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Manuscript
to V. Feb. 1907

1848
Book "J"

BOOK 1848

FIELD NOTES

OF THE SURVEY OF THE

West and North boundaries

T. 22 S R. 17 E

- 1848 -

1848

Of the *2^d* *of Salt River* Meridian,

AS SURVEYED BY

Philip Contzen, United States Deputy Surveyor,

Under his Contract No. *115*, dated *March 15th*, 190*4*

Survey commenced *October 19th*, 190*4*

Survey completed *October 24th*, 190*4*

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1A
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NAMES AND DUTIES OF ASSISTANTS.

John M. Trayer,	chairman
H. W. Huggins,	chairman
Josiah Biddle,	
A. A. Giesight,	woundman
Mannel Salazar,	woundman
Charles M. Pogue,	axeman
Tom Jones,	axeman
Arthur Pogue	flagman

BOOK 1848

INDEX DIAGRAM.

Township 22 N, Range 17 E

	11	10	9	8	7	7
6	5	4	3	2	1	
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18	17	16	15	14	13	
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WE, John M. Trayer and H. W. Huggins
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 West and North boundaries of T. 22 S. R. 17 E.

John M. Trayer, Chainman.
H. W. Huggins, Chainman.

Subscribed and sworn to before me this 14th
day of September, 1904



H. G. Power
NOTARY PUBLIC,
PIMA COUNTY, ARIZONA
MY COMMISSION EXPIRES
April 27th 1908

WE, Joaquin Bonillas and Mmanuel Salazar
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 West and North boundaries of T. 22 S. R. 17 E.

Joaquin Bonillas, Moundman.
Mmanuel Salazar, Moundman.

Subscribed and sworn to before me this 14th
day of September, 1904



H. G. Power
NOTARY PUBLIC,
PIMA COUNTY, ARIZONA
MY COMMISSION EXPIRES
April 27th 1908

WE, Chas. M. Pogue and Tom Jones
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

West and North boundaries of T. 22 S. R. 17 E.

Chas. M. Pogue, Axman.
Tom Jones, Axman.

Subscribed and sworn to before me this 14th
day of September, 1904



H. G. Power
NOTARY PUBLIC,
PIMA COUNTY, ARIZONA
MY COMMISSION EXPIRES
April 27th 1908

I, Arthur Pogue, 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 West and North boundaries of T. 22 S. R. 17 E.

Arthur Pogue, Flagman.

Subscribed and sworn to before me this 14th
day of September, 1904



H. G. Power
NOTARY PUBLIC,
PIMA COUNTY, ARIZONA
MY COMMISSION EXPIRES
April 27th 1908

Chiasm

Survey commenced October 19, 1904, and executed with a Young and Sons light geodetic transit, No. 5607, 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, tested in the true meridian at Phoenix found correct and was approved by the surveyor general for Arizona, June 10, 1904.

I examined the adjustments of the transit and correct the level and declination 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 proceed as follows:

At the eve of Sps. 22 and 23 S., R. 16 and 17 E., as heretofore described, latitude $31^{\circ} 28' N$, longitude $110^{\circ} 46' W$; I set off $31^{\circ} 28' N$ on the lat. arc, $10^{\circ} 4' S$ on the decl. arc, and at $3^h 30^m$ p. m., l. m. t., determine with the solar apparatus and mark a point thereof, on a stone, firmly set in the ground, 5 chs. N. of the eve. October 19, 1904

At $5^h 24^m$ a. m., l. m. t., by my watch, which is correct, 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, 5 chs. N. of my station.

October 20, 1904.

October 20: At $7:30$ a. m., l. m. t. I lay off the azimuth of Polaris $1025'$ to the east, and mark the meridian thus determined, by cutting a small groove in the stone set October 19, on which the meridian falls 0.3 ins east of the mark determined by the solar.

At $7^h 51^m$ a. m., l. m. t., I set off $31^{\circ} 28' N$ on the lat. arc, $10^{\circ} 18' S$ 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} ~~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 $0'16''$ east.

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6 chain

and west of the meridian established by the Paris observations, therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8^h 20^m is N. 12° 32' W., the angle thus determined gives the mag. decl. 12° 32' E.

Plumet B run

N. lat. sres. 31 and 36.

Over mountainous land, ascending through heavy oak timber.

- 10.00 Ridge, bears E. and W.; observed.
- 19.00 Gulch, 111 lbs. wide, course N. W. ~~observed.~~
- 23.00 Gulch, 20 lbs. wide, course N. W.
- 26.00 Ridge, bears E. and W.; observed.
- 30.70 Gulch, 25 lbs. wide, course W.; ~~observed.~~
- 39.00 Gulch, 30 lbs. wide, course S. W.
- 41.00 Set a malpais stone, 18 x 15 x 10 ins., 1 1/2 ins. in the ground, for 1/4 sec. ev. marked 1/4 on W. face; from which
An oak, 8 ins. diam., bears S. 88° E., 29 lbs. dist., marked 1/4 S 31 B S.
- An oak, 8 ins. diam., bears N. 25° W., 5 lbs. dist., marked 1/4 S 36 B S.
- 69.00 Ridge, 200 ft. above gulch, bears E. and W.; observed.
- 69.40 Gulch, 111 lbs. wide, course S. W.; observed.
- 74.00 Top of E. slope of rocky hill; ~~observed.~~
- 77.00 Summit, bears E. and W.; bears heavy timber bears N. E. and S. W.; observed.
- 80.00 Set a sandstone, 18 x 12 x 10 ins., 1 1/2 ins. in the ground, for ev. of sres. 25, 30, 31 and 36, marked with 1 notch on S. and 5 notches on N. edge; from which
An oak, 24 ins. diam., bears S. 26 1/2° E., 128 lbs. dist., marked S 22 S R 17 E S 31 B S.
An oak, 24 ins. diam., bears S. 45° W., 196 lbs. dist., marked S 22 S R 16 E S 36 B S; no other trees within limit, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of ev. Site impracticable.
Ground, mountainous.
Soil, gravelly and stony; 3rd and 4th rates.
Timber, oak.
Mountainous or heavily timbered land, 80.00. chs!

- 6 chains N. bet. sres. 25 and 30.
Over mountainous land, ascend through scattering oak.
- 17.50 Top of bluff, bears E. and W.; ascend through heavy oak timber.
- 39.60 Gulch, 400 ft. below bluff, 20 lbs. wide, course N. W.; ascend
- 41.00 Set a quartzite stone, 15 x 12 x 10 ins., 12 ins. in the ground, for $\frac{1}{4}$ sres. cov. marked $\frac{1}{4}$ on W. face from which
- An oak, 5 ins. diam., bears S. 33° E., 111 lbs. dist., marked $\frac{1}{4}$ S 30° B S.
- An oak, 10 ins. diam., bears N. 72° W., 28 lbs. dist., marked $\frac{1}{4}$ S 25° B S.; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cov.
- 43.00 Top of N. slope of ridge; ascend.
- 52.70 Gulch, 200 ft. below top of slope, 20 lbs. wide, course W. and ascend.
- 80.00 Earth on purple clay band, 5 x 6 ft., 3 ft. above ground, on which
- set a cross (x) at the exact cov. point, for cov. of sres. 19, 24, 25, and 30, marked with 2 notches on S. and 4 notches on N. side of cross; from which
- An oak, 8 ins. diam., bears N. 36° E., 76 lbs. dist., marked S 22° B 17° E S 19° B S.
- An oak, 13 ins. diam., bears S 76° E., 167 lbs. dist., marked S 22° B 17° E. S 30° B S.
- An oak, 12 ins. diam., bears S $35\frac{1}{2}^{\circ}$ W., 130 lbs. dist., marked S 22° B 16° E S 25° B S.
- An oak, 10 ins. diam., bears N. 32° W., 122 lbs. dist., marked S 22° B 16° E S 24° B S.; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cov.
- Land, mountainous.
Soil, gravelly, stony and rocky; 3rd and 4th rates.
Timber, oak.
Mountainous or heavily timbered land, 80.00 chs.
October 20: At this cov. I set off $10^{\circ} 23'$ S on the arc. wire; and at $12^h 4^m$ l. m. t., observed the sun on the meridian; the resulting lat. is $31^{\circ} 29'$ within 1' of the proper lat.
- N. bet. sres. 19 and 24.
Over mountainous land, ascending through heavy oak timber.
- 1.00 Ridge, bears E. and W.; begin steep descent.

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Chains
 37.30 Gulch, 300 ft. below ridge, 30 lbs wide, course N.; ascend.
 37.60 Road, bars E. and W.
 40.00 Set a granite stone, 20x12x10 ins., 15 ins. in the ground, for
 1/4 sec. ev. marked 1/4 on W. face; from which
 An oak, 6 ins diam, bears S. 62 1/4° E., 24 lbs. dist., marked 1/4 S 19 B S.
 An oak, 30 ins. diam., bears N. 62 1/2° W. 30 lbs. dist., marked 1/4 S 24 B S,
 and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of ev.
 60.00 Grow heavy timber, bars N. W. and S. E.
 80.00 Set a quartzite stone, 20x10x8 ins., 15 ins. in the ground, for
 ev. of secs. 13, 15, 19 and 24, marked with 3 notches on S. and
 N. edges; from which
 An oak, 6 ins. diam., bears N. 54 1/2° E., 53 lbs. dist., marked
 S 22 S R 17 E S 18 B S; no other trees within limit, and raise
 a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of ev. Pits im-
 practicable. This ev. stands 400 ft. above gulch.
 Land, mountainous.
 Soil, gravelly, stony and rocky; 3rd and 4th rate.
 Timber, oak, undergrowth, oak and hawthorn.
 Mountainous or heavily timbered land, 80.00 chs.

1/4 bet. secs. 13 and 15.
 Over mountainous land, ascend through scattering oak and brush
 brush.
 7.00 Ridge, bars N. W. and S. E.; begin steep descent.
 20.00 Gulch, 275 ft. below ridge, 20 lbs. wide, course E., heavy dense
 brush, ascend.
 40.00 Set a quartzite stone, 20x8x6 ins., 15 ins. in the ground, for 1/4
 sec. ev. marked 1/4 on W. face, and raise a mound of stone, 2 ft.
 base, 1 1/2 ft. high, W. of ev. Pits impracticable.
 57.00 Ridge, 300 ft. above gulch, bars E. and W.; descend through
 dense oak brush.
 62.00 Gulch, 170 ft. below ridge, 20 lbs. wide, course E.; heavy dense
 brush; ascend.
 71.00 Ridge, bars E. and W., descend through heavy oak timber and
 scattering cedar.
 80.00 Set a malpais stone, 20x10x8 ins., 15 ins. in the ground, for ev.
 of secs. 7, 12, 13 and 18, marked with 4 notches on S. and 2 notches
 on N. edges, from which
 An oak, 8 ins. diam., bears N. 22 3/4° E., 56 lbs. dist., marked
 S 22 S R 17 E S 7 B S.
 An oak, 4 ins. diam., bears S. 26° E., 83 lbs. dist., marked

chains

S 22 E R 17 E S 18 B S.

An oak 6 ins. diam, bears S. $69\frac{1}{4}^{\circ}$ W., 218 lbs. dist., marked
S 22 E R 16 E S 13 B S.An oak 6 ins. diam, bears N. $39\frac{1}{4}^{\circ}$ W., 146 lbs. dist., marked
S 22 E R 16 E S 12 B S; and raise a mound of stone, 2 ft. base,
 $1\frac{1}{2}$ ft. high, W. of cor.

Ground, mountainous.

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

Timber, oak and cedar, undergrowth, oak and hawthorn.

Mountainous, heavily timbered on land covered with dense undergrowth, 80.00 lbs.

October 20, 1914.

October 21: At 7^h 20^m a.m., l.m.t., I set off $31^{\circ} 32' 11''$ on the lat.
rod, ~~100~~ $10^{\circ} 38' 8''$ on the merid. arc, and determined a meridian
with the solar at the cor. of sres. 7, 12, 13 and 18.

Placed I run.

N. bet. sres. 7 and 12.

Over mountainous land, descending through gray oak timber.

40.00 Set a malpais stone, $18 \times 10 \times 8$ ins., 12 ins. in the ground, for
sre. cor. marked $\frac{1}{4}$ on W. face, from whichAn oak, 6 ins. diam, bears S $55\frac{1}{4}^{\circ}$ E, 108 lbs. dist., marked
 $\frac{1}{4}$ S 7 B S.An oak, 12 ins. diam, bears N. 37° W., 96 lbs. dist., marked
 $\frac{1}{4}$ S 12 B S, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft.
high, N. of cor.58.00 Bird Rock canyon, 600 ft. below cor. of sres. 7, 12, 13 and 18,
200 lbs. wide, course N.; ascend.

62.73 Wire fence, bears E. and W.;

68.31 Bridge, bears E. and W.; descend.

75.80 Embank, 20 lbs. wide, course W.; ascend.

80.00 Set a sandstone, $20 \times 10 \times 6$ ins., 15 ins. in the ground, for cor.
of sres. 1, 6, 7 and 12, marked with 5 notches on E. and 1
notch on N. edge, from whichAn oak, 8 ins. diam, bears N. 45° E, 232 lbs. dist., marked
S 22 E R 17 E S 6 B S.An oak, 7 ins. diam, bears S. $71\frac{1}{2}^{\circ}$ E, 267 lbs. dist., marked
S 22 E R 17 E S 7 B S.An oak, 14 ins. diam, bears N. $44\frac{1}{4}^{\circ}$ W., 330 lbs. dist., marked
S 22 E R 16 E S 1 B S; no other tree, and raise a mound of
stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Site impracticable.

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chains

Land, mountainous.
Soil, gravelly, stony and rocky; 3rd and 4th rate.
Similar, oak.
Mountainous or heavily timbered land, 80.00 chs.

N. bet. ages. 1 and 6 of
Over rolling land, through heavy oak timber.

20.05 River found, bears N. 27° W. and S. 27° E.

27.50 Cross heavy oak timber, bears N. E. and S. W.; ascend.

30.50 Top of W. slope of ridge, descend.

35.20 Gulch, 15 lbs. wide, course W.; ascend.

40.00 Set a malpais stone, 18 x 8 x 8 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. ev. marked $\frac{1}{4}$ on W. face; and raise a mound of stone, 2 ft. base, $\frac{1}{2}$ ft. high, 11 lbs. S. of ev. Site impracticable.
Note: This ev. stands on E slope of steep bank, therefore I raised mound in the only practicable place to insure its preservation.

74.00 Ridge, 250 ft. above $\frac{1}{4}$ sec. ev., bears E. and W.; ascend.

81.30 Gulch, 11 lbs. wide, course W., ascend.

84.50 Intersect S. bdy. of Sps. 21 S, R 16 E, 26.00 chs. W. of the S. E. ev. of Sp. 21 S, R 16 E.
Set a malpais stone, 30 x 12 x 10 ins., 22 ins. in the ground, for closing ev. of Sps. 22 S, R 16 and 17 E., marked C 6 on S; with 6 grooves on E, W. and S. face; from which
An oak, 8 ins. diam., bears S. 40° E., 87 lbs. dist., marked S 22 S R 17 E S 6 B S.
An oak, 15 ins. diam., bears S 17 $\frac{3}{4}$ ° W., 154 lbs. dist., marked S 22 S R 16 E S 1 B S, and raise a mound of stone, 4 ft. base, 3 ft. high, S of ev.
Land, mountainous and rolling.
Soil, gravelly, stony and rocky; 3rd and 4th rate.
Similar, oak.
Mountainous or heavily timbered land, 84.50 chs.

October, 21, 1914

North boundary of S. 22 S, R. 17 E.

October 22: At 7h³⁵ a. m., l. m. t., I set off 31° 33' N on the left. arc; ~~102° 59' S~~ 11° 00' S on the opel. arc; and determined a true meridian with the solar at the ev. of Sps. 21 and 22 S., R 17 and 18 E., which is a stone, marked and returned as described by the surveyor general.

Chains

Plomer & run
N. bet. s res. 1 and 36.

Over mountainous land, ascending along N. slope of ridge, through oak timber and dense brush

33.00 Top of slope, 200 ft. above the ev. and ascend.
40.00 Set a limestone, 18 x 10 x 8 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. ev. marked $\frac{1}{4}$ on N. face, from which
An oak, 5 ins. diam., bears N. $112^{\circ} \frac{3}{4}$ E, 53 lbs. dist., marked $\frac{1}{4}$ S 36 B S.

An oak, 12 ins. diam., bears S. $74^{\circ} \frac{1}{2}$ W, 80 lbs. dist., marked $\frac{1}{4}$ S 1 B S; and raise a mound of stones, 2 ft. base, 12 ft. high, N. of ev.

47.30 Top of mountain, bears N. W. and S. E; bear dense brush; descend.

64.00 Enter heavy oak timber, bears N. W. and S. E.

74.00 Gulch, 30 lbs. wide, course N. W; thence over rolling land.

76.00 Enter dense oak brush, bears N. and S.

80.00 Falls on a limestone in place, 18 x 14 ins., 6 ins. above ground, on which

but a cross (x) at the exact ev. point, for ev. of s res. 1, 2, 35 and 36, marked with 1 notch on E. and 5 notches on W. side of cross; from which

An oak, 12 ins. diam., bears N. $12^{\circ} \frac{3}{4}$ E, 95 lbs. dist., marked S 21 S R 17 E S 36 B S.

An oak, 8 ins. diam., bears S. $28^{\circ} \frac{1}{4}$ E, 46 lbs. dist., marked S 22 S R 17 E S 1 B S.

An oak, 7 ins. diam., bears S $64^{\circ} \frac{1}{4}$ W, 56 lbs. dist., marked S 22 S R 17 E S 2 B S.

An oak, 10 ins. diam., bears N. $68^{\circ} \frac{1}{4}$ W, 46 lbs. dist., marked S 21 S R 17 E S 35 B S; and raise a mound of stones, 2 ft. base, 12 ft. high, N. of ev.

Land, mountainous and rolling.

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

Timber, oak, undergrowth, oak and laurel.

Mountainous, heavily timbered, or land covered with dense undergrowth, 80.00 lbs.

N. bet. s res. 2 and 35.

Over rolling land, through heavy oak timber and dense brush.

5.20 Gulch, 20 lbs. wide, course N.

36.35 Gulch, 20 lbs. wide, course N. E

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Chain
40.00 Set a limstone, 18x8x6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; from which
An oak, 7 ins. diam., bears N. 13° E, 50 lbs. dist., marked $\frac{1}{4}$ S 35 B S.

An oak, 8 ins. diam., bears S. 5 $\frac{3}{4}$ ° N., 160 lbs. dist., marked $\frac{1}{4}$ S 2 B S; and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

47.00 Gravel heavy timber, bears N. and S.

52.00 Gulch, 11 lbs. wide, course S.; ascend.

67.00 Lower dense brush, bears N. and S.

77.30 Top of S. slope of round mountain 200 ft. above gulch, descend.

80.00 Set a limstone, 18x10x6 ins., 12 ins. in the ground, for cor. of secs. 2, 3, 34 and 35, marked with 2 notches on E. and 4 notches on N. edge; from which
An oak, 18 ins. diam., bears N. 36° W., 238 lbs. dist.; marked S 21 S R 17 E S 34 B S; within transition limit and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Site impracticable.

Land, rolling and mountainous.
Soil, gravelly and stony; 3rd. and 4th. rates.
Timber, oak, undergrowth, oak and cedar.
Mountainous, heavily timbered or land covered with dense undergrowth, 80.00 chs.

October 22: At this cor. I set off ~~11° 5' S~~ ^{11° 6' S} in the decl. arc, and at 12^h 6^m P. M. the sun in the meridian, the resulting lat. is 31° 33' N.

N. bet. secs. 3 and 34.
Over mountainous land, descending.

4.80 Enter heavy oak timber and dense brush, bear N. and S.

15.70 Gulch, 30 lbs. wide, course N. W.; ascend.

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

31.00 Gulch, 15 lbs. wide, course N.

36.30 Gulch, 20 lbs. wide, course N.; ascend

40.00 Set a limstone, 18x12x12 ins., 12 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face; from which
A larch, 6 ins. diam., bears N. 72 $\frac{3}{4}$ ° E, 106 lbs. dist., marked $\frac{1}{4}$ S 34 B S.
An oak, 24 ins. diam., bears S. 2° E, 53 lbs. dist., marked

Chains
 48.30 S 21 S R 17 E S 3 1/4 B S. and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.
 53.30 Dip of N. slope of ridge; descend.
 57.00 Gulch, 100 ft. below ridge, 15 lbs wide, course S. W.; ascend.
 57.00 Dip of N. slope of ridge; descend.
 80.00 Set a limestone, 18 x 12 x 12 ins, 12 ins. in the ground for cor. of sec. 3, 4, 33 and 34, marked with 3 notches on E. and W. sides; from which
 An oak, 10 ins. diam, bears N. 20° E., 111 lbs. dist., marked S 21 S R 17 E S 3 1/4 B S.
 An oak, 8 ins. diam, bears S. 86° E., 45 lbs. dist., marked S 22 S R 17 E S 3 B S.
 An oak, 12 ins. diam., bears S 10 1/4° W., 47 lbs. dist., marked S 22 S R 17 E S 4 B S.
 An oak, 10 ins. diam, bears N. 57° W., 36 lbs. dist., marked S 21 S R 17 E S 33 B S.
 Land, mountainous.
 Soil, gravelly and stony; 3rd. and 4th rate.
 Timber, oak and larch; undergrowth, oak and larch.
 Mountainous, heavily timbered or land covered with dense undergrowth, 80.00 chs.

W. bet. sec. 4 and 33.

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

1.05 Gulch 20 lbs. wide, course S. W.; ~~ascend~~.
 17.00 Gulch, 20 lbs. wide, course S. W.
 22.90 Gulch, 20 lbs. wide, course S. W. have dense brush. ascend
 30.00 Dip limestone ridge, 500 ft. above sec. cor., bears N.E. and S.W.; descend.
 41.00 Set a limestone, 18 x 8 x 6 ins., 12 ins. in the ground, for 1/4 sec. cor. marked 1/4 on N. face; from which
 A larch, 5 ins. diam, bears N. 6 1/4° E., 219 lbs. dist., marked 1/4 S 33 B S.
 A larch, 5 ins. diam., bears S. 23 1/2° E., 113 lbs. dist., marked 1/4 S 4 B S.; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.
 48.50 Gulch, 20 lbs. wide, course S. W.
 65.70 Gulch, 400 ft. below ridge, 20 lbs wide, course S. W.; ascend
 70.00 Spur, 4x trending S.; descend.
 79.00 Set a limestone, 18 x 10 x 8 ins., 12 ins. in the ground, for

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Chains

witness ev. to ev. of ores. 4, 5, 32 and 33, marked W 6, with 4 notches on E. and 2 notches on W. edge; from which an oak, 11 ins. diam., bears S. 42° E., 105 lbs. dist., marked W 6 S 22 S R 17 E S 4 1/2 B S; in other trees within limit, and raised a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of ev. Site impracticable.

81.00

Go point falls in gulch, 20 lbs. wide, course S. W. ascend. Ground, mountains.

Soil, gravelly, stony and rocky; 3rd and 4th rate timber, oak and laurel; undergrowth, oak and laurel. Mountains or land covered with dense undergrowth, 80.00 chs.

October 22, 1911.

October 23: At 7h 40^m a. m., l. m. t., I set off 31° 33' N on the lat. arc; ~~11° 31' S~~ on the arc and determined a meridian with the solar at the ev. of ores. 4, 5, 32 and 33.

Phaner from

W. bet ores. 5 and 32, from ev. point.

Over mountains land, ascending through scattering oak timber.

7.00

Top of S. slope of ridge, descend.

15.11

Gulch, 15 lbs. wide, course S. W.

21.20

Gulch, 15 lbs. wide, course S. W.

31.35

Gulch, 15 lbs. wide, course S. W.

40.00

Set a porphyry stone, 18 x 12 x 10 ins., 12 ins. in the ground, for 1/4 ore. ev. marked 1/4 on N. face; from which

An oak, 8 ins. diam., bears N. 61° E., 59 lbs. dist., marked 1/4 S 3 1/2 B S.

An oak, 10 ins. diam., bears S. 69° E., 66 lbs. dist., marked 1/4 S 5 1/2 B S; and raised a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of ev.

45.10

Gulch, 400 ft. below top of spur, 10 lbs. wide, course S. W., ascend over spurs extending S.

58.60

Gulch, 10 lbs. wide, course S. E.

61.00

Gulch, 10 lbs. wide, course S. W. ascend

65.50

Bridge, bears N. and S.; descend.

77.30

Gulch, 40 lbs. wide, course S. W., ascend.

80.00

Set a malpais stone, 18 x 8 x 6 ins., 12 ins. in the ground, for ev. of ores. 5, 6, 31 and 32, marked with 5 notches on E. and 1 notch on W. edge; from which

A mesquite, 8 ins. diam., bears S. 48 1/4° E., 166 lbs. dist., marked S 22 S R 17 E S 5 1/2 B S.

An oak, 15 ins. diam., bears S. 51 3/4° N., 156 lbs. dist., marked

Chains

S 22 S R 17 E S 6 B S.; no other trees within limit, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

Land, mountainous.

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

Timber, scattering oak and mesquite.

Mountainous land, 80.00 chs.

N. bet sres. 6 and 31.

Over mountainous land, ascending through scattering oak timber.

4.20 Gulch, 15 lbs. wide, course S. E.

15.60 Gulch, 15 lbs. wide, course S. ascend

23.00 Ridge, 200 ft. above s.d. cor., bears N. and S.; descend.

29.70 Gulch, 140 ft. below ridge, 20 lbs. wide, course S.; ascend.

40.00 Set a porphyry stone, 18 x 10 x 10 ins., 12 ins. in the ground, for s.d. cor.; marked 4 in N. face, from which

An oak, 18 ins. diam., bears N. 36° E., 245 lbs. dist., marked 4 S 31 B S.; no other trees within limit, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

41.50 Spur, extending S.; descend.

50.00 Gulch, 10 lbs. wide, course S. E.; ascend.

52.50 Set a point from which the S. E. cor. of Sps 21 S, R 16 E, bears N. 4.44 chs. dist.

Set a limestone, 18 x 12 x 10 ins., 12 ins. in the ground, for closing cor. of S 21 S, R 17 E, marked 6 6 on E; with 6 grooves on N. and E. faces, from which

An oak, 6 ins. diam., bears N. 29° E., 72 lbs. dist., marked S 21 S R 17 E S 31 B S.; and raise a mound of stone, 2 ft. base, 1½ ft. high, N. E. of cor.

Land, mountainous.

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

Timber, scattering oak.

Mountainous land, 52.50 chs.

Note: To establish old cor. of Sps 21 S, R 16 and 17 E, for cor. of S 21 S, R 16 E, as follows.

Set a porphyry stone, 18 x 8 x 6 ins., 12 ins. in the ground, marked with 6 grooves on N. and E. faces, and raise a mound of stone, 3 ft. base, 2 ft. high N. W. of cor. Pits impracticable.

October 23, 1904.

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General Description.

The West boundary of this Sp. runs over mountainous land. Sp 22 S, R 16 E., is rough and mountainous.

The North boundary runs over mountainous and rolling land, for the most part through oak timber. Sp 21 S, R 17 is mountainous through the south end of sec. The remainder of the Sp. is rolling and timberless, covered with an abundant growth of rich and nutritious grasses.

Philip Cutler

W. S. Deputy Surveyor.

For authority red ink corrections see deputy's letter of Jan'y. 26, 1905.

LIST OF NAMES.

A list of the names of the individuals employed by

Philip Couzgen

....., 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 West and North boundaries of T. 22 S. R. 17 E

showing the respective capacities in which they acted:

- John M. Trayer* , Chainman.
- H. W. Huggins* , Chainman.
- Juaguin Bonillas* , Moundman.
- Mannel Salazar* , Moundman.
- Chas M. Pogue* , Axman.
- Tom Jones* , Axman.
- Arthur Pogue* , Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted

Philip Couzgen

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

those parts or portions of the

West and North boundaries of T. 22 S. R. 17 E.

..... of the

2nd 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

- John M. Trayer* , Chainman.
- H. W. Huggins* , Chainman.
- Juaguin Bonillas* , Moundman.
- Mannel Salazar* , Moundman.
- Chas M. Pogue* , Axman.
- Tom Jones* , Axman.
- Arthur Pogue* , Flagman.

Subscribed and sworn to before me this

day of *December*, 190*4*



H. G. Power
NOTARY PUBLIC,
PIMA COUNTY, ARIZONA
MY COMMISSION EXPIRES

April 27th 1908

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I, Philip Coutzen, 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 15th day of March, 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 West and North boundaries of T. 22 S. R. 17 E

of the Gila and Salt River 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.

Philip Coutzen
United States Deputy Surveyor.

Subscribed by said Philip Coutzen, and sworn to before me }
this 17th day of December, 1904



Clinton D. Hoover,
Clerk U.S. District Court,
First District of Arizona.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, April 29th, 1905

The foregoing field notes of the survey of the North and West Boundaries of T. 22 S. R. 17 E. of the Gila and Salt River Base and Meridian, in the territory of Arizona

executed by Philip Coutzen, U. S. Deputy Surveyor under his contract No. 115, dated March 15, 1904, 1904, 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.~~