U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

FIELD NOTES

OF

HOMESTEAD ENTRY SURVEY NO. 232
SITUATED IN THE

APACHE NATIONAL FOREST

ADMINISTRATIVE DISTRICT NO. 3

in

Section	n 22, unsurveyed, Township	1 N., Range 30 E.
Management		
	of the	
Gila	and Salt River Base and Mer	idian.

ARIZONA

Survey executed by C. A. Long, Surveyor-Forest Service.

and the state of t		
Under special instruction	s dated August 6	, 1914
Survey commenced	November 17	, 1914
Survey completed	November 18	, 19 14 .
Under Acts of June	11, 1906 and June 30, 1914.	
Applicant for listing	James E. Cosper,	
Residence	Clifton, Arizona.	
Application No. 160	dated May 27	., 1911
List No. 3-1602 , dated	December 4	., 19 11
Applicant for survey	James E. Cosper,	
Residence	Clifton, Arizona.	
H. E. No. 018940 , dated	August 15, 1912.	
Land district	Phoenix, Arizona.	7 8

	OATH OF ASSISTANTS
	We hereby certify that we assisted C. A. Long,
7	Surveyor-Forest Service in surveying all those parts or portions of Homestead Entry Survey No. 232, in
-	unsurveyed Section 22 , Township 1 N. , Range 30 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-
7	vey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner
7	monuments established according to the instructions lur-
]	nished by the United States Surveyor General for Arizona.
	Note: It would have been very expensive and inconvenient to appear before an officer to administer Intelligence The Turkey, Chainman
	very expensive and incon-
	venient to appear before The Turkey, Chainman
	an officer to administer oaths to Assistants; hence,
	they were taken by the Sur-
	veyor.
	Subscribed and sworn to before me this 18th day of
	November , 1914.
	Surveyor-Forest Service.
	the following that the first of the second second
	OATH OF SURVEYOR
	that, in strict conformity with the special instructions of the United States Surveyor General for Arizona, dated August 6, 19 14, and the laws of the United States, I have well, faithfully, and truly, in my own proper person, surveyed a tract of land upon the application of embraced in List., No. 2-1602 dated Dec. 4, 1911, for Patent, under the Act of June 11, 1906, the same to be known as Homestead Entry Survey No. 232, situated within the APACHE National Forest, in unsurveyed Section 22, Township 1 N., Range 30 E., and surveyed Section - Township - Range - Township - Range - Township 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 perpetuated in strict accordance with the stated special instructions, and in the specific manner described in the field notes, and that the following are the original field notes.
	of such survey.
	Surveyor-Forest Service
	Subscribed and sworn to before me this 23 d day of
	april , 19/5.
	SEAL. De Company Cube
	SEAL.
	8-2249

APACHE NATIONAL FOREST

STATE OF ARIZONA.

Chains

Applicant for listing, James E. Cosper. Application No. 160, dated May 27, 1911. List No. 3-1602, dated December 4, 1911, H.E. No. 018940, made at Phoenix, let Arizona, August 15, 1912. . J. m. 1 equal of

Surveyed under Special instructions from the Surveyor General for Arizona, dated August 6, 1914, and designated as Homestead Entry Survey No. 232.

Situated in what will probably be, when surveyed, Sec. 22, T. 1 N., R. 30 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 17, 1914 and executed with a W. and L. E. Gurley light mountain transit No. 11920 provided with a full vertical circle and a horizontal limb having two double verniers placed opposite each other and graduated to read to single minutes of arc, which is also the least count of the vertical circle readings.

At Cor. No. 1 of this survey, I place I test the adjustments of the transit and make necessary of my instrument in the meridien as

of the sun for time and latitude. All measurements were made on the slope with a 500 link steel tape, and the slope angles determined with a clinometer, the horizontal distances alone appearing in these notes. Sun's lower and Reversed Lin.

dail Jase

November 17, 1914.

·mc# .nll

Time Comput At Cor. No. 1 of this survey, I observe the altitude of the sun for azimuth. The reference mark is to the left of sun. . 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 mean time.

.22

APACHE NATIONAL FOREST

STATE OF ARIZONA.

Chains	Longitude 1	09° 14' 10)" W)	By account	from Land
betsb	Latitude M	33° 25¹ .00	n N.	Office map	No. 160.
ix,	nede at Phoen	018940,	· (1)	4, 1911, H.	December
	Telescope			Vertical Angle	Horizontal Angle
	Direct	8h. 38m.	408.	21°55'20"	144045130"
-Sta	Reversed	8h. 42m.	00s.	21°53'00"	144°48'00"
SS . pel	Means	8h. 40m.	208.	21°54'10"	144 46 45"
	er Base and A		(2)		
Harnina	Direct	8h. 44m.	508.	22°51'00"	145°23.00"
	Reversed	8h. 47m.	408.	22°43'00"	146°31'00"
. PIGI .U	Means	8h. 46m.	158.	22°47'00"	145°57"00"
	Bearing of	reference	mark	by (1) N.	11° 42' 45" W.
	Bearing of	reference	Mark	by (2) N.	11 43 45 W.
	Mean Mean			N.	11, 49, 19, M.
	e edigocco be	above sta	ted me	eridian all	the courses of
Her street	this survey	are refe	rred.		

rele November 17, 1914.

At Cor. No. 1 of this survey, I place the telescope CESSETY of my instrument in the meridian and observe the passage of the sun for time and latitude. ie slope with a boo link

Telescope Watch Time Vertical Angle. steel tape, and the slope engles determined with a

Sun's upper and

gaire west limb seems i Direct silh. 42m, 40s. 37°57'00"

Sun's lower and east limb

Reversed 11h. 45m. 00s. 37°24'00"

11h. 43m. 40s. 37°40'30" Time Computation . Vevrus elde . Vevrus elde

abutitle edt evreado I Watch time of apparent noon = 11h. 43m. 40s.

Equation of time

or azimuth. + 15m. 04s. no jes si elerio diumine edi to ored edih. 58m. 448-

regrue of the sun observed in the upper left, lm. 16s. Watch slow on 1.m.t.

lower right, upper right and lower left quadrants of the

field. My watch is set for local mean time.

APACHE NATIONAL FOREST

STATE OF ARIZONA.

	ALL DONA •	
Chains		
	.basi mojjod lev Latitude Computation . To mojjos	00.1
ign,	· Observed vert. w all al 37004010301 to bed yru	01.1
	Refraction 11.16" earno	
49°00'E.	Dry wesh, 8 lks. wide, banks 4 ft. high, course S.	5.1U
40°00'E.	Parallax + 07 .W sen, 12 1,08 19,18 banks b ft. high, course Wro	4.70
		6.17
one	sbass a si doidw , d .oN . Too dail now Isoldandi	
be	esentiw bas bearem .bawors 90° 00' 00" = Latitude	
	sa described by the Forest Service. I destroy i	
8 x 0.	November 17, 1914. tes ons .oferedt sessentiw bas	
with	I begin at list cor. No. 1, which is a stone, 8 x 10	x
	2 ins. above ground, marked and witnessed as descr	ibed
top.	by the Forest Service. I destroy it and F.S.M. a	nd
the	witnesses thereto, and cut a cross (+) on basalt s	tone
ro	in place, showing 30 x. 20 x 15 ins. above ground f	or
.Jeib .	cor. No. 1 of this survey, marked 1-HES232 on side	
	facing claim. Pits and mounds impracticable, whe	nce,
E 55' E.	78 .8 A live oak 10 ins. dia., bears S. 13° 45' E.	
	33 lks. distjeib .ext WY	
.H '00 4	83 . 3 A blackjack pine 6 ins. dia., bears N. 75° 5	0' W.
	21 lks. dist	
) E.	Each blazed and marked 1+ H E S 232 B T.	
	The SE. cor. of Sec. 23, T. 1 N. R. 30 E., w	hich
	.T & 303 is a stone firmly set marked and witnessed	as
100 C 100 C 100 C 100 C 100 C	described by the Surveyor General, bears S	. 78°
	58' 30" E. 145.06 chs. dist. by Traverse h	ere-
noginu	gairettess attw berevoo bask motiod level revo after described.	
.788	The magnetic bearing of the true meridian at 10:30 a	.m.
.008	November 18, 1914, is N. 14° 30' W. which gives the	e
	mean magnetic declination 14° 30' E	
	Thence S. 88° 30' W.	
	Descend steep rocky slope 25 ft. through scattering	13.09
	scrub oak and juniper.	
	orran our and lamper.	

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STATE OF ARIZONA.

Chains		Chains
1.00	Bottom of slope. Thence over level bottom land.	
1.10	Dry bed of Thomas Creek, 15 1Ks. wide, banks 3 ft. h	igh,
	Course South. The same of the	
3.10	Dry wash, 8 lks. wide, banks 4 ft. high, course S.	49°00'E
4.70	Dry wash, 15 lks. wide, banks 5 ft. high, course N.	40°001E
5.17	To cor. No. 2. 'do est a moitsnile e'nu? Identical with list cor. No. 6, which is a sandst 5 x 5 x 12 ins. above ground, marked and witnesse	
	as described by the Forest Service. I destroy it	•
	and witnesses thereto, and set a limestone 25 x	10 x 8
-x 0.	ins, 15 ins. in the ground, over a stone marked	with
Decit	a cross (+) for Cor. No. 2, of this survey marked	
and .	. 2-HES232 on side facing claim and a cross (+) on	top.
enora	Dig pits 24 x 24 x 12 ins. crosswise on this and	the
Tol	succeeding course, 7 ft. dist. and raise a mound	of
0	earth and stone 4 ft. base, 2 ft. high, 3-1/2 ft.	dist.
ence,	w within claim, whence, bus still .mislo guiost	
	'd' CA CA. blackjack. pine. 10 ins. dia., bears S. 87	55' E.
	77 lks. distjaib .ext os	
.w 'oa	A blackjack pine 10 ins. dia., bears S. 58	° 06' E.
	93 lks. distJain	
	. A black walnut 6 ins. dia., bears S. 28° 2	O' E.
which	The SE. cor. of Sec. tsib . call Sc. R. SO E.,	
88 5	Each blazed and scribed 2 H E S 232 B T.	
8. 78°	Thence N. 0° 55' W.	
here-	Over level bottom land covered with scattering j	uniper
0.00	Dry wash, 15 lks. wide, banks 5 ft. high, course E	est.
0.60	A A THE STATE OF THE PARTY OF THE PROPERTY OF	
5.09	Top of ascent. 'Continue over rolling land.	
11.34	Descend 30 ftw '08 '88 .Z esmedT	
13.09	Bottom of descent. Continue over level bottom lan	id.
15.09	To Cor. No. 3. reginut bus was dures	

HOMESTEAD ENTRY SURVEY NO. 232 APACHE NATIONAL FOREST STATE OF ARIZONA.

Chains

Identical with list cor, No. 5, which is a malpais stone, 14 x 8 x 6 ins. above ground, marked and witnessed as described by the Forest Service. I destroy it and witnesses thereto, and set a limestone 23 x 12 x 10 ins. 13 ins. in the ground, over a stone marked with a cross (+) for Cor. No. 3 of this survey, marked 3-HES232 on side facing claim and a cross (+) on top. Pits impracticable. Raise a mound of stone 3 ft. base, 2 ft. high, 3-1/2 ft. distant within the claim, .Ji Of bnesseb bast nego revo

An ash 10 ins. dia., bears S. 47° 33' E. 35 lks. high, course S. 46° 00' W.

Aso many A juniper 6 ins. dia., bears S. 09° 47' W. 56 lks. dist. and juniper.

Each blazed and scribed 3 H E S 232 B T. ni anot a (No larger stone for cor. available).

ase Thence N. 89° 32' E. I . solvies Jasrol ent vd

Over open level land covered with washed boulders. 3.00 Thomas Creek, dry at this time, 15 lks. wide, course for cor. No. 5 of this survey, med. coo. on . ros rol

010.07 To Cor. No. 4. (+) sacro a bas mislo galest epis

Identical with list cor. No. 4, which is a malpais stone 12 x 8 x 6 ins. above ground, marked and witnessed as described by the Forest Service. I destroy it and witnesses thereto, and set a limestone 21 x 8 x 6 ins. 11 ins. in the ground, over a marked stone marked with a cross (+) for cor. No. 4 of this survey and marked 4-HES232 on side facing claim and a cross (+) 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 duras brearth and stone 3 ft. base, 2 ft. high, 3-1/2 ft. dist. within claim, whence,

.Ji do bnessed PA.I

APACHE NATIONAL FOREST

STATE OF ARIZONA

Chains	Chains
	A live oak 8 ins. dia., bears S. 76° 30' W.,
	stone, 14 x 8 x 6 inc. ebotsibuosal, 40 x 41 .enots
vorta	. A live oak 8 ins. dia., bears N. 87° 45' E.,
gi x	it and witnesses thereto, state 828 mestone 25
Red	Each blazed and scribed 4 H E S .232 B T.
	(No larger stone available for cor.) or a diw
	5-HES253 on side facing claim and a cross (+) on
	November 18, 1914. a saise . Raise to 1914. 1914.
eim,	Thence South instain . Jl S 1-8 . ngin . Jt S . easd
	Over open land descend 10 ft. , somedw
1.50	Bottom of descent. Dry wash, 8 lks. wide, banks 3 ft.
	high, course S. 46° 00' W.
2.26	Ascend steep slope 45 ft. Enter scattering scrub oak
	and juniper
5.06	To Cor. No. 5. H & bediros bas bessed desE
	Identical with list cor. No. 3, which is a sandstone in
	a mound of stone, marked and witnessed as described
rie.	by the Forest Service. I destroy it and witnesses
	there to and set a limestone 24 x 20 x 8 ins. 14 ins.
9	in the ground over a stone marked with a cross (+).
	for cor. No. 5 of this survey, marked 5-HES232 on
	side facing claim and a cross (+) on top. Pits imprac-
8.	ticable. Raise a mound of stone 3 ft. base, 2 ft.
tnessed	high, 3-1/2 ft. dist. within claim, whence,
t and	A cedar 16 ins. dia., bears N. 84° 16' E. 76 lks.
ins.	witnesses thereto, and set a limestalb 21 x 8 x
ditiw.	A pinon 8 ins. dia., bears S. 12°.00' W. 49 lks.
ked	a cross (+) for cor. No. 4 of thistappey and man
.god	Each blazed and scribed 5 H E S 232 B-T.
ent	Dis pits 24 x 24 x 12 ins. crosswise on this and
1	Thence S. 88° 137 W. Jaib. Jt V earnos gnibeessus
.JBI6	Over level land, through scattering juniper and scrub
	within claim, whence,
1.44	Descend 35 ft.

APACHE NATIONAL FOREST

STATE OF ARIZONA.

1	
Chains	. BJ CemeroremI
3.40	Bottom of descent. Leave timber. Continue over level
	bottom land, newolfol end to Jalanos, Justillo
53.94	Bed of dry wash, 15 lks. wide, Course S. 46° 00° W.
4.94	To Cor. No. 6011 aread doldw to . 100 . All edt . 3
	Identical with list cor. No. 2, which is a limestone,
00.981	-12 x 12 x 8 ins. above ground, marked and witnessed as
end .	described by the Forest Service. I destroy it and wit-
°61 .8-	nesses thereto, and set a conglomerate stone 23 x 10 x
	6 ins. 13 ins. in the ground, over a stone marked with
00.as	a cross (+) for Cor. No. 6 of this survey, marked
LOO. Del	6-HES232 on side facing claim and a cross (+) on top.
	Pits impracticable. Raise a mound of stone 3 ft. base,
	2 ft. high, 3-1/2 ft. dist. within claim, whence,
reek,	An asn 12 ins. dia., bears S. 02° 45' W. 202 lks.
od od	it an elevation of uci, d ro no revele na di
10	A live oak 6 ins. dia., bears S. 50° 30' W.
gasottn	Isrufluer 131 lks. dist erebleco desw egral
-1	Each blazed and scribed 6 H E S 232 B T.
e for	(No larger stone available for cor.)
ers	pasture. There is no evidence of prestons mines
	Thence S. 0° 38' E.
SERVETT	Over level creek bottom covered with boulders.
1.50	Bed of dry wash 15 lks. wide, course S. 46° 00' W.
4.50	Enter dry bed of Thomas Creek, 15 lks. wide, course S.
8,00	Leave dry bed of Thomas Creek, bearing S. 05° 00' W.
8.85	Ascend 20 ft. seldeste to tees with of eat, addition
9.85	To Cor. No. 1, the place of beginning.
	shoot Av miles dist. in a southerly direction as
autition	te resened by a resentatin trail. Blue Pos
	Area of H.E.S.No. 232

Area of H.E.S.No. 232

10.19 acres.

CONFLICTS OR ADJOINING CLAIMS.

There are no conflicts or adjoining claims.

APACHE NATIONAL FOREST

	STATE OF ARIZONA.
Chai	Improvements.
L	The improvements upon the claim and belonging to the
	claimant, consist of the following: mel moutod
- ^	Frame dwelling, 14 x 25 ft., course of long sides N. and
	S. the NE. cor. of which bears from Cor. No. 6, S. 11°
, 01	not sem 02 kW., 4.35 wchs. dist. oo Jell at w lacitnebl
8.8	00.621# -12 x r2-x-6-1 ns. coveeylaVnd, marked and witnessed
-Jiw	Log storehouse 10 x 14 ft., course of long sides E. and
ж О.	x caW., othe NW. cor. of which bears from Cor. No. 6, S. 15°
dati	w Dear 06 to W. 15.47 rchs., distra edit ni .eni 61 .eni 8
	00.62 \$ -0-0-6-(+)-fer-Cer- HeulsVor this sarvey, marked
• 0	Total value of improvements \$150.00
ase,	Pits impracticable. Enise a mound or stone 2 it. i
	. somenw , wisto mint Description. S/2-5 , ngth . Jt S
lus.	This claim is located along the valley of Thomas Creek,
	at an elevation of 5,130 ft. above sea level. The
	soil in the valleys is a light sandy loam, full of
	large wash boulders, and poor for agricultural purposes.
	The hillsides are rocky and sparsely covered with
	scattering juniper and scrub oak chiefly valuable for
	pasture. There is no evidence of precious minerals
	on the claima '86 °0 .a eonen'
	The only water on the claim is seepage from the hillsides
	which is sufficient for domestic purposes only. The
	claim is unfenced and none of it has been under cul-
	6.00 Leave dry bed of Thomas Creek, bearing enoitsvit.
	Clifton, the County seat of Greenlee County, on the A.
	and N.M.R.R. is the nearest center of trade, and lies
Water Control of the Control	about 40 miles dist. in a southerly direction and
and the control of th	is reached by a rough mountain trail. Blue Postoffice
.8	lies about 20 miles in a northerly direction.
-	
11	

. COMPLICTS OF ADJOINING OLAIMS.

There are no confincts or adjoining claims.

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HOMESTEAD ENTRY SURVEY NO. 232

APACHE NATIONAL FOREST

STATE OF ARIZONA.

C	1_	-	-	-	~
9 2	\mathbf{r}	11.		- 11	-

Traverse from cor. No. 1 to the SE. cor. of Sec. 25,

T. 1 N. R. 30 E., Gila & Salt River Base & Meridian.

Т.	1 1/10	, Il.	90 E.,	GIIA W	Date min	OI DONO	
Course	•		Dist.	N.	s.	E.	W.
N. 0°	381	W.	9.85	9.85			0.28
N.88°	371	E.	4.94	0.12		4.94	
Nort	h		5.06	5.06			
N.61°	391	E.	21.98	10.44		19.34	
N.85°	221	E.	18.25	1.47		18.19	
S.39°	50°	E.	6.12		4.70	3.92	
S. 62°	481	E.	108.50		49.59	96.50	
S.27°	12'	W.	0.38		0.34		0.17
				26.94	54.63	142.89	0.45

From the above traverse, I compute the bearing and distance to be S. 78° 58° 30" E. 145.06 chs.

Boundaries of H.E.S.No. 232.

No.		Cou	rse		Dist.	N.	s.	E.	W.
1-2	S.	88°	30'	W.	5.17		0.13		5.17
2-3	N.	00	551	W.	15.09	15.08			0.24
3-4	N.	89°	321	E.	10.07	0.08		10.07	
4-5	So	uth			5.06		5.06		
5-6	S.	88°	371	W.	4.94		0.12		4.94
6-1	S.	00	381	E.	9.85		9.85	0.28	
					50.18	15.16	15.16	10.35	10.35

Error in Lat. and Dep. = 0

Closing Error = 0.

Survey completed November 18, 1914.

Surveyor-Forest Service.

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NATIONAL FOREST

STATE OF

		and the same of th	M Jies	and and and the same of the same of	The second second		winds respectively.		
W.	.8		.2	. 11	.tefu			Course	
80.				de.0	a8.e	.W 1	88	oo .M	
	94	4.		81.0	4.94	. 3 1	76	°88.11	
	.54			30.G	80.6	,	di	N.61°	
		81					40	10.4	
			4.70	15.1	18.25	41 1	00	.68.8	
		96 6			09.801	1	R.A	S. 62°	
77.			0.84			* 127 I	0.0	°72.8	
	U and the second				00.0		and all	100	
.45	O 68.	5 148.	64.52	rse, I	ve treve	e abo	dt a	Pro	
.45	O 68. Sattago	5 142. the 1	54.62 compute	rse, 1	ve treve	e abo	dt a	Pro	
.45	O 68. Sacroso ens.	the the (45.06)	54.62 compute on E H.E.S.1	rse, I ° 58' 2 '168 or	ve treve	e abo	n th	or's	
.45	eas. cas. E. E.	145.06 (4	54.62 compute 0" E. L H.E.S.1	rse, l ° 58' 2 '168 or Dist.	ve trave be S. 75 Boundar	e abo	n th	erb	
.45 and 	eas. cas. E. E.	the the (45.06)	54.62 compute on E. H.E.S.I	rse, 1 % 58' 2 1es or Dist.	ve trave be S. 76 Boundar e	e abo e to Cours 88° 2	d the test of the	era dis dis	
.45	.89 O	145.06 145.06 10.26 5.	54.55 compute compute the E.S. W.	rse, 1 2 58 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ve trave be S. 78 Boundar e	e abo e to Cours 88° &	tene the S.	Ora dis Uo. I-E	
.45 and w. b.17 0.24	.89 O	145.06 145.06 10.26 5.	54.62 compute 50" E. H.E.S.1 W.	rse, 1 0 58' 2 1es or Dist. 5.17 5.09	ve treve be S. 75 Boundar e o' W. 2' E. 1	e abo e to Cours 6° 8 88° 8	tenc to W. B. Bot W.	ora sch .ou g-E g-s p-8	
.45 and W.	.89 O	145.06 10.28 10.28 0.18	54.62 compute 60" E H.E.S.1 W. 15.08	rse, 1 2 58! 2 3 58! 2 3 58! 3 5 60 5 60 6 60 4 94	ve treve be S. 78 Boundar c' W. 2' W. 7' W.	e abo cours 6° 2 88° 2 th 88° 2	tenc to the K. S. K. W. K. S. Sot S.	ora sch .ou g-E g-s p-8	
.45 and y. b.17 0.24	.89 O	5 142 the 145.06 10.23 S. S. O.13	54.62 compute 60" E H.E.S.1 W. 15.08	788, 1 168 01 Dist. 5.17 5.09 5.09 5.09 5.09 4.94	ve trave be S. 78 Boundar e o' W. 2 2' E. 1	e abo cours 6° 2 88° 2 th 88° 2	tenc to the K. S. K. W. K. S. Sot S.	ora e.b on a-s a-s a-s	

Survey completed Movember 18, 1914.

Surveyor-Forest Service

APACHE NATIONAL FOREST

= .A .800

STATE OF ARIZONA.

Chains

-(Tan. 36°

and

Azimuth Computation.

Sin. 18° 55' x Co(1) 32° 44' 43"

Longitude 109° 14' 10"W By account from Latitude. 33° 25' 00"N Land Office map.

Local mean time of observation, 8h. 40m. 20s.

Apparent time of observation, 8h. 55m. 24s.

Observed vertical angle, 21° 54' 10"

Reduced vertical angle; 21° 51' 48"

Suns declination, S.18° 53' 54"

Horizontal angle, ... 144° 46' 45"

(The sun is to the right of reference mark.)

Cos. A. = $\frac{\text{Sin. 18}^{\circ} 53' 54"}{\text{Cos. 33}^{\circ} 25' \times \text{Cos. 21}^{\circ} 51' 48"}$ - (Tan. 33°

25' x Tan. 21° 51' 48")

Log. Sin. 18° 53' 54" = 9.5103974 9.88910699.6212905 = Log. -.41811

Log. Cos. 23° 25' 00" = 9.9215240 Log. Cos. 21° 51' 48" = 9.9675829 9.8891069

Log. Tan. 33° 25° 00'' = 9.8194096Log. Tan. 21° 51° $48'' = \frac{9.6034196}{9.4228292} = \text{Log.} -.26475$

-.41811 -.26475 = -.68286 = Nat. Cos. of the bearing of the sun, S. 46° 55' 57" E. and the bearing of the reference mark is N. 11° 42' 42" W.

(2)

Date of observation, November 17, 1914.

Longitude 109° 14' 10" W. | By account from Latitude 33° 25' 00" N. | Land Office map.

Local mean time of observation, 8h. 46m. 15s.

Apparent time of observation, 9h. Olm. 19s.

Observed vertical angle, 22° 47' 00"

Reduced vertical angle, 22° 44' 43"

Suns declination, S.18° 53' 58"

Horizontal angle, 145° 57' 00"

(The sun is to the right of reference mark.)

-2340

APACHE NATIONAL FOREST

STATE OF ARIZONA.

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Chains
                          Azimuth Computation.
                     Sin. 18° 53' 58"
                                                      -( Tan. 33°
        Cos. A. =
                   Cos. 33° 25' x Cos. 22° 44' 43"
         25' x Tan. 22º 44', 43") odmevol, + - nadO to efsU
         Log. Sin. 18° 53' 58" = 9.5104220 01 300113001
                .qsm esitto bmal 9.6240574 = Log. -. 42078
                                   9.8863646
         Log. Cos. 33° 25' 00" = 9.9215240
         Log. Cos. 22° 44' 43" = 9.9648406 emit theread
         Log. Tan. 23° 25' 00" = 9.8194096

Log. Tan. 22° 44' 43" = 9.6224605

9.4418701 = Log. -.27662
       -.42078 -: 27662 = -.69740 = Nat: Cos. of the bearing
         of the sun. S. 45° 46' 51" E., and the bearing of
         reference mark is N. 11° 43' 51" W. and the mean of
        these two observations is N. 11° 43' 16 " W.
                                    25' x Tan. 21° 51' 48")
                        Log. Sin. 18° 55' 54" = 9.5103974
        9.5812905 = Tog. -.41811
                        Log. Cos. 55° 25' 00" = 9.9215240
Log. Cos. 21° 51' 48" = 9.9678889
9.8891069
        Log. Tan. 25° 25' 00" = 9.8194096
Log. Tan. 21° 51' 48" = 9.6054125
9.4228292 = Log. -.26475
  -.41811 -.26475 = -.68286 - Mat. Cos. of the bearing of
    the sun. S. 46° 55' 57" E. and the bearing of the re-
                         ference mark is M. 11º 42' 42" W.
                   Date of observation. Movember 17, 1914.
             Longitude 109° 14' 10" W. By account from
            35° 25' 00" N | Land Office map.
                                                    Latitude
                           Local mean time of observation.
     8h. 46m. 12s.
      eh. Olm. 138.
                              inoitavreado to emit ineragga
        220 471 00"
                                   Observed vertical angle.
        28° 44' 45"
                                    Reduced vertical angle.
        5.18° 58' 58"
                                           Suna declination.
        145° 57' 00"
                                            .elgns LainosiroH
               (The sun is to the right of reference mark.)
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Form 85. Sheet No. 3.—Revised Feb., 1915.

James E. Copper - Apache DIRECTIONS.—1. Carry out calculations to two decimals only.

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

2. In balancing Latitudes and Departures do not obliterate or change the footing of the original figures, but put below them the corrected figure or figures above in red ink. Do not change the footing of the lines.

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.

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

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APPROVAL

Office of the United States Surveyor General,

Phoenix, Arizona, April 29, 1916.

The foregoing field notes of Homestead Entry Survey No.
232
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.
At 11 DAT 11
U. S. Surveyor General.
I certify that the foregoing transcript of the field
notes of the above-described survey inArizona,
has been correctly copied from the original notes on file in
this office.
Frank P. Trott
U. S. Surveyor General.