-1818-

FIELD NOTES BOOK 1818

OF THE RE SURVEY OF THE

Fourth Standard Parallel North
through Range 4 East

1818

-1818-

Of the Gila and Salt River Base and Meridian,
In the Territory of Arizona

AS SURVEYED BY

Edgar 6 Dietrich, United States Deputy Surveyor,

Under his Contract No. 123, dated September 15, 1904.

Survey commenced December 26, 1904.

Survey completed December 27, 1904.

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BOOK 1818

NAMES AND DUTIES OF ASSISTANTS.

John M. Prayer,	Chainman
William A. Morris,	Chainman
Frank Dietrich,	Chainman
Walter Percival,	Chainman
Charles Pogue,	Moundman
William M. Ware,	Axman
Ira Ormsby,	Axman
Fred E. Miller,	Flagman

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BOOK 1818

INDEX DIAGRAM.

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BOOK 1818

PRELIMINARY OATHS OF ASSISTANTS.

WE, John M. Drayer, William A. Morris, and Frank Dietrich and Walter Percival 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 ^his survey of the Fourth Standard Parallel North, through Range 4 East

John M. Drayer, Chainman.

F. A. Dietrich, Chainman.

Wm A. Morris, Chainman.

Walter Percival

Subscribed and sworn to before me this 26th day of December, 1904

Edgar L. Dietrich
U. S. Deputy Surveyor

SEAL

I, ~~WE~~, Charles Pogue and ....., do solemnly swear that ~~we~~ I will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the ^his survey of the Fourth Standard Parallel North, through Range 4 East

Charles Pogue, Moundman.

....., Moundman.

Subscribed and sworn to before me this 25th day of December, 1904

Edgar L. Dietrich
U. S. Deputy Surveyor

SEAL

WE, William M. Ware and Ira Owenby 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 ^his survey of the Fourth Standard Parallel North, through Range 4 East

Wm Ware, Axman.

Ira Owenby, Axman.

Subscribed and sworn to before me this 25th day of December, 1904

Edgar L. Dietrich
U. S. Deputy Surveyor

SEAL

I, Fred E. Miller, 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 ^his survey of the Fourth Standard Parallel North, through Range 4 East.

Fred E. Miller, Flagman.

Subscribed and sworn to before me this 25th day of December, 1904

Edgar L. Dietrich
U. S. Deputy Surveyor

SEAL

No notary

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Chains

Survey commenced December 25, 1904, and executed with a James W. Queen and Co. light mountain transit, No. 4607, 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 latitude arc reads 3' in excess, being an index error.

The instrument was examined, tested on the true meridian at Phoenix, found correct, and was approved by the surveyor general for Arizona, December 22, 1904.

I examine the adjustments of the transit, and correct the level and collimation 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 standard cor. of Tps. 17 N., Rs. 4 and 5 E., which is a malpais stone, 6x8x6 ins. above ground, marked and witnessed as described by the surveyor general; latitude ~~34°46'~~ 34°49'10" N., longitude 111°52'09" W., I set off 34°46' N. on the lat. arc, 23°21' S. on the decl. arc, and, at 3h 35m 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. December 25 1904

December 26. At 1h 4m 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

~~December 25, 1904.~~

~~December 26.~~ At 8:40, a.m., l.m.t., I lay off the azimuth of Polaris, 1°28' to the East ~~West~~, and mark the meridian thus determined, by cutting a small groove in the stone set December 25, on which the meridian falls 0.3 ins. west of the mark determined by the solar.

At 8h 55m a.m., l.m.t., I set off 34°46' on the lat. arc, 23°20' S. on the decl. arc, and mark a point in the meridian determined with the solar, by a cut on the stone already set 5 chs. N. of my station.

Resurvey of the Fourth Standard Parallel North, through Range 4 East.

Chains	
	mark falls 0.4 ins. 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°0'14" east and 0°0'21" 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 8h 55m a.m. is N. 14°30' W.; the angle thus determined gives the mag. decl. 14°30' E.
	Thence I run
	West, on S. bdy. of sec. 36.
	Over mountainous land, ascending through scattering cedar timber and dense brush.
4.00	Top of S. slope of malpais ridge; descend.
18.85	Small gulch, course S.; ascend.
33.00	Ridge, bears N. and S.; leave dense brush; descend.
	Difference between measurements of 40.00 chs., by two sets of chainmen, is 4 lks.; position of middle point.
	By 1st set, 40.02 chs.
	By 2nd set, 39.98 chs.; the mean of which is
40.00 ok	Set a malpais stone, 24x8x6 ins., 18 ins. in the ground, for standard 1/4 sec. cor. marked S 1/4 C on N. face; from which
	A cedar, 24 ins. diam., bears N. 49½° W., 262 lks. dist., marked S 1/4 S 36 B T; no other tree within limit, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
70.00	Enter dense brush, bears N.E. and S.W.
77.30	Dry wash, 20 lks. wide, course S.W.; leave dense brush and ascend.
	Difference between measurements of 80.00 chs., by two sets of chainmen, is 6 lks.; position of middle point.
	By 1st set, 79.97 chs.
	By 2nd set, 80.03 chs.; the mean of which is
80.00 ok	Set a calcareous stone, 18x12x8 ins., 12 ins. in the ground, for standard cor. of secs. 35 and 36, marked S C on N., with 1 groove on E. and 5 grooves on W. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
	Land, mountainous.

Chains	
	Soil, gravelly, stony and rocky; 3rd and 4th rate.
	Timber, scattering cedar, undergrowth, palo christo and algarrota.
	Mountainous or land covered with dense undergrowth,
	80.00 chs.
	West, on S. bdy. of sec. 35.
	Over mountainous land, ascending through scattering cedar timber.
5.70	Dry wash, 20 lks. wide, course S.; ascend.
17.00	Top, bears N. and S.; thence over gently rolling land, through dense algarrota brush.
	Difference between measurements of 40.00 chs., by two sets of chainmen, is 8 lks.; position of middle point.
	By 1st set, 40.04 chs.
	By 2nd set, 39.96 chs.; the mean of which is
40.00	Set a malpais stone, 20 x 8 x 6 ins., 15 ins. in the ground for
ok	standard 1/4 sec. cor. marked S 1/4 on N. face, from which
	A cedar, 12 ins. diam., bears N. 12 3/4 W., 141 lks. dist., marked S 1/4 S 35 B S.; no other tree within limit, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.
43.00	Begin descent, bears N. and S.
47.10	Road, bears NE. and SW.
48.00	Dry wash, 10 lks. wide, course SW.; ascend.
53.00	Enter heavy cedar timber, bears N. and S.
56.00	Ridge, bears N. and S.; descend.
77.00	Descend steeper.
	Difference between measurements of 80.00 chs. by two sets of chainmen, is 6 lks.; position of middle point.
	By 1st set, 80.03 chs.
	By 2nd set, 79.97 chs.; the mean of which is
80.00	Set a calcareous stone, 18 x 12 x 4 ins., 12 ins. in the ground
ok	for standard cor. of secs. 34 and 35, marked S C on N.; with two grooves on E. and 4 grooves on W. faces; from which
	A cedar, 5 ins. diam., bears N. 3 1/2° E., 58 lks. dist., marked T 17 N R 4 E S 35 B S.
	A cedar, 12 ins. diam., bears N. 56° W., 69 lks. dist., marked T 17 N R 4 E S 34 B S.; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Land, mountainous and rolling.
Soil, gravelly and stony; 3rd and 4th rate.
Timber, cedar, undergrowth, algarrita and palo christo.
Mountainous, heavily timbered, or land covered with dense undergrowth, 80.00 chs.
December 26: At this cor. I set off 23° 21' S. on the decl. arc, and at 12h 4m l. m. t. observe the sun on the meridian; the resulting lat. is 34° 45', or within 0.4 of the proper lat.

West on S. bdy. of sec. 34.
Over mountainous land, descending through scattering cedar timber and dense brush.

4.00 Foot, bears N. and S.; leave scattering timber and dense brush.
17.20 Dry wash 20 lks. wide, course S. W.
Difference between measurements of 40.00 chs. by two sets of chainmen, is 6 lks; position of middle point
By 1st set, 39.97 chs.
By 2nd set, 40.03 chs. the mean of which is
40.00 Set a sandstone, 18x8x6 ins., 12 ins. in the ground, for standard 1/4 sec. cor. marked S 1/4 on N. face; from which
ok Tm
A cedar 12 ins. diam. bears N. 60 1/2° E., 275 lks. dist. marked S 1/4 S 34 B T. no other tree. dig pits, 18x18x12 ins. E. and W. of stone, 3 ft. dist. and raise a mound of earth, 3 1/2 ft. base 1 1/2 ft. high, N. of cor.
47.00 Spring creek, 40 lks. wide, course S.
50.00 Begin ascent along N. slope of ridge, through scattering cedar timber and dense brush.
Difference between measurements of 80.00 chs. by two sets of chainmen is 4 lks; position of middle point
By 1st set, 80.02 chs.
By 2nd set, 79.98 chs. the mean of which is
80.00 Set a malpais stone, 18x10x8 ins., 12 ins. in the ground, for standard cor. of secs. 33 and 34, marked S C on N.; with 3 grooves on E. and W. faces; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.
ok
Land, gently rolling and mountainous.
Soil, sandy and gravelly loam and stony; 3rd and 4th rate.

Chains	
	Timber, scattering cedar, undergrowth, palo christo and algarita.
	Mountainous or land covered with dense undergrowth, 34.00 chs.
	West, on S. bdy. of sec. 33.
	Over mountainous land, ascending along N. slope of ridge through scattering cedar timber and dense brush.
5.50	Top of slope, descend.
13.20	Road, bears NW. and S. W.; ascend.
19.00	Ridge, bears NE. and S. W.; descend.
27.15	Small dry wash, course N.; ascend.
	Difference between measurements of 40.00 chs. by two sets of chainmen, is 8 lks.; position of middle point.
	By 1st set, 40.04 chs.
	By 2nd set, 39.96 chs. the mean of which is
40.00 OK	Set a malpais stone, 20 x 8 x 7 ins. 15 ins. in the ground, for standard ¼ sec. cor. marked S C ¼ on N. face; from which A cedar, 30 ins. diam., bears N. 2¾° E. 81 lks. dist. marked S C ¼ S 33 B T. no other tree within limit, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
46.00	Top of ridge, bears N. and S.; descend.
50.00	Leave dense brush, bears N. and S.
71.00	Foot, bears N. and S.; leave scattering cedar. thence over gently rolling land.
	Difference between measurements of 80.00 chs. by two sets of chainmen is 6 lks.; position of middle point.
	By 1st set, 79.97 chs.
	By 2nd set, 80.03 chs. the mean of which is
80.00	Set a conglomerate stone, 20 x 8 x 6 ins. 15 ins. in the ground, for standard cor. of secs. 32 and 33, marked S C on N. with 4 grooves on E. and 2 grooves on W. face; dig pits, 24 x 18 x 12 ins. crosswise on each line, E. and W. 3 ft. and N. of stone, 7 ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high, N. of cor.
	Land, mountainous and gently rolling.
	Soil, sandy, gravelly and stony; 3rd and 4th rate.
	Timber, scattering cedar, undergrowth, algarita and palo christo.
	Mountainous, or land covered with dense undergrowth, 71.00 chs.

December 26, 1904.

Resurvey of the Fourth Standard Parallel North, through Range 4 East.

34°47'12"

Chains	
	December 27. At 8^h 35^m a.m. l.m.t., I set off 34°46' on the lat. arc, 23°17' S. on the decl. arc, and determine a true meridian with the solar at the cor. of secs. 32 and 33.
	Thence I run
	West, on the S. bdy. of sec. 32.
	Over gently rolling land.
3.50	Dry wash, 15 lks. wide, course S.
4.85	Road, bears N.W. and S.E.
28.60	Road, bears N.W. and S.E.
33.00	Dry wash, 15 lks. wide, course S.E.
	Difference between measurements of 40.00 chs. by two sets of chainmen, is 6 lks.; position of middle point.
	By 1st set, 39.97 chs.
	By 2nd set, 40.03 chs.; the mean of which is
40.00	Set a sandstone, 20 x 6 x 6 ins., 15 ins. in the ground, for standard 1/4 sec. cor. marked S 1/4 on N. face; dig pits, 18 x 18 x 12 ins. E. and W. of stone, 3 ft. dist., and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high, N. of cor.
50.00	Begin ascent, bears N. and S.
55.00	Enter scattering timber, bears N. and S.
64.00	Spur, extending S.S.E. descend.
66.00	Small, dry wash, course S., ascend through dense palo christo brush.
	Difference between measurements of 80.00 chs. by two sets of chainmen, is 8 lks.; position of middle point.
	By 1st set, 80.04 chs.
	By 2nd set, 79.96 chs.; the mean of which is
80.00	Set a calcareous stone, 24 x 8 x 4 ins., 18 ins. in the ground, for standard cor. of secs. 31 and 32, marked S C on N., with 5 grooves on E. and 1 groove on W. face, from which
	A pinon, 12 ins. diam., bears N. 11° E., 91 lks. dist., marked S 17 N R 4 E S 32 B T.; no other tree within limit, and raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor. Pits impracticable.
	Land, gently rolling and mountainous.
	Soil, sandy, gravelly and stony; 3rd and 4th rate.
	Timber, scattering cedar, pinon and juniper; undergrowth, palo christo and algarroba.
	Mountainous, or land covered with dense undergrowth, 30.00 chs.

Chains	
	West on the S. bdy. of sec. 31.
	Over mountainous land ascending through scattering timber and dense palo christo brush.
2.70	Gap, bears N. and S. thence over stony plateau.
15.00	Begin descent, bears N. and S.
31.00	Gulch, 40 lks. wide, course S.; ascend.
	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	Set a calcareous stone, 18 x 10 x 8 ins., 12 ins. in the ground for standard 1/4 sec. cor. marked S 1/4 on N. face, from which
OK	
	A cedar, 7 ins. diam. bears N. 31 1/2° E., 136 lks. dist. marked S 1/4 S 31 BS.; no other tree, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.
	Thence S. continue
40.30	Spur, extending S., descend along S. slope.
52.00	Head of gulch, course S.
66.00	Gulch, 40 lks. wide, course S.; ascend.
74.00	Spur, extending S.; descend.
79.70	Road, bears NE. and SW.
80.00	Set a point.
	Find no indications of the old standard cor. of Tp. 17 N., Rs. 3 and 4 E., after diligent search for the same, except a scattered mound of stone. I then run West for a distance of 40.00 chs., but find no traces of old standard 1/4 sec. cor. Not feeling justified in reestablishing the old standard Tp. cor. for Tp. 17 N., Rs. 3 and 4 E., upon such faint evidence, I return to the point previously set on line, 80.00 chs. W. of cor. of secs. 31 and 32, and
	Set a calcareous stone, 18 x 10 x 8 ins., 12 ins. in the ground, for standard cor. of T. 17 N., R. 4 E., marked S C on N.; with 6 grooves on N. and E. faces; from which
	A cedar, 6 ins. diam., bears N. 69 1/2° E., 116 lks. dist., marked T 17 N R 4 E S 31 BS.; and raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.
	Land, mountainous and level.
	Soil, gravelly and stony; 3rd and 4th rates.
	Timber, scattering cedar, pinon and juniper; undergrowth palo christo, algarrita and greasewood.

Chains	
	Mountainous land covered with dense undergrowth, 80.00 chs.
	December 27, 1904.
	Note: I have destroyed all evidence of original survey of this line.

General Description.

This line runs over mountainous, rolling and level land.
Tp. 16 N., R. 4 E., is mountainous and rolling.

Edgar C. Dietrich
U. S. Deputy Surveyor.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

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LIST OF NAMES.

A list of the names of the individuals employed by Edgar L. Dietrich, 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 Fourth Standard Parallel North, through Ranges 4 East

showing the respective capacities in which they acted:

John M. Enyart, William A. Morris, Chainman.
Frank Dietrich, Walter Percival, Chainman.
Charles Payne, Moundman.
, Moundman.
William M. Ware, Axman.
Ira Owenby, Axman.
Ira E. Miller, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Edgar L. Dietrich, United States Deputy Surveyor, in surveying all those parts or portions of the Fourth Standard Parallel North, through Ranges 4 East

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

John M. Enyart, Chainman.
W. A. Morris, Chainman.
Walter Percival, ~~Moundman.~~
Charles Payne, Moundman.
Wm Ware, Axman.
Ira Owenby, Axman.
Fred E. Miller, Flagman.

Subscribed and sworn to before me this 27th day of December, 1904

SEAL

Edgar L. Dietrich
U. S. Deputy Surveyor

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Public available

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BOOK 1818

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Edgar L Dietrich, 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 15 day of September, 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 Fourth Standard Parallel North, through Range 4 East

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.

Edgar L. Dietrich
United States Deputy Surveyor.

Subscribed by said Edgar L. Dietrich, and sworn to before me this eleventh day of July 1905,

Frank S Ingalls
U S Surveyor General
~~Notary Public~~

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona July 25th, 1905

The foregoing field notes of the survey of the Fourth Standard Parallel North, thro Range 4 East of the Gila and Salt River Base and Meridian, in the territory of Arizona

executed by Edgar L Dietrich, U S deputy surveyor under his contract No. 123, dated September 15th 1904, ~~190~~, 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.~~

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