Book 1.

1234

BOOK 1234

No. 1234

BOOK 1234

Retracement

4–671

FIELD NOTES

GENERAL LAND OFFICE.

6th Standard Par: North
thro Ranges 3. 4. 5 & 6 East.

See Resurvey by [illegible] (in
1903) thro. R 4 E two pkgs

See Retracement by Cooke
(in 1902) thru R 5 E two pkgs

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BOOK 1235

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Sixth Standard Parallel North

Through R 3 E — 5
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No. 1234

Field Notes
of the retracement of the
Sixth Standard Parallel North
through
Ranges Nos. 3, 4, 5, 6 & 7 East
of the
Gila and Salt River Base and Meridian
in the
Territory of Arizona
as surveyed by
Francis W. Avery
U. S. Deputy Surveyor,
Charles E. Perkins,
Compassman and U. S. Deputy Surveyor.
under contract No. 31.
Dated June 21, 1893.

Survey commenced April 27, 1894
Survey completed May 1, 1894.

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Sixth Standard Parallel

chs. Survey commenced april 27th, 1894, with a W. & L. E. Gurley solar transit, at the standard cor. to Tps. 25 N. Rs 2 and 3 E. I set my transit over this cor. and direct to the picket set by me april 13th and find its magnetic bearing to be 14° 48' W. and the variation 14° 36' E. The mean variation is 14° 33' E.

As per my Special instructions Page 18 I begin at Standard cor. to Tp. 25 N. Rs 2 and 3 E as hereinbefore described,

Thence I run

North, through Range 3 East

Chs.	East on a random line on S. bdy of sec. 31.
	Var. 14° 33' East.
	over broken land, through dense cedar brush.
	Descend 40 ft.
10.00	Foot of descent.
11.00	Leave dense brush, enter scattering brush.
	Thence over rolling land.
14.90	Road, course N.E. and S.W.
39.00	Road, course N. and S.
40.49	at this point the original cor. bro. S. 14 lks. dist.
	Therefore the true course to it is S 89° 48' E.
	I find a stone firmly set, marked 1/4 on N. face, with mound of stone,

Sixth Standard Parallel

	this alongside from which a Pinus 8 ins diam. brs. N. 70° 41' E. 52 lks. dist marked B.C. 1/4 S. B.T. I marked this stone B.C. on N. face, and enlarged mound of stone to 1½ ft high, 3 ft. base,
	Thence I run from 1/4 sec. Stand. cor. East on a random line Var. 14° 86' East. At this point the variation decreased on account of local attraction.
	Over rolling land.
41.00	Enter dense cedar brush.
72.00	Leave dense brush, enter scattering brush.

North, thro. Range 3 East.

chs.	
81.43	at this point the original standard cor. to secs. 31 and 32, brs. S. 28 lks. dist.
	Therefore the true course to it is S. 89° 36' E.
	I find a stone firmly set and marked with 5 notches on E. and 1 notch on W. edges, with mound of stone; from which
	a Pine 6 ins. diam. brs. N. 33° 55' E. 39 lks. dist. marked T. 25 N. R 3 E. S 32 B.T.
	I marked stone S.C. on N. face, and enlarged mound of stone to 2 ft high, 3½ ft base.
	Land, rolling.
	Soil, stony, 2d & 3d rate.

Sixth Standard Parallel

chs.	
	No timber; cedar and pinon brush.
	Dense cedar and pinon brush, 42 chs.
	East on random line on S bdy of sec. 32.
	Var. 17° 33' East.
	at this point the variation increases on account of local attraction over rolling land.
3.00	Descend gradually 45 ft.
25.00	Foot of descent
30.10	Wash, 5 ft. deep, course N.W.
33.00	Enter small open park
40.26	at this point the original 1/4 sec. cor. bns. S. 58 lks. dist.

North through Range 3 East

chs.

Therefore the line course to it is S. 89° 10' East.
This cor. is a sand stone, firmly set and properly marked as described in the field notes furnished by the Surveyor General, with the exception of no mark of S.C. I mark S C. on N. face of stone
Thence I run from Standard ¼ sec. cor. East on a random line
Var. 16° 00' East.
at this point the variation decreased on account of local attraction
I ascend gradually 20 ft

Sixth Standard Parallel

chs.	
49.00	Leave open park, enter scattering cedar
52.00	Top of ascent
62.00	Leave scattering brush enter open park
80.00	Leave park, enter thick cedar brush.
80.54	at this point the original standard cor. to secs 32 and 33 bns. S. 1.14 chs. dist.

Therefore the true course to it is S 88° 22' E.

I find a post firmly set and properly marked, and mound of stone partially destroyed.

The bearing tree described in the field notes furnish-

North through Range 3 East (cont)

chs

es by the Surveyor General being blown down and decayed, I mark for a bearing tree,
a Pine 10 ins. diam. which bro. S. 64° 55' E. 77 lks dist. marked T. 25 N. R. 3 E. S.C. S. 32 and 33 B.T.
I rebuilt mound of stone 1½ ft high, 2 ft. base, around post.
Land, rolling.
Soil, stony, 2d & 3d rate
No timber; cedar and spruce brush.
Dense cedar brush, 54 lks.

East on a random line on S. bdy of Sec 33.
Var. 14° 47' East.

Sixth Standard Parallel North

chs.	at this point the variation decreases on account of local attraction.
	Over rolling land, through dense brush
7.00	Road, course N. E. and S. W.
	Leave dense brush, enter scattering brush.
12.00	Leave scattering brush, enter dense brush.
32.00	Leave dense brush, enter open park
40.27	at this point the original 1/4 sec. cor. bro. S. 54 lks. dist.
	Therefore the course to it is.
	S. 89° 14' E.
	I find a sand stone firmly set and properly marked

through Range 3 East (cont'd)

do.	and witnessed as described in the field notes furnished by Surveyor General, except there was no S.C. on B.T.
	I marked S.C. on B.T.
	Thence I run from the standard 1/4 sec. cor. East on a random line
50 00	Leave open park, enter dense brush
	ascend gradually 40 ft.
67.00	Top of ascent ridge, course N and S.
80.73	at this point the original Standard cor. to secs 33 and 34, bro. S 88 lks dist. Therefore the course to it is S 88° 44' E.

Sixth Standard Parallel North

chs. I find a stone firmly set and properly marked as described in field notes furnished by the Surveyor General; from which
a Pinon 8 ins diam. brs. N. 15° 21' E 83 lks dist
marked T. 25 N. R. 3 E. S. 34 B.T.
a Pinon 9 ins diam. brs S. 33° 28' E. 44 lks. dist
marked T. 25 N R 3 E. S. C., to which I add S 33 and 34 B.T.
Land, rolling
Soil, 2d and 3rd rate.
No timber, cedar and pinon brush.
Dense brush, 57.73 chs.

East on a random line

through Range 3 East (contd)

chs.	
	on S. body of sec. 34
	Var. 13° 37' East.
	at this point the variation
	decreases on account of
	local attraction.
	over rolling land
	Descend 20 ft.
3.40	Foot of descent, leave dense
	brush, enter scattering brush.
40.69	at this point the original
	1/4 sec. cor. bro. S. 1.56 chs.
	Therefore the course to it is
	S. 87° 48' E.
	I find a stone firmly set
	and properly marked as
	described in the field notes
	furnished by Surveyor
	General, which I mark
	with B.C. on N. face,

Sixth Standard Parallel North

lks. from which
a Pinon 10 ins. diam.
brs. N. 46° 28' W. 46 lks.
dist marked B.C. 1/4 S. B.T.
Thence I run from
Standard 1/4 sec. cor.
East on a random line
over rolling land.

81.10 At this point the orig-
inal standard cor. to
secs. 34 and 35, brs. N. 28
lks dist.
Therefore the course to it is
N. 89° 36' E.
I find a stone firmly set
and properly marked as
described in the field
notes furnished by the
Surveyor General.

through Range 3 East (cont'd)

chs. from which
a Pinus 8 ins. diam. bears
N 84° 55' E 41 lks dist
marked T 25 N R 3 E S 35 B.T.
Land, nearly level
Soil, stony, 2° and 4th rate
No timber; cedar and pinon brush.
Dense brush, 3.45 chs.

East on a random line
on S bdy of sec. 35
Var 14° 58' E.
at this point the variation
increased on account of
local attraction
Over rolling land, through
dense brush.
3.00 Leave cedar brush.
19.00 ascend 25 ft.

South Standard Parallel North

chs.	
20.00	Enter scattering cedar
30.00	Top of ascent
40.27	at this point the original 1/4 sec. cor. bro. B. 15 lks dist
	Therefore the course to it is S 89° 47' E
	Having found a small mound of stone but no 1/4 sec. stone I reestablish this cor. by setting a malpais stone 14x10x8 ins. 9 ins. in the ground for Standard 1/4 sec. cor. marked S.C. 1/4 on N. face, and raised a mound of stone 1½ ft. high, 2 ft. base alongside. Pits impracticable.

through Range 3 East (cont'd)

chs. Thence 9 runs from
Standard 1/4 sec. cor.
East on a random line
60.00 Leave scattering brush
enter open park
66.00 Leave park, enter scattering
cedar brush
80.64 at this point the original
Standard cor. to secs. 35 and
36; brs. S. 40 lks. dist.
Therefore the course to it is
S. 59° 26' E.
I find a stone firmly set
and properly marked as
described in the field
notes furnished by the
Surveyor General,
from which
a Pinon 10 ins. diam.

Sixth Standard Parallel North

chs.	
	brs. N. 60° W. 23 lks. dist-
	market T. 25 N. R. 3 E. B. 35 B.T.
	Land, nearly level.
	Soil, stony, 2d and 3rd rate.
	No timber, cedar and pinon
	brush.
	Dense cedar brush 3 chs.

	East on a random line
	on S bdy of sec. 36.
	Var. 14° 06' E.
	at this point the var-
	iation decreased on
	account of local at-
	traction.
	Over rolling land
2.00	Descend gradually 15 ft.
10.00	Foot of descent.
20.00	Descend 50 ft.

through Range 3 East (cont'd)

Chs

26.30 Foot of descent.
Ravine 3 ft deep, course N.W.
ascent 100 ft.

40.16 at this point the original
Standard 1/4 sec. cor. bns.
S. 97 lks. dist.
Therefore the course to it is
S. 88° 37' E.
I find a stone firmly set
marked 1/4 on N. face, with
mound of stone alongside,
No B. C. marked on stone,
I therefore mark B. C. on
N. face, from which
a Pine 18 ins. diam. bns.
N. 9° 29' E. 27 lks. dist.
marked B. C. 1/4 B. B. T.
Thence I run from Standard
1/4 sec. cor.-

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Sixth Standard Parallel North

chs.	East on a random line Var. 13° 11' East. at this point the variation decreased on account of local attraction over rolling land.
51.00	Top of ascent and descent 40 ft.
58.00	Foot of descent= Ascent 30 ft.
67.00	Top of ascent. Descent 30 ft.
73.00	Foot of descent.
80.68	at this point the original standard cor. to Tps. 25 N. Rs. 3 and 4 East, brs S. 11 chs. dist. Therefore the course to it is S 89° 51' E

through Range 3 East (cont'd)

chs

I find a post firmly set and properly marked but no pits or mound of earth as described in the field notes furnished by Surveyor General. I dug pits 24 x 18 x 12 ins. crosswise of each line N, E, and W. of post, 6 ft. dist. and raised a mound of earth 2½ ft. high, 5 ft. base around post.

Land, rolling.

Soil, stony, 2d and 3d rate.

No timber, scattering cedar and pinon brush.

April 27th, 1894.

South Standard north

chs.	
80.00	at this point the original standard cor to secs 31 and 32, bns N. 15 lks dist therefore the course to it is N. 89° 47' E. I find a stone firmly set and properly marked as described in the field notes furnished by the Surveyor General, from which a Pine 12 ins. diam. bns. N. 28° 53' W. 103 lks dist. marked T. 25 N. R. 4 E. S. 31 B.T. a Pine 8 ins. diam. bns. N. 43° 10' E. 111 lks dist. marked T. 25 N. R. 4 E. S. 32 B.T. Land rolling. Soil, stony, 3d and 4th rate.

through R. 4 East. cont'd

chs

No timber, cedar and pinon brush.

Dense brush, 32.36 chs.

East on a random line on S. bdy of Sec. 32.

Var 13°34' East.

Over rolling land.

3.00 Enter scattering pine.

40.19 at this point the original 1/4 sec cor. brs. S 90 E 40 chs dist.

Therefore the course to it is S 88°53' E.

I find a post properly marked and stamped lying on the ground. I therefore reset post 12 ins. in the ground, dug pits 18x18x

Sixth Standard North

chs

12 lins. E. and W. of post.
3½ ft. dist, and raised a
mound of earth 1½ ft-
high, 2 ft. base, around
post, from which
a Pine 8 ins. diam. brs.
N. 64° W. 39 lks. dist. marked
B. C. 1/4 S. B. T.
Thence 9 rods from Stand-
ard 1/4 sec. cor.
East on a random line
over gently rolling land.

80.07

at this point the original
standard cor. to secs.
32 and 33, brs. N. 67 lks.
dist,
Therefore the course to it is
N. 89° 07' E.
I find a post properly

through R. 4 East cont'd

chs. marked and firmly set, but no pits or mound. I therefore dig pits 18x18x 12 ins. N., E., and W. of post, 5½ ft. dist, and raised a mound of earth 2 ft high, 4½ ft base, around post, from which a Pine 16 ins diam. bns N. 67° 30' E. 82 lks. dist marked T. 25 S R 4 E. S. 33. B.T. Land, nearly level. Soil, stony 2nd rate. Timber, scattering pine, and cedar brush.

East on a random line on S bdy of sec. 33.

Var. 12° 46' East

Sixth Standard North

chs.	at this point the variation decreases on account of local attraction. Over gently rolling land, Descend 20 ft.
26.00	Foot of descent, open flat.
40.01	I find the Standard 1/4 sec. cor, a stone firmly set and properly marked as described in the field notes furnished by Surveyor General
46.42	Road, course N.W. and S.E.
60.00	Enter scattering pine.
80.42	The original Standard cor to secs. 33 and 34 bns N. 25 lks. dist. Therefore the course to it is N. 89° 39' E.

through Range 4 East (cont)

chs. I find a stone firmly set and properly marked as described in the field notes furnished by Surveyor General from which a Pinon 5 ins. diam. brs. N. 81° 30' W. 11½ lks. dist. marked T. 25 N. R. 4 W. B. 33 B.T. Land, almost level. Soil, stony 2nd rate. Timber, scattering pine.

East on a random line on S. bdy of sec. 34.

Var. 14° 47' East.

at this point the variation increased on account of local attraction.

over rolling land, through

Sixth Standard North

chs.	
	scattering timber
1.00	Leave timber, enter open park.
20.00	Descend gradually, 25 ft.
40.00	Foot of descent.
40.42	At this point the original Standard 1/4 sec cor. brs. S. 70 lks. dist. Therefore the course to it is S. 89° 00' E. I find a stone firmly set and properly marked as described in the field notes furnished by the Surveyor General Thence I run from Standard 1/4 sec. cor. East on a random line
60.00	Enter scattering pine.

through R. 4 East. (cto)

chs	
70.00	ascent 100 ft.
80.78	I find the standard cor. to secs 34 and 35, which is a stone firmly set and properly marked and witnessed as described in the field notes furnished by Surveyor General.
	Land, rolling.
	Soil, stony, 2nd rate.
	Timber, scattering pine.
	East on a random line on S. body of sec. 35.
	Var. 14° 45' East.
	over rolling land.
	ascent 40 ft.
8.00	Top of ascent.

Sixth Standard north

chs.	
	Descend 75 ft.
20.00	Enter open prairie with a few scattering pine and cedar.
33.00	Foot of descent.
39.50	Road course N. and S.
40.25	at this point the original Standard 1/4 sec. cor. bro. S 60 lks. dist. Therefore the true course to it is S. 89° 09' E. I find a stone firmly set and properly marked as described in the field notes furnished by the Surveyor General. Thence I run from the Standard 1/4 sec cor. East on a random line

through R. 4 E. cont'd

chs Var. 17° 23' East.
at this point the variation decreased on account of local attraction.
Over nearly level land,
50.61 at this point the original standard cor. to secs. 35 and 36 bns N. 47 lks. dist.
Therefore the course to it is N. 89° 20' E.
I find a stone firmly set, and marked with 1 notch on E. and 5 notches on W. faces, with mound of stone alongside.
No B. C. on stone.
I therefore marked it B.C.

Sixth Standard North

chs. on N. face,
Land, nearly level.
Soil, stony, 2d and 3d rate.
Timber, a few scattering pines

East on a random line on E. bdy of sec. 36.
Var. 12° 0' East
at this point the variation decreases on account of local attraction.
Over nearly level land,
40.42 at this point the original Standard 1/4 sec. cor. bro.
B. 52 lks. dist.
Therefore the course to it is
S. 89° 15' E.
I find a mound of stone but

through R. & E. (cont'd)

do no stone marked for standard 1/4 sec cor. I therefore re-establish this cor. by setting a malpais stone 14 x 12 x 10 ins. 9 ins. in the ground for standard 1/4 sec. cor. marked B.C. 1/4 on N. face, and raised a mound of stone, covered with earth 1½ ft high, 2 ft. base, alongside.
Pits impracticable
Thence 9 mm from standard 1/4 sec. cor.
East on a random line
Var. 13° 46' E.
at this point the variation increased on account of local attraction.

Z. with Stand. N. thro. R 4 E. cont'd

chs.	
	over level land.
80.76	at this point the original standard cor. to Tps 25 N. Rs. 4 and 5 E. bears S. 27 lks. dist.
	Therefore the course to it is S. 89° 37' E.
	I find a post firmly set and properly marked and witnessed as described in the field notes furnished by the Surveyor General
	Land, rolling and level.
	Soil, stony, and rotten.
	Timber, a few scattering pines.
	April 28, 1894.

Sixth stand. N. thro. R. 5 E.

chs. at the standard cor. to Tps. 25 N. Rs 4 and 5 E. in latitude 35° 28' N. longitude 111° 53' W. on the night of April 28, 1894. I take an observation on Polaris, in accordance with instructions contained in the Manual, and at 8h 10m P.M. local mean time I find the magnetic bearing of the star to be N. 13° 50' W. I drive a picket on the line thus established 7 chains north of the corner.

correct local mean time of observation, April 28. 8h 10m

Sixth standard north

chs Tabular time of U.C. Polaris.
(Table 2) April 15 $23^h 39.4^m$
Reduction 12 days
$3.93 \times 13 = 47.16$ Subtract $\underline{4.72}$
L.M.T. U.C. Polaris Apr. 28 $22^h 52.2^s$
Which taken from time of observation
leaves hour angle of Polaris $\underline{9^h 18^m}$
Azimuth of Polaris.
for Lat. 35°28' N. table 2. 0.58' W.
North end of Needle $\underline{13.58 E.}$
The difference is the Variation $12°52' E.$
I lay off the azimuth to
the West and mark the true
meridian so determined
by driving a picket 5.00
chains N. of the Cor.
April 28, 1894.

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at 6.40 a.m. april 29, 9

through R. 5 E. contd.

do take the magnetic bearing of the true meridian established last night and find the variation to be 12°52' East at 6h 45m a. m. l. m. t. I set off 35°28. N. on the lat. arc., 14° 35' N. on the decl. arc. and determine a true meridian with the solar. The solar apparatus by p.m. and a.m. observations defines position for the true meridian the same as that established by Polaris observations, therefore I conclude that the adjustments of the

Sixth Standard North

chs. instrument are satisfactory.

From the standard cor. to Tps. 25 N. Rs. 4 and 5 E. as hereinbefore described

9 mm

East along S. bdy of sec. 31.

Var. 13° 34' East

over level land.

19.00 Wash, 6 ft. deep, course N.W.

24.00 ascend 50 ft.

40.18 Top of ascent.

At this point the original Stand. 1/4 sec. cor. brs. S. 51 lks. dist.

Therefore the course to it is S. 89° 16' E.

I find a redfair stone

through R. 5 E cont'd.

chs.

firmly set and marked 1/4 on N. face, with a mound of stone, alongside No B.C. on stone, I therefore mark it B.C. on N. face, from which a Pine 16 ins. diam bs. S. 15° 12' E. 70 lks. dist. marked 1/4 B.B.T. no B.C. I therefore ~~prefix~~ the letters B.C.

Thence I run from standard 1/4 sec cor - East on a random line

75.00 Wash, 4 ft. deep, course N.W. ascend 20 ft.

77.00 Top of ascent.

80.99 at this point the original standard cor to secs. 31 and

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Sixth Standard North

chs

32 lks. E. 6/ lks. dist.
therefore the course to it is
S. 89° 06' E
I find a stone firmly
set and properly marked
and witnessed, as des-
cribed in the field
notes furnished by the
Surveyor General.
Land, level and rolling.
Soil, stony, 3rd and 4th rate.
No timber.

East on a random line
along S. bdy of sec. 32.
Var. 11° 56' East.
at this point the variation
has decreased on account
of local attraction.

through R. 5 E. cont'd.

chs	
24.00	Descent 30 ft.
25.30	Ravine, 6 ft. deep, course N.W. ascent 40 ft
28.00	Top of ascent and descent gradually 30 ft.
40.29	at this point the angular stone 1/4 sec. cor. bns. S. 85 lks dist, therefore the true course to it is S. 88° 47' E. I find a volcanic stone firmly set and marked 1/4 S. on the N. face. I mark it S.C. on N. face, and raise a mound of stones alongside, from which a Pine 40 ins. diam bns. S 1° 19' E. 36 lks. dist.

South Standard North

chs.	marked 1/4 S. B.T.
	a Pine 20 ins. diam-
	bers. N. 57° 46' E. 67 lks.
	dist. marked 1/4 S. B.T.
	I prefix the letter B.C.
	on each tree
	Thence I run for Stand-
	ard 1/4 sec. cor.
	East on a random line
	Var. 11° 52' East.
	over broken land
40.65	Wash 6 ft. deep, course N.,
	ascent gradually 35 ft.
47.00	Top of ridge, course N.
	Descent 40 ft.
59.00	Foot of descent, ravine
	8 ft. deep, course N.
65.00	ascent 50 ft.
79.00	Top of ascent.

through R. 5 E. cont'd

Cho

80.49 at this point the original standard cor. to secs. 32 and 33, brs. N. 10 lks dist, therefore the true course to it is N. 89° 51' E.

I find a stone firmly set and marked with 4 notches on the E. and 2 notches on the W. faces I mark the stone B.C. on the N. face, and raise a mound of stone alongside.

Land broken and rolling- Soil, stony, 2nd and 3rd rate- Timber, scattering pine with juniper brush-

Sixth Standard North

chs. East on a random line along S. bdy of sec. 33.

Var. 16° 33' E.

at this point the variation has increased on account of local attraction.

Over rolling land

16.00 Road from cedar Ranch to Williams , course N. E. and S. W.

40.36 at this point the original standard 1/4 sec. cor. brs. N. 28 lks. dist., therefore the true course to it is N. 89° 36' E.

I find a small stone marked 1/4 S., and a mound of stone.

through R. 5 E. (cont'd)

chs. I re-establish this cor. by setting a sandstone 14 x 10 x 6 ins. 9 ins. in the ground for Standard 1/4 sec. cor. marked 1/4 S.C. on N. face and raised a mound of stone 1½ ft. high, 3 ft. base, alongside Thence I run from Standard 1/4 sec. cor. East on a random line

Var. 15° 0' East

at this point the variation has decreased on account of local attraction.

70.00 Descend 30 ft.

76.35 Wash, 6 ft. deep, course N.W.

77.00 Road, course N. and S.

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Sixth Standard North

chs.	
80.72	at this point the original standard cor. to secs. 33 and 34 bns. S. 27 lks. dist. therefor the true bearing to it is S 89° 37' E. I find a post properly marked lying on the ground. I re-establish cor in its original position by setting post 18 ins. in the ground, dug pits 18x18x12 ins. N. E. and W. of post, 3 1/2 ft. dist, and raised a mound of earth 3 ft. high, 5 ft. base, alongside; from which a Pine 16 ins. diam. bns. S. 78° 10' W. 29 lks.

through R. 5 E. cont'd)

chs

dist. marked T. 24 N R. 5 E. Sec. 4 B.T. which I remark T. 25 N. R. 5 E. S. 33-34 B.T. a Pine 20 ins. diam. bns. N. 0° 3' E. 125 lks. dist. marked T. 25 N. R. 5 E. S. 34 B.T.

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at this standard cor. I set off 14° 30' W. on the decl. arc, and at 11h 57m a.m. t. observe the Sun on the Meridian, the resulting latitude is 35° 28' N. the true latitude nearly.

Thence I run East on a random line along S. bdy of sec. 34

Brass standard North

lks.

Var. 13° 31' East

at this point the variation has decreased on account of local attraction.

Over mountainous land, through scattering and thick timber, and some dense undergrowth.

Ascend W. slope of Slate Mountain, about 900 ft

39.00 at this point the original stand. 1/4 sec. cor. bns N. 33 lks. dist, therefore the true bearing to it is N. 89° 32' E.

I find a stone firmly set and properly marked and witnessed as des-

through R. 5 E. (cont'd)

cbs. cribed in the field notes
furnished by Surveyor
General, except that
no B.C. marked on stone.
I mark stone B.C. on N.
face.
Thence I run from
Standard 1/4 sec. cor.
East on a random line
64.00 Top of Slate Mountain,
nearly round.
Descend about 200 ft.
78.16 at this point the orig-
inal standard cor. to
secs. 34 and 35 bro. B. 53
lks. dist. therefore the
true course to it is
S. 89° 14' East.
I find a stone firmly

Sixth Standard North

chs. set and properly marked and witnessed as described in the field notes furnished by the Surveyor General except no B.C.
9 mark B. C. on N. face of stone.
Land, mountainous,
Soil, stony, 2d and 3rd rate.
Timber, good pine and fir.
mountainous and thick timber, 78.16 chs-

East on a random line along S. bdy sec. 35.
Var 13° 40' East.
over mountainous land, through thick timber
Descend 705 ft.

through R. 5 E. (cont'd)

chs.
39.25 at this point the original standard 1/4 sec. cor. bns. S. 38 lks. dist. therefore the true course to it is S 89° 27' E.
I find a post properly marked lying on the ground. I re-establish this cor. by setting post 2 ft. in the ground, dug pits 18x 18x 12 ins. E. and W. of post 5 1/2 ft. dist. ~~E. and W. of post~~ and raised a mound of earth 2 ft. high, 4 ft. base, around post, from which,
a Pine 20 ins. diam. bns. S. 4° 29' E. 8 lks. dist.,
marked B. C. 1/4 B. T.

Sixth Standard North

chs

Thence I run E. from Standard 1/4 sec. cor. on a random line.

Var. 13° 54' E.

Over rolling broken land.

Descend 40 ft.

43.00 Ravine, 10 ft. deep, course N.E.

Ascend 30 ft.

45.00 Top of ridge, course N. & S.

Descend 30 ft.

55.00 Ravine 4 ft. deep, course N.

Ascend 50 ft.

60.00 Top of ridge, course N.

Descend 70 ft.

69.00 Foot of descent.

Thence over level land.

76.50 Road, course N.W. & S.E.

79.73 at this point the angular standard cor. to

through R. 5 E. east.

chs.	secs. 35 and 36, bns. B. 5 chs. dist. therefore the true bearing to it is B 89° 11' E. I found a stone firmly set and properly marked and witnessed as described in the field notes furnished by the Surveyor General. Land, mountainous and level. Soil, stony, 2d and 3d rate. Timber, good pine mountainous and heavily timbered land, 79.73 chs.
	E. on a random line along B. bdy of sec. 36. Var. 14° 30' East.

~~Sixth Standard North~~

chs.	
	at this point the var. has increased on account of local attraction.
	over level land.
.50	Leave timber, enter open prairie
18.80	Wash, 3 ft. deep, course N.
20.00	Leave open prairie, enter scattering pine and brush
40.58	at this point the original Standard 1/4 sec. cor. bears E. 1.6 lks. dist. therefore the true course to it is S 89° 46' E.
	9 feet a stone firmly set and properly marked and witnessed as described in the field notes furnished by the Surveyor

through R. 5 E. (contd)

chs.	
	General, except on mark of S.C.
	I mark S.C. on N. face of
	stone,
	Thence I run from Standard
	1/4 sec. cor. E. on a
	random line.
	Var. 13°14' E.
	at this point the variation
	has increased on account
	of local attraction.
	over mountainous land,
	through scattering brush.
43.00	ascend the W. slope of a
	red butte about 300 ft. high.
68.00	Top of butte, course N. and S.
	Descend 300 ft.
80.80	At this point the original
	standard cor to Tps 25
	N. Rs. 5 and 6 E. bs. N. 50 lks

Eighth stand. North

chs. dist. therefore the true course is N. 89° 17' E.
I find a stone firmly
set, and properly marked
and witnessed as des-
cribed in the field
notes furnished by the
Surveyor General.
Land, level and mountainous.
Soil, 2d and 3d rate.
No timber.
mountainous land 37 chs.
April 29, 1894.

At the standard cor. to
Tps. 25 N. Rs 5 and 6 E. in
Lat. 35° 28' N, long. 111°
46' W. at 8h p. m. l. m. t.
I take an observation on

chs. Polaris, in accordance with instructions in the Manual, and find the magnetic bearing of the Star to be N. 7° 49' W.
I drive a picket on the line thus found, four chains N. of the cor.
correct l. ~~m. t.~~ of observation 8h 00

Tabular time of U.C. Polaris. Apr. 15,	23h 39.4m
Reduction 13 days. 3.93×13=51.1 Sub.	51.1
L.m.t. of U.C. Polaris Apr. 28,	22h 48.3
Which taken from time of	
Observation leaves hour angle Polaris.	9h 11.7
Azimuth of Polaris Lat. 35° 28' N.	1° 02' W
North end of needle.	7. 49' E
The difference is the Variation	6° 47' E

Which is also the mean Variation
I lay off the azimuth to the west and mark the true meridian so found by driving a picket on line 6. chs N. of cor.
April 29, 1894

Sixth Standard North

chs

April 30, At 7. A. M. l.m.t. I take the magnetic bearing of the line established last night and find it to be N. 7° 51' W. and the variation 6° 51' East. The mean variation is 6° 49' E. at 7h a.m. l.m.t. I set off 35° 28' N. on the lat. arc and 14° 54' N. on the decl. arc, and determine a true meridian with the solar. The solar apparatus by p.m. and a.m. observations defines position for true meridian practically the same as that established by the Polaris observations, therefore I conclude that the adjust-

through R. 6 E. (cont'd)

do ments of the instrument are satisfactory

Note. There is some local attraction here.

Thence I run E. on a random line along S. bdy of sec. 31.

Var. 6° 49' East.

over rolling broken land.

Descent 50 ft.

5.00 Ravine, 5 ft. deep, course N. ascend gradually 30 ft.

9.00 Leave scattering timber

21.00 Top of ascent.

40.67 at this point the original standard 1/4 sec. cor. brs. N. 11 lks. dist. therefore the true course to it is N. 89° 50' E.

Sixth Stand. N. thro. R 6 E. cont

chs. I find a volcanic stone 12 x 10 x 9 ins firmly set and a mound of stone 1½ ft. high, 3 ft. base. No marks on stone.
I therefore mark S.C. ¼ on N. face from which A pine 20 ins. diam. bears N. 75° 15' W. 196 lks. dist. marked B.C. ¼ S. B.T.
Thence I run from stand and ¼ sec. cor. E. on a random line
Var. 14° 26' E.
at this point the variation has increased on account of local attraction
50.00 Descend 20 ft.
58.00 Foot of descent, enter