

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

JUN 30 1915
MAY 26 1916

FIELD NOTES

OF

HOMESTEAD ENTRY SURVEY NO. 224

SITUATED IN THE

APACHE NATIONAL FOREST

ADMINISTRATIVE DISTRICT NO. 3

in

Section 4, unsurveyed, Township 1 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 November 26, 1914
Survey completed November 26, 1914
Under Acts of June 11, 1906 and June 30, 1914.

Applicant for listing F. Barkhurst.
Residence Metcalf, Arizona.
Application No. 110, dated March 10, 1910
List No. 3-1187, dated March 10, 1911
Applicant for survey Charles N. Dudley.
Residence Clifton, Arizona.
H. E. No. 016756, dated January 31, 1912.
Land district Phoenix, Arizona.

100

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. 224, in
unsurveyed Section 4, Township 1 S., Range 29 E.,
surveyed 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. Stewart, Chainman.
Fred Turley, Chainman.

Subscribed and sworn to before me this 26th day of
November, 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 3-1187, dated March 10, 1911, for
Patent, under the Act of June 11, 1906,
the same to be known as Homestead Entry Survey No. 224,
situated within the APACHE National Forest, in
unsurveyed Section 4, Township 1 S., Range 29 E., and
surveyed 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 23rd day of
April, 1915.

Elsie C. Myers
Notary Public



APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains Applicant for listing, F. Barkhurst; Application No. 110; dated March 10, 1910; List No. 3-1187, dated March 10, 1911; H. E. No. 016756, made at Phoenix, Arizona by Charles N. Dudley, dated January 31, 1912. Surveyed under special instructions from the Surveyor General for Arizona, dated August 6, 1914 and designated as Homestead Entry Survey No. 224.

Situated in what will probably be, when surveyed, Sec. 4, T. 1 S., R. 29 E., Gila and Salt River Base and Meridian, Apache National Forest, Arizona.

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

Survey commenced November 26, 1914 and executed with a W. and L. E. Gurley light mountain transit No. 11920, provided with a full vertical circle and horizontal limb having two double verniers placed opposite each other and reading to single minutes of arc, which is also the least count of the verniers on the vertical circle.

I test the adjustments of the transit and make 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.

November 26, 1914.

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

Chains mean time. Longitude, by account from Land Office map, is 109° 21' W. Latitude, by account from Land Office map, is 33° 22' 15" N.

(1)

Telescope	L.M.T.	Vertical Angle	Horizontal Angle
Direct	9h. 07m. 00s.	24° 05'	82° 29' 00"
Reversed	9h. 09m. 00s.	23° 50'	82° 20' 00"
Means	9h. 08m. 00s.	23° 57' 30"	82° 24' 30"

(2)

Direct	9h. 10m. 20s.	24° 33' 30"	82° 38' 00"
Reversed	9h. 12m. 11s.	24° 15' 30"	83° 36' 40"
Means	9h. 11m. 15s.	24° 24' 30"	83° 07' 20"

Bearing of mark by (1) N. 56° 57' 37" E.

Bearing of mark by (2) N. 56° 57' 40" E.

Mean, N. 56° 57' 38" E.,

and to the corresponding meridian all the courses of this survey are referred.

November 26, 1914.

At cor. No. 1 of this survey I put the telescope of my transit in the meridian and observe simultaneously the passage of the sun's upper and West, lower and East limbs over the cross wires for time and latitude.

	Telescope	Watch time	Vertical Angle
Sun's upper and West limb, Direct		11h.45m.00s.	36°01'20"
Sun's lower and East limb, Reversed		11h.47m.20s.	35°27'50"
Means,		11h.46m.10s.	35°44'35"

Time computation.

Watch Time = 11h. 46m. 10s.

Equation of Time = + 12m. 48s.
11h. 58m. 58s.

Apparent Noon = 12h. 00m. 00s.
Watch slow on l.m.t., 01m. 02s.

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Chains	Latitude Computation.
	Obs. Vertical Angle, 35° 44' 35"
	Refraction, $\frac{.01' 20''}{35° 43' 15''}$
	Parallax $\frac{+ .07''}{35° 43' 22''}$
	Sun's declination, + $\frac{20° 54' 11''}{56° 57' 33''} = \text{Co. Lat.}$
	90° 00' 00"
	33° 22' 27" = Lat.

November 26, 1914.

I begin at list cor. No. 1, which is a malpais stone showing 4 x 14 x 16 ins. above ground, marked and witnessed as described by the Forest Service. I destroy same and witnesses thereto, and set a red sandstone 24 x 10 x 6 ins., 14 ins. in the ground, over a stone marked with a + for cor. No. 1 of this survey, marked 1-HES224 on side facing the claim and a + on top. Dig pits 24 x 24 x 12 ins. crosswise on this and succeeding course, 7 ft. dist.; and raise a mound of stone and earth 3 ft. base, 2 ft. high, 2-1/2 ft. dist. within the claim, whence:

A yellow pine 18 ins. dia., bears N. 19° 08' E., 52 lks. dist.

A yellow pine 14 ins. dia., bears S. 36° 35' W., 50 lks. dist.

A scrub oak 10 ins. dia., bears S. 47° 04' W., 111 lks. dist., each blazed and scribed 1 H E S 224 B T.

Bdy. post No. 10 on the G. and S. R. Base line,*

which is an iron post marked and witnessed as described by the Surveyor General, bears N. 04° 00' E., 34.74 chs. dist., by traverse,

* for Cor. Secs. 32 and 33, T. 1 N., R. 29 E., G. & S. R. M.
S. I. O. letter "E" 12-22-'23

Chains

hereinafter described.

The magnetic bearing of the true meridian at 4:30 p.m. is N. 15° 00' W., and the mean magnetic declination is 15° 00' E.

Thence S. 87° 40' E.

Over open level land, along edge of pine timber.

5.80 Cor. of wire fence, bears South 20 links, from which fences run S. 17° 00' E. and N. 02° 00' W. Leave edge of timber.

9.00 Enter corral.

10.50 Leave corral, enter scattering pine timber.

11.00 To cor. No. 2.

Identical with list cor. No. 4, which is a malpais stone showing 6 x 8 x 12 ins. above ground, marked and witnessed as described by the Forest Service.

I destroy same and set a red sandstone 24 x 12 x 10 ins., 14 ins. in the ground, over a stone marked with a + for cor. No. 2 of this survey, marked 2-HES224 on the side facing claim and a + on top. Dig pits 24 x 24 x 12 ins. crosswise on this and the succeeding course, 7 ft. dist.; and raise a mound of earth and stone, 3 ft. base, 3 ft. high, 3-1/2 ft. dist.

within claim, whence:

A yellow pine 26 ins. dia., bears N. 28° 30' W., 21 lks. dist.

A forked scrub oak, 10 ins. dia., bears N. 88° 42' E., 30 lks. dist., each blazed and scribed

2 H E S 224 B T.

Thence S. 05° 27' W.

Over level land, through edge of scattering pine and scrub oak.

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Chains	
3.80	Rail fence, runs E. and W.
4.30	Wire fence, runs E. and W.
5.80	SE. cor. of barn is 10 lks. West of line. Wire fence runs South from SE. cor. of barn.
13.99	To cor. No. 3. Identical with list cor. No. 3, and cor. No. 4 of the Pine Flat, Administrative site, which is a yellow pine 28 ins. dia., marked and witnessed as described by the Forest Service. I destroy the marks that refer to list survey and blaze and mark the NW. face 3-HES224 for cor. No. 3 of this survey; and raise a mound of earth and stone 4 ft. base, 2 ft. high, 3-1/2 ft. dist. within the claim. Pits impracticable. whence: A yellow pine 28 ins. dia., bears N. 29° 30' E., 151 lks. dist. A yellow pine 30 ins. dia., bears S. 87° 45' E., 131 lks. dist., each blazed and scribed 3 H E S 224 B T.
	Thence S. 76° 18' W.
	Along the N. bdy. of Pine Flat, administrative site, Ascend 15 ft. through scattering pine.
0.50	Leave pine timber.
0.80	Pole and wire fence, runs N. 09° 00' E. and S. 09° 00' W.
1.40	Top of ascent.
1.60	Descend 25 ft.
5.10	Bottom of descent, continue over open level land.
5.20	Dry wash, 8 lks. wide, banks 2 ft. high, course N. and S.
8.20	Dry wash, 15 lks. wide, banks 5 ft. high, course South.
11.15	Pole and wire fence.

Chains
11.40

To cor. No. 4.

Identical with list cor. No. 2, which is a malpais stone showing 6 x 8 x 22 ins. above ground, marked and witnessed as described by the Forest Service. I destroy same and witnesses thereto, and set a lava stone 23 x 12 x 6 ins., over a stone marked with a + for cor. No. 4 of this survey, marked 4-HES224 on side facing the claim and a + on top. (No larger stone available.) Dig pits 24 x 24 x 12 ins. cross-wise on this and succeeding course, 7 ft. dist.; and raise a mound of stone and earth 4 ft. base, 2 ft. high, 3-1/2 ft. dist. within the claim; whence:

A blackjack pine 8 ins. dia., bears N. 01° 15' W., 69 lks. dist.

A scrub oak, 16 ins. dia., bears S. 54° 07' W., 84 lks. dist.

A scrub oak, 12 ins. dia., bears S. 15° 21' W., 76 lks. dist., each blazed and scribed 4 H E S 224 B T.

Cor. No. 3 of the Pine Flat administrative site bears S. 76° 18' W., 8.31 chs. dist.

Thence N. 04° 37' E.

Over level land, along edge of scattering scrub oak. Fence is East of line.

17.16

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

AREA

Area - - - - - 16.97 acres.

CONFLICTS AND ADJOINING CLAIMS.

No conflicts. This claim is joined on the South by

APACHE NATIONAL FOREST

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Chains

the Pine Flat administrative site.

IMPROVEMENTS

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

A new 4 room frame house, 32 x 32 ft., course of sides N. and S., the NE. cor. of which bears from cor. No. 2, S. 31° 30' W., 3.50 chs. dist.

Value ----- \$600.00

A frame salt house, 8 x 8 ft., course of sides N. and S. the NE. cor. of which bears from cor. No. 2, S. 61° 35' W., 1.69 chs. dist.

Value ----- \$ 10.00

A dug well 25 ft. deep, the center of which bears from cor. No. 2, S. 12° 12' W., 4.45 chs. dist.

Value ----- \$ 75.00

Slab barn, 36 x 40 ft., course of long sides E. and W., the NW. cor. of which bears from cor. No. 2, S. 13° 30' W., 5.30 chs. dist.

Value ----- \$150.00

Log tool house 12 x 12 ft., course of sides E. and W., the NE. cor. of which bears from cor. No. 2, S. 13° 52' W., 5.30 chs. dist.

Value ----- \$ 25.00

1 mile of pole and barbed wire fencing.

Value ----- \$125.00

Total value of improvements ----- \$985.00

DESCRIPTION.

This claim is in a level valley at an elevation of 6400 ft. above sea level. The soil is a light sandy loam, first rate, the entire claim is fenced and cross-fenced, and has been under cultivation, producing good

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HOMESTEAD ENTRY SURVEY NO. 224

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

crops of corn, oats, potatoes and vegetables. The only water on the claim is obtained from a dug well 25 ft. deep, which supplies sufficient water for watering stock, and all domestic purposes. There is no evidence of precious minerals on the claim. There is no timber of commercial value on the claim. Clifton, the county seat of Greenlee County on the A. and N. M. B.R., the nearest post office and trading center, lies about 55 miles in a southerly direction over rough mountain trails.

TRAVERSE

No.	Course	Dist.	N	S	E	W
1-2	S. 87° 40' E.	11.00		0.45	10.99	
2-3	S. 05° 27' W.	13.99		13.93		1.33
3-4	S. 76° 18' W.	11.40		2.70		11.08
4-1	N. 04° 37' E.	17.16	17.10		1.38	
		53.55	17.10	17.08	12.37	12.41
			17.08			12.37
	Error in Lat. and Dep.		.02			.04

Error of closure, 1:1198.

Traverse from cor. No. 1 to bdy. Post No. 10 on Base Line.

Course	Dist.	N	S	E	W
S. 87° 40' E.	11.00		0.45	10.99	
N. 08° 15' W.	25.00	24.74			3.59
N. 10° 06' W.	7.55	7.43			1.32
S. 81° 37' W.	2.53		0.37		2.50
N. 19° 21' W.	3.51	3.31			1.16
		35.48	0.82	10.99	8.57
		0.82		8.57	
		34.66		2.42	

From this traverse I compute the bearing and distance to the bdy. post as being N. 04° 00' E., 34.74 chs.

dist.

Survey completed November 26, 1914.

C. A. Long

Surveyor-Forest Service.

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STATE OF ARIZONA

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Detailed Computations.

Azimuth Computation.

Date of observation, November 26, 1914.

(1)

Longitude, 109° 21' W., Latitude 33° 22' 15" N., by account from Land Office map.

Local mean time of obs. = 9h. 08m. 00s.

Apparent time of obs. = 9h. 20m. 48s.

Obs. Vertical Angle = 23° 57' 30"

Reduced Vertical Angle = 23° 55' 51"

Sun's declination = S. 20° 52' 54"

Horizontal Angle, (Sun is to right of reference mark) = 82° 24' 30"

$$\text{Cos } A = \frac{\text{Sin } 20^{\circ} 52' 54''}{\text{Cos. } 33^{\circ} 22' 15'' \times \text{Cos } 23^{\circ} 55' 51''}$$

$$(\text{Tan } 33^{\circ} 22' 15'' \times \text{Tan } 23^{\circ} 55' 51'')$$

Log Sin. 20° 52' 54" = 9.5519853 ✓
 9.8827162
 9.6692691 = Log. - .46695 ✓

Log Cos. 33° 22' 15" = 9.9217530 ✓
 " " 23° 55' 51" = 9.9609632 ✓
 9.8827162 ✓

Log. Tan 33° 22' 15" = 9.8186536 ✓
 " " 23° 55' 51" = 9.6471706 ✓
 9.4658242 = Log. - .29230 ✓

- .46695 - .29230 = - .75925 = Nat. Cos. of S. 40° 37' 53" ✓

E., being the bearing of the sun, and the bearing of reference mark is N. 56° 57' 37" E. ✓

(2)

Latitude 33° 22' 15" N., Longitude 109° 21' W., by account from a Land Office map.

Local mean time of obs. = 9h. 11m. 15s.

Apparent time of obs. = 9h. 24m. 03s. ✓

Obs. Vertical Angle = 24° 24' 30"

Reduced Vertical Angle = 24° 22' 23" ✓

Sun's declination = S. 20° 52' 56" ✓

Horizontal Angle (Sun is to right of reference mark) = 83° 07' 20"

HOMESTEAD ENTRY SURVEY NO. 110

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Chains

$$\text{Cos A.} = \frac{\text{Sin } 20^{\circ} 52' 56''}{\text{Cos } 33^{\circ} 22' 15'' \times \text{Cos } 24^{\circ} 22' 23''}$$

$$(\text{Tan } 33^{\circ} 22' 15'' \times \text{Tan } 24^{\circ} 22' 23'')$$

$$\text{Log Sin } 20^{\circ} 52' 56'' = 9.5519963$$

$$\text{Log Cos } 33^{\circ} 22' 15'' = 9.9217530$$

$$\text{Log Cos } 24^{\circ} 22' 23'' = 9.9594601$$

$$\text{Log Tan } 33^{\circ} 22' 15'' = 9.8186536$$

$$\text{Log Tan } 24^{\circ} 22' 23'' = 9.6561492$$

$$9.6707832 = \text{Log.} - .46858$$

$$9.4748028 = \text{Log.} - .29840$$

$$-.46858 - .29840 = -.76698 = \text{Nat. Cos of S. } 39^{\circ} 55' \text{ E.},$$

being the bearing of the Sun, and the bearing of reference mark is N. 56° 57' 40" E. The mean of these two observations is N. 56° 57' 38" E.

T. F.

Cos A. =

(Tan 33° 22' 15" x Tan 24° 22' 23")

Log Sin 20° 52' 56" = 9.5519963

Log Cos 33° 22' 15" = 9.9217530

Log Cos 24° 22' 23" = 9.9594601

Log Tan 33° 22' 15" = 9.8186536

Log Tan 24° 22' 23" = 9.6561492

9.6707832 = Log. - .46858

9.4748028 = Log. - .29840

-.46858 - .29840 = -.76698 = Nat. Cos of S. 39° 55' E.

being the bearing of the sun, and the bearing of reference mark is N. 56° 57' 38" E.

(S)

Latitude 33° 22' 15" N., Longitude 109° 31' W., by

count from a Band Office map.

Local mean time of obs. = 9h. 11m. 15s.

Apparent time of obs. = 9h. 34m. 03s.

Obs. Vertical Angle = 24° 24' 30"

Reduced Vertical Angle = 24° 23' 38"

Sun's declination = 2° 30' 52" S.

Horizontal Angle (Sun is to right of reference mark) = 33° 07' 30"

DIRECTIONS.—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.

3. In calculations for balancing fallings should be proportional to the lengths of the lines. Do not change the footing of the original figures. The corrections for balancing fallings should be proportional to the lengths of the lines.

4. Only three copies of this tabulation are necessary, for the District Office, the Surveyor General, and the Commissioner. Surveyors are required to use the Standard Field Tables issued by the G. L. O.

TABLING AND CALCULATIONS OF HOMESTEAD ENTRY SURVEY NO. 224, STATE OF ARIZONA

Charles N. Dudley - Apache

CORNERS.	BEARING.	DISTANCE.	LATITUDES.		DEPARTURES.		DOUBLE M. D.	N. AREAS.	S. AREAS.
			NORTH.	SOUTH.	EAST.	WEST.			
1-2	S. 87° 40' E.	11.00		46	11 00		13 78		6 34
2-3	S. 05° 27' W.	13.99	13	45 74	10 99	1 32	23 46		327 03
3-4	S. 76° 18' W.	11.40	2	93		11 07			29 89
4-1	N. 04° 37' E.	17.16	17 10	70	1 39	11 08	1 39		
		52.55	17 10	17 08	12 37	12 41	23 77		
			17 10	17 10	12 39	12 39	23 77		
	Closing error 1:1198								20) 339 49
									16.9744

T.H.

111

19.04.11
 101 282 43
 34 33
 38 33 38

GLASSING ERROR T:ITAB

W. 0% 34 E. 1.10
 2. 1% 181 1. 1.04
 2. 0% 51 1. 1.00
 2. 1% 10 1. 1.00

COMPLET

REVALUC

DISVALUC

MORSA

SONDA

ESTAD

DEVALUC

DOBBLE W. D.

X. Y. BEVZ

Z. V. BEVZ

COMPLET

REVALUC

DISVALUC

MORSA

SONDA

ESTAD

DEVALUC

DOBBLE W. D.

X. Y. BEVZ

Z. V. BEVZ

TABLETAS M. D. M. J. E. - VISOR

ESTADO DE VIRGINIA

NO. 334

EMERGENCY SURVEY NO.

OPERATIONS OF THE STATE OF VIRGINIA

Only these copies of the original are necessary for the District and the State for the Commission. The copies of the original are necessary for the District and the State for the Commission. The copies of the original are necessary for the District and the State for the Commission.

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TABLETAS M. D. M. J. E. - VISOR

TABLETAS M. D. M. J. E. - VISOR

APPROVAL

Office of the United States Surveyor General,
Phoenix, Arizona, May 29, 1916.

The foregoing field notes of Homestead Entry Survey No.
224

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.

Frank P. Trott
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.