Book 15

AUG 1905

4—679.

BOOK 1806

FIELD NOTES

NE

OF THE SURVEY OF THE

1806

1806

First Standard Parallel South

through

Range No. 16 East

Of the Gila and Salt River Base and Meridian,

In the Territory of Arizona

AS SURVEYED BY

Niles Cantzon, United States Deputy Surveyor,

Under his Contract No. 114, dated March 15, 1904

Survey commenced June 16, 1904

Survey completed June 18, 1904

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BOOK 1806

NAMES AND DUTIES OF ASSISTANTS.

John M. Frazer, Arthur Durnal, J. Bernard Wright and Austin A. Lysight, chainmen.

Chesley G. Aldridge, moundman.

James Kerrick, axman.

Arthur Rogers, flagman.

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1806

BOOK 1806

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BOOK 1806

PRELIMINARY OATHS OF ASSISTANTS.

WE, John W. Trayer, J. Bernard Wright and Arthur Durnal and Austin A. Tyeright 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 First Standard Parallel South through Range 16 East

John W. Trayer, Chainman.

Arthur Durnal, Chainman.

J. Bernard Wright, Chainman

Austin A. Tyeright, Chainman

Subscribed and sworn to before me this 16th day of June, 1904

SEAL

Philip Contzen
U. S. Deputy Surveyor
(no notary available)

I, Charley G. Aldridge 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 the First Standard Parallel South through Range 16 East

Charley G. Aldridge, Moundman.

, Moundman.

Subscribed and sworn to before me this 16th day of June, 1904

SEAL

Philip Contzen
U. S. Deputy Surveyor
(no notary available)

I, James Kerrick 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 First Standard Parallel South through Range 16 East

James Kerrick, Axman.

, Axman.

Subscribed and sworn to before me this 16th day of June, 1904

SEAL

Philip Contzen
U. S. Deputy Surveyor
(no notary available)

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 First Standard Parallel South through Range 16 East

Arthur Pogue, Flagman.

Subscribed and sworn to before me this 16th day of June, 1904

SEAL

Philip Contzen
U. S. Deputy Surveyor
(no notary available)

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Resurvey of the First Standard Parallel South, through Range 16 E.

Chains

From the standard cor of Tps 5 S, Rs 15 and 16 E, just re-established by me, I run East on a random line for four miles and being unable to find any corners except on the first mile, I find it necessary to reestablish the S. bdy of T 5 S, R 16 E and also the E bdy of the same, in order to connect properly with the survey of T 4 S, R 17 E. Survey commenced June 16, 1904, and executed with a Young & Sons light mountain transit, No 5609, 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 on the true meridian at Phoenix, found correct, and was approved by the surveyor general for Arizona, June 10, 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 5 S, Rs 15 and 16 E, already described, latitude ~~31° 57' N~~ 32° 57' N, longitude 110° 44' W; I set off 31° 57' N. on the lat. arc; ~~23° 21'~~ 23° 23' N on the decl. arc; and, at $4^h 25^m$ 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.

June 16, 1904.

June 17: At 1 ^{h} ~~44~~ 48 ^{m} a m, by my watch, which is correct, I observe Polaris at eastern elongation, in accordance with Manual of Instruction, and mark a point in the line thus determined, on a peg driven in the ground, 5 chs N of my station.

At 6:45 a m, l m t, I lay off the azimuth of Polaris 1° 26' to the West, and mark the meridian thus determined, by cutting a small groove in the stone set June 16, on which the meridian falls 0.3 ins East of the mark determined by the solar.

At $7^h 45^m$ a m, l m t, I set off [illegible] 23° 24' on the decl. arc; and mark a point in the meridian deter-

mined with the solar by a cross on the stone already set 5 chs N. of my station, this mark falls 0.3 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' 15" E and 0' 15" W of the meridians established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 7h 50m a.m. is N. 14° 10' W; the angle thus determined gives the mag decl 14° 10' E.

From the standard Sp cor, old standard ¼ sec cor bears N 89°40' E, therefore I run N 89°40' E, on S bdy of sec 31.

Over level land, through mesquite timber and dense undergrowth.

3.50 Road, from Dudleyville to Mammoth, bears N.W. W. and S. S.E.

4.50 Brush fence, bears N. N. E and S. S. W; leave timber and dense undergrowth, enter barley field.

15.00 Wire fence, bears N. and S, leave field; enter cottonwood timber and dense undergrowth.

21.15 San Pedro river, 150 lks wide, course Northerly.

28.95 Acequia, running water, 6 lks wide, course Northerly; leave cottonwood timber.

31.20 Acequia, running water, 10 lks wide, course Northerly.

35.00 Railroad line, bears N. and S.

37.27 Difference between measurements of 39.27 chs, by two sets of chainmen, is 4 lks; position of corner point.

By 1st set 39.29 chs

By 2nd set 39.25 chs; the mean of which is

39.27 Cor point determined by old bearing trees

I reestablish cor at same point as follows:

Set a sandstone stone 12 x 10 ins, 12 ins in the ground, for standard ¼ sec cor marked S C ¼ on N face, from which

A mesquite, 24 ins diam, bears N. 7° W, 87 lks dist, marked S C ¼ S 31 B.T.

A mesquite, 16 ins diam, bears N. 5° W, 126 lks dist, marked S C ¼ S 31 B.T.

From this cor the old standard cor of secs 31 and 32 bears N. 89°35' E, therefore I run

N 89°35'

3.00 Leave San Pedro valley and dense undergrowth, begin steep ascent, bears N. and S.

17.00 Top of W. slope of mountain, 300 ft above valley; large stone circle bears 1 ch S.; descend.

29.00 Dry wash, 250 ft below top of slope, 20 lks wide, thence over broken ground through dense greasewood, palo verde and cacti.

29.30 Road, bears Northerly and Southerly.

Difference between measurements of 40.40 chs, by two sets of chainmen is 8 lks; position of middle point.

By 1st set, 40.44 chs;

By 2nd set 40.36 chs; the mean of which is

40.40 Old standard sec. cor. which is a decayed stake set in a mound of stone. I reestablish cor at same point as follows:

Set a sandstone, 24 x 14 x 6 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. faces; from which

A mesquite, 5 ins diam, bears N 70° E, 78 lks dist, marked T 5 S R 16 E S 32 B T.

A palo verde, 10 ins diam, bears N 65° W, 11 lks dist, marked T 5 S R 16 E S 31 B T.

Land, level, mountainous and broken.

Soil, sandy loam, gravelly and stony; 2nd, 3rd and 4th rate.

Timber, mesquite and cottonwood and scattering tesota and ash; undergrowth, mesquite, tesota, palo verde, greasewood, arrow weeds and cacti.

Giant cactus.

Mountainous or land covered with dense undergrowth,

79.67 chs.

East on S bdy of sec 32.

Ascending over broken ground, through dense greasewood, palo verde and cacti (cacti).

1.10 Dry wash, 20 lks wide, course Northerly.

1.88 Old well, bears 5 lks N.

Difference between measurements of 40.00 chs, by two sets of chainmen is 4 lks; position of middle point.

By 1st set, 39.98 chs.

By 2nd set, 40.02 chs; the mean of which is

40.00 No traces of old ~~standard~~ [illegible]

Set a malpais stone, 18 x 12 x 10 ins, 12 ins in the

Resurvey of the First Standard Parallel South, through Range 16 East.

4 Chains

BOOK 1806

	for standard ¼ sec cor marked S 6 ¼ on N. face; from which
	A palo verde, 6 ins diam, bears N. 7½° E, 50 lks dist, marked
	¼ S 32 B S.
	A palo verde, 8 ins diam, bears N. 48½° W, 51 lks dist, marked
	¼ S 32 B S; raise a mound of stone 2 ft base, 1½ ft high,
	N of cor.
74.00	Dry wash, 20 lks wide, course S. Westerly.
	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	Diligent search fails to disclose any evidence of old sec cor.
	Set a malpais stone, 18 x 8 x 6 ins, 12 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; raise a mound of
	stone 2 ft base, 1½ ft high, N of cor. Pits impracticable.
	Land, broken and rolling.
	Soil, gravelly and stony; 3rd and 4th rate.
	Timber, scattering palo verde, mesquite and ironwood; un-
	dergrowth, greasewood, mesquite, palo verde, ironwood
	and cacti.
	Giant cactus.
	Dense undergrowth, 80.00 chs.
	June 17: At this cor I set off ~~27°23'~~ 23°-14' N on the solar arc,
	and at 12h 4m l m t, observe the sun on the meridian; the
	resulting lat is 31° 57' 11"
	East on S bdy of sec 33.
	Over mountainous land, ascending through dense grease-
	wood and cacti.
14.00	Top of N slope of ridge, 240 ft above sec cor; descend.
24.20	Along bluff.
28.70	Dry wash, 180 ft below top of slope, 20 lks wide, course
	N Westerly
31.00	Dry wash, 20 lks wide, course N Westerly; 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	No signs of old cor.
	Set a sandstone, 20 x 10 x 10 ins, 15 ins in the ground, for

23°-14'

Resurvey of the First Standard Parallel South, through Range 16 East.

Chains

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Standard ¼ sec cor marked S 6 ¼ on N face; mound of stone 2 ft base, 1½ ft high, N. of cor. Pits impracticable.

45.00 Top of ridge, 200 ft above gulch, bears Northerly and Southerly; observed.

48.50 Head of gulch, course Southerly; observed.

55.00 Top of ridge, 150 ft above gulch, bears N. Westerly and S. Easterly; observed.

70.25 Begin steep descent to

73.80 Box canyon, 300 ft below top of ridge, 60 ft deep, 20 chs wide, course S E; base dense undergrowth and obscured.

75.30 Top of spur, extending S; observed.

76.30 Box canyon, 50 ft deep, 20 chs wide, course S E; obscured.

79.00 Top of spur, extending S; observed.

Difference between measurements 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 Mound of stone of old cor.

Set a limestone, 18 x 8 x 6 ins, 12 ins in the ground, for standard cor of secs 33 and 34, marked S 6 on N, with 3 grooves on E and W faces; and raised a mound of stone 2 ft base, 1½ ft high, N. of cor. Pits impracticable.

Land, mountainous.

Soil, gravelly, stony and rocky; Brd and 4th rate.

Timber, scattering pale verde and mesquite; undergrowth, greasewood, yucca, mesquite and cacti.

Grant corners.

Mountainous or land covered with dense undergrowth, 80.00 chs

June 17, 1904.

June 18: At 6h 30m a m, from P set off 32° 57' E. on the East arc; 23° 26' on the direct arc; and determine a meridian with the solar at the standard cor of secs 33 and 34.

Thence S, mm

East on S bdy of sec 34.

Over mountainous land, ascending.

3.00 Box canyon, 1 ch wide, course S. S. E easterly. observed.

7.00 Top of ridge, 100 ft above canyon, bears Northerly and Southerly; observed.

6 Resurvey of the First Standard Parallel South, through Range 16 East.

Chains	
11.00	Box canyon, 150 ft below top of ridge, 60 ft. deep, 40 lks wide, course S. Westerly; ascend.
20.00	Top of N. slope of ridge, 200 ft above canyon; descend.
28.00	Canyon 200 ft below top of slope, 80 lks wide, course W, thence Southerly;
36.00	Canyon, 2 chs wide, course Southerly; ascend.
37.50	Begin steep ascent.
	Difference between measurements of 40.00 chs, by two sets of chainmen, is 10 lks; position of middle point.
	By 1st set, 39.95 chs.
	By 2nd set, 40.05 chs; the mean of which is
40.00	Careful search fails to discover any trace of old 1/4 sec cor.
	Set a malpais stone, 18 x 10 x 5 ins, 12 ins in the ground, for standard 1/4 sec cor. marked S C 1/4 on N. face; and raise a mound of stone 2 ft base, 1½ ft high, N of cor. Pits impracticable.
41.00	Top of ridge, 100 ft above canyon, bears NE and SW; thence along ridge.
56.00	In canyon, 1 ch wide, course S. Westerly; ascend.
60.00	Top of ridge, bears N. Easterly and S. Westerly; ascend.
77.00	Top of ridge, 500 ft above 1/4 sec cor, bears N. Easterly and S. Westerly; descend.
	Difference between measurements of 80.00 chs, by two sets of chainmen, is 12 lks; position of middle point.
	By 1st set 80.06 chs.
	By 2nd set, 79.94 chs; the mean of which is
80.00	Find no signs of old sec cor.
	Set a limestone, 18 x 10 x 8 ins, 12 ins in the ground, for standard cor of secs 34 and 35, marked S C on N. with 2 grooves on E and 4 grooves on W face; and raise a mound of stone 2 ft base, 1½ ft high, N of cor. Pits impracticable.
	Land, mountainous.
	Soil, gravelly and stony; 3rd and 4th rate.
	Timber, scattering palo verde; undergrowth, [illegible]
	Cholla, greasewood, palo verde, palmillo, spanish bayonet and cacti.
	Giant cactus.
	Mountainous land, 80.00 chs.
	East on S bdy of sec 35.
	Over mountainous land, descending.

Resurvey of the First Standard Parallel South, through Range 16 East.

Chains	
2.50	Gulch, 20 lks wide, course N. Westerly; ascend.
9.70	Top of ridge, bears Northerly and Southerly; descend abruptly to
11.00	Canyon, 2 chs wide, course S. W. and ascend steep.
26.00	Top of ridge, 250 ft above canyon, bears N. Westerly and S. Easterly; descend along E. slope.
32.00	Gulch, 150 ft below top of ridge, 20 lks wide, course N. Westerly; ascend.
	Difference between measurements 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	No signs of old 1/4 sec cor.
	Set a granite stone, 24 x 15 x 10 ins, 18 ins in the ground, for standard 1/4 sec cor marked S C 1/4 on N. face; and raise a mound of stone 2 ft base, 1 1/2 ft high, N. of cor. Pits impracticable.
	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
	By 2nd set, 79.95 chs; the mean of which is
80.00	Find no evidence of old cor.
	Set a limestone, 18 x 8 x 6 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 faces; from which
	A palo verde, 8 ins diam, bears N 23 1/2° E, 8 lks dist, marked T 5 S R 16 E S 36 B T.
	A palo verde, 8 ins diam, bears N 81 1/4° W, 42 lks dist, marked T 5 S R 16 E S 35 B T; and raise a mound of stone 2 ft base, 1 1/2 ft high, N of cor.
	Land, mountainous.
	Soil, gravelly, stony and rocky; 3rd and 4th rate.
	Timber, scattering palo verde; undergrowth, greasewood, mesquite, tesota, palo verde, palmillo, Spanish bayonet, amole, mezcal, cholla and cacti.
	Giant cactus.
	Mountainous land, 80.00 chs.
	June 18: At this cor I set off 23° 25' N on the arc and at 12h 6m l m t, observe the sun on the meridian; the resulting lat is 32° 57' N. (written over struck-out 31°14' N.)
	East, on S bdy of sec 36.

Resurvey of the First Standard Parallel South, through Range 16 East.

Chains

Chains	
	Over mountainous land, ascending along S slope of mountain.
25.00	Top of slope, 300 ft above sec cor descend.
33.00	Gulch, 20 lks wide, course S. Easterly.
39.60	Gulch, 25 lks wide, course, S Westerly; ascend.
	Difference between measurements of 40.00 chs, by two sets of chainmen, is 10 lks; position of middle point.
	By 1st set, 39.95 chs.
	By 2nd set, 40.05 chs; the mean of which is
40.00	No traces of old ¼ sec cor are found.
	Set a limestone, 18 x 8 x 8 ins, 12 ins in the ground, for standard ¼ sec cor marked S C ¼ on N. face; and raise a mound of stone 2 ft base, 1½ ft high, N. of cor. Pits impracticable.
70.00	Top of Black mountain, 1600 ft above San Pedro valley, bears Northerly and Southerly; and begin descent along N. slope.
	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	After diligent search no signs of old Sp cor are found.
	Set a malpais stone, 20 x 14 x 10 ins, 15 ins in the ground, for Standard cor of Tps 5 S, Rs 16 and 17 E, marked S C on N, with 6 grooves on N., E. and W. faces; from which
	A cedar, 8 ins diam, bears N 33¾° E, 324 lks dist, marked T 5 S R 17 E S 31 B S.
	A cedar, 9 ins diam, bears N. 56° W, 315 lks dist, marked T 5 S R 16 E S 36 B S; and raise a mound of stone 3 ft base, 2 ft high, N. of cor.
	Land, mountainous.
	Soil, gravelly, stony and rocky; 3rd and 4th rate.
	Timber, scattering mesquite, palo verde and cedar; undergrowth, jojoba, palo verde, mesquite, tesota, palmillo, Spanish bayonet, amole, mezcal, cacti and arrow weeds and bachata in canyon.
	Giant cactus.
	Mountainous land, 80.00 chs
	June 18, 1904.

General Description.

Resurvey of the First Standard Parallel South, through Range 16 East.

This line runs over mountainous, broken and level land. The soil is gravelly and stony generally, there is, however, some good farming land in the San Pedro bottom. There is no water along the line other than in the San Pedro. Cottonwood and mesquite timber is found in the valley and cedar in the Black mountain. There are several settlers in secs 30 and 31, T 5 S, R 16 E. T 6 S, R 16 E, is mountainous, rolling and broken. The San Pedro river traverses the western portion of the S/p

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Philip Contzen

U.S. Deputy Surveyor.

Note: In running the 1st Standard Parallel South through Range 16 East, solar observations were determined at intervals not to exceed 15 chains, thus avoiding the necessity of surveying this line by the secant or tangent method.

Philip Contzen
U.S. Deputy Surveyor.

BOOK 1806

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Philip Contzen, 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 First Standard Parallel South through Range 16 East showing the respective capacities in which they acted:

John M. Trayer, *Chainman.*
J. Bernard Wright, *Chainman.*
Arthur Durnal, ~~*Moundman.*~~ Chainman
Austin A. Lysight, ~~*Moundman.*~~ Chainman
Charley G. Aldridge, ~~*Axman.*~~ Moundman
James Kerrick, *Axman.*
Arthur Pogue, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Philip Contzen, United States Deputy Surveyor, in surveying all those parts or portions of the First Standard Parallel South through Range 16 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. Trayer, *Chainman.*
Arthur Durnal, *Chainman.*
J. Bernard Wright, ~~*Moundman.*~~ Chainman
Austin A. Lysight, ~~*Moundman.*~~ Chainman
Charley G. Aldridge, ~~*Axman.*~~ Moundman
James Kerrick, *Axman.*
Arthur Pogue, *Flagman.*

Subscribed and sworn to before me this 24th day of August, ~~189~~ 1904.

SEAL

D. F. McPenny
NOTARY PUBLIC PIMA COUNTY
My commission expires September 9, 1907.

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BOOK 1806

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Philip Contzen, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Frank D Pingatt United States Surveyor General for Arizona, bearing date of the 15th day of March, 189 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 1st Standard Parallel South through Range 16 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; 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.

Philip Contzen
United States Deputy Surveyor.

Subscribed by said Philip Contzen, and sworn to before me this 24th day of August, ~~189~~ 1904.

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

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,
Phoenix, Arizona
Oct. 1st 1904, 189

The foregoing field notes of the survey of the 1st Standard Parallel S. through Range 16 East, of the Gila & Salt River Base & Meridian, in the Territory of Ariz.

executed by Philip Contzen U.S. Dep. Surveyor under his contract No. 114, dated March 15 1904, 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 D Pingatt
United States Surveyor General.
for Arizona

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 D Pingatt
United States Surveyor General.
for Arizona

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