

Book ~~A~~

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FIELD NOTES

1803

OF THE SURVEY OF THE

BOOK 1803

East boundary from the cor. of secs. 19, 24, 25
and 30 as far north as the rim of the
Grand Cañon, of Pp. 31 N. Rg. 2 E.

1803

BOOK 1803

1803

Of the Gila and Salt River Meridian,

Territory of Arizona

AS SURVEYED BY

John P. Hesse, United States Deputy Surveyor,

Under his Contract No. 109, dated December 11, 1903, 189

Survey commenced February 15th 1904, 189

Survey completed February 18th 1904, 189

NAMES AND DUTIES OF ASSISTANTS.

U. N. Oliver

Chairman

William Wallace Oliver

Chairman

H. K. Pinley

axman

George Cassidy

flagman

1803

BOOK 1803
INDEX DIAGRAM.

Township 31 N, Range 2 E

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

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PRELIMINARY OATHS OF ASSISTANTS.

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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 East boundary of Twp. 31 N. Rg. 2 E.

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

Subscribed and sworn to before me this 15th
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, S. 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 us, to the best of our skill and ability, in the survey of the East boundary of Twp. 31 N. Rg. 2 E.

S. L. Finley, Axman.
_____, Axman.

Subscribed and sworn to before me this 15th
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 East boundary of Twp. 31 N. Rg. 2 E.

George Cassidy, Flagman.

Subscribed and sworn to before me this 15th
day of February 1904, 189



John P. Hesse
U. S. Dep. Surveyor

BOOK 1803

BOOK 1803

(E)

BOOK 1803

February 16: At 3^h 00^m p.m. l.m.t. I set off 36° 04' N. on the lat. arc; 12° 30' 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.

... gives me mag. decl. 14° 30' C.

February 16, 1904

February 17: Stormy weather prevented work to day

February 17, 1904

February 18: At 8^h 00^m a.m. l.m.t. I set off 36° 04' on the lat. arc; 11° 56' 30" S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 24, 25 and 30 which is a limestone marked and witnessed as described by the surveyor general.

Thence I run

North bet. secs. 19 and 24.

Over level land through heavy pine and cedar timber.

15.20 Cross wash 15 lks. wide, course W.

40.00 Set a limestone 20 x 8 x 3 ins. 15 ins. in the ground, for 1/4 sec. cor. marked 1/4 on W. face; from which a cedar 10 ins. diam., bears S 87 1/2° E. 16 lks. dist., marked 1/4 S 19 BT.

A pine 10 ins. diam., bears N. 60° W. 12 lks. dist., marked 1/4 S 19 BT.

53.65 ... bears N. 15° E. and S. 15° W.

chains

Survey commenced February 15, 1904 and executed with a W. and L. G. Gurley 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 latitude and declination arcs. Transit not numbered.

BOOK 1803

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 $\frac{1}{4}$ sec. cor. bet. sec. 23 and 26 Twp. 31 N. R. 2 E. S. 6., latitude $36^{\circ}04' N$, longitude $111^{\circ}58'21'' W$; at $9^h 41.3^m$ p.m. by my watch, which has correct time. I observe Polaris at western elongation, in accordance with Manual of Instructions, and mark a point in the line thus determined, on a plug driven in the ground 6 chs. N. of my station.

February 15, 1904.

For determination of latitude see Book B.

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 in the ground.

At $8^h 00^m$ a.m. l.m.t. I set off $36^{\circ}04'$ on the lat. arc, $12^{\circ}38'$ 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

The instrument was examined, tested on the true meridian at Phoenix, Arizona, and was approved by the Surveyor-General for Arizona.

BOOK 1803

Chains
80.00

Set a limestone $24 \times 12 \times 4$ ins. 18 ins. in the ground for cor. of secs. 13, 18, 19 and 24, marked with 3 notches on N. and S. edges; from which
 A cedar 10 ins. diam. bears N. 57° E. 56 lks. dist. marked T31NR3ES18BT.
 A cedar 8 ins. diam. bears S. 52° E. 24 lks. dist. marked T31NR3ES19BT.
 A pine 10 ins. diam. bears S. 39° W. 38 lks. dist. marked T31NR2ES24BT.
 A pine 6 ins. diam. bears N. $7\frac{1}{2}^\circ$ W. 29 lks. dist. marked T31NR2ES13BT.
 Land, level.

Soil, rocky and sandy; $4\frac{1}{4}$ rate.
 Timber, cedar and pine.
 Heavily timbered land 80.00 chs.

North bet. secs. 13 and 18

Over level land through heavy cedar and pinon timber.

3.25 Cross road, bears E. and W.

6.82 The rim of the Grand Cañon of the Colorado River.

Land, level.

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

Timber, cedar and pinon.

Heavily timbered land 6.82 chs.

John D. Nease
 U.S. Deputy Surveyor

General Description

chains

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This township is nearly level and covered with a dense growth of cedar, piñon and pine timber.

There is no water in this township except in the Grand Cañon of the Colorado River.

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

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LIST OF NAMES.

BOOK 1803

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 East boundary 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. R. 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 East boundary of 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. R. Finley....., Axman.

....., Axman.

George Cassidy....., Flagman.

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



John P. Hesse
U. S. Dep. Surveyor

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For FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

See Book "B"

I, _____, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from _____ United States Surveyor General for _____, bearing date of the _____ day of _____, 189 _____, 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 _____, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of _____

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_____ of the _____ meridian, in the _____ of _____, 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 _____ 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.

United States Deputy Surveyor.

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



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, April 14, 1903

The foregoing field notes of the survey of the East boundary of T. 31 N. R. 21 E.
of the Gila and Salt River Base & Meridian, in the Territory
of Arizona

executed by John F. Hesse U.S. Dep't Surveyor
under his contract No. 109, dated December 11, 1903, 189 _____, 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.

Frank S. Ingalls
United States Surveyor General.