

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

JUN 30 1915
MAY 26 1916

FIELD NOTES

OF

HOMESTEAD ENTRY SURVEY NO. 226

SITUATED IN THE

APACHE NATIONAL FOREST

ADMINISTRATIVE DISTRICT NO. 3

in

Section 4, unsurveyed, Township 3 S., Range 29 E.

of the

Gila and Salt River Base and Meridian.

ARIZONA

Survey executed by C. A. Long, Surveyor-Forest Service
Under special instructions dated August 6, 1914
Survey commenced December 6, 1914
Survey completed December 6, 1914
Under Acts of June 11, 1906 and June 30, 1914.

Applicant for listing J. W. Sutherlin,
Residence Metcalf, Arizona.
Application No. 150, dated February 27, 1911
List No. 3-1458, dated September 25, 1911
Applicant for survey J. W. Sutherlin,
Residence Metcalf, Arizona.
H. E. No. 018464, dated July 12, 1912.
Land district Phoenix, Arizona.



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OATH OF ASSISTANTS

We hereby certify that we assisted C. A. Long,
Surveyor-Forest Service in surveying all those
parts or portions of Homestead Entry Survey No. 226, in
unsurveyed Section 4, Township 3 S., Range 29 E.,
unsurveyed Section ---, Township ---, Range ---,
of the G. & S.R.B. & meridian, State of Arizona, which
are represented in the following field notes as having been
surveyed by him and under his direction; and that said sur-
vey 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 fur-
nished by the United States Surveyor General for Arizona.

Note: It would have been
very expensive and incon-
venient to appear before
an officer to administer
oaths to Assistants; hence,
they were taken by the Sur-
veyor.

Wm. W. Wamser, Chainman
Fred Furley, Chainman

Subscribed and sworn to before me this 14 day of
December, 1914.

C. A. Long
Surveyor-Forest Service.

OATH OF SURVEYOR

I, C. A. Long, Surveyor-Forest Service, do solemnly swear
that, in strict conformity with the special instructions of
the United States Surveyor General for Arizona, dated
August 6, 1914, and the laws of the United States, I have
well, faithfully, and truly, in my own proper person, sur-
veyed a tract of land ~~upon the application of~~ embraced in
List, No 3-1458, dated Sept. 25, 1911, for
Patent, under the Act of June 11, 1906,
the same to be known as Homestead Entry Survey No. 226,
situated within the APACHE National Forest, in
unsurveyed Section 4, Township 3 S., Range 29 E., and
unsurveyed Section ---, Township ---, Range ---,
of the G. & S.R.B. & meridian, Arizona, and the
related retracements and resurveys and section subdivisions,
which are represented in the following field notes as having
been surveyed by me; and I further solemnly swear that all
the corners of said survey have been established and perpet-
uated in strict accordance with the stated special instruc-
tions, and in the specific manner described in the field
notes, and that the following are the original field notes
of such survey.

C. A. Long
Surveyor-Forest Service.

Subscribed and sworn to before me this 11th day of
January, 1915.

Elsie C. Myers
Notary Public



APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains	Telescope	L.M.T.	Vertical Angle	Hor. Ang. (sun to right of mark)
	Direct	9h. 01m. 49s.	21° 43'	46° 39'
	Reversed	9h. 03m. 31s.	21° 24'	47° 32' 30"
	Mean	9h. 02m. 40s.	21° 33' 30"	47° 05' 45"

Bearing of object is S. 88° 34' 39" E.

December 6, 1914.

At cor. No. 1 of this survey, I observe the meridian altitude of the sun's upper limb for Latitude.

Telescope	L.M.T.	Vertical Angle
Direct	12h. 09m. 08.5s.	34° 35' 30"

From this observation, I compute the latitude to be 33° 13' 36" N.

December 6, 1914.

At cor. No. 1 of this survey I again observe the altitude of the sun for azimuth. The reading on the reference mark is set at zero and the sun observed on the upper left and lower right quadrants of the field. My watch is set for local mean time. Latitude 33° 13' 36" N., (by observation). Longitude 109° 21' W., (by account from Land Office map).

Telescope	L.M.T.	Vertical Angle	Hor. Ang. (sun to right of mark)
Direct	1 h. 48m. 00s.	27° 51' 30"	119° 51'
Reversed	1h. 50m. 30s.	27° 03' 30"	119° 46' 30"
Mean	1h. 49m. 15s.	27° 27' 30"	119° 48' 45"

Bearing of object is S. 88° 34' 17" E.

The mean of these is S. 88° 34' 28" E., and to the corresponding meridian all the courses of this survey are referred.

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains Applicant for listing, J. W. Sutherlin; Application No. 150, dated February 27, 1911; List No. 3-1458, dated September 25, 1911; H. E. No. 018464 made at Phoenix, Arizona, on July 12, 1912.

Surveyed under special instructions from the Surveyor General for Arizona, dated August 6, 1914, and designated as Homestead Entry Survey No. 226.

Situated approximately in unsurveyed Sec. 4, T. 3 S., R. 29 E., Gila and Salt River Base and Meridian, Arizona.

Surveyed under the Acts of June 11, 1906 and June 30, 1914.

Survey commenced December 6, 1914 and executed with a W. and L. E. Gurley light mountain transit No. 11920, provided with a full vertical circle reading to single minutes of arc, the horizontal limb having two double verniers placed opposite each other and reading to single minutes of arc.

I test the adjustments of the transit and make the necessary corrections.

All measurements were made on the slopes with a 500 link steel tape and the slope angles determined with a clinometer, the horizontal distances alone appearing in these notes.

December 6, 1914.

At cor. No. 1 of this survey, I observe the altitude of the sun for azimuth. The reading on the reference object is set at zero and the sun observed in the upper right and lower left quadrants of the field. My watch is set for local mean time.

Latitude $33^{\circ} 13' 36''$ N., by observation. Longitude $109^{\circ} 21' W.$, by account from a Land Office map.

HOMESTEAD ENTRY SURVEY NO. 226

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

December 6, 1914.

There being no public land corners, U. S. Mineral or U. S. Location Monument within the prescribed limits to tie this claim to, I establish U. S. L. M. No. 226, H. E. S. as follows: On a prominent peak covered with thick oak brush and about 23 chs. SE. of J. W. Sutherlin's house, I set a red granite stone 29 x 14 x 7 ins., in a mound of stone, marked USLM226HES on N. side with a + on top; and raise a mound of stone, 6 ft. base, 4 ft. high, W. of monument, whence:

Walker's Butte bears S. 59° 54' E., approximately 4 miles.

H. L. mountain bears N. 51° 00' W., approximately 2 miles.

No bearing trees within the prescribed limits. There being no soil on this peak, I was unable to set the monument the prescribed depth. (No larger stone available for monument).

December 6, 1914.

At 3 p.m., the magnetic bearing of the true meridian

at cor. No. 1 is N. 14° 30' W. Therefore the magnetic declination corrected for Diurnal variation is

14° 32' E. I destroy listing cor. H-1, which is a

malpais stone 14 x 8 x 10 ins. above ground, marked

and witnessed as described by the Forest Service and

witnesses thereto, and in the same place set a shale

stone 30 x 16 x 10 ins., 20 ins. in the ground, over

a stone marked with a cross (+) for cor. No. 1 of

this survey, marked 1-HES226 on NW. face and a cross

(+) on top. No bearings, therefore raise a mound of

stone 4 ft. base, 2 ft. high, 3-1/2 ft. dist. within

the claim. Pits impracticable.

U. S. L. M. No. 226 H. E. S., heretofore de-

Chains

scribed, bears S. 88° 16' E., 18.77 chs. dist.

Thence I run N. 89° 08' W.

Along rocky hillside sloping to NE., through dense oak brush. Ascend 45 ft.

8.40 Trail to Metcalf, bears NE. and SW.

10.61 To cor. No. 2.

Identical with list cor. H-4 which is a malpais stone 8 x 8 x 12 ins. above ground, marked and witnessed as described by the Forest Service. Set a shale stone 24 x 14 x 11 ins., 14 ins. in the ground, over a stone marked with a cross (+) for cor. No. 2 of this survey, marked 2-HES226 on side facing claim and cross (+) on top. No bearings, therefore raise a mound of stone 4 ft. base, 2 ft. high, 3-1/2 ft. dist. within the claim. Pits impracticable.
I destroy list cor. and witnesses thereto.

Thence N. 00° 38' E.

Along crest of ridge covered with dense oak brush.

1.00 Descend steep rocky slope.

6.00 Bottom of arroyo, 5 lks. wide, bears E. 35 ft. below point of descent.

6.10 Ascend steep rocky slope.

7.00 Top of rocky spur bears SE. 20 ft. above point of ascent.

7.10 Descend rocky slope.

8.00 Bottom of arroyo, 5 lks. wide, bears S. 80° 00' E., 15 ft. below point of descent.

8.20 Ascend steep rocky slope 15 ft. to cor.

9.08 To cor. No. 3.

Identical with list cor. H-3, which is a malpais stone 12 x 12 x 10 ins. above ground, marked and witnessed as described by the Forest Service. Set a red sand-

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Chains stone 28 x 16 x 13 ins., 18 ins. in the ground, over a stone marked with a cross (+) for cor. No. 3 of this survey, marked 3-HES226 on side facing claim and a cross (+) on top. No bearing objects, raise a mound of stone 4 ft. base, 2 ft. high, 3-1/2 ft. dist. within the claim. Pits impracticable.
I destroy list cor. H-3 and witnesses thereto.

Thence S. 89° 22' E.

Descend 25 ft. over broken rocky country covered with thick oak brush.

10.26 To cor. No. 4.

Identical with list cor. H-2, which is a malpais stone 8 x 10 x 12 ins. above ground, marked and witnessed as described by the Forest Service. Point falls on rock shelf 20 ft. NE. and SW. 4 ft. NW. and SE. Set a shale stone 29 x 12 x 9 ins. in a mound of stone for cor. No. 4 of this survey, marked 4-HES226 on side facing claim and cross (+) on top, whence:

A juniper 16 ins. dia., blazed and marked 4 H E

S 226 B T, bears S. 56° 05' E., 175 lks. dist.

No other trees within limits.

Pits and mound impracticable.

I destroy list cor. H-2, and witnesses thereto.

Thence S. 01° 15' E.

Over broken rocky land, through scattering oak brush.

Descend.

0.60 Trail to Metcalf, bears SW. and NE.

5.40 Arroyo, 10 lks. wide, course SE., 20 ft. below point of descent.

5.50 Ascend rocky slope 15 ft. to cor.

Chains
8.15

Fence corner, from which fences run N. 42° 00' W. and
N. 74° 30' W.

9.15

To cor. No. 1, the place of beginning.

AREA

Area - - - - - 9.52 acres.

CONFLICTS OR ADJOINING CLAIMS

No conflicts or adjoining claims.

IMPROVEMENTS

The improvements upon this claim, the property of the
claimant herein, consist of the following:

Board chicken house, 8 x 10 ft., course of sides N. and
S., the SE. cor. of which bears from cor. No. 1, N.
71° 51' W., 4.49 chs. dist.

Value ----- \$ 25.00

Board blacksmith shop 10 x 16 ft., course of long sides
N. and S., the NE. cor. of which bears from cor. No.
1 N. 67° 40' W., 5.03 chs. dist.

Value ----- \$ 25.00

Board residence 18 x 45 ft., course of long sides N. and
S., the SE. cor. of which bears from cor. No. 1 N. 65°
36' W., 5.23 chs. dist.

Value ----- \$150.00

Board saddle house 10 x 12 ft., course of long sides
N. and S., the SE. cor. of which bears from cor. No.
1 N. 52° 56' W., 6.09 chs. dist.

Value ----- \$ 15.00

About 1/8 mile of wire fencing.

Value ----- \$ 10.00

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Chains Total value of improvements ----- \$225.00

DESCRIPTION

This claim lies in a series of arroyos tributary to Sardine Creek. The claim is rocky and rugged and mostly covered with thick underbrush of scrub oak. The soil is second rate and not well adapted to agriculture. About one-half acre is fenced and used for growing garden truck. Sufficient water for domestic use is obtained from a perennial spring near claimant's house.

There is no timber or mineral on the claim, although considerable prospecting has been done in this vicinity and traces of gold and copper found on Sardine Creek, one mile to the South, but it was not in workable quantities.

Metcalf, the nearest postoffice and trading center lies 12 miles in a southerly direction by a good mountain trail. This is an excellent site for a stock ranch, the brush covered mountain side affording good browsing and the deep canyons shelter the stock from wind and snow.

TRAVERSE

No.	Bearing	Dist.	N	S	E	W
1-2	N. 89° 08' W.	10.61	0.16			10.61
2-3	N. 00° 38' E.	9.08	9.08		0.10	
3-4	S. 89° 22' E.	10.26		0.11	10.26	
4-1	S. 01° 15' E.	9.15		9.15	0.20	
		39.10	9.24	9.26	10.56	10.61
				9.24		10.56
	Error in Lat. and Dep.			.02		.05

Closing error 1:725.

Survey completed December 6, 1914.

C. A. Long

Surveyor-Forest Service.

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

Detailed Computation.

Latitude Computation

Longitude by account from Land Office map. 109° 21' W.
Observed altitude of sun's upper limb at apparent noon
December 6, 1914 is 34° 35' 30"

Observed = 34° 35' 30"

Refraction = 01' 23"

Semi-diameter = 16' 16"
34° 17' 51"

Parallax + 07"

Sun's declination + 22° 28' 26"
56° 46' 24" = Co-Lat.
90° 00' 00"
33° 13' 36" = Latitude.

Computation for azimuth from Solar observation, December 6, 1914. Lat. and Long. previously stated.

(1)

Quadrant Telescope	l.m.t.	Vertical Angle.	Hor. Ang. (sun to right)
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Upper right	Direct	9h.01m.49s.	21° 43'	46° 39'
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Lower left	Reversed	9h.03m.31s.	21° 24'	47° 32' 30"
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Means		9h.02m.40s.	21° 33' 30"	47° 05' 45"
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(2)

Upper left	Direct	1h.48m.00s.	27° 51' 30"	119° 51'
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Lower right	Reversed	1h.50m.30s.	27° 03' 30"	119° 46' 30"
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Means		1h.49m.15s.	27° 27' 30"	119° 48' 45"
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(1) Apparent time of obsn. 9h. 11m. 40s.

Corrected vertical angle 21° 31' 05"

Sun's declination S. 22° 27' 33"

Cos. A. = $\frac{\text{Sin. } 22^\circ 27' 33''}{\text{Cos. } 33^\circ 13' 36'' \times \text{Cos. } 21^\circ 31' 05''}$ - (Tan.

33° 13' 36" - Tan. 21° 31' 05")

Log. Sin. 22° 27' 33" = 9.5820917
9.8910947
9.6909970 = Log. .49090

Log. Cos. 33° 13' 36" = 9.9224708
" " 21° 31' 05" = 9.9686239
9.8910947

Chains

$$\begin{aligned} \text{Log. Tan. } 33^\circ 13' 36'' &= 9.8162721 \\ \text{" " } 21^\circ 31' 05'' &= 9.5957987 \\ \hline &9.4120708 = \text{Log. } .25827 \end{aligned}$$

.49090 = .25287 = - .74917 = Natural Cos. S. 41°
28' 54" E., the bearing of sun. Bearing of refer-
ence mark is S. 88° 34' 39" E.

(2) Apparent time of obsn. = 1h. 58m. 23s.
Corrected vertical angle = 27° 25' 39"
Sun's Declination S. = 22° 29' 00"
Cos. A. = $\frac{\text{Sin. } 22^\circ 29' 00''}{\text{Cos. } 33^\circ 13' 36'' \times \text{Cos. } 27^\circ 25' 39''} - (\text{Tan. } 33^\circ 13' 36'' \times \text{Tan. } 27^\circ 25' 39'')$

$$\begin{aligned} \text{Log. Sin. } 22^\circ 29' 00'' &= 9.5825345 \\ &9.8706853 \\ \hline &9.7118492 = \text{Log. } .51505 \end{aligned}$$

$$\begin{aligned} \text{Log. Cos. } 33^\circ 13' 36'' &= 9.9224708 \\ \text{" " } 27^\circ 25' 39'' &= 9.9482145 \\ \hline &9.8706853 \end{aligned}$$

$$\begin{aligned} \text{Log. Tan. } 33^\circ 13' 36'' &= 9.8162721 \\ \text{" " } 27^\circ 25' 39'' &= 9.7151337 \\ \hline &9.5314958 = \text{Log. } .33994 \end{aligned}$$

- .51505 - .33994 = - .85499 = Natural Cos. S. 31°
14' 28" E., the bearing of sun. Bearing of refer-
ence mark is S. 88° 34' 17" E. and the mean of these
is S. 88° 34' 28" E. T.A.

DIRECTORS.—1. Carry out calculations to two decimals only.

2. In balancing Latitudes and Departures do not obliterate or change the original figures.

Put the corrected figure or figures above in red ink. Do not change the footing of the original figures, but put below them the corrected footing in red ink.

The corrections for balancing fallings should be proportional to the lengths of the lines.

3. In calculations of fallings take result to nearest link. In calculations of N. and S. areas drop all after second decimal. Surveyors are required to use the Standard Field Tables issued by the G. L. O.

4. Only three copies of this tabulation are necessary, for the District Office, the Surveyor General, and the Commissioner.

J. W. Sutherland - Apache

TABLE AND CALCULATIONS OF HOMESTEAD ENTRY SURVEY NO. 226, STATE OF ARIZONA

CORNERS.	BEARING.	DISTANCE.	LATITUDES.		DEPARTURES.		DOUBLE M. D.	N. AREAS.	S. AREAS.
			NORTH.	SOUTH.	EAST.	WEST.			
Sec. 3 -1-2	N. 89° 08' W.	10.61	16			10 61	10 60	1 70	
2-3	N. 0° 38' E.	9.08	9 08		10	10 26	21 09	191 71	
3-4	S. 89° 22' E.	10.26		11	10	26	10 70		1 18
4-1	S. 01° 15' E.	9.15		9	14	20	21		1 92
		39.10	9 24	9 26	10 56	10 61		193 41	3 10
			9 25	9 25	10 60	10 60		20)190 31	
								9.515 - 9.52A.	

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APPROVAL

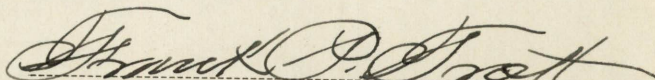
Office of the United States Surveyor General,

Phoenix, Arizona, May 29, 1916 .

The foregoing field notes of Homestead Entry Survey No.

226

executed by C. A. Long, Surveyor-Forest Service
under his special instructions, dated August 6, 1914,
having been critically examined, and the necessary correc-
tions and explanations made, the said field notes, and the
surveys they describe, are hereby approved.



U. S. Surveyor General.

I certify that the foregoing transcript of the field
notes of the above-described survey in Arizona,
has been correctly copied from the original notes on file in
this office.

Frank P. Trott

U. S. Surveyor General.