 23.

Over level land through heavy
 cedar and pinon timber.

12.84 Cross draw 15 lks. wide course S.

17.00 Cross draw 100 lks. wide course S. W.
 and ascend along gentle N. W. slope.

25.15 Cross road, bears N. and S.

32.00 Over level land.

36.15 ~~The~~ rim of the Grand Cañon of the
 Colorado, the point for witness cor.
 for 1/4 sec. cor. falls on solid rock
 bluff & mark a cross (+) at exact
 point for cor. and W.C. 1/4 N. of
 cross for witness cor. to 1/4 sec.
 cor. and raise a mound of stone
 2 ft. base 1 1/2 ft. high N. of cor.; from
 which

A cedar 8 ins. diam. bears S. 28 1/2° W. 27
 lks. dist. marked W.C. 1/4 S 23 BT.

A pinon 5 ins. diam. bears N. 48 3/4° W. 17
 lks. dist. marked W.C. 1/4 S 14 BT.

Land, level.

Soil rocky and gravelly; 4th rate.

Timber, cedar and pinon.

Level land 36.15 chs.

Subdivision of Twp. 31 N. R. 2 E.

chains
 N. 0° 01' W. bet sees. 14 and 15
 Over level land, through heavy cedar
 and piñon timber.

40.00 Set a limestone 15 x 10 x 3 ins. 10 ins.
 in the ground for 1/4 sec. cor. mark-
 ed 1/4 on W. face; from which
 A piñon 6 ins. diam. bears N. 35 1/2° E. 38
 lks. dist. marked 1/4 S 14 BT.
 A piñon 8 ins. diam. bears S. 32° W. 40
 lks. dist. marked 1/4 S 15 BT.

50.40 Cross road at forks bears N. 5° E.,
 N. W. and S. E.

53.90 Cross road, bears E. and W.

54.97 The rim of the Grand Cañon of
 the Colorado River.
 Land level.
 Soil rocky; 1/4 rate.
 Timber, cedar and piñon
 Heavily timbered land 1/4 ch.

February 19. At the cor. of secs. 27
 and 28 I set off 11° 32' S on the
 decl. arc, and observe the sun on
 the meridian at ^{12h. 14m.} noon, the resulting
 lat. is 36° 04'.

N. 0° 02' W. bet sees. 21 and 22
 Over level land, through heavy cedar
 and piñon timber.

7.10 Cross road bears N. E. and S. W.

37.40 The rim of the Grand Cañon of the
 Colorado River. The point for witness
 cor. for 1/4 sec. cor. falls on solid
 rock bluff. I mark a cross (+)
 at exact point for cor. and N. E. 1/4
 west of cross for witness 1/4 sec. cor.
 and raise a mound of stone 2 ft.
 base 1 1/2 ft. high 1/4 of cor. from
 which
 A cedar 6 ins. diam. bears S. 37° E. 63
 lks. dist. marked N. E. 1/4 S 1 BT.
 A cedar 5 ins. diam. bears S. 37° W. 47

Chains

lks. dist. marked W.C. 4521 BT.

Thence I offset E. 20.00 chs.; then run on offset line N. 0° 02' W. 42.60 chs.; then I run W. 5.00 chs. to the rim of the Grand Cañon of the Colorado River and set Witness cor. for cor. of secs. 15, 16, 21 and 22.

The point for witness cor. falls on solid limestone bluff. I mark a cross (+) at exact point for cor. and 3 grooves south and 3 grooves and W.C. East of cross for witness cor. of secs. 15, 16, 21 and 22. and raise a mound of stone 2 ft. base 1 1/2 ft. high S.E. of cor. I was unable to put mound W. of cor. on account of the cañon wall falling away on that side.

From the cor.

A piñon 12 ins. diam. bears N. 81 1/4° E. 63 lks. dist. marked W.C. T31NR2ES15BT.

A piñon 14 ins. diam. bears S. 5° E. 90 lks. dist. marked W.C. T31NR2ES22BT.

No other trees available.

Land, level.

Soil, rocky; 4th rate.

Timber cedar and piñon.

Heavily timbered land, 80.00 chs.

From the witness cor. of secs. 15, 16, 21 and 22 I run

S. 89° 51' ~~E~~ on a random line bet. secs 15 and 22

25.00

Set temp. 74 sec. cor.

65.10

Intersect N. and S. line 5 lks. S. of the cor. of secs. 14, 15, 21 and 22.

Thence I run N. 89° 51' W. on a true line bet. secs. 15 and 22

Over level land through dense cedar and piñon timber.

on road bears N. E. and S. E.

Chains

40.05

Set a limestone $16 \times 10 \times 4$ ins. 11 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; from which
 A cedar 12 ins. diam. bears $N. 12\frac{1}{2}^{\circ} W. 7$ lks. dist. marked $\frac{1}{4} S 15 BT.$
 A piñon 12 ins. diam. bears $S. 36\frac{1}{2}^{\circ} W. 23$ lks. dist. marked $\frac{1}{4} S 22 BT.$

65.10

The witness cor. of secs. 15, 16, 21 and 22

Land, level.

Soil, rocky and sandy; $4\frac{1}{2}$ rate.

Timber, cedar and piñon

Heavily timbered land 65.10 chs.

February 19, 1904

February 20: At 8^h00^m a.m. l.m. t. I set off $36^{\circ} 04'$ on the lat. arc; $11^{\circ} 14'$ S on the decl. arc; and determine a meridian with the solar at the cor. of secs. 20, 21, 28 and 29 which is a limestone $6 \times 6 \times 6$ ins. above ground marked and witnessed as described by the surveyor general.

Thence I run

$N. 2^{\circ} 03' W.$ bet. secs. 20 and 21.

Over rolling land through heavy cedar and piñon timber.

15.00

Descend into cañon

18.00

Cross wash 50 lks. wide course S.W. and ascend.

20.00

Over nearly level land.

32.50

Descend into cañon

35.10

Cross wash course S.W. 20 lks. wide ascend

40.00

Set a limestone $16 \times 10 \times 4$ ins. 11 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face; from which
 A piñon 4 ins. diam. bears $S. 27\frac{1}{2}^{\circ} E.$
 13 lks. dist. marked $\frac{1}{4} S 21 BT.$
 A cedar 10 ins. diam. bears $S. 26^{\circ} W.$
 34 lks. dist. marked $\frac{1}{4} S 20 BT.$

chains
 41.00 Over level land
 68.00 Descend into cañon.
 71.67 Cross wash 15 lks. wide course W.
 and ascend.
 74.50 Over level land.
 80.00 Set a sandstone 18 x 8 x 4 ins. 12
 ins. in the ground for cor. of secs.
 16, 17, 20 and 21 marked with 3
 notches on S. and 4 notches on E.
 edges; from which
 A cedar 6 ins. diam. bears N. 57° E. 45
 lks. dist. marked T31NR2ES16BT.
 A piñon 4 ins. diam. bears S. 78½° E. 8
 lks. dist. marked T31NR2ES21BT.
 A piñon 5 ins. diam. bears S. 42¼° W. 14
 lks. dist. marked T31NR2ES20BT.
 A cedar 4 ins. diam. bears N. 62° W. 39
 lks. dist. marked T31NR2ES17BT.
 Land, rolling.
 Soil, rocky and gravelly; 4th rate.
 Timber, cedar and piñon.
 Heavily timbered land 80.00 chs.

N. 0° 03' W. bet. secs. 16 and 17
 Over rolling land through heavy
 cedar and piñon timber.
 6.62 The rim of the Grand Cañon of
 the Colorado River.
 Soil, rocky; 4th rate.
 Land, rolling.
 Timber, cedar and piñon.
 Heavily timbered land 6.62 chs.

S. 89° 53' E. on a true line bet. secs.
 16 and 21.
 Over rolling land through heavy
 cedar and piñon timber.
 22.48 The rim of the Grand Cañon of the
 Colorado River. Set a limestone
 20 x 20 x 8 ins. 21 ins. in the ground.

chains

for witness cor. for $\frac{1}{4}$ sec. cor. marked W.C. $\frac{1}{4}$ on N. face; from which a cedar 8 ins. diam. bears N. $61\frac{1}{2}^{\circ}$ W. 16 lks. dist. marked W.C. $\frac{1}{4}$ S 16 BT.
 A cedar 6 ins. diam. bears S. $48\frac{1}{4}^{\circ}$ W. 42 lks. dist. marked W.C. $\frac{1}{4}$ S 21 BT.
 Land, rolling.
 Soil, rocky; 4 $\frac{1}{2}$ rate.
 Timber, cedar and piñon.
 Heavily timbered land 22.48 chs.

From the cor. of secs. 19, 20, 29 and 30 which is a limestone $12 \times 8 \times 5$ ins. above ground marked and witnessed as described by the surveyor general I run
 N. $0^{\circ} 03'$ W. bet. secs. 19 and 20
 Over rolling land through heavy cedar and piñon timber.
 40.00 Set a limestone $18 \times 10 \times 4$ ins. 12 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face; from which
 A cedar 6 ins. diam. bears N. $52\frac{1}{4}^{\circ}$ E. 15 lks. dist. marked $\frac{1}{4}$ S 20 BT.
 A cedar 6 ins. diam. bears S. $35\frac{1}{4}^{\circ}$ W. 9 lks. dist. marked $\frac{1}{4}$ S 19 BT.

73.07 The rim of the Grand Cañon of the Colorado River. Set a limestone $20 \times 10 \times 5$ ins. 15 ins. in the ground for witness cor. for cor. of secs. 17, 18, 19 and 20 marked with 3 notches on S. and 5 notches and W.C. on E. face; from which
 A piñon 8 ins. diam. bears S. 35° E. 56 lks. dist. marked WCT31N02ES 20 BT.
 A piñon 6 ins. diam. bears S. 10° W. 21 lks. dist. marked WCT31NR2ES 19 BT.
 Thence I offset East 17.90 chs. then run on offset line N. $0^{\circ} 03'$ W. 6.93 chs. the rim of the Grand Cañon of the Colorado River. Set a line

Champs

stone 30 x 14 x 4 ins. 22 ins. in the ground for witness cor. for cor. of secs. 17, 18, 19 and 20, marked with 3 notches on S. and 5 notches on E. edges and WC on S.E. face; from which

A piñon 4 ins. diam. bears N. 70° E. 42 lks. dist. marked WCT31NR2ES17BT.

A piñon 8 ins. diam. bears S. 32½° E. 44 lks. dist. marked WCT31NR2ES20BT.

No other trees available. Raise a mound of stone 2 ft. base 1½ ft. high east of cor. I could not place mound W. of cor. on account of cañon.

Land, rolling.

Soil, rocky 4th rate

Timber, cedar and piñon.

Heavily timbered land 80.00 chs.

From the witness cor. of secs. 17, 18, 19 and 20 which is 7.90 chs. east of the true point for cor. I run S. 89° 56' E. on a random line bet. secs. 17 and 20.

32.10 Set temp ¼ sec. cor.

72.43 Intersect N. and S. line 1 lk. N. of the cor. of secs. 16, 17, 20 and 21
Thence I run

N. 89° 56' W. on a true line bet. secs. 17 and 20.

Over rolling land through heavy cedar and piñon timber.

7.55 Cross wash 50 lks. wide course S. and ascend.

19.00 Over level land.

40/165 Set a limestone 16 x 10 x 6 ins. 11 ins. in the ground for ¼ sec. cor. marked 4 on N. face; from which
A piñon 4 ins. diam. bears N. 38° W. 8 lks. dist. marked 4 S 17 BT.

Chains

A piñon 4 ins. diam. bears S. 25° W. 41
lks. dist. marked 14520 BT.
72.43 The witness cor. of sec. 17, 18, 19 and
20
Land, rolling and level.
Soil, rocky; 4th rate.
Timber, cedar and piñon.
Heavily timbered land 72.43 chs.

February 20, 1904.

John P. Hesse
U.S. Dep. Surveyor

Chains

Boundaries of Sec 22. Tp. 31 N Rg. 2 E.
Latitudes, departures, and closing errors.

Line designated	True Bearing	Distance	Latitudes		Departures	
			N	S	E	W
S. bdy. sec. 22	S 89° 51' E	80.04		.21	80.04	
E. bdy. sec. 22	N 0° 02' W	80.00	80.00			.03 .05
W. bdy. sec. 22	N 89° 54' W	65.10	.11			65.10 15.00 14.92
Offset W. bdy. sec. 22 West						
W. bdy. sec. 22	S 0° 02' E	37.40		37.40	.02	
Offset W. bdy. sec. 22	S 0° 02' E	42.60		42.60	.03	50.40
Totals			80.11	80.21	80.09	80.07
			80.21			80.09

Error in Lat. .10 Error in dep. .04

Boundaries of sec. 20 Tp. 31 N Rg. 2 E.
Latitudes, departures and closing errors.

Line designated.	True Bearing	Distance	Latitudes		Departures	
			N	S	E	W
S. bdy. sec. 20	S 89° 56' E	80.32		.09	80.32	
E. bdy. sec. 20	N 0° 03' W	80.00	80.00			.07
N. bdy. sec. 20.	N 89° 56' W	72.43	.09			72.43
Offset N. bdy. sec. 20. West		7.96 7.92				7.96 7.92
W. bdy. sec. 20.	S 0° 03' E	73.07		73.07	.07	.06
Offset W. bdy. sec. 20.	S 0° 03' E	6.93		6.93	.01	80.40
Totals			80.09	80.09	80.39	80.22
			80.09			80.32

Error in lat. .00 Error in dep. .76

General Description

The land in this township is stony and unfit for agricultural purposes and is of value only as grazing land.

The surveyed portion of this township is covered with a dense growth of cedar, piñon and pine timber.

There is no water in the surveyed portion of the township.

Sec. 19 lies in the Grand Cañon of the Colorado River and the lines necessary to survey it are impassable.

Bright Angel Hotel, a hostelry for visitors to the Grand Cañon is located in sec. 23.

A new hotel to be known as the Bright Angel Tavern is under

construction in sec 23

R. H. Cameron has a trail running from the rim of the cañon to the Colorado River and a camp consisting of a building and several tents in sec. 23.

The Santa Fe and Grand Cañon R. R. ends in sec. 24 near the rim of the Cañon.

John P. Kesse
U. S. Dep. Survey

LIST OF NAMES.

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

....., 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
subdivisional lines of Pp. 31 N. Rg. 2 E.
showing the respective capacities in which they acted:

- A. N. Oliver Chainman.
- William Wallace Oliver Chainman.
- Moundman.
- Moundman.
- S. L. Finley Axman.
- Axman.
- George Cassidy Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted John P. Hesse

....., United States Deputy Surveyor, in surveying all those parts or portions of the subdivisional lines north of secs.
25, 26, 27, 28, 29 and 30 in Pp. 31 N. Rg. 2 E.

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

- A. N. Oliver Chainman.
- William Wallace Oliver Chainman.
- Moundman.
- Moundman.
- S. L. Finley Axman.
- Axman.
- George Cassidy Flagman.

Subscribed and sworn to before me this 20th
day of February 1904, 189

John P. Hesse
U. S. Dep. Surveyor



FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

BOOK 1802

I, John P. Hesse, 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 11th day of December 1903, 1899, 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 east boundary of Pp. 31 N., Rg. 2 E. and the subdivisional lines of Pp. 31 N., Rg. 2 E.

of the Gila and Salt River Basins 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.

John P. Hesse
United States Deputy Surveyor.

Subscribed by said John P. Hesse, and sworn to before me }
this 12th day of March 1904



Wm. Watts
Clerk U.S. Dist. Court

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, April 14-1904, 1899

The foregoing field notes of the survey of the subdivisional lines of Pp. 31 N. Rg. 2 East, of the Gila & Salt River Basins & Meridian, in the Territory of Arizona

executed by John P. Hesse, U.S. Dep. Surveyor under his contract No. 109, dated December 11-1903, 1899, 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.
for Arizona

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.

Frank S. Ingalls
United States Surveyor General.