B (IV)

RESURVEY
OF THE
Gila and Salt River Meridian
Through
T. 18 N.

BOOK 1364

Contract Nº 103

HESSE

No. 1364

BOOK 1364

4-671

FIELD NOTES
GENERAL LAND OFFICE.

No. 1364

PRELIMINARY OATHS OF ASSISTANTS.

We, *Russel E. Stone, Willom O Grimes* and *A. A. Holstrom and H. A. Cheverton*

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

Subdivision lines of Tp. 18 N. Rg. 1 E. and the re-survey of the Gila and Salt River Meridian through Tp. 18 N

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

Russel E Stone, Chainman.
Willom O Grimes, Chainman.
A.A. Holstrom, Chainman.
H. A. Cheverton, Chainman.

Subscribed and sworn to before me this *fitfth* day of *February*, 190 *3*.

John P. Hesse

[SEAL.]   ~~Notary Public.~~

U. S. Deputy Surveyor

We, _Joe O. Landers, 1A_

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 _Subdivision lines of Tp. 18 N. Rg. 1 E. and the re-survey of the Gila and Salt River Meridian through Tp. 18 N._

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

Joe O. Landers, Flagman.

Reuben W. DeWitt, Axman.

_____, Axman.

_____, Axman.

Subscribed and sworn to before me this _fifth_ day

of _February_, 190_3_.

John D. Hesse

~~Notary Public.~~

U.S. Deputy Surveyor

Field Notes

of the re-survey of the

Gila and Salt River Meridian

through

Township 18 North

of the

Gila and Salt River

Base and Meridian

in the

Territory of Arizona

as surveyed by

John F. Hesse

U. S. Deputy Surveyor

Under his contract No. 103

Dated September 27, 1902

Survey commenced February 7, 1903

Survey completed February 7, 1903

Names and duties of assistants
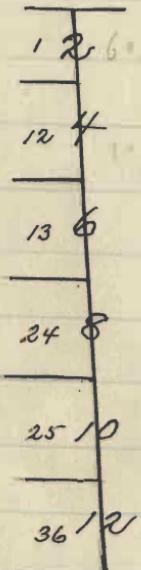Russel E. Stone   Chainman
William O. Grimes   Chainman
A. A. Holstrom   Chainman
H. A. Cheverton   Chainman
Reuben W DeWitt   Axman
Joe O. Landers.   Flagman

$$
\begin{array}{r|l}
1 & 2 \;\; 6 \\
\hline
12 & 4 \\
\hline
13 & 6 \\
\hline
24 & 8 \\
\hline
25 & 10 \\
\hline
36 & 12 \\
\end{array}
$$

Resurvey of the Gila and Salt River,
Meridian through Tp. 18 N.

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BOOK 1364

Survey commenced February
6, 1903 and executed with
a J. C. Sala light mountain
transit, with solar attach
ment. Transit not numbered
The horizontal limb is pro-
vided with two double ver-
niers 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.

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

Resurvey of the Gila and Salt River
Meridian through Tp. 18 N.

chains

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 Tps. 18 and 19 N.
Rgs. 1 E. and 1 W. latitude
35° 00′ 24″ N. longitude 112°
~~00′~~ ~~03″~~ 18′ 14″ W. I set off 35°
00½′ N. on the lat. arc;
15° 41½′ S. on the decl. arc;
and, at 4ʰ 00ᵐ p.m. l.m.t.
determine with the solar
a meridian and mark a
point thereof, on a stone
firmly set in the ground
5 chs. N. of the cor.

At 10ʰ 15.86ᵐ p.m. by my
watch which has correct

chains	
	c. 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 stake driven in the ground 5 chs. N. of my station.

February 6, 1903.

February 7. At $6^h 45^m$ a. m. c. m. t. I lay off the azimuth of Polaris 1° 29' to the east and mark the meridian thus determined by cutting a small groove in the stone set February 6 on which the meridian

Resurvey of the Gila and Salt River
Meridian through Tp. 18 N.

chains

observations made during
a.m. and p.m. hours
with a meridian determined
by observations on Polaris
I proceed as follows:

④ At the cor. of Tps. 18 and 19 N.

(For authority see Book. a.)
Bdys. T18N./R1E. N & S.

Feby. 6th; At the cor of. Tps. 18
& 19 N. Rs. 1 E. & 1 W. I set off
15° 46' S. on the decl. arc. and
observe the sun on the
meridian at noon; The re-
sulting lat. is 35° 00½" N.

firmly set in the ground
5 chs. N. of the cor.
At 10ʰ 15.86ᵐ p.m. by my
watch which has correct

Chains

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coincides with the mark
determined by the solar.
At 7ʰ 00ᵐ a.m. l.m.t., I set
off 35° 00½' N. on the lat arc;
15° 22½' 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 on the meridian es-
tablished by the Polaris
observation.

The solar apparatus, by
p.m. and a.m. observations,
defines positions for
meridians which coincide
with the meridian estab-
lished by the Polaris

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observations; therefore I
conclude that the adjust
ments of the instrument
are satisfactory.
The magnetic bearing of
the true meridian, at
$7^h 15^m$ a. m. is N. 14°10' W.; the
angle thus determined
gives the mag. decl. 14°10'
E.

Being unable to find the cor.
of Tps. 17 and 18 N. Rgs. 1 E. and
1 W. or the cors. N. on the
given course of the Meridian
for two miles north and
being unable in consequence
to close the West lines of
Tp. 18 N. Rg. 1 E. I resurvey
this Meridian as follows.

February 7: 1903 At $8^h 00^m$ a.m. l.m.t.
I set off 55° 00½" on the co. lat arc;
15° 29' 8" on the decl. arc; at the
cor. of Tps. 18 and 19 N. Rgs 1 E.
and 1 W. which is a post
properly marked set in a
mound of stone as the
marks on post are nearly
obliterated I destroy the
old cor. and re-establish

Chains.

it as follows

Set a lime stone 18 × 12 × 4 ins, 12
ins. in the ground for cor. of
secs. 1, 6, 31 and 36 marked with 6 notches
on each edge; from which

A cedar 16 ins. diam. bears N 49° 22' E.
273 lks. dist. marked T 19 N R 1 E
S 31 B T. This is the original bearing tree.

A cedar, 24 ins. diam. bears S 21° 45' W.
508 lks. dist. marked T 18 N R 1 W
S 1 B T

A cedar, 24 ins. diam. bears N 51° 41' W.
331 lks. dist. marked T 19 N R 1 W
S 36 B T No other tree available

And raise a mound of stone 2 ft.
base 1½ ft. high S. of cor. Pits
impracticable;

Thence I run

S 7° 33' E. bet. secs. 1 and 6
Ascending over rolling land.
Difference between measure-
ments of 22.24 chs., by two
sets of chainmen is 4 lks.;

chains	
	position of middle point
	By 1st set, 22.22 chs.
	By 2nd set 22.26 chs.; the
	mean of which is
22.24	I find remains of old cor.
	nearly obliterated which I
	destroy and

Set a malpais stone 14 x 10 x 4 ins. 11
ins. in the ground for ¼ sec.
to sec. ¼ only. cor. marked ¼ on W face; dug pits 18 x 18 x 12
ins. N and S of cor. 3 ft. dist.; and raised a
mound of earth 3½ ft. base 1½ ft. high W

	Difference between measure-
	ments of 62.24 chs., by two
	sets of chainmen is 2 lks;
	position of middle point
	By 1st set 62.25 chs.
	By 2nd set 62.23 chs.; the
	mean of which is
62.24	I find trace of old cor.
	nearly obliterated and

chains

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Set a melpais stone 12 x 10 x 6 ins,   8
ins. in the ground   for cor. of
secs. 1 ,   , and 12 ; marked with 5 notches
on   and 1   notch   on   M   edges; dug pits 18 x
18 x 12 ins.   N.W. and S.W. of cor.   dist.; and raised a
mound of   W of cor.
Land, level.
Soil; sandy; 2nd rate
No timber

S. 7°33' E. bet. 7 and 12.
Over rolling land.

26.00   Descend into canon.
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   I find trace of old cor.

Set a malpais stone 18 x 12 x 6 ins.   12 ins

in the ground for ¼ sec. cor.

to see 12 only.

marked ¼ on W. face; and

raised a mound of stone

2 ft. base 1½ ft. high W.

of cor. Pits impracticable

41.00 Cross wash course S.E. 60

lks. wide and ascend.

60.00 Enter scattering timber.

Difference between measure-

ments of 80.00 chs. by two

sets of chainmen is 8 lks.

position of middle point

By 1st set 79.96 chs.

By 2nd set 80.04 chs.; the

mean of which is

80.00 I find the old cor. nearly

destroyed and

Set a malpais stone 18 x 7 x 5 ins.   12

ins. in the ground

chains

secs. , 12 , and 13, marked with 4 notches
on S and 2 notches on N edges; from which   for cor. of

A cedar , 12 ins. diam. bears S 20° W.
178 lks. dist. marked T 18 N R 1 W
S 13 B T

A cedar , 6 ins. diam. bears N 45° W.
161 lks. dist. marked T 18 N R 1 W
S 12 B T

Land rolling and mountainous.
Soil, rocky; 4th rate.
Cedar timber.
Mountainous land 54.00 chs.

S 7° 33' E. bet. 13 and 18
Over rolling hills through
scattering timber descending

7.50   Cross wash course E. 50 lks.
wide and ascend steep slope
out of cañon.

24.84   Top and over top of mountain
through heavy timber
Difference between measure-

chains	
	ments of 40.00 chs. by two sets of chainmen is 8 lks. position of middle point
	By 1st set 39.96 chs.
	By 2nd set 40.04 chs. the mean of which is
40.00	I find trace of old cor. Set a malpais stone 12 x 12 x 6 ins. 8 ins in the ground for 1/4 sec. cor. to sec. 13 only. marked 1/4 on W. face; from which A cedar, 10 ins. diam. bears S 8½° W. 65 lks. dist. marked 1/4 S 13 BT.
60.00	Timber becomes very scattering.
70.30	Cross wash 30 lks. wide course S.E.
	Difference between measurements of 80.00 chs. by two sets of chainmen is 10 lks. position of middle point
	By 1st set 80.05 chs.

Resurvey of the Gila and Salt River
Meridian through Tp. 18 N.

Chains

By 2nd set 79.95 chs. the
mean of which is

80.00 I find old cor. nearly destroyed
Set a *malpais* stone 15 x 14 x 4 ins. 10
ins. in the ground for cor. of
secs. , 13 , and 24, marked with 3 notches
on S and 3 notches on N edges; and
raise a mound of stone
2 ft. base 1½ ft. high W. of
cor. Pits impracticable
Land, mountainous.
Soil, rocky; 4th rate.
Timber, cedar.
Mountainous or heavily tim-
bered land 80.00 chs.

S. 7° 33' E. bet. 19 and 24
Over top of mountain
5.00 Enter heavy timber
Difference between measure—

ment 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 | I find trace of old cor. and
Set a malpais stone 14 x 12 x 4 ins, 9 ins
in the ground for 1/4 sec. cor
to sec. 24 only
marked 1/4 on W. face from which
A cedar , 4 ins. diam. bears N. 60 1/4° W
35 lks. dist. marked 1/4 S 24 BT

65.00 | Timber becomes scattering.
Difference between measure -
ments of 80.00 chs. by two
sets of chainmen is 8 lks.
position of middle point

By 1st set 79.96 chs.

By 2nd set 80.04 chs.

the mean of which is

Resurvey of the Gila and Salt River
Meridian through Tp. 18 N.

chains	
80.00	I find trace of old cor.

Set a malpais stone 18 x 8 x 6 ins. 12
ins. in the ground for cor. of
secs. , 24, and 25, marked with 4 notches
on N and 2 notches on S edges; from which
A cedar , 10 ins. diam. bears S 76½° W.
158 lks. dist. marked T 18 N R 1 W
S 25 B T
A cedar, 12 ins. diam. bears N 50° W
147 lks. dist. marked T 18 N R 1 W
S 24 B T

Land, rolling and mountainous

Soil, sandy and rocky; 2nd and 4th
rate.

Timber, cedar.

Mountainous or heavily timbered
land 80.00 chs.

S. 1° 33' E. bet. secs. 25 and 30
Over rolling mountains
through scattering timber

4.00	Cross wash 8 lks. wide course

chains	
	BOOK 1364
	S.W.
19.50	Cross wash course S.W. 8 lks. wide:
	Difference between measurements of 40.00 chs. by two sets of chainmen is 14 lks. position of middle point
	By 1st set 40.07 chs.
	By 2nd set 39.93 chs. the mean of which is
40.00	I find trace of old cor.
	Set a malpais stone 18 x 12 x 6 ins. 12 ins. in the ground for ¼ sec. cor. to sec. 25 only, marked ¼ on W. face; from which A cedar 8 ins. diam. bears S. 2½° W 63 lks. dist. marked ¼ S 25 BT
	Difference between measurements of 80.00 chs. by two sets of chainmen is 4 lks. position of middle point

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Meridian through Tp. 18 N.

chains

By 1st set 79.98 chs.

By 2nd set 80.02 chs.; the

mean of which is

80.00 I find trace of old cor. and

Set a lime stone 20 x 6 x 5 ins. 15 ins

in the ground for cor. of

secs. , 25 and 36, marked with 5 tches

on N and 1 notches on S edges; from which

A cedar, 6 ins. diam. bears S 33° W.

255 lks. dist. marked T 18 N R 1 W

S 36 B T

A cedar, 6 ins. diam. bears N 73° W.

100 lks. dist. marked T 18 N R 1 W

S 25 B T

Land, mountainous

Soil, rocky 4th rate.

Timber, cedar.

Mountainous or heavily

timbered land 80.00 chs.

_____

S. 7° 33' E. bet secs. 31 and 36

Over rough broken moun. —

chains	
	through cedar timber.
3.10	Cross wash course S. W.
23.50	Cross wash course S. W.
	Difference between measure-
	ments of 40.00 chs. by two
	sets of chainmen is 12 lks.
	position of middle point
	By 1st set 40.06 chs.
	By 2nd set 39.94 chs. the
	mean of which is
40.00	I find trace of old cor.
	Set a line stone 18 x 8 x 3 ins. in
	a mound of stone for ¼ sec
	to sec 36 only cor. marked ¼ on W. face;
	from which
	A pinon 10 ins. diam. bears S 8½° W.
	60 lks. dist. marked ¼ S 36 BT
68.50	Cross wash 20 lks. wide course S. W.
72.00	Cross wash 15 lks. wide course

chains

W.

Difference between measure —
ments of 80.00 chs. by two
sets of chainmen is 10 lks.
position of middle point
  By 1st set 79.95 chs.
  By 2nd set 80.05 chs. the
mean of which is

80.00 I find trace of old cor. and

Set a line stone 24 x 6 x 6 ins in

a mound of stone for cor. of
Tps 17 and 18 N. Rgs. 1 W marked with 6 notches
on N. S. and W. edges; from which

A cedar 4 ins. diam. bears N. 84½° W.
72 lks. dist. marked T 18 N R 1 W
S 26 B T no other tree in limits

and raise a mound of stone
2 ft. base 1½ ft. high, W. of
cor. Pits impracticable
Soil, rocky 4th rate.
Land, mountainous

Resurvey of the Gila and Salt River 15
Meridian through Tp. 18 N.

chains.

Timber cedar. BOOK 1364
Mountainous or heavily
timbered land 80.00 chs.

February 7, 1903

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John P. Hesse
U.S. Deputy Surveyor

(For General description see
Subs. T18 N R1 E.)

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 Re sur-

vey of *the Gila & Salt River meridian*

of the Gila and Salt River Base and Me-

ridian, in the Territory of Arizona.

Executed by *John P. Hesse,*

United States Deputy Surveyor, under his

contract No. *103*, dated *Sept 27* 190*3* ,

having been critically examined, and the

necessary corrections and explanations

made, the said field notes, and the sur-

veys they describe, are hereby approved.

Frank A Ingalls

U. S. Surveyor-General.