

Exterior  
BOOK "AU" BOOK 2574

2574

FIELD NOTES

OF THE SURVEY OF THE

*North Boundary of T<sub>31</sub> North, R. 16 East*

[Dotted lines for notes]

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

EXECUTED  
AS SURVEYED BY

*Van L. White*, U.S. Transitman  
~~United States Deputy Surveyor,~~  
Special Instructions from the Commissioner of the General Land Office,  
Under ~~his Contract No.~~ \_\_\_\_\_, dated *Oct 2<sup>nd</sup> 1907 and May 15<sup>th</sup> 1908*

Survey commenced *March 27*, 1911

Survey completed *March 27*, 1911

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NAMES AND DUTIES OF ASSISTANTS.

T. Y. White	Chairman
Richard L. Shumway	Chairman
George B. Seig	Moundman
Herbert Yestewa	Moundman
Nelson Polacca	Axman
William R. Carson	Flagman

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# INDEX DIAGRAM.

Township *31 N.*, Range *16 E*

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PRELIMINARY OATHS OF ASSISTANTS.

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WE, T. J. White and Richard L. Shumway  
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 survey of N. Bdry of Tp 31 N. R 16 E. of the G. & S. R. Base & Mer, Arizona

T. J. White, Chainman.  
Richard L. Shumway, Chainman.

Subscribed and sworn to before me this 24<sup>th</sup>  
day of March, 1911



Van L. White  
U.S. Transitman

WE, George B. Seig and Herbert Yestery  
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 N. Bdry. of Tp 31 N R 16 E. of the G. & S. R. Base & Mer, Arizona

George B. Seig, Moundman.  
Herbert Yestery, Moundman.

Subscribed and sworn to before me this 24<sup>th</sup>  
day of March, 1911



Van L. White  
U.S. Transitman

I, Nelson Polacca  
do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of corners and other duties, according to instructions given ~~us~~ <sup>me</sup> to the best of ~~my~~ <sup>my</sup> skill and ability, in the survey of N. Bdry of Tp 31 N. R. 16 E. of the G. & S. R. Base & Mer, Arizona

Nelson Polacca, Axman.  
Axman.

Subscribed and sworn to before me this 24<sup>th</sup>  
day of March, 1911



Van L. White  
U.S. Transitman

I, William R. Carson, 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 N. Bdry of Tp. 31 N R 16 E. of the G. & S. R. Base & Mer, Arizona

William R. Carson, Flagman.

Subscribed and sworn to before me this 24<sup>th</sup>  
day of March, 1911



Van L. White  
U.S. Transitman

## North boundary of Tp. 31 N, R 16 E.

Chain

Survey commenced March 27<sup>th</sup> 1911. and executed with a W and S. E. Gurley engineers transit No. 76 with a Bush Solar attachments. The horizontal limb is provided with one double vernier, reading to angle minutes of arc. The vernier of the latitude and declination arcs reading to 0' 30" of arc.

Examine the adjustments of the transit and find them correct, and show from recent tests of 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, that the instrument is in satisfactory adjustment.

I begin at the cor. of Tps. 31 and 32 N. R. 16 and 17 E. <sup>described in Standard Book "U"</sup> which I established Mar. 25<sup>th</sup> 1911, Latitude  $36^{\circ} 07' 07''$  N. Longitude  $110^{\circ} 34' 23''$  W.

March 27<sup>th</sup> 1911. Ah. 7<sup>h</sup> 05<sup>m</sup> a.m., I.M.L. - Dreh off.  $36^{\circ} 07' 11''$  on the lat. arc.  $2^{\circ} 21\frac{1}{2}'$  N. on the decl. arc. and determine a meridian with the solar at the above mentioned cor. Thence I run,

$N 89^{\circ} 58' W.$ , on a random line, along the N. ldy. of T 31 N., R 16 E., setting temp. 14 sec. and sec. cor. at intervals of 40.00 chs. and at 478.22 chs. intersect W. ldy. of T. 48 lbs. S. of the cor. of Tps. 31 and 32 N. R. 15 and 16 E. <sup>described in Exterior Book "AT"</sup> which I established Decemr 21<sup>st</sup> 1910.

The falling answers to a correction of  $0^{\circ} 03'$  or  $08$  lbs N. per mile existing from the N.E. cor. of the Tps.; therefore I run,

$S 89^{\circ} 55' E.$ , beh. rec. 6 and 31, marking and blazing true line,

Descend S.E. slope over hilly sandy and stony land through scattered pines and cedar trees and sage and greasewood brush undergrowth and bunch grass

- |       |  |
|-------|--|
| 11.57 | Dry ravine 8 lbs. wide course $N 30^{\circ} E$ arc   |
| 21.90 | Top of rocky ridge base N.E. and S.W. desc   |
| 28.32 | Dry ravine 10 lbs wide course N. arc.  |
| 30.22 | Top of rocky ridge base N. and S. desc.  |
| 33.25 | Foot of declivity in dry sand wash. Course N.W. Thence in wash.  |
| 38.22 | The point for the 14 sec. cor. falls in bed of wash. where natural causes would insure the destruction |

North boundary of Twp 31 N, R16 E.

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chain

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of the cor. therefore I continue my line and ab.  
38.37 Leave sand wash. ascend S.W. slope

38.72 Set an iron post 3 ft. long, 1 in. in diam. 26 ins. in the ground for witness cor. to the 1/4 sec. cor marked on brass cap. T 31 N, T 32 N, R 16 E in N. half, S 6, S 31 in E half and W.C. 1/4 in W half from which.

A cedar 10 ins. in diam. bears N 25 1/4° E 94 lbs dist. marked W.C. 1/4 S 31 B.T.

A cedar 14 ins. in diam. bears S 58° E 80 lbs dist. marked W.C. 1/4 S 6 B.T.

62.25 Top of sand ridge. bears N. and S.

NOTE: Clouds obscured the sun at noon today rendering an observation for latitude impossible

78.22 Set an iron post 3 ft. long, 3 ins. in diam. 24 ins. in the ground for cor. of sec. 5, 6, 31 and 32 marked on brass cap R 16 E in E half. T 32 N, S 32 in N.E., T 31 N, S 5 in S.E. S 6 in S.W. and S 31 in N.W. quadrant. from which.

A cedar 5 ins. in diam. bears N 5° E 187 lbs. dist. marked T 32 N, R 16 E S 32 B.T.

A cedar 8 ins. in diam bears N 67 3/4° W 210 lbs. dist. marked T 32 N, R 16 E, S 31 B.T. No other trees suitable for bearing trees available.

Dig pits 18 x 18 x 12 ins. in each sec, 5 1/2 ft. deep and raise a mound of earth 4 ft. high, 2 ft. high W of cor

Land hilly

Soil sandy and stony 3rd rate

Timber Cedar

S 89° 55' E, top. sec. 5 and 32,

Descend E. slope of ridge over hilly sandy land through scattering cedar timber and sage brush undergrowth

2885 Dry ravine 15 lbs. wide 10 ft. deep course S.E. are

38.00 Top of rocky ridge bears N and S. desc.

40.00 Set an iron post 3 ft. long 1 in. in diam. 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 32 on N. half and S 5 on S. half from which.

North boundary of Twp 31 N, R16E

chains

- A cedar 7 ins. in diam. bears  $N48\frac{1}{2}^{\circ}E$  87 lks. dist. marked  $\frac{1}{4}$  S 32 B.T.
  - A cedar 6 ins. in diam. bears  $S37\frac{1}{4}^{\circ}W$  95 lks. dist. marked  $\frac{1}{4}$  S 5 B.T.
  - 44.00 Top of descent in depression bears N.E. and S.W. drains to the S.W. are gradually Low timber bears N and S.
  - 80.00 Set an iron post 3 ft. long 3 ins. in diam. 24 ins. in the ground for cor. of sec. 4, 5, 32 and 33. marked on brass cap R16E in E half. T32 N. S33 in N.E. T31 N. S4 in S.E. S5 in S.W. and S32 in N.W. quadrants.
- Dig pits 18x18x12 ins. in each sec.  $5\frac{1}{2}$  ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high top cor.
- And hilly  
Soil sandy and stony 3rd rate  
Timber Cedar

- $S89^{\circ}55'E$ , Feb. sec. 4 and 33,  
Ascend W. slope over hilly sandy land, through sage and greasewood brush undergrowth and much grass.
- 10.00 Enter scattering cedar timber bears N.W. and S.E.
  - 40.00 Set an iron post 3 ft. long 1 in. in diam. 26 ins. in the ground for  $\frac{1}{4}$  sec. cor. marked on brass cap  $\frac{1}{4}$  S 33 on N. half and S 4 on S. half from which.
  - A cedar 6 ins. in diam. bears  $N3^{\circ}E$  138 lks. dist. marked  $\frac{1}{4}$  S 33 B.T. and
  - A cedar 14 ins. in diam. bears  $S18\frac{1}{2}^{\circ}E$  19 lks. dist. marked  $\frac{1}{4}$  S 4 B.T.
  - 46.00 Top of sand ridge bears N. and S. desc
  - 75.60 Dry ravine 6 lks. wide course N. asc.
  - 78.40 Top of sand ridge bears N. and S. desc.
  - 80.00 Set an iron post 3 ft. long, 3 ins. in diam. 24 ins. in the ground for cor. of sec. 3, 4, 33. and 34, marked on brass cap R16E in E half. T32 N. S 34 in N.E., T31 N. S3 in S.E. S4 in S.W. and S33 in N.W. quadrants. from which.
  - A cedar 5 ins. in diam. bears  $S34\frac{1}{2}^{\circ}E$  198 lks. dist. marked T31 N. R16E S3 B.T.

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A cedar 12 ins. in diam. bears S $62\frac{1}{2}^{\circ}$ W 165 lks. dist. marked T<sub>31</sub>N, R<sub>16</sub>E S<sub>4</sub> B.T. and

A cedar 12 ins. in diam. bears N $40^{\circ}$ W. 256 lks. dist. marked T<sub>32</sub>N, R<sub>16</sub>E S<sub>33</sub> B.T. No other trees within limits

Dry pits 18x18x12 ins. in each sec. 5 $\frac{1}{2}$  ft. dist. and raise a mound of earth 4 ft. base 2 ft. high W. of cor.

Land hilly

Soil sandy and stony 3<sup>rd</sup> rate.

Timber cedar

C.  $89^{\circ}55'$  E., bet. sec 3 and 34,

Descent East. slope over hilly sandy and stony land through scattering cedar timber and sage brush undergrowth and bunch grass

5.35 Dry sand wash 75 lks. wide, 5 ft. deep course N $55^{\circ}$ W arc

14.00 Top of rocky spur, 20 ft. above ravine bears N and S. desc.

17.75 Dry rocky ravine 35 ft. below top of spur course S $50^{\circ}$ W arc

40.00 Set an iron post 3 ft. long, 1 in. in diam 26 ins. in the ground. for  $\frac{1}{4}$  sec. cor. marked on brass cap  $\frac{1}{4}$  S 34 on N. half and S 30 on S. half, from which

A cedar 10 ins. in diam. bears North 25 lks. dist. marked  $\frac{1}{4}$  S 34 B.T. and

A cedar 12 ins. in diam. bears S $28\frac{1}{2}^{\circ}$ W 31 lks. dist. marked  $\frac{1}{4}$  S 3 B.T.

54.00 Dry ravine course S.W. arc gradually

80.00 Set an iron post 3 ft. long, 3 ins. in diam. 24 ins. in the ground for cor. of sec. 2, 3, 34, and 35, marked on brass cap, R<sub>16</sub>E. in E half T<sub>32</sub>N, S<sub>35</sub> in N.E. T<sub>31</sub>N, S<sub>2</sub> in S.E., S<sub>3</sub> in S.W. and S<sub>34</sub> in N.W. quadrants from which.

A prairie pine 6 ins. in diam. bears N $65\frac{1}{2}^{\circ}$ E 100 lks. dist. marked T<sub>32</sub>N, R<sub>16</sub>E, S<sub>35</sub> B.T.

A prairie pine 20 ins. in diam. bears S $35^{\circ}$ E 274 lks. dist. marked T<sub>31</sub>N, R<sub>16</sub>E, S<sub>2</sub> B.T.

A cedar 12 ins. in diam. bears S $69\frac{1}{2}^{\circ}$ W 85 lks. dist. marked T<sub>31</sub>N, R<sub>16</sub>E, S<sub>3</sub> B.T. and



A pinion pine 8 ins. in diam. bears N49½°W  
88 lbs. dist. marked T32 N, R16E, S34 B.T.  
Land rolling and hilly.  
Soil sandy and stony 3<sup>rd</sup> rate.  
Timber pinion pine and cedar

S89°55' E., T<sub>4</sub> sec. 2 and 35,  
Crossed N.W. slope over hilly sandy land through  
scattering pinion pine and cedar timber and  
sage brush undergrowth.

8.00 Top of sand ridge bears N25°E and S25°W. desc.  
40.00 Set an iron post 3 ft. long 1 in. in diam 26 ins.  
in the ground for ¼ sec. Cor. marked on base  
top ¼ S35 in N. half and S2 in S. half  
from which.

A pinion pine 10 ins in diam. bears N31¾°W  
60 lbs. dist. marked ¼ S35 B.T.

A pinion pine 7 ins in diam. bears S66°E 81  
lbs. dist. marked ¼ S2 B.T.

61.60 Dry ravine 20 lbs. wide, course N.E. asc.

68.00 Top of ridge bears N.E. and S.W. desc.

70.00 Dry ravine course N.E. asc.

80.00 Set an iron post 3 ft. long 3 ins in diam.  
24 ins. in the ground for Cor. of sec. 1, 2,  
35 and 36, marked on base top. R16E in  
E half. T32 N, S36 in N.E., T31 N, S1 in S.E., S2  
in S.W. and S35 in N.W. quadrant  
from which.

A pinion pine 6 ins. in diam. bears N18¼°E 87  
lbs. dist. marked T32 N, R16E, S36 B.T.

A pinion pine 8 ins. in diam. bears S68½°E 98 lbs.  
dist. marked T31 N, R16E, S1 B.T.

A pinion pine 10 ins. in diam. bears S62°W  
120 lbs. dist. marked T31 N, R16E S2 B.T. and

A pinion pine 6 ins. in diam. bears N11¼°W 64  
lbs. dist. marked T32 N, R16E S35 B.T.

Land rolling and hilly.  
Soil sandy and stony 3<sup>rd</sup> rate.  
Timber pinion pine and cedar

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S<sub>89°55'</sub> E., bet. secs. 1 and 36,  
 Around W. slope of sand ridge over hilly sandy  
 land through scattering juniper pine and cedar  
 timber and sage brush undergrowth and  
 bunch grass.

5.00 Top of stony ridge bears N and S. desc.  
 36.90 Dry rocky ravine 8 lks. wide course South asc  
 40.00 Set an iron post 3 ft. long 1 in. in diam. 26 ins.  
 in the ground for  $\frac{1}{4}$  sec. cor. marked on brass  
 cap.  $\frac{1}{4}$  S 36 on N. half and S 1 on S. half from which  
 A cedar 7 ins. in diam bears N  $35\frac{3}{4}$ ° W 77 lks. dist.  
 marked  $\frac{1}{4}$  S 36 B.T.

A cedar 12 ins. in diam bears S  $42\frac{1}{2}$ ° E 47 lks.  
 dist. marked  $\frac{1}{4}$  S 1 B.T.

47.80 Top of rocky ridge bears N.E. and S.W. desc.  
 50.85 Dry rocky ravine 10 lks. wide course S.W. asc.  
 63.00 Top of rocky ridge bears N and S. desc.  
 77.70 Dry rocky ravine 15 lks wide course N  $45$ ° E  
 asc.

80.00 Intersect the cor. of T<sub>31</sub> and 32 N., R<sub>16</sub>E,  
 and 17 E., on 4th Guide Meridian East, described in Standard Book "U".  
 Land hilly.  
 Soil sandy and stony 3<sup>rd</sup> rate  
 Timber juniper pine and cedar.

March 27<sup>th</sup> 1911.

Boundaries of T<sub>31</sub>N., R<sub>16</sub>E.  
 Latitudes Departures and Closing Errors.

Line Designated	Bearing	Distance	Latitudes		Departures	
			N	S	E	W
South Boundary	N $89^{\circ}58'$ W	478.60	.28			478.60
West Boundary	North	480.00	480.00			
North Boundary	S $89^{\circ}55'$ E	478.22		.69	478.22	
East Boundary (4 <sup>th</sup> Guide Meridian East)	South	480.00		480.00		
Courtesy					.52	
TOTALS			480.28	480.69	478.74	478.60
				480.28	478.60	
		Error in Lat.		0.41		
		Error in Dep.			0.14	

### General Description

This township is rough and hilly in the northern western and interior parts and rolling in the eastern and southern parts with some level land in the valley along the De Nebets Wash.

The eastern and southern parts is nearly all what might be classified as prairie land, while the rougher parts is covered with scattering pinon pine and cedar timber.

The township is poorly watered, there being very little water except in pools in the De Nebets Wash.

The soil along the De Nebets Wash is a sandy loam mostly 2<sup>nd</sup> rate and will produce various short season crops without the aid of irrigation, while the soil of the remaining portion of the township is nearly all stony or very sandy, producing only grasses and sage brush.

The township should be surveyed.

Van L. White

March 27<sup>th</sup> 1911.

U.S. Geologist

LIST OF NAMES.

A list of the names of the individuals employed by Van L. White

U.S. Transitman, ~~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 N. Bdry of Tp 31 N. R 16 E. of the G. & S. R. Base & Meridian, Arizona showing the respective capacities in which they acted:

T. G. White, Chainman.

Richard L. Shumway, Chainman.

George B. Seig, Moundman.

Herbert Yestewa, Moundman.

Nelson Polacca, Axman.

~~Axman.~~

William R. Carson, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Van L. White

U.S. Transitman, ~~United States Deputy Surveyor~~, in surveying all those parts or portions of the N. Bdry, of Tp 31 N R 16 E.

of the Gila and Salt River Base & 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~~ <sup>executed</sup>, and the corner monuments established, according to the instructions furnished by the ~~United States Surveyor~~

~~General or Commissioner of the General Land Office~~

T. G. White, Chainman.

Richard L. Shumway, Chainman.

George B. Seig, Moundman.

Herbert Yestewa, Moundman.

Nelson Polacca, Axman.

~~Axman.~~

William R. Carson, Flagman.

Subscribed and sworn to before me this 16<sup>th</sup>

day of May, 1911

Van L. White

U.S. Transitman



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TRANSITMAN  
FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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I, Van L. White

Transitman

United States Deputy Surveyor, do

solemnly swear that, in pursuance of ~~a contract~~ <sup>Special Instructions</sup> received from ~~the~~ <sup>the</sup> ~~Commissioner of the~~ <sup>Commissioner of the</sup> ~~United States Surveyor General for~~ <sup>General Land Office</sup> ~~General Land Office~~, bearing date of the

2<sup>nd</sup> day of Oct., 1907 ~~day of~~ <sup>and the 15<sup>th</sup> day of May, 1908</sup>, I have well, faithfully, and truly, in my own

proper person, and in strict conformity with the instructions furnished by the ~~United States Surveyor~~ <sup>Commissioner</sup> ~~General of the~~ <sup>General Land Office</sup> ~~General Land Office~~, the Manual of Surveying Instructions, and the laws of the

United States, surveyed all those parts or portions of the North boundary of Township No. 31 North of Range No. 16 East

of the Gila and Salt

River Base and 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~~ <sup>Commissioner</sup> ~~General of the~~ <sup>General Land Office</sup> ~~General Land Office~~ and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Van L. White

United States Deputy Surveyor.

Transitman

Subscribed by said Van L. White, and sworn to before me

this 27<sup>th</sup> day of December, 1912.

Lynton R. Taylor

U.S. Commissioner  
at Las Vegas, N. M.



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, APR 25, 1914

The foregoing field notes of the survey of the

North boundary of

Township No. 31 North, Range No. 16 East of the  
Gila and Salt River Base and Meridian, Arizona

executed by VAN. L. WHITE, U.S. Transitman, under Special Instructions from

executed by the Commissioner of the General Land Office

under his contract No. \_\_\_\_\_, dated October 2, 1907 and May 15, 1908, 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.~~  
**SURVEYOR-GENERAL OF 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.~~

~~United States Surveyor General.~~