a Portion Book "A"
of the NORTH AND SOUTH BOUNDARIES
T. 18 N.
R. 1 E.

CONTRACT No 103
HESSE

1382

No. 1382. BOOK 1382

4-671

FIELD NOTES

GENERAL LAND OFFICE.

See Retracement S. Bdy T 19 N R 16
by Hesse

ox (~~Copied Jan. 28/04 E. V.~~)

filed July 3/83

Copied by C. M. T. 4/18/04

Compared by G. M. G. & C. M. T. 4/25/04

acct. checked G. M. G. C. S. D. 7/13/04

BOOK 1382

Index

South Bdy. T 18 N R 1 E 1

North " T 18 N R 1 E 20

No. 1382

Field Notes
of the survey of the a portion
of the North and South Boundaries
of
Township 18 N. Range 1 East
of the
Gila and Salt River
Base and Meridian
in the
Territory of Arizona
as surveyed by
John D. Hesse
U. S. Deputy Surveyor
Under his contract No. 103
Dated September 27, 1902

Survey commenced
February 1st 1903.
Survey completed
February 6th 1903

1A.

Names and duties of assistants

Russel C. Stone Chainman

Willam O. Grimes Chainman

Reuben W. Dewitt Axman

Joe O. Landers Flagman.

BOOK 1382

T19N R1E	36	T.19N.R2E.	
		~~21~~	~~20~~
T18N R1E	2	1	T.18N.R2E

T.18N.R.1E.

31	32	33	34	35	36
~~16~~	~~14~~	~~12~~	~~10~~	~~9~~	~~7~~
6	5	4	3	2	1

T.17N.R.1E.

1B

PRELIMINARY OATHS OF ASSISTANTS.

We, Russel E. Stone

and Willom O. Grimes

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 distance to all notable objects, and the true length 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 North and South boundaries of Twp. 18 N. Rg. 1 E.

of the Gila and Salt River Base and Meridian, in the Territory of Arizona.

Russel E. Stone, Chainman.

Willom O Grimes, Chainman.

, Chainman.

, Chainman.

Subscribed and sworn to before me this first day of February, 1903.

John P. Hesse

[SEAL.] *Notary Public.*

U. S. Deputy Surveyor

We, Joel O. Landers. 1 BB

and Reuben W. DeWitt

do solemnly swear that we will well and truly perform the duties of flagman and 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 North and South boundaries of Twp. 18 N. Rg. 1 E.

BOOK 1382

of the Gila and Salt River Base and Meridian, in the Territory of Arizona.

Joel O. Landers, Flagman.

Reuben W. DeWitt, Axman.

, Axman.

, Axman.

Subscribed and sworn to before me this first day of February, 1903

John P. Hease

Notary Public.

U. S. Deputy Surveyor

South boundary Twp. 18 N. Rg. 1 E. IC

Chains

Survey commenced February 1st 1903, and executed with a J. C. Sala light mountain transit 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. Transit not numbered.

I examine the adjustments of the transit, and find it correct; then, to test the solar apparatus, by comparing its indications, resulting from

South boundary Tps. 18 N. Rg. 1 E.

chains

solar observations made during a. m. and p. m. hours, with a true meridian determined by observations on Polaris, I proceed as follows: At the cor. of Tps. 17 and 18 N., Rgs. 1 and 2 E. of the Gila and Salt River Meridian; latitude 34° 55' 12" N., longitude 112° ~~18'~~ 11' ~~14"~~ 7" W. at 10h 36m p. m., I observe Polaris at western elongation, in accordance with Manual of Instructions, and mark a point in the line thus determined, on a stake driven firmly in the ground, 6 chs.

South boundary Tp. 18 N. Rg. 1 E.

chains

N. of my station

February 1st 1903

February 2nd 1903 At 7h 30m a. m., l. m. t., I lay off the azimuth of Polaris, 1° 29' to the east, and mark the true meridian thus determined, by a tack driven in a stake set firmly in the ground. At 8h 00m a. m., l. m. t., I set off 55° 06' N for my co-latitude; 16° 59' E for my declination; and mark a point in the true meridian determined with the solar on the stake already set 6

At the cor. of Dpo. 17 and 18 N. Rgs. 1 and 2 E. I set off 34°55' N. on the lat. arc; 17° 10' S. on the decl. arc; and at 4h 00m p. m. l. m. t. determine a meridian with the solar.

South boundary Tp. 18 N. Rg. 1 E.

Chains

chs N. of my station; this mark falls on the true meridian established by the Polaris observation.

The solar apparatus, by a. m. and p. m. observations, defines positions for true meridians, which co-incide with the meridian established by the Polaris observation; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian, at $9^h 00^m$ a. m., is N 14° W; the angle thus determined,

South boundary Tp. 18 N. Rg. 1 E.

Chains

reduced by the table, page 100, gives the mean mag. decl. 14° E.

February 2, 1903

February 3: At 8h 00m a. m. l. m. t. I set off 55° 06' N for my co-latitude; 16° 41' S for my declination; and determine a true meridian with the solar at the cor. of Tps. 17 and 18 N. Rgs. 1 and 2 E. which is a sandstone firmly set in the ground and marked and witnessed as described by the surveyor general

Thence I run

South boundary Tp. 18 N. Rg. 1 E.

chains

West on a random line, along the S. bdy. of Tp. 18 N. Rg. 1 E. setting temp. 1/4 sec. and sec. cors. at intervals of 40.00 chs. for 440 chs., then continue west without setting temp cors. and at 145.34 chs. intersect the G. & S. R. Meridian ~~7.20~~ 7.00 chs N. of the cor. of Tps. 17 and 18 N. Rgs. 1 E. and 1 W.

Feb. 3 and 4, 1903.

February 5: At 8h 00m a.m. l.m.t. I set off 55° 06' N for my co-latitude; 16° 06' S. for my declination and determine a true

South boundary Tp. 18 N. Rg. 1 E.

Chains

meridian at the cor.
of Tps. 17 and 18 N. Rgs.
1 and 2 E. previously
described

Thence I run
West on a true line
bet secs 1 and 36.
Over rolling mountains

0.53 Cross road, bears N. and S.

2.25 Cross wash, course N. W.

16.40 Cross wash, course N. and
enter very scattering
timber.

40.00 Set a sand stone 16 x 10 x 3 ins. 11 ins.
in the ground for 1/4 sec.
cor. marked 1/4 on N. face
from which

A cedar, 3 ins. diam. bears S. 85½° W.
110 lks. dist. marked 1/4 S 1 B T

and raised a mound

S. boundary Tp. 18 N. Rg. 1 E.

Chains

of stone 2 ft. base 1½ ft. high, N. of cor.

43.35 Cross wash, course N. E.

56.75 Cross wash, course N.

61.90 Cross wash, course N. W.

80.00 Set a lime stone 16 x 12 x 10 ins. 11 ins in the ground for cor. of secs. 1, 2, 35 and 36, marked with 1 notches on E. and 5 notches on W. edges; from which

A cedar, 6 ins. diam. bears N 46½° E. 72 lks. dist. marked T 18 N R 1 E S 36 B T

A cedar, 8 ins. diam. bears S 41° E. 159 lks. dist. marked T 17 N R 1 E S 1 B T

A cedar, 8 ins. diam. bears S 73¼° W. 18 lks. dist. marked T 17 N R 1 E S 2 B T

A cedar, 8 ins. diam. bears N 4¼° W. 71 lks. dist. marked T 18 N R 1 E S 35 B T

Land, mountainous.

Soil, rocky and gravelly; 4th rate.

South boundary of Tp. 18 N. Rg. 1 E.

Chains	
	Timber, cedar.
	Mountainous land 80.00 chains
	West bet. secs. 2 and 35
	Over rolling mountains through scattering timber.
24.40	Cross wash in deep canon course N.
40.00	Set a conglomerate stone 18 x 14 x 12 ins. 12 ins. in the ground for 1/4 sec. cor.; marked 1/4 on N. face; from which A cedar 14 ins. diam. bears N. 79° E. 44 lks. marked 1/4 S 35 B T A cedar 6 ins. diam. bears S. 71½° W. 32 lks. marked 1/4 S 2 B T
42.10	Cross wash, course N.
62.15	Cross wash, course N. E.
80.00	Set a lime stone 18 x 8 x 8 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 W edges; from which

South boundary of Tp. 18 N. Rg. 1 E.

Chains

A cedar, 6 ins. diam. bears N 22¾° E.
60 lks. dist. marked T 18 N R 1 E
S 35 B T

A cedar, 3 ins. diam. bears S 76¼° E.
12 lks. dist. marked T 17 N R 1 E
S 2 B T

A cedar, 4 ins. diam. bears S 42½° W.
22 lks. dist. marked T 17 N R 1 E
S 3 B T

A cedar, 4 ins. diam. bears N 20° W.
50 lks. dist. marked T 18 N R 1 E
S 34 B T

Land, mountainous.
Soil, rocky and gravelly; 4th rate.
Timber, cedar.
Mountainous land 80.00 chs.

West bet. secs. 3 and 34
Over rolling mountains through cedar timber.

South boundary of Tp. 18 N. Rg. 1 E.

Chains

3.50 Cross wash, course N.W.

40.00 Set a lime stone 18 x 6 x 6 ins. 12 ins. in the ground for 1/4 sec. cor.; marked 1/4 on N. face; from which
A cedar 6 ins. diam. bears N. 72° E. 75 lks. marked 1/4 S 34 B T
A cedar 6 ins. diam. bears S 88° W. 50 lks. marked 1/4 S 3 B T.

43.05 Cross wash, course N.W.

47.40 Cross wash, course N.E. and timber becomes scattering.

79.45 Cross wash, course N.E.

80.00 Set a lime stone 18 x 12 x 10 ins, 12 ins. in the ground for cor. of secs. 3, 4, 33 and 34, marked with 3 notches on E and 3 notches on W. edges; from which
A cedar, 10 ins. diam. bears N 76 3/4° E. 99 lks. dist. marked T 18 N R 1 E S 34 B T
A cedar, 6 ins. diam. bears S. 58° E. 83 lks. dist. marked T 17 N R 1 E S 3 B T
A cedar, 12 ins. diam. bears S. 41 3/4° W. 108 lks. dist. marked T 17 N R 1 E S 4 B T

South boundary of Tp. 18 N. Rg. 1 E.

chains	
	No other tree available; raised a mound of stone 2 ft. base 1½ ft. high W. of cor. Pit impracticable Land, mountainous Soil, rocky and gravelly; 4th rate. Timber, cedar. Mountainous and heavily timbered land, 80.00 chs.
	West bet. secs. 4 and 33 Over rolling mountains through scattering cedars.
11.90	Cross wash, course N.
18.20	Cross wash, course N.E.
30.00	Cross wash in cañon, course N.E.
40.00	Set a lime stone 18 x 10 x 8 ins. in

South boundary Tp. 18 N. Rg. 1 E.

Chains

a mound of stone for 1/4 sec. cor. marked 1/4 on N. face; from which

A cedar, 6 ins. diam. bears N. 8½° W. 91 lks. dist. marked 1/4 S 4 BT

and raised a mound of stone 2 ft. base 1½ ft. high, N. of cor. Pits impracticable

80.00 Set a lime stone 16 x 12 x 3 ins. 11 ins. in the ground for cor. of secs. 4, 5, 32 and 33, marked with 4 notches on E and 2 notches on W edges; from which

A cedar, 8 ins. diam. bears S. 6° W. 83 lks. dist. marked T 17 N R 1 E S 33 B T.

and raised a mound of stone 2 ft. base 1½ ft. high, W. of cor. Pits impracticable. No other trees. Land, mountainous Soil, rocky; 4th rate Timber cedar.

South boundary Tp. 18 N. Rg. 1 E.

Chains

Mountainous land 80.00 chs.

February 5, 1903

February 6: At 8h 00m a. m. l. m. t. I set off 55° 06' N. for my co-latitude; 15° 48' S.V for my declination; and determine a true meridian with the solar at the cor. of secs. 4, 5, 32 and 33

Thence I run

West bet. secs. 5 and 32.

Over rolling mountains through scattering cedar timber

1.30 Cross wash course N.

19.00 Cross wash course N. E.

26.30 Cross road bears N. and S.

South boundary Tp. 18 N. Rg. 1 E.

Chains	
33.35	Cross wash course N. E.
40.00	Set a limestone 16 x 12 x 3 ins. in a mound of stone for 1/4 sec. cor.; marked 1/4 on N. face; from which A cedar 6 ins. diam. bears N. 20° E. 120 lks. marked 1/4 S 32 B T A cedar 8 ins. diam. bears S 9° W 65 lks. marked 1/4 S 5 B T
62.75	Cross wash, course N. W.
80.00	Set a limestone 18 x 10 x 6 ins. in a mound of stone for cor. of secs. 5, 6, 31 and 32, marked with 5 notches on E and 1 notches on W edges; from which A cedar, 6 ins. diam. bears N 26 1/4° E. 225 lks. dist. marked T 18 N R 1 E 32 B T A cedar 10 ins. diam. bears S 60 3/4° E. 89 lks. dist. marked T 17 N R 1 E 5 B T A cedar, 10 ins. diam. bears S. 69° W. 248 lks. dist. marked T 17 N R 1 E 6 B T A cedar, 3 ins. diam. bears N. 53 3/4° W. 224 lks. dist. marked T 18 N R 1 E 31 B T

Land, mountainous

South boundary Tp. 18 N. Rg. 1 E.

chains

Soil, rocky; 4 rate.
Timber, cedar.
Mountainous land
80.00 chs.

West bet. secs. 6 and 31
Over rolling mountains
through scattering cedar
timber.

7.20 Cross wash course N. E.

20.50 Edge of precipitous canon.
through which the Verde
River runs. It being
impossible to chain, to
determine the distance
across the cañon I
triangulate as follows;
I set my flagman on
line on west bank

South boundary Pp. 18 N. Rg. 1 E.

Chains

of cañon and lay off a base due south 10.00 chs. to B.; from B my flag on West bank of canon bears N. 69° 19' W. then 10. x tan. 69° 19' = distance across canon or 10 x 2.6487 = 26.49 chs. the dist. across the canon and 26.49 + 20.50 = 46.99 chains. the total dist. from sec. cor. to west bank of cañon.

34.00 Cross Verde River 1 chn. wide course N. (This dist. is estimated as it is impossible to chain to the river)

46.99 Set a lime stone 18 x 10 x 8 ins. in a large mound of stone for witness cor. to 1/4

South boundary Tps. 18 N. Rg. 1 E.

chains

sec. cor., marked 1/4 W.C. on N. face; and raised a mound of stone 2 ft. base 1½ ft. high, N. of cor. Pits impracticable

Thence over rough mountains through cedar timber

145.34 Intersect Gila and Salt River Meridian ~~7.00~~ 7.00 chs. N. of cor. of Tps. 17 and 18 N. Rg. 1 W. and

Set a lime stone 20 x 6 x 4 ins. in a mound of stone for closing cor. of Tps. 17 and 18 N. Rg. 1 E. marked with 6 grooves on E. N. and S. faces; and CC on E. face; from which

A cedar 5 ins. diam. bears S 42° E. 36 lks. dist. marked T 17 N R 1 E S 6 B T

No. 1382 19

South boundary of Tp. 18 N. Rg. 1 E.

Chains

A cedar, 36 ins. diam. bears N 25° E.
130 lks. dist. marked T 18 N R 1 E
S 31 B T

Land, mountainous.
Soil, rocky; 4th rate.
Timber, cedar.
Mountainous or heavily
timbered land 145.34

18A
February 6; At the cor. of
Ts. 18 and 19 N. Rs. 1 E. and 1 W.
I set off 15° 46' S. on the
[illegible]. arc; and observe the
[illegible] on the meridian at
is [illegible]; The resulting lat.
35° 00½' N. ✓

[illegible] letter

No. 1382 BOOK 1382 19

South boundary of Tp. 18 N. Rg. 1 E.

ains

A cedar, 36 ins. diam. bears N 25° E.
130 lks. dist. marked T 18 N R 1 E
S 31 B T

Land, mountainous.
Soil, rocky; 4th rate.
Timber, cedar.
Mountainous or heavily timbered land 145.34 chs.

---

for correction in red ink see letter of March 19, 1904

North boundary Tp. 18 N. Rg. 1 E.

chains

February 6: At $2^h\ 00^m$ p. m. l. m. t. I set off 55° 00' 30" N for my co-latitude; 15° 44' S. on the decl. arc.; and determine a meridian with the solar at the cor. of Tps. 18 N. Rgs. 1 and 2 E. which is a stone firmly set and marked and witnessed as described by the Surveyor General

Thence I run West along N. bdy. of sec. 1 Over rolling mountains through cedar timber.

40.00 Set a malpais stone 16 x 12 x 8 ins. in a mound of stone for 1/4 sec. cor. marked 1/4 on N. face from which, No other trees in limits. Pits impracticable.

North boundary Tp. 18 N. Rg. 1 E.

Chains	
	A cedar, 14 ins. diam. bears S 47¾° W. 36 lks. dist. marked ¼ S1 BT
	AND RAISED A MD OF STONE, 2 FT BASE 1½ FT HIGH N. OF CORNER
41.00	Cross wash course S.
66.00	Cross wash course S.
80.00	Set a malpais stone 18 x 10 x 8 ins. 12 ins. in the ground for cor. of secs. , 1, and 2, marked with 1 notches on E and 5 notches on W edges; from which A cedar, 6 ins. diam. bears S 27½° E. 50 lks. dist. marked T 18 N R 1 E S 1 B T
	A cedar, 15 ins. diam. bears S 43¼° W. 55 lks. dist. marked T 18 N R 1 E S 2 B T.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber cedar.
	Mountainous or heavily timbered land 80.00 chs.

West along N. bdy. of sec. 2.
Over rolling mountains through heavy timber

BOOK 1382

North boundary of Tp. 18 N. Rg. 1 E.

Chains	
18.25	Cross wash 10 lks. wide course S.
40.00	Set a sand stone 20 x 20 x 6 ins. 15 ins. in the ground for 1/4 sec. cor. marked 1/4 on N. face; from which (X) no bee or other tree in limits. Pits impracticable A cedar 12 ins. diam. bears S 40 1/4° E. 65 lks. dist. marked 1/4 S 2 B T.
	AND (X) RAISED A MD OF STONE 2 FT BASE 1 FT HIGH N. OF CORNER
44.70	The cor. of Tps. 19 N. Rgs. 1 and 2 E.

Land, mountainous.
Soil, rocky 4th rate.
Timber cedar.
Mountainous or heavily timbered land 44.70 chs.

February 6, 1903

General Description

This township is rough and mountainous being cut by numerous deep ravines. The Verde River runs across the southern part of the township but as it flows through a deep cañon its water is not available in this Tp.

John P. Hesse
U.S. Deputy Surveyor

For corrections in Red Ink see letters of March 19 & April 11, 1902

LIST OF NAMES.

A list of the names of the individuals employed by John P. Kease 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 North and South boundaries of Tp. 18 N. Rg. 1 E.

of the Gila and Salt River Base and Meridian, in the Territory of Arizona, showing the respective capacities in which they acted.

Russel E. Stone, Chainman.
Willon O. Grimes, Chainman.
, Chainman.
, Chainman.
, Axman.
Reuben W. DeWitt, Axman.
Joe D. Landers, Flagman.

27 ated in strict accordance with the Manual of Surveying Instructions, the special 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 TRUE 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 F. Hesse

U. S. Deputy Surveyor.

Subscribed and sworn to before me this 1st day of October, 1903.

Frank A Ingalls

U.S. Surveyor General

4890b150-8-02

BOOK 1382

A P P R O V A L.

Office of the

United States Surveyor-General.

Phoenix, Arizona.

April 23 1904

The foregoing field notes of the survey of North + South boundaries T. 18 N. R. 1 E. of the Gila and Salt River Base and Meridian, in the Territory of Arizona. Executed by John F. Hosse United States Deputy Surveyor, under his contract No. 103, dated Sept 27 1902, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank A. Ingalls

U. S. Surveyor-General.