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OCT-2 1916

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

OCT. 26 1917
AUG. 21 1915

FIELD NOTES

OF

HOMESTEAD ENTRY SURVEY NO. 227

SITUATED IN THE

APACHE NATIONAL FOREST

ADMINISTRATIVE DISTRICT NO. 3

in

Section 6, --surveyed, Township 3 S., Range 30 E.

(Survey awaiting approval)

Approximately
Section 1, unsurveyed, Township 3 S., Range 29 E.

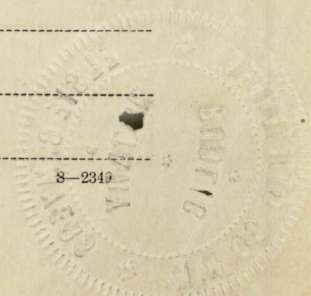
of the

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 7, 1914
Survey completed December 10, 1914
Under Acts of June 11, 1906 and June 30, 1914.

Applicant for listing Harland Walker,
Residence Metcalf, Arizona.
Application No. 151, dated February 27, 1911.
List No. 3-1455, dated September 25, 1911.
Applicant for survey Harland Walker,
Residence Metcalf, Arizona.
H. E. No. 017866, dated June 29, 1912.
Office
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. 227, in
unsurveyed Section 6, Township 3 S., Range 30 E. (Awaiting ap-
unsurveyed Section 1, Township 3 S., Range 29 E., proval)

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 Weaver, 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 3-1455, dated Sept. 25, 1911, for
Patent, under the Act of June 11, 1906,
the same to be known as Homestead Entry Survey No. 227,
situated within the APACHE National Forest, in
unsurveyed Section 6, Township 3 S., Range 30 E., and (Awaiting ap-
unsurveyed Section 1, Township 3 S., Range 29 E., proval)

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

Applicant for listing, Harland Walker; Application No. 151, dated February 27, 1911; List No. 3-1455, dated September 25, 1911; H. E. No. 017866, made at Phoenix, Arizona, on June 29, 1912.

Surveyed under special instructions from the Surveyor General for Arizona, dated August 6, 1914 and designated as Homestead Entry Survey No. 227.

Situated in surveyed Sec. 6, T. 3 S., R. 30 E., (awaiting approval) and in unsurveyed Sec. 1, 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 7, 1914 and executed with a W.

and L. E. Gurley light mountain transit No. 11920 pro-

vided 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 vertical circle readings.

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

All measurements were made on the slopes with a 500 link

Lufkin steel tape, and the slope angles determined with

a clinometer, the horizontal distances alone appearing

in these notes.

December 7, 1914.

At cor. No. 1 of this survey, I observe the altitude of the sun for azimuth. The sun is to right of reference

mark. The reading on reference mark is set at zero

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 mean time. Longitude by ac-

Chains count from Land Office map is $109^{\circ} 19' 30''$ W.

Telescope 1.m.t. Vertical Angle Horizontal Angle

Direct	2h. 20m. 08s.	$23^{\circ} 59'$	$117^{\circ} 40'$
Reversed	<u>2h. 21m. 26s.</u>	<u>$23^{\circ} 16' 20''$</u>	<u>$117^{\circ} 21'$</u>
Mean	2h. 20m. 47s.	$23^{\circ} 37' 40''$	$117^{\circ} 30' 30''$

(2)

Direct	2h. 22m. 54s.	$23^{\circ} 37' 30''$	$117^{\circ} 39' 20''$
Reversed	<u>2h. 24m. 52s.</u>	<u>$22^{\circ} 53' 00''$</u>	<u>$118^{\circ} 33' 30''$</u>
Mean	2h. 23m. 53s.	$23^{\circ} 15' 15''$	$118^{\circ} 06' 25''$

Bearing of reference mark by (1) S. $79^{\circ} 26' 23''$ E.

Bearing of reference mark by (2) S. $79^{\circ} 26' 31''$ E.

The mean of these is S. $79^{\circ} 26' 27''$ E.

December 7, 1914.

At cor. No. 1 of this survey at 11h. 51m. 17s., 1.m.t., I observe the meridian altitude of the sun's upper limb for latitude observed vertical angle is $34^{\circ} 29'$. From this observation I calculate the latitude to be $33^{\circ} 13' 01''$ N.

December 8, 1914.

At cor. No. 1 of this survey I put the telescope of my transit in the meridian and observe the watch time of the passage of the sun west and east limbs over the vertical crosswire for time, telescope direct and reverse.

Sun's west limb	11h. 49m.
Sun's east limb	<u>11h. 51m. 20s.</u>
	11h. 50m. 10s. = watch time of apparent noon.
	+ 08m. 17s. = equation of time.
	<u>11h. 58m. 27s.</u>
	12h. 00m. 00s. = apparent noon, watch slow on 1.m.t.
	01m. 33s.

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

December 8; 1914.

Preliminary to commencing the Homestead Entry Survey, I retrace the public land line intersected by the claim. Beginning at the 1/4 cor. on the west boundary of Sec. 6, T. 3 S., R. 30 E.; (awaiting approval) which is an iron post firmly set, marked and witnessed as described by the Surveyor General, I run S. 00° 01' W. on a true line along the west boundary of Sec. 6, the cor. to Secs. 1, 6, 7, and 12, being plainly visible, setting temporary stakes at appropriate points for future reference.

39.90 The cor. to Secs. 1, 6, 7 and 12, an iron post firmly set, marked and witnessed as described by the Surveyor General.

There being no approved public land corners within the prescribed limits to tie the claim to, I establish U. S. L. M. No. 227 H. E. S. on the south point of a vertical rock bluff on the N. side and 300 ft. above Sardine Creek. I mark a cross at the apex of a lava stone in place showing 30 x 24 x 18 ins. above ground, U. S. L. M. No. 227 H. E. S. on N. face; and raise a mound of stone 6 ft. base, 4 ft. high, NW. of point, whence:

A pinon 10 ins. dia., bears N. 25° 24' W.,
47 lks. dist.

A pinon 10 ins. dia., bears N. 07° 34' W.,
58 lks. dist.

A pinon 8 ins. dia., bears N. 16° 53' E.,
18 lks. dist.

Each blazed and scribed U S L M 227 H E S B T.

The 1/4 cor. on west boundary Sec. 6, heretofore

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

described, bears N. 73° 40' E., 46.83 chs. dist. by traverse, details of which are hereto attached.

Boundaries of H. E. S. No. 227.

December 9, 1914.

I begin at list cor. No. 6, which is a malpais stone 6 x 8 x 12 ins. above ground, marked and witnessed as described by the Forest Service. I set an octagonal iron rod 20 x 3/4 ins., 6 ins. in the solid rock for cor. No. 1 of this survey and raise a mound of stone around corner point. In the center of mound and over the iron rod, I place a lava stone 27 x 10 x 6 ins., marked 1-HES227 on side facing claim. Pits and mounds impracticable, whence:

A cross (+) on a conglomerate rock ledge marked 1 H E S 227 B O bears W. 4 lks. dist.

U. S. L. M. No. 227 H. E. S. heretofore described bears S. 64° 10' E., 18.32 chs. dist.

No other bearings available.

Mag. decl. at 10:30 a.m., 15° E. Mean Mag. Decl. 14° 58' E.

Thence East.

Descending abrupt slope through scattering pinon and undergrowth of scrub oak and chapparal. Scant soil covering on slope.

- 1.80 Arroyo, 10 lks. wide, course S. 20° 00' E., 70 ft. below point of descent.
- 1.90 Ascend, steep rocky slope.
- 6.06 Top of ridge, 110 ft. above point of ascent, bears S. 40° E. and N. 40° W.
- 6.30 Begin to descend.
- 7.75 Bottom of arroyo, 10 lks. wide, bears S. 50° 00' E., 65 ft. below top of ridge.
- 7.90 Ascend.

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STATE OF ARIZONA

Chains	
11.00	Top of ridge bears S. 25° 00' E. 80 ft. above point of ascent. Continue over eroded rocky land.
14.00	Descend abrupt rocky slope.
17.00	Bottom of arroyo, 10 lks. wide, 115 ft. below point of descent.
17.10	Ascend
19.50	Top of low spur, 55 ft. above point of ascent.
19.60	Descend.
21.00	Arroyo, 10 lks. wide, course S. 05° 00' W. 70 ft. below point of descent.
21.20	Ascend.
28.00	Top of ridge, 95 ft. above point of ascent. Continue over rolling rocky land.
61.43	<p>To Cor. No. 2 and closing corner on line bet. Secs. 1 and 6. Point falls on sloping rock ledge, set a half of an iron horse shoe in the solid rock for Cor. No. 2 of this survey and a lava stone 26 x 10 x 8 ins. over the exact point for cor. marked C C on W. face and 2-HES227 on S. face with a cross (+) on top. Raise a mound of stone around cor. whence,</p> <p>A pinon 5 ins. dia., bears N. 50° 37' W. 17 lks. dist.</p> <p>A pinon 10 ins. dia., bears S. 14° 17' E., 130 lks. dist.</p> <p>A pinon 10 ins. dia., bears S. 19° 53' W. 159 lks. dist.</p>
Each blazed and marked C C 2 H E S 227 B T.	
The cor. of Secs. 1, 6, 7 and 12, heretofore described bears S. 0° 01' W. 34.71 chs. dist.	
and the 1/4 cor. to Secs. 1 and 6, heretofore described, bears N. 0° 01' E. 5.19 chs. dist.	
Pits and mounds impracticable.	

Chains

Thence East

- Descend rocky slope bare of soil through scattering pinon.
- 1.30 Bottom of arroyo, 10 lks. wide, 50 ft. below beginning of descent.
- 1.50 Ascend
- 5.00 Top of ascent 75 ft. above point of ascent. Leave scattering pinon.
- 7.27 To Cor. No. 3.
Set a shale stone 20 x 10' x 7 ins. marked 3-HES227 on SW. face and cross (+) on top for Cor. No. 3 of this survey and raise a mound of stone around cor. (Impossible to set stone in ground) whence,
A pinon 6 ins. dia., bears S. 66° 14' W.
76 lks. dist.
A pinon 5 ins. dia., bears N. 12° 06' W.
107 lks. dist.
A pinon 6 ins. dia., bears N. 27° 20' E.,
63 lks. dist.
Each blazed and marked 3 H E S 227 B T.
List cor. No. 5, a malpais rock 6 x 10 x 12 ins. above ground, marked and witnessed as described by the Forest Service bears S. 05° 00' W. 30 lks. dist. which I destroy and witnesses thereto.
Note: A stone of prescribed dimensions was not available for this corner.

Thence South

- Descend bare rocky slope through scattering pinon, juniper and oak brush.
- 8.50 Bottom of descent, 213 ft. below cor. No. 3.
- 9.00 Sardine Creek, 10 lks. wide, 1 ft. deep, flows east. This is a stream of good clear water and flows the entire year.

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STATE OF ARIZONA

Chains

9.50 Ascend steep slope through dense undergrowth of oak brush and chapparal to Cor. No. 4, 450 ft. above Sardine Creek.

20.00 To Cor. No. 4.
Set a lava stone 23 x 14 x 12 ins. in a mound of stone (unable to set in ground owing to rock) marked 4-HES227 on side facing claim and cross (+) on top. Pits and mounds impracticable, whence,

A pinon 8 ins. dia. bears S. 49° 20' W.
95 lks. dist.

A pinon 6 ins. dia. bears S. 68° 16' E.
46 lks. dist.

A pinon 8 ins. dia. bears S. 79° 05' E.
75 lks. dist.

Each blazed and marked 4 H E S 227 B T.
No larger stone for corner available.

List cor. No. 4, which is a malpais rock 6 x 8 x 8 ins. above ground, marked and witnessed as described by the Forest Service bears S. 02° 00' W. 35 lks. dist. which I destroy and witnesses thereto.

Thence West

Along north slope of hillside covered with dense oak brush.

3.00 Descend steep rocky slope, 175 ft.

7.28 To Cor. No. 5, and closing cor. on line bet. Secs. 1 and 6.

Set a malpais stone 30 x 20 x 13 ins. over a half of an iron horse shoe driven in solid rock to mark exact point for cor. marked C C on E. side and 5-HES227 on N. side and cross (+) on top and raise a mound of

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains	stone around corner. Pits and mounds impracticable, whence, A pinon 8 ins. dia., bears N. 11° 09' W. 82 lks. dist. A pinon 8 ins. dia., bears N. 31° 25' W. 91 lks. dist. A pinon 10 ins. dia. bears S. 87° 28' W. 32 lks. dist. Each blazed and marked C C 5 H E S 227 B T. The Cor. to Secs. 1, 6, 7 and 12, heretofore described, bears S. 0° 01' W. 14.71 chs. dist. The 1/4 cor. to Secs. 1 and 6, heretofore described bears N. 0° 01' E. 25.19 chs. dist.
	Thence West Descend 15 ft. to arroyo.
0.20	Arroyo, 10 lks. wide, course N. 15° 00' W. Ascend.
1.00	Top of spur, 85 ft. high, continue along N. slope covered with dense oak brush.
3.00	Descend.
4.00	Arroyo, 15 lks. wide, course N. 70 ft. below ridge.
4.10	Ascend.
8.00	Top of spur, 125 ft. above arroyo, continue along N. slope.
11.50	Descend.
16.00	Arroyo, 10 lks. wide, 85 ft. below ridge, course N. 05° 00' E.
16.20	Ascend.
20.00	Top of ridge, 175 ft. above arroyo, slope N. continue along N. slope.
28.00	Descend.
31.00	Arroyo, 15 lks. wide, 205 ft. below ridge, ascend.
34.00	Top of spur, 145 ft. high.

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STATE OF ARIZONA

Chains

34.50

Descend.

40.00

Draw, 5 lks. wide, 110 ft. below ridge.

40.10

Ascend.

41.00

Top of ridge, 35 ft. above draw.

42.00

Descend.

43.30

Arroyo, 10 lks. wide, 95 ft. below ridge, course N.

10° 00' E.

43.40

Ascend.

45.00

Top of spur, 115 ft. high, continue along N. slope.

47.00

Ascend.

52.00

Top of ridge, 200 ft. above point of ascent. Continue along steep N. slope.

53.12

A vertical rock ledge facing to N. bears S. 10 lks.

54.00

Descend steep rocky slope.

56.00

Bottom of arroyo, 15 lks. wide, 255 ft. below point of descent, course N. 15° 00' E.

56.20

Ascend.

58.12

Top of ridge, 45 ft. above arroyo.

58.50

Descend, 175 ft.

61.42

To Cor. No. 6.

Set a wash boulder 25 x 14 x 12 ins. marked 6-HES227 on side facing claim and cross (+) on top for cor.

No. 6 of this survey and raise a mound of stone around corner (impossible to set corner stone in ground owing to rock). Pits and mounds impracticable, whence,

A black oak 12 ins. dia. bears S. 70° 09' E.

44 lks. dist.

A pinon 6 ins. dia. bears S. 57° 32' E.

41 lks. dist.

A scrub oak 4 ins. dia. bears S. 42° 15' W.

58 lks. dist.

Each blazed and marked 6 H E S 227 B T.

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Chains

List Cor. No. 3, bears S. 20 lks. which I destroy
and witnesses thereto.

December 10, 1914.

Thence North

Descend along East bank of arroyo.

0.30 Enter dry bed of arroyo.

1.00 Leave bed of arroyo, continue to descend 25 ft. along
W. side.

5.00 To Cor. No. 7.

Identical with list cor. No. 2, which is a malpais
rock 8 x 12 x 10 ins. above ground marked and witnessed
as described by the Forest Service. I destroy it and
witnesses thereto and set a lava stone 29 x 13 x 11
ins. 19 ins. in the ground, over a marked stone, for
Cor. No. 7 of this survey, marked 7-HES227 on side
facing claim and a cross on top. Pits impracticable,
raise a mound of stone 3-1/2 ft. base, 2 ft. high,
3-1/2 ft. dist. within the claim, whence,

A live oak 6 ins. dia. bears S. 88° 32' W.
24 lks. dist.

A live oak 6 ins. dia. bears N. 60° 30' W.
31 lks. dist.

A live oak 6 ins. dia. bears N. 68° 32' E.
50 lks. dist.

Each blazed and marked 7 H E S 227 B T.

Thence N. 88° 04' W.

Ascend 50 ft. through thick stand of juniper, pinon and
scrub oak.

9.77 To Cor. No. 8.

Identical with list cor. No. 1, which is a malpais
rock 4 x 12 x 10 ins. above ground, marked and witnessed
as described by the Forest Service. I destroy same

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and witnesses thereto and set a lava stone 26 x 14 x 12
ins. 16 ins. in the ground, over a stone marked with
a cross for Cor. No. 8 of this survey, marked 8-HES227
on side facing claim and a cross (+) on top, and raise
a mound of stone 3 ft. base, 2 ft. high, 3-1/2 ft.

dist. within the claim. Pits impracticable, whence,

A juniper 12 ins. dia. bears N. 10° 00' E.

22 lks. dist.

A juniper 12 ins. dia. bears N. 84° 30' E.

11 lks. dist.

A twin live oak 10 ins. dia. bears S. 21° 37' E.

70 lks. dist.

A juniper 10 ins. dia. bears S. 53° 38' W.

53 lks. dist.

Each blazed and scribed 8 H E S 227 B T.

Thence North

Descend 35 ft. to creek, through thick juniper and
scrub oak.

2.74 Sardine Creek, 10 lks. wide, 1 lk. deep, course East.

3.00 Abrupt ascent, leave timber.

4.04 Top of bluff, 70 ft. high.

4.74 To Cor. No. 9.

Identical with list cor. No. 8, which is a malpais
rock 8 x 8 x 10 ins. above ground, marked and witnessed
as described by the Forest Service. I destroy same and

witnesses thereto and set a red granite stone 26 x 10
x 15 ins. in a mound of stone for Cor. No. 9 of this
survey marked 9-HES227 on side facing claim and a
cross (+) on top. No soil at this place. Pits and
mounds impracticable, whence,

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STATE OF **ARIZONA**

Chains
 A pinon 14 ins. dia. bears S. 75° 02' W.
 171 lks. dist. and blazed and marked
 9-HES227 B T.
 No other bearings available.

Thence East
 Along rim of canyon over badly eroded slopes, no soil
 or timber.

10.00 To Cor. No. 10.
 Identical with list cor. No. 7 which is a malpais
 boulder 10 x 12 x 10 ins. above ground, marked and
 witnessed as described by the Forest Service. I
 destroy same and witnesses thereto, and set a lava
 stone 24 x 10 x 6 ins. in a mound of stone, for
 cor. No. 10 of this survey, marked 10-HES227 on side
 facing claim and cross (+) on top (Impossible to dig

hole at this place). Pits impracticable, therefore
 raise a mound of stone 3 ft. base, 2 ft. high, 3-1/2
 ft. dist. within claim. No bearing trees or objects
 within limits.

Thence North
 Ascend 110 ft. along east slope, denuded of soil.

6.41 Top of ascent, continue along steep hillside covered with
 rock and sloping to East.

10.00 To Cor. No. 1, the place of beginning.

AREAS	
In Sec. 1	127.82 Acres
In Sec. 6	14.55 Acres
Total area	142.37 Acres

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APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

Conflicts or Adjoining Claims

There are no conflicts or adjoining claims.

Improvements

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

Log barn, 12 x 12 ft., course of sides N. and S. The SW. cor. bears from cor. No. 7, N. 20° 39' E. 120 lks. dist.

Value \$25.00

Frame chicken house, 10 x 10 ft., course of sides N. and S. The SE. cor. bears from cor. No. 7, N. 33° 18' W. 192 lks. dist.

Value \$15.00

One Story frame residence, 15 x 34 ft., course of long sides N. and S. The SE. cor. bears from Cor. No. 7, N. 56° 32' W. 361 lks. dist.

Value \$250.00

Apple orchard, fenced and containing 195 bearing trees.

Value \$1,000.00

Total value of improvements. \$1,290.00

Description

The claim lies in a rough mountainous country with badly eroded slopes, partially denuded of soil. A narrow strip along Sardine Creek is suitable for agriculture when cleared of a scattering growth of sycamore and black walnut. The soil along the creek bottom is a black sandy loam well adapted to growing fruit and vegetables. The hillsides are good for pasture.

Sardine Creek, a perennial stream, of pure clear water runs through the claim and furnished sufficient water

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

for all domestic purposes and to irrigate all the land capable of being cultivated. At present, the claimant has about 2 acres planted to orchard, bearing a large quantity of excellent fruit.

The timber on the claim consists of scattering juniper and pinon on the mountain sides and black walnut and sycamore along the bed of Sardine Creek.

Copper stains are noticeable on the rock ledges along Sardine Creek and evidence of former prospecting is seen, but no mineral in paying quantity has been found.

Metcalf, a copper mining town, on the Arizona and New Mexico R. R., the nearest postoffice and trading center, lies about 12 miles distant in a southerly direction by trail.

Traverses, Sec. 1.

Cor.	Course	Dist.	N.	S.	E.	W.
1-2	East	61.43			61.43	
2-5	S. 0° 01' W.	20.00		20.00		0.01
5-6	West	61.42				61.42
6-7	North	5.00	5.00			
7-8	N. 88° 04' W.	9.77	0.33			9.76
8-9	North	4.74	4.74			
9-10	East	10.00			10.00	
10-1	North	10.00	10.00			
		182.36	20.07	20.00	71.43	71.19

Error in Lat. and Dep. $\frac{20.00}{.07}$ $\frac{71.19}{.24}$

Closing error 1:792

Traverses, Sec. 6.

Cor.	Course	Dist.	N.	S.	E.	W.
2-3	East	7.27			7.27	
3-4	South	20.00		20.00		
4-5	West	7.28				7.28
5-2	N. 0° 01' E.	20.00	20.00		0.01	
		54.55	20.00	20.00	7.28	7.28

Error in Lat. and Dep. - None.

Closing Error - None.

Survey completed December 10, 1914.

C. A. Long
Surveyor - Forest Service

Chains

Latitude Computation

Longitude by account from Land Office map 109° 19' 30" W.
December 7, 1914.

Observed meridian altitude of sun's upper limb at Cor.
No. 1 at 11h. 51m. 17s. l.m.t. is 34° 29' .

	34° 29'	
refraction	- 01' 23"	
semi-diameter	- 16' 16"	
	<u>34° 11' 21"</u>	
parallax	+ 07"	
	<u>34° 11' 28"</u>	= True alt. sun's cen- ter.

Sun's declination = + $\frac{22° 35' 31''}{56° 46' 59''}$ = Co. Lat.

$\frac{90° 00' 00''}{33° 13' 01''}$ = Latitude.

December 7, 1914.

Azimuth Computation.

Longitude 109° 19' 30" W.

Latitude 33° 13' 01" N.

Method and Data previously stated.

(1)

L. m.t. of obsn. 2h. 20m. 47s.

Apparent time of obsn. 2h. 29m. 30s.

Observed vert. ang. 23° 37' 40"

Vert. Ang. corrected for refraction 23° 35' 28"

Hor. ang. from sun to left 117° 30' 30"

Sun's declination 22° 36' 14"

Cos. A. = $\frac{\text{Sin. } 22° 36' 14''}{\text{Cos. } 33° 13' 01'' \times \text{Cos. } 23° 35' 28''}$ - (Tan.

33° 13' 01" X Tan. 23° 35' 28").

Log. Sin. 22° 36' 14" = 9.5847359
9.8846173
9.7001186 = Log. .50132

NATIONAL FOREST

STATE OF ARIZONA

Chains

Chains

Latitude Computation

Longitude by account from Land Office map 109° 19' 30" W.
December 7, 1914.

Observed meridian altitude of sun's upper limb at Cor.
No. 1 at 11h. 51m. 17s. l.m.t. is 84° 29' .

84° 29' .
- refraction
84° 01' 23" .
- semi-diameter
84° 11' 21" .
+ 07"
84° 11' 28" = True alt. sun's cen-
ter.

84° 11' 28" = Co. Lat.
82° 35' 31" + Sun's declination =
90° 00' 00" = Latitude.

Latitude 83° 13' 01" N.
Longitude 109° 19' 30" W.
Azimuth Computation.
December 7, 1914.

Method and Date previously stated.
(1)

l. m. t. of obsn. 2h. 20m. 47s.
Apparent time of obsn. 2h. 29m. 30s.
Observed vert. ang. 23° 37' 40"
Vert. Ang. corrected for refraction 23° 35' 38"
Hor. ang. from sun to left 117° 30' 30"
Sun's declination 23° 35' 14"

Log. Sin. 23° 35' 14" = 9.5947359
9.5945173
- 9.5947359
- 2.5818284 = Log. Cos. 23° 35' 14" (Tan.)

23° 13' 01" X Tan. 23° 35' 14" =
Cos. 23° 13' 01" X Cos. 23° 35' 14" =

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APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains

$$\begin{aligned} \text{Log. Cos. } 33^\circ 13' 01'' &= 9.9225205 \\ \text{" " } 23^\circ 35' 28'' &= 9.9620968 \\ &\underline{9.8846173} \end{aligned}$$

$$\begin{aligned} \text{Log. Tan. } 33^\circ 13' 01'' &= 9.8161068 \\ \text{" " } 23^\circ 35' 28'' &= 9.6401877 \\ &\underline{9.4562945} = \text{Log. } .28595 \end{aligned}$$

$$- .50132 - .28595 = - .78727 = \text{nat. cos. S. } 38^\circ 04' 07''$$

W. bearing of sun and bearing of reference mark is
S. 79° 26' 23" E.

(2)

$$\text{Latitude} = 33^\circ 13' 01''$$

$$\text{l.m.t. of obs.} = 2\text{h. } 23' 38\text{s.}$$

$$\text{Apparent time obs. } 2\text{h. } 32\text{m. } 21\text{s.}$$

$$\text{Obs. Vert. Ang. } 23^\circ 15' 15''$$

$$\begin{aligned} \text{Vert. Ang. corrected} \\ \text{for refraction} & 23^\circ 13' 04'' \end{aligned}$$

$$\text{Sun's decl. } 22^\circ 36' 15''$$

$$\text{Cos. A.} = \frac{\text{Sin. } 22^\circ 36' 15''}{\text{Cos. } 33^\circ 13' 01'' \times \text{Cos. } 23^\circ 13' 04''} \quad \text{-(Tan.}$$

$$33^\circ 13' 01'' \times \text{Tan. } 23^\circ 13' 04'')$$

$$\begin{aligned} \text{Log. Sin. } 22^\circ 36' 15'' &= 9.5847409 \\ & 9.8858422 \\ &\underline{9.6988987} = \text{Log. } .49992 \end{aligned}$$

$$\begin{aligned} \text{Log. Cos. } 33^\circ 13' 01'' &= 9.9225205 \\ \text{" " } 23^\circ 13' 04'' &= 9.9633217 \\ &\underline{9.8858422} \end{aligned}$$

$$\begin{aligned} \text{Log. Tan. } 33^\circ 13' 01'' &= 9.8161068 \\ \text{" " } 23^\circ 13' 04'' &= 9.6324247 \\ &\underline{9.4485315} = \text{Log. } .28089 \end{aligned}$$

$$- .49992 - .28089 = - .78081 = \text{nat. cos. of S. } 38^\circ 39' 54''$$

W. being the bearing of the sun and the bearing of reference
mark is S. 79° 26' 31" E. and the mean of these two ob-
servations is S. 79° 26' 27" E.

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. 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.

TABLING AND CALCULATIONS OF HOMESTEAD ENTRY SURVEY NO. 227, STATE OF ARIZONA. Harland Walker - Apache.

CORNERS.	BEARING.	DISTANCE.	LATITUDES.		DEPARTURES.		DOUBLE M. D.		N. AREAS.	S. AREAS.
			NORTH.	SOUTH.	EAST.	WEST.				
Sec. 1 1-2	East	61.43			61.43		81.29			
2-5	S. 0° 01' W.	20.00		20.00		0 01	142.61			2856.46
5-6	West	61.42				61.42	81.08			
6-7	North	5.00					19.56	97.60		
7-8	N. 88° 04' W.	9.77				9.76	9.78	3.23		
8-9	North	4.74					0.00			
9-10	East	10.00					9.98			
10-1	North	10.00					19.96	199.20		
		182.36	20.07	20.00	71.43	71.19		300.03	2856.46	
			20.03	20.03	71.31	71.31			300.03	
									20)2556.43	
									Sec. 1 - 127.82 acres	
									Sec. 6 - 14.55 acres	
									Total - 142.37 acres	
Sec. 6 2-3	East	7.27			7.27		7.29			
3-4	South	20.00		20.00			14.56			291.20
4-5	West	7.28				7.28	7.28			
5-2	N. 0° 01' E.	20.00				0.01	0.01	0.20		
		54.55	20.00	20.00	7.28	7.28		0.20	291.20	
			20.00	20.00	7.28	7.28			0.20	
									20)291.00	
									Sec. 6 - 14.55 acres	

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COMMENTS	BEARING	DISTANCE	MILES		SOUTH	FEET	DEBY/CLONES	M.D.	Y. YLEVE	Y. YLEVE
			Month	Year						
M. 12. 40, E.	58. 24	13 1/2	0 00	00 0	00 0	47 24				
M. 0. 01, E.	2. 18	13 1/2	0 00	00 0	00 0	19 48				
M. 0. 01, E.	54. 10	13 1/2	0 00	00 0	00 0	01 48				
M. 0. 01, W.	18. 38	13 1/2	0 00	00 0	00 0	01 48				
ISSUES OF THE D. P. T. W. NO. 554 V. E. 2. to 1/4 cor. on W. 1/4 sec. 9, T. 28., R. 20 E.										

LEVELING AND SURVEILLATIONS OF HOMEFIELD EMBEL SHELLEY NO. 554 STATE OF WISCONSIN

1. Only those copies of this report are necessary for the District Office, the District Engineer, and the Commissioner.
 2. In computations of bearings care must be taken to measure back. In computations of Y. and Z. measures all north-south distances are to be measured to the Standard High Level measured by the C. T. O.
 The computations for bearings should be made according to the bearing of the line.
 The computations for distances should be made according to the bearing of the line.
 Do not change the footing of the original figures but put below them the corrected footing in red ink.
 In returning reports and profiles do not undertake to change the original figures.

APPROVAL

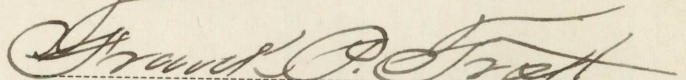
Office of the United States Surveyor General,

Phoenix, Arizona, April 2, 1917 .

The foregoing field notes of Homestead Entry Survey No.

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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.