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Book A

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2045

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SEP. 26 1906

BOOK 2045

# FIELD NOTES

OF THE SURVEY OF THE

SOUTH BOUNDARY

OF THE

FT. Huachuca Military Reservation.

2045

2045

2045

Of the GILA & SALT RIVER BASE AND Meridian,

*Territory of Arizona*

AS SURVEYED BY

*Philip Contzen*, United States Deputy Surveyor,

Under his Contract No. 138, dated April 12, 1906, 190

Survey commenced July 5, 1906

Survey completed July 8, 1906

8-161

2045

Arthur Toque, Chairman,

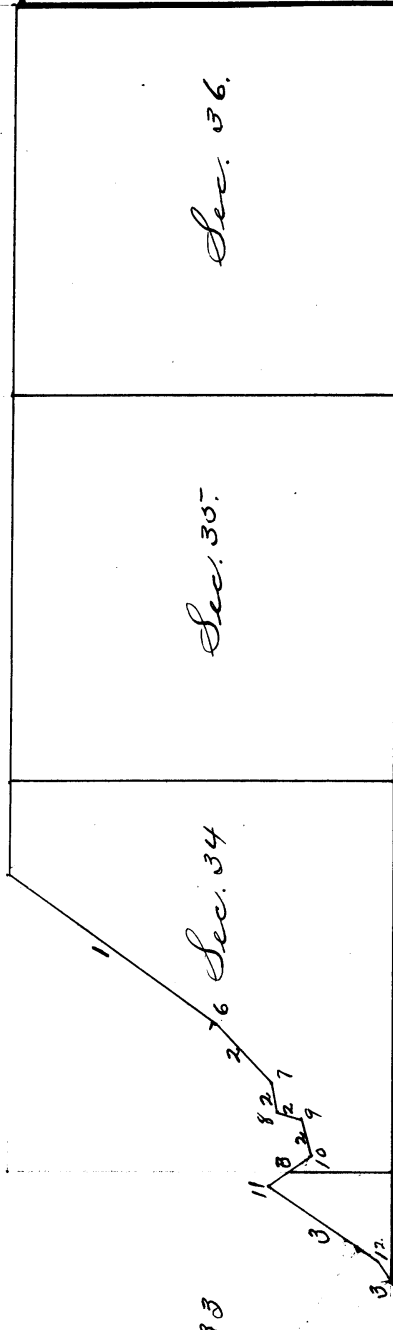
Harry Mallory, Chairman,

Louis Renand, Moundman,

L. C. Miller, Axman,

H. B. Milliken, Flagman

S. 22 S., R. 20 E.



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Sec. 34

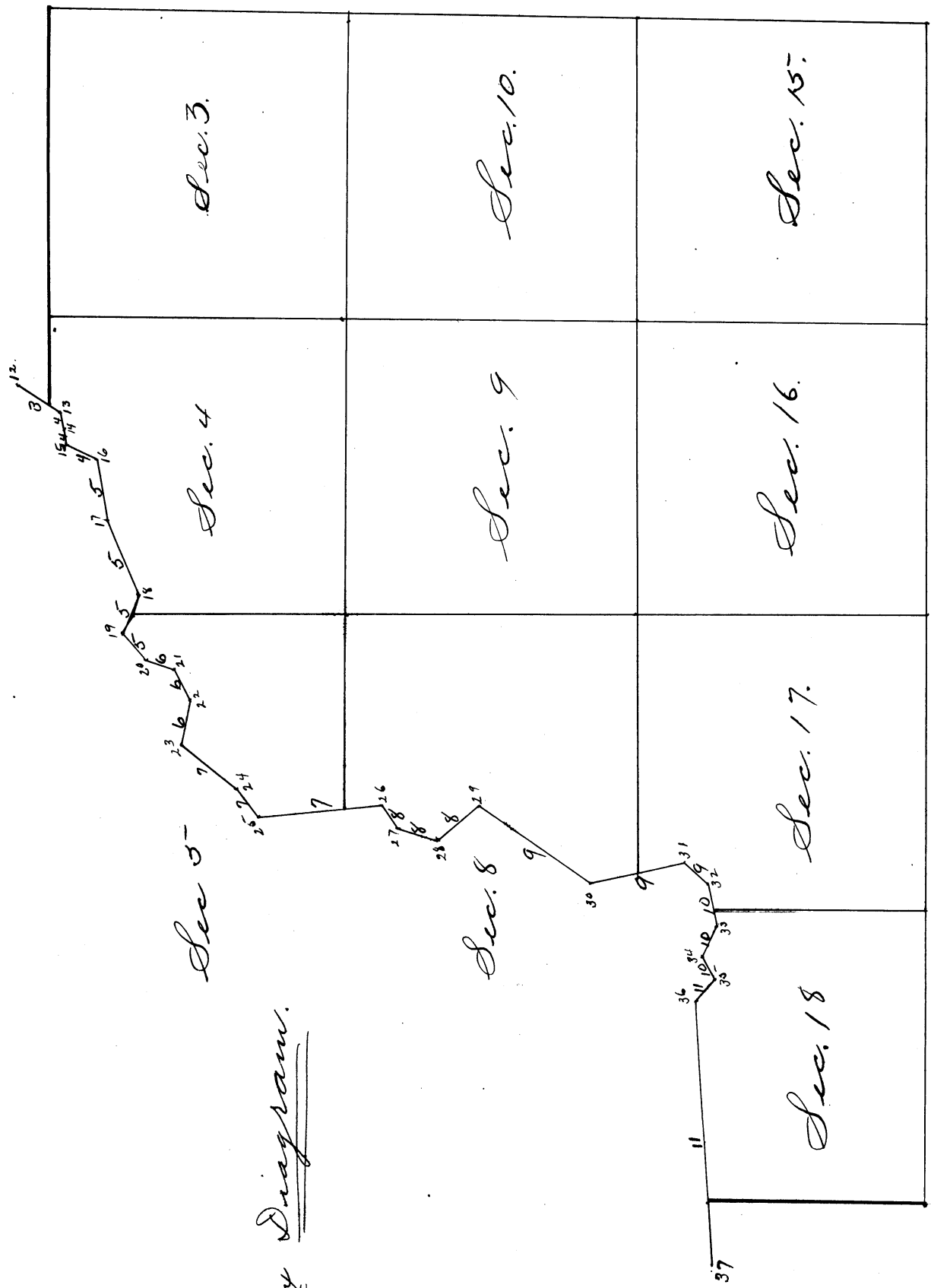
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PRELIMINARY OATHS OF ASSISTANTS.

BOOK 2045

We, Arthur Pogue and Harry Mallory  
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

the South boundary of the Huachuca Military Reservation

Arthur Pogue, Chainman.

Harry Mallory, Chainman.

Subscribed and sworn to before me this 6<sup>th</sup>  
day of July, 1906



W. G. Power

Notary Public, Pima County, Arizona Territory  
My Commission Expires June 27th, 1908.

We, Louis Renaud and  
do solemnly swear that we will well and truly perform the duties of moundman in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of

the South boundary of the Huachuca Military Reservation

Louis Renaud, Moundman.

Moundman.

Subscribed and sworn to before me this 6<sup>th</sup>  
day of July, 1906



W. G. Power

Notary Public, Pima County, Arizona Territory  
My Commission Expires June 27th, 1908.

We, L. C. Miller and  
do solemnly swear that we will well and truly perform the duties of axman 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 South boundary of the Huachuca Military Reservation

L. C. Miller, Axman.

Axman.

Subscribed and sworn to before me this 6<sup>th</sup>  
day of July, 1906



W. G. Power

Notary Public, Pima County, Arizona Territory  
My Commission Expires June 27th, 1908.

I, L. B. Milliken, 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 South boundary of the Huachuca Military Reservation

L. B. Milliken, Flagman.

Subscribed and sworn to before me this 6<sup>th</sup>  
day of July, 1906



W. G. Power

Notary Public, Pima County, Arizona Territory  
My Commission Expires June 27th, 1908.

INTRODUCTION TO THE SURVEY OF THE BOUNDARY OF THE  
 FT. HUACHUCA MILITARY RESERVATION THROUGH TPS. 22 AND  
 23 SOUTH, RANGE 20 EAST. GILA AND SALT RIVER BASE AND  
 MERIDIAN.

-----

Close inspection of the premises reveals the fact that the watershed between Tanner's and Ramsay's Canyons, which forms the Southern Boundary of the Ft. Huachuca Military Reservation, is rather indefinite, especially in the Eastern portion of Range 20 East, where several smaller canyons are located between the two aforementioned. In the Western portion the watershed is well defined between these canyons, therefore I conclude that the boundary would necessarily run from Cor. No. 6, as already established on the Eastern end of a spur or ridge, and follow up this ridge or watershed to connect with the well defined portion of the watershed between Tanner's and Ramsay's Canyons. This line is very irregular, and in order to properly survey T. 23 S., R. 20 E., I deem it necessary to first establish the watershed by metes and bounds and thus eliminate any possible overlapping of the Public Land Survey with the Reservation and to enable the calculation of areas of the fractional sections bounding thereon. Therefore I proceed to Cor. No. 6, as heretofore established, which is now the remains of an oak post in a mound of stone, first taking a Polaris observation as follows:-



## S. Boundary of Ft. Huachuca Military Reservation.

Survey commenced July 5, 1906, and executed with a Young & Sons light mountain transit with Smith's Solar Attachment No. 5609, the horizontal limb having two double verniers placed opposite to each other and reading to single minutes of arcs.

The instrument was examined, tested on the true meridian at Phoenix, found correct, and was approved by the surveyor general for Arizona, July 1, 1906.

In my camp, in the S.E.  $\frac{1}{4}$ , Sec. 34, T. 22 S., R. 20 E., Gila and Salt River Base and Meridian, Arizona, in latitude  $31^{\circ} 28' N.$ , approximately, longitude  $110^{\circ} 17' W.$ , I set off  $31^{\circ} 28' N.$  on the lat. arc;  $22^{\circ} 50' N.$  on the decl. arc; and at 5h 4m., 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.  
July 5, 1906.

July 6: At 0h 38" a.m., by my watch which is o.k., I observe Polaris at eastern elongation in accordance with the 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.

At 6h 30m, a.m., l.m.t., I lay off the Azimuth of Polaris  $1^{\circ} 24''$  to the west and mark the meridian thus determined, by cutting a small groove in the stone set July 5, 1906, on which the meridian falls 0.2 ins. west of the mark determined by the solar.

At 6 h 34 m., a.m., l.m.t., I set off  $31^{\circ} 28' N.$  on the lat. arc and  $22^{\circ} 47' N.$  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 0.4 ins. east of the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.m. observations, defines positions for meridians, respectively about  $0' 11''$  east and  $0' 21''$  east of the meridian established by the Polaris observations; therefore, I conclude that the adjustments are satisfactory.

The magnetic bearing of the true meridian at 6 h 30 m a.m., is N.  $12^{\circ} 27' W.$ ; the angle thus determined gives the mag. decl. as S.  $12^{\circ} 27' E.$

Thence I run N.  $34^{\circ} 30' E.$  from Cor. No. 6.

Over mountainous land, descending.

Bottom, thence almost level by the Surveyor General. To C C between Secs. 27 and 34, T 22 S R 20 E. as described Then I return to cor. No. 6, which I reestablish as follows:

Set a quartzite stone, 18 X 14 X 12 ins., set in a large mound of stone, marked U.S M R COR No. 6 on N, and proceed to meander the watershed by the following courses and distances, to-wit:

5.00.  
57.05

E. Bdy. Ft. Huachuca Military Reservation.

chains  
15.08

Thence I run  
S. 56° 50' W.  
Over mountainous land, ascending along top of spur.  
Through scattering oak timber.  
Set a quartzite stone, 18 X 8 X 6 ins. 12 ins. in the  
ground, for Cor. No. 7, marked U.S M R COR 7 on N.W. face,  
and P L on S.E. face, from which  
An oak, 12 ins. diam., brs. N. 16½° E., 125 lks. ✓  
dist., marked T 22 S R 20 E COR 7 B T, S 34  
An oak, 6 ins. diam., brs. S. 27° 45' W. 128 lks.  
dist., marked T 22 S R 20 E COR 7 B T, S 34  
An oak, 7 ins. diam., brs. N. 48½° W., 203 lks. dist.,  
marked U S M R COR 7 B T,  
No other trees within limits; raised a mound of stone ✓  
3 ft. base, 2 ft. high N. 56° 50' E. of cor. Pits impracti-  
cable.  
Land, mountainous.  
Soil, gravelly and stony; 3rd and 4th rate.  
Timber, scattering oak.  
Mountainous land, heavily timbered, exceptionally difficult  
to survey; 15.08 chs.

4.60

Thence I run  
S. 65° 50' W.,  
Over mountainous land, ascending through heavy oak timber.  
Set a quartzite stone, 18 X 10 X 5 ins., 12 ins. in the  
ground, for Cor. No. 8, marked U.S M R COR 8 on N.W. face,  
and P L on S E face, from which  
An oak, 6 ins. diam., brs. N. 72½° E., 110 lks. dist.,  
marked T 22 S R 20 E COR 8 B T, S 34  
An oak, 14 ins. diam., brs. S. 18° 45' W., 53 lks.  
dist., marked U S M R COR 8 B T,  
An oak, 7 ins. diam., brs. N. 86° W., 105 lks. dist.,  
marked U S M R COR 8 B T., No other trees within  
limits. Raise a mound of stone, N 65° 50' E. Pits  
impracticable,  
Land, mountainous.  
Soil, gravelly, and stony; 3rd and 4th rate.  
Timber, scattering oak.  
Mountainous land, exceptionally difficult to survey,  
4.60 chs.

4.56

Thence I run  
S. 18° 10' W.  
Over mountainous land, ascending through scattering oak  
timber.  
Set a quartzite stone, 18 X 10 X 8 ins., 12 ins. in the  
ground, for Cor. No. 9, marked U S M R COR 9 on N.W.,  
and P L on S E face, from which  
An oak, 7 ins. diam., brs. S. 12½° W., 24 lks. dist.,  
marked T 22 S R 20 E COR 9 B T, S 34  
An oak, 6 ins. diam., brs. S. 55° W., 113 lks. dist.,  
marked T 22 S R 20 E COR 9 B T,  
An oak, 6 ins. diam., brs. N. 62° W., 128 lks. dist.,  
marked U S M R COR 9 B T,  
An oak, 18 ins. diam., brs. N. 14½° W., 151 lks.  
dist., marked U S M R COR 9 B T.  
Land, mountainous.  
Soil, gravelly and stony; 3rd and 4th rate.  
Timber, scattering oak; undergrowth oak.  
Mountainous land, exceptionally difficult to survey,  
4.56 chs.

Thence I run  
S. 67° 40' W.  
Over mountainous land, ascending through scattering oak  
timber and brush.

*end*

S. Bdy. Ft. Huachuca Military Reservation.

chains  
6.04

Set a quartzite stone, 18 X 10 X 6 ins., 12 ins. in the ground, for Cor. No. 10, marked U S M R COR 10 on N.W., and P L on S.E. face, from which  
 An oak, 6 ins. diam., brs. N. 33° E., 259 lks. dist., marked U S M R COR 10 B T.  
 An oak, 7 ins. diam., brs. N. 31° W., 183 lks. dist., marked T 22 S R 20 E COR 10 B T S 34  
 No other trees within limits. Raise a mound of stone 3 ft. base, 2 ft. high, N. 67° 40' E. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, gravelly and stony; 3rd and 4th rate.  
 Timber, oak scattering; undergrowth, oak.  
 Mountainous land, exceptionally difficult to survey,  
 6.04 chs.

Thence I run  
 N. 34° 40' W.

11.09

Over mountainous land, ascending through scattering oak timber, and oak brush. Top of hill.  
 Set a quartzite stone, 18 X 8 X 6 ins., 12 ins. in the ground, marked U S M R COR 11 on N., and P L on S. face, from which  
 An oak, 6 ins. diam., brs. S. 17½° W., 27 lks. dist., marked T 22 S R 20 E COR 11 B T.  
 An oak, 6 ins. diam., brs. S. 56° W., 112 lks. dist., marked U S M R COR 11 B T. No other trees within limits. Raised a mound of stone, 3 ft. base 2 ft. high, S 34° 40' W. Pits impracticable.  
 Land, mountainous.  
 Soil, gravelly and stony; 3rd and 4th rate.  
 Timber; scattering oak; undergrowth, oak.  
 Mountainous land, exceptionally difficult to survey,  
 11.09 chs.

Thence I run  
 S. 34° 20' W.

5.30  
 16.00  
 20.90  
 29.20

Over mountainous land, descending through scattering oak timber and oak brush.  
 Small gulch, course N.W.; ascend.  
 Ridge, brs. N.W. and S.E.; descend.  
 Small gulch, course N.W.; ascend.  
 Set a quartzite stone, 18 X 8 X 5 ins., ground too rocky to set stone in, so set in mound of stone, marked U S M R COR 12 on N.W., and P L on S E. face, from which  
 An oak, 8 ins. diam., brs. S. 47½° W., 110 lks. dist., marked T 22 S R 20 E COR 12 B T S 34  
 An oak, 12 ins. diam., brs. S. 82° W., 119 lks. dist., marked U S M R COR 12 B T. No other trees within limits; raised a mound of stone, 3 ft. base, 2 ft. high, N 34° 20' E. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, gravelly and stony; 3rd and 4th rate.  
 Timber, oak scattering; undergrowth, oak.  
 Mountainous land, exceptionally difficult to survey,  
 29.20 chs.

Thence I run  
 S. 67° W.

3.71

Over mountainous land, ascending along top of ridge, through scattering oak timber and oak brush.  
 Set a quartzite stone, 18 X 8 X 7 ins., 12 ins. in the ground, for Cor. No. 13, marked U S M R COR 13 on N., P L on S face, from which  
 An oak, 5 ins. diam., brs. N. 1° W., 78 lks. dist., marked U S M R COR 13 B T.  
 An oak, 6 ins. diam., brs. N. 86° W., 62 lks. dist., marked U S M R COR 13 B T. No other trees within limits. Raised a mound of stone, 3 ft. base, 2 ft. high N. 67° E. of cor. Pits impracticable.

4.  
①

S. Div. 77. Huachuca Military Reservation.

chains

Land, Mountainous.  
Soil, gravelly and stony; 3rd and 4th rate.  
Timber, scattering oak; undergrowth, oak.  
Mountainous land, exceptionally difficult to survey,  
3.71 chs.

Thence I run  
S. 83° 45' W.

Over mountainous land, along top of ridge, through  
scattering oak timber.

2.00

Enter dense oak brush, brs. N.W. and S.E.

4.83

Set a granite stone, 24 X 8 X 8 ins., in mound of stone,  
ground too rocky to set stone in, for Cor. No. 14,  
marked U S M R COR 14 on N., P L on S. face, from which

An oak, 9 ins. diam., brs. S. 20 1/2° W., 217 lks. dist.,

marked T 23 S R 20 E COR 14 B T, S 4,

An oak, 5 ins. diam., brs. S 39 1/2° W., 66 lks. dist.,

marked T 23 S R 20 E COR 14 B T, S 4,

An oak, 5 ins. diam., brs. N. 1/2° W., 19 lks. dist.,

marked U S M R COR 14 B T,

An oak, 7 ins. diam., brs. N. 59 1/2° W., 40 lks. dist.,

marked U S M R COR 14 B T.

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Timber scattering oak; undergrowth, oak.

Mountainous land, land covered with dense undergrowth,  
exceptionally difficult to survey, 4.83 chs.

July 6: At 12 h. 4 m., p.m., l.m.t., I set off 23° 44' N.  
on the decl. arc; and observe the sun on the meridian;  
the resulting lat. is 31° 27' 43" N.

Thence I run

S. 87° 20' W.

Over mountainous land; descending through oak timber  
and dense oak brush.

5.77

Set a granite stone, 18 X 12 X 10 ins., in mound of stone,  
ground too rocky to set stone in, for Cor. No. 15,  
marked U S M R COR 15 on N.W. and P L on S. E. face,

in mound of stone, 3 ft. base, 2 ft. high, N. 87°  
20' E. Pits impracticable. Trees in limits too small  
to mark.

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Timber, scattering oak; undergrowth, oak.

Mountainous land, covered with dense undergrowth,  
exceptionally difficult to survey, 5.77 chs.

Thence I run

S. 17° 20' W.

Over mountainous land, descending through oak timber,  
and dense brush.

5.75

Small draw, course W., thence N.W.

8.00

Small draw, course NW., ~~and~~ gradually.

11.44

Top of N. slope of small ridge, brs. E. and W.

Set a granite stone, 18 X 8 X 5 ins., 12 ins. in the  
ground, for Cor. No. 16, marked U S M R COR 16 on N.W.  
and P L on S E. face, from which

An oak, 6 ins. diam., brs. N. 31° 45' E., 32 lks.  
dist., marked T 23 S R 20 E COR 16 B T, S 4,

An oak, 6 ins. diam., brs. S. 31° W., 22 lks. dist.,  
marked T 23 S R 20 E COR 16 B T, S 4,

An oak, 6 ins. diam., brs. N. 10 1/2° W., 43 lks. dist.,

marked U S M R COR 16 B T,

An oak, 6 ins. diam., brs. N. 64 1/2° W., 49 lks. dist.,

marked U S M R COR 16 B T.

Land, mountainous.

Soil, gravelly; 3rd rate.

Timber, oak; undergrowth, oak.

Mountainous land, covered with dense undergrowth,  
exceptionally difficult to survey, 11.44 chs.

## S. Bdy. FT. Huachuca Military Reservation.

chains	Thence I run S. 79° W.
18.20	Over mountainous land, descending through scattering oak timber.
20.48	Small draw, course N.; ascending along slope.
✓	Set a granite stone, 21 X 12 X 8 ins., 16 ins. in the ground, for Cor. No. 17, marked U S M R COR 17 on N W., and P L on S E., from which
	An oak, 5 ins. diam., brs. S. 41½° E., 165 lks. dist., marked T 23 S R 20 E COR 17 B T S 4
	An oak, 7 ins. diam., brs. S. 53½° W., 118 lks. dist., marked T 23 S R 20 E COR 17 B T S 4
	An oak, 8 ins. diam., brs. N. 10° 45' W., 63 lks. dist., marked U S M R COR 17 B T,
	An oak, 7 ins. diam., brs. N. 84½° W., 114 lks. dist., marked U S M R COR 17 B T.
	Land, mountainous. ✓
	Soil, gravelly and stony; 3rd and 4th rate.
	Timber, scattering oak; brush, oak.
	Mountainous land, and land covered with dense undergrowth, exceptionally difficult to survey, 20.48 chs.
	-----
	Thence I run S. 67½° W.
18.15	Over mountainous land, ascending along top of rocky spur, through scattering oak timber and dense oak brush.
✓	Set a quartzite stone, 21 X 10 X 8 ins., in mound of stone, ground too rocky to set stone in, marked U S M R COR 18 on N, and P L on S., from which
	An oak, 6 ins. diam., brs. N. 19° E., 112 lks. dist., marked U S M R COR 18 B T,
	An oak, 5 ins. diam., brs. S. 19½° W., 35 lks. dist., marked T 23 S R 20 E COR 18 B T S 4,
	An oak, 5 ins. diam., brs. S. 62° W., 65 lks. dist., marked T 23 S R 20 E COR 18 B T S 4,
	An oak, 6 ins. diam., brs. N. 21½° W., 100 lks. dist., marked U S M R COR NO 18 B T. ✓
	Rise a mound of stone, 3 ft. base, 2 ft. high
	Land, mountainous.
	Soil, gravelly, stony and rocky; 3rd and 4th rate.
	Timber, scattering oak; undergrowth oak.
	Mountainous land, and land covered with dense undergrowth, exceptionally difficult to survey, 18.15 chs.
	-----
	Thence I run N. 81° 05' W.
9.80	Over mountainous land, ascending through scattering oak timber, and dense brush.
	Set a quartzite stone, 18 X 8 X 7 ins., 12 ins. in the ground, for Cor. No. 19, marked U S M R COR 19 on N W., and P L on S.E., face, from which
	An oak, 6 ins. diam., brs. S. 6½° E., 142 lks. dist., marked T 23 S R 20 E COR 19 B T S 5,
	An oak, 12 ins. diam., brs. S. 51° 45' E., 143 lks. dist., marked T 23 S R 20 E COR 19 B T S 5,
	An oak, 6 ins. diam., brs. S. 68½° W., 57 lks. dist., marked U S M R COR 19 B T,
	An oak, 6 ins. diam., brs. N. 8½° W., 33 lks. dist., marked U S M R COR 19 B T. ✓
	Land, mountainous.
	Soil, gravelly and stony; 3rd and 4th rate.
	Timber, scattering oak; undergrowth, oak.
	Mountainous land, and land covered with dense undergrowth, exceptionally difficult to survey, 9.80 chs.
	-----
	Thence I run S. 49° 50' W.
8.80	Over mountainous land, ascending through oak timber and dense oak brush.
	Set a porphyry stone, 18 X 14 X 12 ins., in mound of



S. Bdy. Ft. Huachuca Military Reservation.

chains

of stone, ground too rocky to set stone in, marked U S M R COR 20 on W, and P L on E., from which

- An oak, 8 ins. diam., brs. East, 87 lks. dist., marked T 23 S R 20 E COR 20 B T, S 5,
- An oak, 5 ins. diam., brs. S. 24<sup>1</sup>/<sub>2</sub>° E., 46 lks. dist., marked T 23 S R 20 E COR 20 B T, S 5,
- An juniper, 6 ins. diam., brs. S. 86° W., 51 lks. dist., marked U S M R COR 20 B T, ✓
- An oak, 5 ins. diam., brs. N. 33° W., 25 lks. dist., marked U S M R COR 20 B T. ✓

Land, mountainous.  
Soil, gravelly and stony; 3rd and 4th rate.  
Timber, oak; undergrowth, oak.  
Mountainous land, and land covered with dense undergrowth, exceptionally difficult to survey; 8.80 chs.

Thence I run  
S. 11<sup>1</sup>/<sub>2</sub>° W.  
Over mountainous land, ascending oak timber and dense brush.

7.70

Set a porphyry stone, 18 X 12 X 6 ins., 12 ins. in the ground, for Cor. No. 21., marked U S M R COR 21 on N.W., and P L on S.E. face, from which

- An oak, 13 ins. diam., brs. N. 70° E., 128 lks. dist., marked T 23 S R 20 E COR 21 B T, S 5,
- An oak, 12 ins. diam., brs. S. 38° W., 98 lks. dist., marked T 23 S R 20 E COR 21 B T, S 5,
- An oak, 5 ins. diam., brs. S. 82° W., 90 lks. dist., marked U S M R COR 21 B T, ✓
- An oak, 6 ins. diam., brs. N. 39° 45' W., 75 lks. dist., marked U S M R COR 21 B T, ✓

Land, mountainous.  
Soil, gravelly and stony; 3rd and 4th rate.  
Timber, oak; undergrowth, oak.  
Mountainous land, and land covered with dense undergrowth, exceptionally difficult to survey, 7.70 chs.

Thence I run  
S. 66° 35' W.,  
Over mountainous land, ascending through oak timber and brush.

10.68

Set a porphyry stone, 28 X 16 X 12 ins., in mound of stone, ground too rocky to set stone in, for Cor. No. 22, marked U S M R COR 22 on N., and P L on S., from which

- An oak, 5 ins. diam., brs. N. 29° E., 91 lks. dist., marked U S M R COR 22 B T, ✓
- An oak, 14 ins. diam., brs. N. 89<sup>1</sup>/<sub>2</sub>° E., 59 lks. dist., marked T 23 S R 20 E COR 22 B T, S 5,
- An oak, 13 ins. diam., brs. S. 50<sup>1</sup>/<sub>2</sub>° W., 73 lks. dist., marked T 23 S R 20 E COR 22 B T, S 5,
- An oak, 10 ins. diam., brs. N. 57<sup>1</sup>/<sub>2</sub>° W., 46 lks. dist., marked U S M R COR 22 B T. ✓

Land, mountainous.  
Soil, gravelly and stony; 3rd and 4th rate.  
Timber, oak; undergrowth, oak.  
Mountainous land, heavily timbered and covered with dense undergrowth, exceptionally difficult to survey, 10.68 chs.  
July 6, 1906.

July 7; At 7 a.m., l.m.t., I set off 22° 40' Non the decl. arc; and 31° 27' N. on the lat. arc; and determine a true meridian at Cor. No. 23, of the S. bdy. of Ft. Huachuca Military Reservation.

Thence I run  
N. 72° 50' W.

10.55

Set a porphyry stone, 21 X 12 X 8 ins., in mound of stone, impossible to set stone in ground on account of rocks, for Cor. No. 23, marked U S M R COR 23 on N., and P L on S. face from which

- An oak, 9 ins. diam., brs. N. 52<sup>1</sup>/<sub>2</sub>° E., 39 lks. dist., marked U S M R COR 23 B T. ✓

South Bdy. Ft. Huachuca Military Reservation.

chains

An oak, 18 ins. diam., brs. S 57-1/2° W., 69 lks. dist., marked U S M R COR 23 B T, ✓ B T,  
 An oak, 18 ins. diam., brs. S. 73° W., 69 lks. dist., marked U S M R COR 23 B T, ✓ B T,  
 An oak, 18 ins. diam., brs. N. 32° W., 95 lks. dist., marked U S M R COR 23 B T, ✓

Land, mountainous.  
 Soil, gravelly, stony and rocky; 3rd and 4th rate.  
 Timber, oak and pine; undergrowth, oak.  
 Mountainous land, heavily timbered and covered with dense undergrowth, exceptionally difficult to survey, 10.55 chs.

Thence I run  
 South 44° 10' W.

Over mountainous land, ascending steep through heavy timber and dense brush.

18.25 Top, 800 ft. above Cor. No. 23, brs. N. and S., ascend.  
 20.90 Set a quartzite stone, 18 X 8 X 6 ins., in mound of stone, ground too rocky to set stone in, for Cor. No. 24, marked U S M R COR 24 on N.W., and P L on S.E., from which

An oak, 18 ins. diam., brs. S. 37° E., 120 lks. dist., marked T 23 S R 20 E COR 24 B T, S 5,  
 An oak, 6 ins. diam., brs. S. 25° W., 72 lks. dist., marked T 23 S R 20 E COR 24 B T, S 5,  
 An oak, 24 ins. diam., brs. S. 75° W., 27 lks. dist., marked U S M R COR 24 B T, ✓  
 An oak, 20 ins. diam., brs. N. 44° W., 54 lks. dist., marked U S M R COR 24 B T, ✓

Land, mountainous.  
 Soil, stony and rocky; 4th rate.  
 Timber, oak and pine; undergrowth, oak.  
 Mountainous land, heavily timbered, exceptionally difficult to survey, 20.90 chs.

Thence I run  
 S. 54° 10' W.

Over mountainous land, ascending steep through heavy timber.

8.75 Top of rocky spur, extends N.N.W.  
 Set a quartzite stone, 18 X 12 X 10 ins., in mound of stone, ground too rocky to set stone in, for Cor. 25, marked U S M R COR 25 on W., and P L on E. face, from which

An oak, 9 ins. diam., brs. S. 77 1/2° E., 23 lks. dist., marked T 23 S R 20 E COR 25 B T, S 5,  
 A pine, 12 ins. diam., brs. S. 54° 45' E., 47 lks. dist., marked T 23 S R 20 E COR 25 B T, S 5,  
 A pine, 12 ins. diam., brs. N. 43 1/2° W., 23 lks. dist., marked U S M R COR 25 B T, ✓  
 A pine, 16 ins. diam., brs. N. 75° W., 31 lks. dist., marked U S M R COR 25 B T, ✓

Land, mountainous.  
 Soil, stony and rocky; 4th rate.  
 Timber, pine and oak; undergrowth, oak.  
 Mountainous land, heavily timbered, exceptionally difficult to survey, 8.75 chs.

Thence I run  
 S. 4° 10' E.,  
 Along top of spur through heavy timber.

11.40 Descend.  
 20.45 Foot brs. E. and W., enter pass.  
 23.60 Leave pass, ascend.  
 31.10 Open cut and entrance to cave, brs. 40 lks. W.  
 34.60 Set a limestone, 20 X 16 X 14 ins., set in mound of stone on rocky ground, for Cor. 26, marked U S M R COR 26 on W., and P L on E. face, from which

An oak, 12 ins. diam., brs. N. 35° E., 30 lks. dist.,

## South Boundary of Ft. Huachuca Military Reservation.

chains

marked T 23 S R 20 E COR 26 B T S 8,  
An oak, 14 ins. diam., brs. N. 68° E., 12 lks. dist.,  
marked T 23 S R 20 E COR 26 B T S 8,  
An oak, 24 ins. diam., brs. S. 65½° W., 57 lks. dist.,  
marked U S M R COR 26 B T,  
An oak, 14 ins. diam., brs. N. 49½° W., 94 lks. dist.,  
marked U S M R COR 26 B T. ✓

Land, mountainous.

Soil, gravelly, stony and rocky; 3rd and 4th rate.

Timber, pine, oak and pinon; undergrowth, oak.

Mountainous land, heavily timbered, exceptionally difficult to survey, 34.60 chs.

Thence I run

S. 45½° W.,

Over mountainous land, ascending along ridge, through heavy timber.

7.35 ✓

Set a quartzite stone, 21 X 14 X 12 ins., in mound of stone on rocky ground, for Cor. 27, marked U S M R COR 27 on W., and P L on E. face, from which

A pine, 9 ins. diam., brs. N. 89° E., 14 lks. dist.,  
marked T 23 S R 20 E COR 27 B T S 8,An oak, 14 ins. diam., brs. S. 43½° E., 17 lks. dist.,  
marked T 23 S R 20 E COR 27 B T S 8,A pine, 9 ins. diam., brs. N. 3° W., 30 lks. dist.,  
marked U S M R COR 27 B T, ✓An oak, 9 ins. diam., brs. S. 73° W., 44 lks. dist.,  
marked U S M R COR 27 B T. ✓

Land, mountainous.

Soil, gravelly, stony and rocky; 3rd and 4th rate.

Timber, pine, oak, pinon; undergrowth, oak.

Mountainous land, heavily timbered, exceptionally difficult to survey, 7.35 chs.

July 7. At 12 h 4 m., p.m., l.m.t., I set off 22° 38' N. on the decl. arc; and observe the sun on the meridian; the resulting lat. is 31° 27' N.

Thence I run

S. 17° 35' W.

Over mountainous land, along top of ridge, through heavy timber.

11.20

Set a quartzite stone, 18 X 12 X 12 ins., in mound of stone or rocky ground, for Cor. No. 28, marked U S M R COR 28 on W., and P L on E face, from which

An oak, 20 ins. diam., brs. N. 81° E., 74 lks. dist.,  
marked T 23 S R 20 E COR 28 B T S 8,A pine, 24 ins. diam., brs. S. 91° E., 35 lks. dist.,  
marked U S M R COR 28 B T, ✓An oak, 18 ins. diam., brs. S. 34½° E., 58 lks. dist.,  
marked T 23 S R 20 E COR 28 B T S 8,A pine, 18 ins. diam., brs. S. 81° W., 28 lks. dist.,  
marked U S M R COR 28 B T.

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, pine, oak, madrono; undergrowth, oak.

Mountainous land, heavily timbered, exceptionally difficult to survey, 11.20 chs.

Thence I run

S. 22° 30' E.

Over mountainous land, along top of ridge, through heavy timber.

14.30

Set a quartzite stone, 18 X 8 X 8 ins., in mound of stone on stony ground, for Cor. 29, marked U S M R COR 29 on W., and P L on E. faces, from which

An oak, 18 ins. diam., brs. S. 39½° E., 40 lks. dist.,  
marked T 23 S R 20 E COR 29 B T S 8,A balsam., 9 ins. diam., brs. S. 2½° W., 29 lks. dist.,  
marked U S M R COR 29 B T, ✓A pinon, 7 ins. diam., brs. S. 42° W., 32 lks. dist.,  
marked U S M R COR 29 B T, ✓

An oak, 18 ins. diam., brs. N. 89½° W., 57 lks.



South Boundary Ft. Huachuca Military Reservation.

chains

dist., marked U S M R COR 29 B T. ✓  
 Land, mountainous.  
 Soil, gravelly, stony and rocky; 3rd and 4th rate.  
 Timber, pine, oak, pinon, balsam.  
 Undergrowth, oak.  
 Mountainous land, heavily timbered, exceptionally  
 difficult to survey, 14.30 chs.

Thence I run  
 S. 35° 30' W.,  
 Over mountainous land, along ridge, through heavy  
 timber; descending.

10.00  
 36.95

Divide; brs. N.E. and S.W.; ascend.  
 Set a limestone in place, 4 X 3 X 7 ft. above ground,  
 marked with cross (x) at point for Cor. No. 30, marked  
 with U.S.M.R. COR 30 on W., and P L on E. of cross,  
 from which,

- A pine, 32 ins. diam., brs. N. 66° E., 74 lks.  
 dist., marked T 23 S R 20 E COR 30 B T S-8,
- An oak, 7 ins. diam., brs. S. 42° E., 18 lks.  
 dist., marked T 23 S R 20 E COR 30 B T, S 8,
- An oak, 9 ins. diam., brs. N. 42° W., 27 lks.  
 dist., marked U S M R COR 30 B T, ✓
- A balsam, 12 ins. diam., brs. N. 15° W., 53 lks.  
 dist., marked T 23 S R 20 E COR 30 B T.

Land, mountainous.  
 Soil, gravelly, stony and rocky; 3rd and 4th rate.  
 Timber, pine, oak, balsam; undergrowth, oak.  
 Mountainous land, heavily timbered and exceptionally  
 difficult to survey, 36.95 chs.

Thence I run  
 S. 8° 50' E.  
 Over mountainous land, ascending through heavy timber.  
 Top, brs. N.E. and S.W.

26.40

Set a limestone, 18 X 12 X 9 ins., in mound of stone  
 ground too rocky to set stone in. for Cor. 31, marked  
 U S M R COR 31 on W and P L on E faces; from which

- An oak, 9 ins. diam., brs. N. 28° E., 50 lks.  
 dist., marked T 23 S R 20 E COR 31 B T, S 17,
- A pine, 20 ins. diam., brs. N. 66° E., 37 lks.  
 dist., marked T 23 S R 20 E COR 31 B T, S 17,
- An oak, 6 ins. diam., brs. N. 81° W., 45 lks.  
 dist., marked U S M R COR 31 B T,
- A pine, 14 ins. diam., brs. N. 39 1/2° W., 100 lks.  
 dist., marked U S M R COR 31 B T. ✓

Land, mountainous.  
 Soil, gravelly, stony and rocky; 3rd and 4th rate.  
 Timber, pinon, oak, pine, balsam; undergrowth, oak.  
 Mountainous land, heavily timbered, exceptionally  
 difficult to survey, 26.40 chs.

July 7, 1906.

July 8, 1906. At 7 a.m., l.m.t., I set off 22° 34' N.  
 on the decl. arc; and 31° 26' N. on the lat. arc;  
 and determine a true meridian with the solar at Cor. 31,  
 of the S. bdy. of the Ft. Huachuca Military Reservation.

Thence I run  
 S. 44° 50' W.  
 Over mountainous land, descending through heavy timber.  
 Foot, brs. N. and S.

5.90

Set a granite stone, 18 X 10 X 8 ins. in mound of  
 stone, ground too rocky to set stone in, for Cor. 32,  
 marked U S M R COR 32 on N.W., and P L on S.E. faces,  
 from which

- A pinon, 8 ins. diam., brs. N. 80° E., 20 lks.  
 dist., marked T 23 S R 20 E COR 32 B T, S 17,
- A pinon, 8 ins. diam., brs. S. 60 1/2° W., 54 lks.  
 dist., marked T 23 S R 20 E COR 32 B T, S 17,

## South Boundary of Ft. Huachuca Military Reservation.

chains

A pinon, 7 ins. diam., brs. West, 73 lks. dist.,  
marked U S M R COR 32 B T. ✓  
A pine, 6 ins. diam., brs. N. 37° W., 10 lks. dist.,  
marked U S M R COR 32 B T. ✓

Land, mountainous.

Soil, stony and rocky; 4th rate.

Timber, pinon, oak, pine; undergrowth, oak.

Mountainous land, heavily timbered, exceptionally difficult to survey, 5.90 chs.

Thence I run

S. 77° 15' W.

Over mountainous land, ascending along ridge, through heavy timber.

13.20

Top of ridge.

Set a granite stone, 21 X 14 X 7 ins., in mound of stone on stony ground, for Cor. No. 33, marked U S M R COR 33 on N., and P L on S. faces, from which

A pine, 9 ins. diam., brs. N. 33° E., 72 lks. dist.,  
marked U S M R COR 33 B T. ✓A pine, 10 ins. diam., brs. S. 31° E., 65 lks. dist.,  
marked T 23 S R 20 E COR 33 B T, S 18,A pine, 14 ins. diam., brs. S. 66° W., 57 lks. dist.,  
marked T 23 S R 20 E COR 33 B T, S 18,A pine, 30 ins. diam., brs. N. 53° W., 62 lks. dist.,  
marked U S M R COR 33 B T. ✓

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Timber pine and oak.

Mountainous land, heavily timbered, exceptionally difficult to survey, 13.20 chs.

Thence I run

N. 61° 50' W.

Over mountainous land, descending through heavy timber.

9.00

Set a granite stone, 18 X 10 X 7 ins., in mound of stone on rocky ground, for Cor. 34, marked U S M R COR 34 B T, on N., and P L on S. faces, from which

A pine, 24 ins. diam., brs. N. 85° E., 44 lks. dist.,  
marked U S M R COR 34 B T. ✓A pine, 18 ins. diam., brs. S. 40° E., 17 lks. dist.,  
marked T 23 S R 20 E COR 34 B T, S 18,A pine, 24 ins. diam., brs. S. 25° W., 35 lks. dist.,  
marked T 23 S R 20 E COR 34 B T, S 18,A pine, 20 ins. diam., brs. N. 50° W., 26 lks. dist.,  
marked U S M R COR 34 B T. ✓

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Timber, pine, fir, oak and aspen.

Mountainous land, heavily timbered, exceptionally difficult to survey, 9.00 chs.

Thence I run

S. 70° 50' W.

Over mountainous land, descending through heavy timber.

6.28

Set a porphyry stone, 21 X 14 X 8 ins., 16 ins. in the ground, for Cor. No. 35, marked U S M R COR 35 on N., and P L on S., from which

A pine, 33 ins. diam., brs. N. 58° E., 154 lks. dist.,  
marked U S M R COR 35 B T. ✓A pine, 6 ins. diam., brs. S. 61° W., 57 lks. dist.,  
marked T 23 S R 20 E COR 35 B T, S 18,A pine, 36 ins. diam., brs. N. 59° W., 54 lks. dist.,  
marked T 23 S R 20 E COR 35 B T, S 18,A pine, 40 ins. diam., brs. N. 48° W., 68 lks. dist.,  
marked U S M R COR 35 B T. ✓

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Timber, pine.

Mountainous land, heavily timbered and exceptionally

## South Boundary of Ft. Huachuca Military Reservation.

chains

difficult to survey, 6.28 chs.

Thence I run  
N. 54° 45' W.

Over mountainous land, along top of spur, through heavy timber.

7.62

Set a granite stone, 21 X 16 X 12 ins., in mound of stone, ground too rocky to set stone in, for Cor. No. 36, marked U S M R COR 36 on N. and P L on S. faces, from which

An oak, 9 ins. diam., brs. N. 31° E., 116 lks. dist., marked U S M R COR 36 B T, ✓

A pine, 20 ins. diam., brs. S. 11° E., 141 lks dist., marked T 23 S R 20 E COR 36 B T, S 13,

A pine, 18 ins. diam., brs. S. 341° W., 58 lks. dist., marked T 23 S R 20 E COR 36 B T, S 13,

A pine, 18 ins. diam., brs. N. 77° W., 68 lks. dist., marked U S M R COR 36 B T. ✓

Land, mountainous.

Soil, gravelly and stony; 3rd and 4th rate.

Timber, pine and oak.

Mountainous land, heavily timbered, exceptionally difficult to survey, 7.62 chs.

Thence I run

S. 87° 40' W.

Over mountainous land, descending steep through heavy pine timber.

11.60 Trail, brs. S.W. and N.E.

33.00 Enter dense, brush, brs. N.E. and S.W.

43.00 Head of gulch, 1200 feet below cor. No. 36, thence along N. slope of ridge.

51.00 Ascend, brs. N.N.W.

72.75 Top of S.E. point of rocky ridge.

Set a porphyry stone, 21 X 14 X 10 ins., in mound of stone on rocky ground, for Cor. No. 37, marked U S M R COR 37 on N., and P L on S. faces, from which

An oak, 18 ins. diam., brs. N. 14° E., 43 lks. dist., marked U S M R COR 37 B T, ✓

An oak, 18 ins. diam., brs. N. 70° E., 54 lks. dist., mkd. T 23 S R 19 E COR 37 B T, S 13,

An oak, 18 ins. diam., brs. S. 751° E., 54 lks. dist., marked T 23 S R 19 E COR 37 B T, S 13,

A pine, 6 ins. diam., brs. S. 52° W., 67 lks. dist., marked T 23 S R 29 E COR 37 B T, S 13.

From this corner

Cananea Peak brs. S. 5° E.

Baboquivari Peak brs. N. 72° W.

Rattlesnake Peak brs. S. 9° W.

Peak on ridge N. of Tanner's Canyon brs. N. 17° 20' W.

Land, mountainous.

Soil, gravelly and stony and rocky, 3rd and 4th rate.

Timber, pine, oak, fir, balsam, juniper, ash and madrono. undergrowth, oak, buck brush and locust.

Mountainous land, heavily timbered, covered with dense undergrowth, exceptionally difficult to survey, 72.75 chs.

Note: The sun was obscured by clouds at noon today, could not take latitude.

July 8, 1906.

*Philip Contzen*  
U. S. Deputy Mineral Surveyor.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Philip Couzgen  
....., 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 south  
boundary of the Huachuca Military Reservation  
showing the respective capacities in which they acted:

Arthur Poque ..... Chainman.

Harry Malloy ..... Chainman.

Louis Renaud ..... Moundman.

..... Moundman.

..... Axman.

L. G. Millar ..... Axman.

H. B. Milliken ..... Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Philip Couzgen  
....., United States Deputy Surveyor, in surveying all  
those parts or portions of the South boundary of the  
Huachuca Military Reservation

..... of the  
..... meridian, ..... of ..... 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

Arthur Poque ..... Chainman. ✓

Harry Malloy ..... Chainman. ✓

Louis Renaud ..... Moundman. ✓

..... Moundman.

L. G. Millar ..... Axman. ✓

..... Axman.

H. B. Milliken ..... Flagman. ✓

Subscribed and sworn to before me this 11<sup>th</sup>  
day of August, 1906

W. G. Power



FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Philip Cortzen, 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 12 day of April, 1906, 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 South boundary of the Huachuca Military Reservation

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 Arizona and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Philip Cortzen  
United States Deputy Surveyor.

Subscribed by said Philip Cortzen, and sworn to before me }  
this 11th day of August, 1906



Allan J. Ingalls  
CLERK U. S. DISTRICT COURT FOR  
FIRST JUDICIAL DISTRICT, ARIZONA.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix AZ, June 29, 1907

The foregoing field notes of the survey of a portion of the South boundary of the Huachuca Military Reservation in the Territory of Arizona.

executed by Philip Cortzen D.S., under his contract No. 138, dated April 12th 1906, ~~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.