

3596

ORIG

Book "C"
4-679

BOOK 3596

PETRIFIED FOREST NATIONAL MONUMENT.

FIELD NOTES

OF THE ^{RE-}SURVEY OF THE

East boundary, of _____

TOWNSHIP 17 NORTH, RANGE 23 EAST,

Reconstruction of cor. of secs. 1, 2, 11 and 12, and cor. of secs. 2, 3,

10 and 11 of _____

TOWNSHIP 17 NORTH, RANGE 23 EAST,

and RESURVEY of _____

Part of the Subdivision lines of _____

TOWNSHIP 17 NORTH, RANGE 23 EAST,

Of the Gila and Salt River Base and _____ Meridian,

In the State of _____ Arizona.

EXECUTED BY

Sidney E. Blout

U.S. Cadastral Engineer,

In the capacity of U. S. Surveyor _____, under Special Instructions dated June 14, _____, 1921,
issued by the United States Surveyor General to govern surveys included in Group
No. 118, Arizona, _____, which were approved by the Commissioner of the General Land
Office, June 24, _____, 1921, and Assignment Instructions dated July 2, _____, 1921.

Re Survey commenced July 14, _____, 1921.

Re Survey completed August 10, _____, 1921.

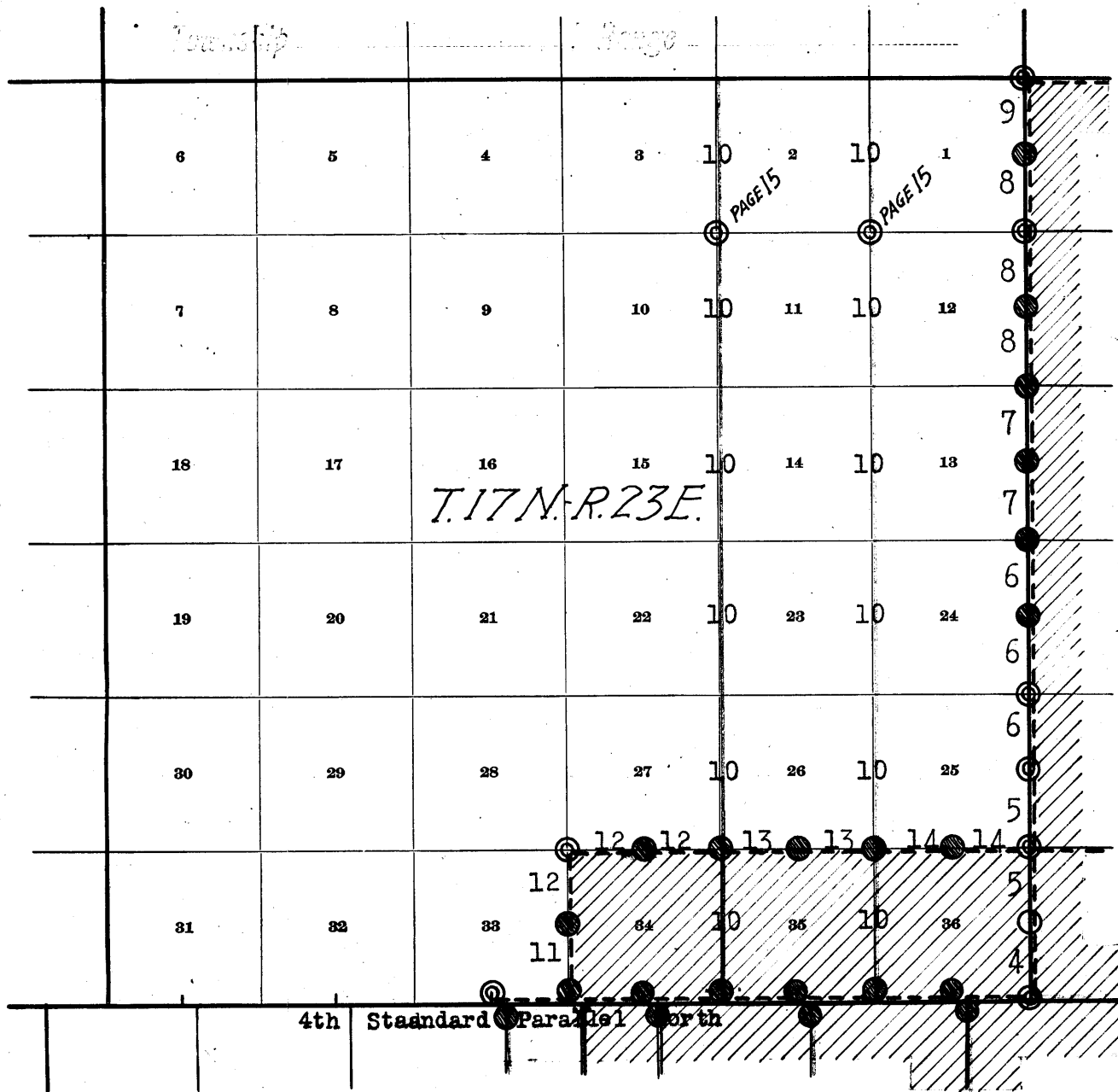
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3596

BOOK 3596

- Cors. found.
- No change made.
- ⊙ Cors. found.
- ⊙ Reconstructed.
- Cors. missing.
- Reestablished by proportion.
- × New cors. established.

INDEX DIAGRAM.



- Lines surveyed under this group.
- - - Lines resurveyed under this group.
- Lines retraced in search of old corners.
- Accepted surveys.
- ▨ Area embraced within the Petrified Forest National Forest.

6	5	4	3	2	1	8-8-21
7	8	9	RECONSTRUCTED 10 8-10-21	RECONSTRUCTED 11 8-9-21	12	8-8-21
18	17	16	T.17N-R.23E		13	8-8-21
19	20	21	22	23	24	8-8-21
30	29	28	27	26	25	8-8-21
			8-10-21	8-10-21	8-10-21	8-8-21
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4th Standard Parallel North

Book "C"

Group 118 - - Arizona.

DATE DIAGRAM.

Showing dates of execution of surveys, resurveys, retracements in search of cors., reconstruction, reestablishment and establishment of cors., all by Sidney E. Blout, U.S. Cadastral Engineer.

Resurveyed on dates shown thereon.

Retracement in search of cors. on dates shown thereon.

Accepted surveys.

Resurveys, hereinafter described, executed on dates shown on diagram on page 1 hereof, by Sidney E. Blout, U.S. Cadastral Engineer, using a Buff Rocky Mountain Favorite solar transit No. 9984, with U-shaped standards, $4\frac{1}{2}$ inch horizontal circle, a 4-inch vertical circle, and improved Smith solar attachment; unless otherwise specified, all azimuth determinations are accomplished with the solar attachment, except the special observations on Polaris for meridian upon which to test the solar apparatus, as stated in the field notes.

All measurements are made with a Lufkin 5 chain steel tape, compared with a Chesterman standard steel tape and found correct. The measurements are made on the slope, the vertical angles determined with clinometer, and the slope measurements properly reduced to true horizontal distances.

TEST OF BUFF SOLAR TRANSIT NO. 9984.

July 9, 1921: At camp near the cor. of secs. 1, 2, 11 and 12, T. 16 N., R. 23 E., Gila and Salt River Base and Meridian, Arizona, in approximate latitude $34^{\circ}47'30''$ N., and longitude $109^{\circ}52'19''$ W. at 6h. 50m. p.m. by my watch, which is 05m. fast of local mean time. I make an altitude observation of Polaris near lower culmination, making four observations, two each with the telescope in direct and reversed positions.

Watch fast of local mean time-----05m.
 Mean watch time of observation----- 6h. 45m.
 Mean observed vertical angle----- $33^{\circ}42'$
 Time elapsed since lower culmination----- 22m.
 Reduced latitude,----- $34^{\circ}47'25.8''$

At the same station at 10h. 25m. p.m. by my watch, I make an hour angle observation upon Polaris east of the meridian, making four observations, two each with the telescope in direct and reversed positions, and mark the mean point in the line thus determined, on a peg driven firmly in the ground 5 chains N.

Watch time of observation, mean of four readings 10h. 25.2m.

July 10, 1921: I lay off the azimuth of Polaris $1^{\circ}09.8'$ to the west, and mark the meridian thus determined by a nail driven in a stake set firmly in the ground 5 chains N.

July 10, 1921: At the same station, I examine the adjustment of the transit, and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications resulting from solar observations made during a.m. and p.m. hours with the true meridian established by Polaris observations, proceed as follows:

At 7h. 00m. a.m. apparent time, July 10, set off $34^{\circ}47\frac{1}{2}'$ N. on the lat. arc; $22^{\circ}17'$ N. on the decl. arc, and determine a meridian with the solar, and mark a point thereon by a tack driven in the stake already set 5 chains N.; this point falls 0.5' E. of the meridian established by the Polaris observation.

July 10: At the same station, I make a meridian observation of the sun for time and latitude, observing simultaneously the altitude of the sun's lower limb and transit of the sun's west limb, reversing the telescope and observing simultaneously, the altitude of the sun's upper limb and transit of the sun's east limb.

Local mean time

Mean observed altitude - - - - - 77°27'13"
 Reduced latitude - - - - - 34°47'31"
 Mean watch time of observation - - - - 12h.10m.20s.
 Watch fast of local mean time - - - - - 00h.05m.15s.

At 2h.00m.p.m., with the lat. arc unchanged, set off 22° 14' N: on the decl. arc, and determine a meridian with the solar, and mark the meridian thus determined on the stake already set 5 chains N. of station; this mark falls 00.5' W. of the meridian established by the Polaris observation. I continue taking solar observations hourly during the remainder of this day, and from a comparison of the results, find that all of the observations agree within 01' of the meridian established by the Polaris observation; therefore, conclude that the adjustment of the instrument is satisfactory.

4 Resurvey of East bdy. of Township 17 North, Range 23 East.

Chains.

The East bdy. of T.17 N., R.23 E. was surveyed by Henry A. Coe, U.S.D.S. in 1882, and no retracement or resurvey of said line is of record.

Retracement for Resurvey.

From the reconstructed standard cor. of Ts. 17 N., Rs. 23 and 24 E., on the 4th Std. Parallel North, described in Book "A,"

N.0°4'E. (record course) on random line, bet. secs. 31 and 36 (S. $\frac{1}{2}$).

40.11 Intersect the original $\frac{1}{4}$ sec. cor., hereinafter described. True course and dist. of Tp. bdy. bet. secs. 31 and 36 (S. $\frac{1}{2}$) are therefore N.0°4'E., 40.11 chs.

Thence, N.0°4'E., on random line, bet. secs. 31 and 36 (N. $\frac{1}{2}$).

40.32 Fall 81 lks. E. of the original cor. of secs. 25, 30, 31 and 36, hereinafter described.

True course and dist. of Tp. bdy. bet. secs. 31 and 36 (N. $\frac{1}{2}$) are therefore N.1°5'W., 40.33 chs.

Thence, N.0°4'E., on random line, bet. secs. 25 and 30 (S. $\frac{1}{2}$).

40.08 Fall 37 lks. E. of the original $\frac{1}{4}$ sec. cor. hereinafter described.

True course and dist. of Tp. bdy. bet. secs. 25 and 30 (S. $\frac{1}{2}$) are therefore N.0°28'W., 40.08 chs.

Thence, N.0°4'E., on random line, bet. secs. 25 and 30 (N. $\frac{1}{2}$).

39.94 Fall 40 lks. E. of the original cor. of secs. 19, 24, 25 and 30, hereinafter described.

True course and dist. of Tp. bdy. bet. secs. 25 and 30 (N. $\frac{1}{2}$) are therefore, N.0°30'W., 39.94 chs.

Thence, N.0°4'E., on random line, searching diligently at record intervals for the original cors. No trace of any cor. can be found, until at

239.76 Fall 14 lks. E. of the original cor. of secs. 1, 6, 7 and 12, hereinafter described.

True course and dist. of the Tp. bdy. E. of secs. 12, 13 and 24 are therefore N.0°2'E., 239.76 chs., which, to maintain the original proportion, gives reestablished corner intervals of 39.96 chs.

Thence, N.0°4'E., on random line, bet. secs. 1 and 6.

40.00 Diligent search in this vicinity fails to reveal any trace of the original $\frac{1}{4}$ sec. cor.

Continue line and measurement.

81.12 Fall 5 lks. E. of the original cor. of Ts. 17 and 18 N. Rs. 23 and 24 E., hereinafter described.

True course and dist. of the Tp. bdy. bet. secs. 1 and 6, are therefore N.0°2'E., 81.12 chs., which, to maintain the original proportion, gives 40.11 chs. as the reestablished corner interval for the S. $\frac{1}{2}$ bet. secs. 1 and 6, and 41.01 chs. for the N. $\frac{1}{2}$.

RESURVEY.

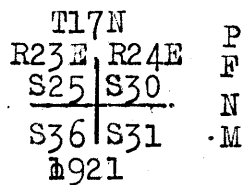
From the reconstructed standard cor. of Ts. 17 N., Rs. 23 and 24 E., on the 4th Std. Parallel N., described in Book "A,"

N.0°4'E., on true line, bet. secs. 31 and 36 (S. $\frac{1}{2}$) within the Petrified Forest National Monument.

Over broken and hilly land, devoid of timber and undergrowth.

Chains.

Descend 10 ft., over NW. slope, to
 2.60 Ascend 35 ft., over SW. slope, to
 7.60 Thence over broken W. slope, descending gradually to
 30.50 Wash, 50 lks. wide, course SW.
 Ascend 35 ft., over SE. slope.
 36.60 Spur, slopes SW.
 Descend 25 ft., over NW. slope, to
 40.11 Intersect the original $\frac{1}{4}$ sec. cor., which is a sandstone
 8x5x5 ins. above ground, firmly set, marked $\frac{1}{4}$ on W.
 face, and witnessed by faint traces of pits, one each
 N. and S. of post, 5 $\frac{1}{2}$ ft. dist.
 No bearing trees. Dig out the pits to proper size.
 Thence,
 N. 1° 5' W., on true line, bet. secs. 31 and 36 (N. $\frac{1}{2}$) within
 the P.F.N.M.
 Over broken and hilly land, devoid of timber and under-
 growth.
 Descend 10 ft., over NW. slope.
 1.50 Cottonwood Wash, 100 lks. wide, 2 ft. deep, course SW.
 Ascend 40 ft., over SE. slope, to
 23.30 Wash, 25 lks. wide, 1 ft. deep, course SE.
 Ascend 20 ft., over W. slope, to
 30.90 Same wash, course SW.
 Ascend 15 ft., over SE. slope, to
 35.10 Same wash, course SE.
 Ascend 50 ft., over SE. and E. slopes to
 40.33 Intersect the original cor. of secs. 25, 30, 31 and 36, which
 is a sandstone, 16x12x5 ins. above ground, firmly set,
 marked with 5 notches on N. edge; and 1 notch on S.
 edge. No accessories.
 Reconstruct this cor. as follows:
 Alongside the old stone monument, set an iron post, 3 ft.
 long, 2 ins. in diam., 24 ins. in the ground for cor. of
 secs. 25, 30, 31 and 36, and cor. of the Bdy. of the
 Petrified Forest National Monument, marked on brass
 cap,



Raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 From this cor., the Bdy. of the P.F.N.M. extends S. 89° 39' W.
 and N. 0° 28' W.
 Land, broken and hilly.
 Soil, sandy and rocky, 3rd and 4th rate.
 Timber, none.
 Undergrowth, none.
 Fair grass.

N. 0° 28' W., on true line, bet. secs. 25 and 30 (S. $\frac{1}{2}$) and
 Bdy. of the Petrified Forest National Monument.
 Over broken and hilly land, devoid of timber and under-
 growth.
 Ascend 52 ft., over E. and SE. slopes, to
 5.00 Rim of mesa, brs. NE. and SW. Leave broken and hilly
 land, and enter gently rolling land on mesa.
 Ascend gradually over SE. slope, to
 40.08 Intersect the original $\frac{1}{4}$ sec. cor. of secs. 25 and 30,
 which is a sandstone, 12x8x4 ins., marked $\frac{1}{4}$ on W. face,
 set in a mound of stone.
 No accessories.
 Reconstruct this cor. as follows:
 Destroy old mound of stones, and in center of its position,
 reset the old stone monument, 9 ins. in the ground;

Chains.

alongside same, set an iron post, 3 ft. long, 1 in. in diam., 15 ins. in the ground, to bed rock, and raise a mound of stones, 3 ft. base, 1½ ft. high around post for ¼ sec. cor. of secs. 25 and 30, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,

$\frac{1}{4}$
 S25 | S30 P
 F
 N
 1921 M

Raise a mound of stones, 2 ft. base, 1½ ft. high, W. of cor. Thence,

N. 0°30' W., on true line, bet. secs. 25 and 30 (N. ½) and Bdy. of the Petrified Forest National Monument,

Over gently rolling land, on mesa, devoid of timber and undergrowth.

Ascend gradually over SE. slope.

17.90 Change to S. slope, and continue gradual ascent.

18.90 Road, brs. NE. and SW.; extends northerly to Adamana and westerly to Holbrook.

39.94 Intersect the original cor. of secs. 19, 24, 25 and 30, which is a sandstone 10x8x2 ins. above ground, marked with 4 notches on N. edge and 2 notches on S. edge.

No accessories.

Reconstruct this cor. as follows:

Alongside the old stone monument, set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 19, 24, 25 and 30, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,

T17N
 R23E | R24E
 S24 | S19
 S25 | S30
 1921

Dig pits 18x18x12 ins., one each NE., SE., SW. and NW. of post, 3 ft. dist.

Land, S. 5 chs. broken and hilly; remainder, gently rolling.

Soil, sandy and rocky adobe, 3rd and 4th rate.

Timber, none.

Undergrowth, none.

Fair grass.

N. 0°2' E., on true line, bet. secs. 19 and 24, on Bdy. of the Petrified Forest National Monument.

Over gently rolling land, devoid of timber and undergrowth.

Ascend gradually over S. slope.

39.96 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished ¼ sec. cor. of secs. 19 and 24, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,

$\frac{1}{4}$
 S24 | S19 P
 F
 N
 1921 M

Dig pits, 18x18x12 ins., one each N. and S. of post, 3 ft. dist. Ascend gradually over S. slope.

65.00 Change to SW. slope, and ascend to

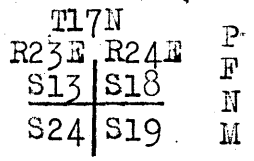
75.00 Rim of mesa, brs. NW. and SE. Thence over gently rolling top of mesa.

Resurvey of East hdy. of Township 17 North, Range 23 East.

Chains.

79.92

Descend gradually over N. slope, to (Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for reestablished cor. of secs. 13, 18, 19 and 24, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,



1921

Dig pits, 18x18x12 ins., one each NE., SE., SW. and NW. of post, 3 ft. dist.
Land, gently rolling.
Soil, sandy and rocky, 2nd and 3rd rate.
Timber, none.
Undergrowth, none.
Good grass.

N. 0° 2' E., on true line, bet. secs. 13 and 18, and Bdy. of the Petrified Forest National Monument.

Over gently rolling land, on mesa, devoid of timber and undergrowth.

25.00

Descend gradually over NW. slope.

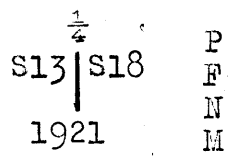
37.00

Ascend gradually over S. slope.

39.96

Descend gradually over NW. slope.

(Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished $\frac{1}{4}$ sec. cor. of secs. 13 and 18, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,



1921

Dig pits, 18x18x12 ins., one each N. and S. of post, 3 ft. dist.

52.20

Descend gradually over N. slope on mesa.

Rim of mesa, brs. NW. and SE. Leave mesa and gently rolling land, and enter broken land.

63.50

Descend 45 ft., over NE. slope.

Wash, 20 lks. wide, course NE.

75.50

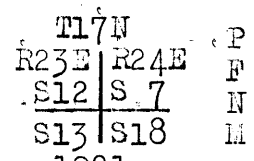
Ascend 55 ft., over SE. slope, to

Rim of mesa, brs. NE. and SW. Leave broken and enter gently rolling land on mesa.

79.92

Ascend gradually over E. slope.

(Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for reestablished cor. of secs. 7, 12, 13 and 18, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,



1921

Raise a mound of stones, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, gently rolling and broken.

Soil, sandy and rocky adobe, 2nd and 3rd rate.

Timber, none.

Undergrowth, none.

Good grass.

8 Resurvey of East bdy. of Township 17 North, Range 23 East.

Chains.

N.0°2'E., on true line, bet. secs.7 and 12, and Bdy.of
the Petrified Forest National Monument.

Over gently rolling land, on mesa, devoid of timber and
undergrowth.

Descend gradually over NE.slope.

39.96 (Proportional dist.) Set an iron post, 3 ft.long, 1 in.
in diam., 26 ins.in the ground for reestablished $\frac{1}{4}$ sec.
cor. of secs. 7 and 12, and line monument of the Bdy.
of the Petrified Forest National Monument, marked on
brass cap,

	$\frac{1}{4}$	P
S12	S 7	F
		N
	1921	M

Dig pits 18x18x12 ins., one each N.and S. of post, 3 ft.
dist.

Continue over gently rolling land on mesa.

Descend gradually over NE.slope.

70.20 Rim of mesa, brs.NE. and SW. Leave mesa, and gently roll-
ing land, and enter mountainous land.

Descend 118 ft., over NW.slope, to

78.50 Foot of descent, brs.NE. and SW. Leave mountainous, and
enter nearly level land.

79.92 Intersect the original cor.of secs.1,6,7 and 12, which is
a sandstone, 20x14x10 ins. above ground, firmly set,
marked with 1 notch on N.edge and 5 notches on S.edge.

No accessories.

This monument does not agree with the record description,
but as diligent search within a wide radius fails to
reveal traces of any other monument, accept this as the
original cor.

Reconstruct this cor. as follows:

Alongside the old stone monument, set an iron post, 3 ft.
long, 2 ins.in diam., 24 ins.in the ground, for cor.of
secs.1,6,7 and 12, and line monument of the Bdy.of
the Petrified Forest National Monument, marked on brass
cap,

	T17N	P
R23E	R24E	F
S 1	S.6	N
S12	S 7	M
	1921	

Raise a mound of stone, 2 ft.base, 1 $\frac{1}{2}$ ft.high, W.of cor.

Land, gently rolling, broken, mountainous and nearly level.

Soil, sandy and rocky adobe, 3rd and 4th rate.

Timber, none.

Undergrowth, none.

Good grass.

N.0°2'E., on true line, bet. secs.1 and 6, and Bdy.of
the Petrified Forest National Monument.

Over nearly level land, devoid of vegetation.

10.20 Wash, 35 lks.wide, 2 ft.deep, course N.70°E. Leave nearly
level and enter rolling land.

Ascend 35 ft., over S.slope.

18.00 Spur, slopes E.

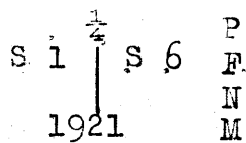
Descend 45 ft., over N.slope.

35.00 Foot of descent, brs.E.and W. Leave rolling, and enter
nearly level land.

40.11 (Proportional dist.) Set an iron post, 3 ft.long, 1 in.
in diam., 26 ins. in the ground, for reestablished $\frac{1}{4}$
sec.cor, of secs.1 and 6, and line monument of the
Bdy.of the Petrified Forest National Monument, marked
on brass cap,

Resurvey of East bdy. of Township 17 North, Range 23 East. 9

Chains.



44.59 Raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Continue over nearly level land, devoid of vegetation. Leave nearly level land and enter gently rolling land. Ascend gradually over E. slope.

58.00 Leave gently rolling, and enter mountainous land. Ascend 135 ft., over SE. slope, to

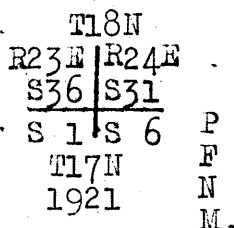
63.00 Rim of bench, brs. NE. and SW. Leave mountainous and enter gently rolling land on bench. Ascend 50 ft. over SE. slope, to

81.12 Intersect the original cor. of Ts. 17 and 18 N., Rs. 23 and 24 E., which is a sandstone 18x3x16 ins., marked with 6 notches on each of N., S., E. and W. edges. No accessories.

This corner monument does not agree with record description, but as diligent search within a wide radius fails to reveal trace of any other monument or accessories, accept this stone and mound of stones as the original cor.

Reconstruct the cor. as follows:

Destroy the old mound of stones, and in center of its position, reset the old cor. stone, 12 ins. in the stone, alongside same set an iron post, 3 ft. long, 3 ins. in diam., 12 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone, 3 ft. base, 20 ins. high around post, for cor. of Ts. 17 and 18 N., Rs. 23 and 24 E., and NW cor. of the Bdy. of the Petrified Forest National Monument, marked on brass cap,



From this cor., the boundary of the P.F.N.M. extends S. 0° 2' W. and S. 89° 38' E.

Land, nearly level, rolling and mountainous.

Soil, rocky adobe, 4th rate.

Timber; none.

Undergrowth, none.

No grass.

10 Resurvey of part of the Subdivision lines of T.17 N. R. 23 E. Chains.

The subdivision lines of T.17 N., R.23 E. were surveyed by Henry A. Coe, U.S.D.S. in 1883, and no retracement or resurvey of any part of same is of record. The following notes describe the resurvey of lines between secs. 25 and 36, 26 and 35, 27 and 34 and 33 and 34, all of which form part of the Bdy. of the Petrified Forest National Monument.

Retracement for Resurvey.

First Meridional Section Line.

From the reestablished standard cor. of secs. 35 and 36, T. 17 N., R. 23 E., on the 4th Std. Parallel N., described in Book "A,"

N. $0^{\circ}4'$ E. (record course) on random line, on 1st Meridional Sec. line, searching diligently at record intervals for the original corners. Find no trace of any subdivisional cors. until at

400.10 Fall 140 lks. E. of the original cor. of secs. 1, 2, 11 and 12, hereinafter described in notes describing the reconstruction of same.

True course and dist. of the First Meridional Sec. Line from the standard cor. of secs. 35 and 36 to this cor. are therefore N. $0^{\circ}8'$ W., 400.10 chs., which, to maintain original proportion of the corner intervals, gives 40.01 chs. for each of the reestablished cor. intervals in the S. 5 miles of the line.

Retrace this meridional sec. line, bet. secs. 1 and 2, search diligently at record intervals, and fail to find any trace of the $\frac{1}{4}$ sec. cor. or the cor. of secs. 1, 2, 35 and 36 on N. bdy. of the Tp.

Return to the reestablished standard cor. of secs. 35 and 36 on S. bdy. of the Tp. (4th. Std. Parallel N.)

Thence,

N. $0^{\circ}8'$ W., on trial line, on 1st Meridional Sec. Line, bet. secs. 35 and 36.

80.02 (Proportional dist.) Set temp. cor. of secs. 25, 26, 35 and 36.

Second Meridional Sec. Line.

From the reestablished std. cor. of secs. 34 and 35, T. 17 N., R. 23 E., on the 4th Std. Par. N., described in Book "A,"

N. $0^{\circ}4'$ E. (record course) on random line, on Second Meridional Sec. Line, searching diligently at record intervals for the original cors. Find no trace of any subdivisional cors., until at

401.20 Fall 23 lks. W. of the original cor. of secs. 2, 3, 10 and 11, hereinafter described in notes describing the reconstruction of same.

True course and dist. of the 2nd. Meridional Sec. Line, from the standard cor. of secs. 34 and 35 to this cor. are therefore N. $0^{\circ}6'$ E., 401.20 chs., which, to maintain original proportion of the corner intervals, gives 40.12 chs. for each of the reestablished corner intervals in the S. 5 miles of the line.

Retrace this meridional sec. line between secs. 2 and 3, search diligently at record intervals; and fail to find any trace of the $\frac{1}{4}$ sec. cor. or the cor. of secs. 2, 3, 34 and 35, on the N. bdy. of the Tp. Return to the reestablished standard cor. of secs. 34 and 35 on S. bdy. of the Tp. (4th. Std. Par. N.)

Thence,

Resurvey of part of the Subdivision lines of T.17 N., R.23 E. 11

Chains.

80.24 N.0°6'E., on trial line, on 2nd Meridional Sec. Line, bet. secs. 34 and 35.
(Proportional dist.) Set temp. cor. of secs. 26, 27, 34 and 35.

Third Meridional Sec. Line.

From the reestablished std. cor. of secs. 33 and 34, T.17 N., R.23 E., on 4th Std. Par. N., described in Book "A,"
N.0°4'E. (record course) on random line, on 2nd Meridional Sec. Line, bet. secs. 33 and 34.
40.00 Diligent search in this vicinity fails to reveal any trace of the original $\frac{1}{2}$ sec. cor.
80.86 Fall 177 lks. W. of the original cor. of secs. 27, 28, 33 and 34, hereinafter described.
True course and dist. of the line bet. secs. 33 and 34 are therefore N.1°19'E., 80.88 chs.

First Latitudinal Sec. Line.

From the original cor. of secs. 25, 30, 31 and 36, on the E. bdy. of the Tp. hereinbefore described,
Westerly (various courses as per record) on random line, on 1st. Latitudinal Sec. line, searching diligently at the record intervals on the various courses, for the original cors. No trace of any of the subdivisional cors. can be found until at
239.08 Fall 4 lks. N. of the original cor. of secs. 27, 28, 33 and 34, hereinafter described.
This falling corresponds to a falling of 28 lks. S. of same cor. of a random line run due West for same distance.
Thence,
S.89°56'E., on trial line, on 1st Latitudinal Sec. Line, bet. secs. 27 and 34.
78.80 A point 34 lks. N. of the temp. cor. of secs. 26, 27, 34 and 35, set on trial 2nd Meridional Sec. Line.
79.68 (Proportional dist.) Set temp. cor. of secs. 26, 27, 34 and 35.
Thence,
S.89°56'E., on trial line, on 1st Latitudinal Sec. Line, bet. secs. 26 and 35.
79.33 A point 58 lks. N. of the temp. cor. of secs. 25, 26, 35 and 36, set on trial 1st Meridional Sec. Line.
79.48 (Proportional Dist.) Set temp. cor. of secs. 25, 26, 35 and 36.
Thence,
S.89°56'E., on trial line, on 1st Latitudinal Sec. Line, bet. sec. 25 and 36.
79.92 Intersect the original cor. of secs. 25, 30, 31 and 36, on the East bdy. of the Tp., hereinbefore described.

RESURVEY.

From the reestablished std. cor. of secs. 33 and 34, T.17 N., R.23 E., on the 4th. Std. Par. N., and corner monument of the Bdy. of the Petrified Forest National Monument, described in Book "A,"
N.1°19'E., on true line, bet. secs. 33 and 34, on the Bdy. of the Petrified Forest National Monument.
Over nearly level land on mesa, devoid of timber and undergrowth.
Ascend very gradually over SW. slope.
2.60 National Old Trails Road, brs. E. and W.
8.48 Road, brs. NE. and SW. Extends northeasterly to Adamana, and westerly to Holbrook.

12 Resurvey of part of the Subdivision lines of T.17 N., R.23 E.

Chains.
 40.44 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished $\frac{1}{4}$ sec. cor. of secs. 33 and 34 and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,

	$\frac{1}{4}$	P
S33	S34	F
	1921	N
		M

Dig pits 18x18x12 ins., one each N. and S. of post, 3 ft. dist.
 Continue over nearly level land, on mesa, devoid of timber and undergrowth.
 55.00 Rim of mesa, brs. NE and SW. Leave nearly level land and mesa, and enter rolling land.
 Descend gradually over NW. slope.
 80.88 Intersect the original cor. of secs. 27, 28, 33 and 34, which is a petrified wood stone, 20x14x9 ins., marked with 3 notches on E. edge, and 1 notch on S. edge, set in a mound of stone. No accessories.
 Reconstruct this cor. as follows:
 Destroy the old mound of stones, in center of its position, reset the old corner stone, 12 ins. in the ground, and alongside same, set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 27, 28, 33 and 34, and corner monument of the bdy. of the Petrified Forest National Monument, marked on brass cap,

T17N	R23E
S28	S27
S33	S34
	PFNM
	1921

Raise a mound of stone, 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Land, S. 55 chs., nearly level; remainder, rolling.
 Soil, sandy and rocky, 2nd and 3rd rate.
 Timber, none.
 Undergrowth, none.
 Good grass.

S. 89° 41' E., on true line, bet. secs. 27 and 34, on the Bdy. of the Petrified Forest National Monument.
 Over rolling land, devoid of timber and undergrowth.
 Ascend gradually over NW. slope.
 39.84 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for reestablished $\frac{1}{4}$ sec. cor. of secs. 27 and 34, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,

$\frac{1}{4}$ S 27
S 34
PFNM
1921

Raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
 Continue over rolling barren land.
 Ascend gradually over NW. slope.
 67.85 Leave rolling, and enter broken land.
 Ascend 65 ft., over W. slope, to
 74.80 Top of sandstone bluff, 20 ft. high, bearing N. and S. facing W., and forming rim of mesa. Leave broken, and enter nearly level land on mesa.
 79.68 Reestablished point for cor. of secs. 26, 27, 34 and 35, which is 88 lks. E. of the temp. cor. of said secs. set on

Resurvey of part of the Subdivision lines of T.17 N., R.23 E. 13

Chains.

trial 2nd Meridional Sec.Line, and 34 lks.S.of the temp.cor.of said secs. set on trial 1st Latitudinal Sec.Line.

Set an iron post, 3 ft.long, 2 ins.in diam.,24 ins.in the ground, for reestablished cor.of secs.26,27,34 and 35,and line monument of the Bdy.of the Petrified Forest National Monument, marked on brass cap,

T17N | R23E
S27 | S26
S34 | S35
P F N M
1921

Raise a mound of stone, 2 ft.base, 1 1/2 ft.high, W.of cor. Land, rolling,broken and nearly level.
Soil,sandy and rocky, 2nd and 3rd rate.
Timber, none.
Undergrowth, none.
Good grass.

S.89°45'E., on true line, bet. secs.26 and 35,on the bdy. of the Petrified Forest National Monument.
Over nearly level land, devoid of timber and undergrowth.
Ascend very gradually over NW.slope.

39.74

(Proportional dist.) Set an iron post, 3 ft.long, 1 in. in diam., 26 ins.in the ground, for reestablished 1/4 sec.cor.of secs.26 and 35, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap,

1/4 S 26
S 35
PFNM
1921

Raise a mound,of stone, 2 ft.base,1 1/2 ft.high,N,of cor. Continue over nearly level barren land on mesa.
Descend slightly over N.and NE.slopes.

53.45

Road brs.NE. and SW. Extends northeasterly to Adamana and westerly to Holbrook.

79.48

Reestablished point for cor.of secs.25,26,35 and 36,which is 15 lks.E. of the temp.cor.of said secs. set on trial 1st Meridional sec.line,and 58 lks.S.of the temp.cor.of said secs. set on trial 1st latitudinal sec. line.

Set an iron post, 3 ft.long, 2 ins. in diam.,24 ins.in the ground, for reestablished cor.of secs.25,26,35 and 36,and line monument of the Bdy.of the Petrified Forest National Monument, marked on brass cap,

T17N | R23E
S26 | S25
S35 | S36
PFNM
1921

Dig pits 18x18x12,ins., one each NE.,SE.,SW. and NW.of post, 3 ft.dist.
Land, nearly level.
Soil,sandy and gravelly, 2nd and 3rd rate.
Timber, none.
Undergrowth, none.
Good grass.

14 Resurvey of part of Subdivision lines of T.17 No. R. 23 East.

Chains.	
	N.89°39'E., on true line, bet. secs.25 and 36, on the Bdy. of the Petrified Forest National Monument, Over nearly level land, on mesa, devoid of timber and undergrowth. Descend slightly over NE. slope.
10.00	Rim of mesa, brs. NW and SE. Leave nearly level, and enter rolling land. Descend 20 ft., over NE. slope.
17.92	Draw, 25 lks. wide, course NW. near head. Ascend.
32.85	Rim of bench, brs. NE. and SW. Leave rolling, and enter nearly level land on bench. Ascend slightly over SW. slope.
39.96	(Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for reestablished $\frac{1}{4}$ sec. cor. of secs. 25 and 36, and line monument of the Bdy. of the Petrified Forest National Monument, marked on brass cap, <div style="text-align: center;"> $\frac{1}{4}$ S 25 S 36 PFNM 1921 </div>
	Raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Thence over broken, barren land, descending gradually over S. slope.
75.62	Wash, 25 lks. wide, course S. Ascend 45 ft., over W. slope.
78.25	Spur, slopes S. Descend 45 ft., over E. slope, to
79.92	Intersect the reconstructed cor. of secs. 25, 30, 31 and 36, on the E. bdy. of the Tp., hereinbefore described. Land, nearly level, rolling and broken. Soil, sandy and rocky, 3rd and 4th rate. Timber, none. Undergrowth, none. Good grass.

Reconstruction of the Cor. of secs. 1, 2, 11 and 12, and
the Cor. of secs. 2, 3, 10 and 11. Township 17 North, Range 23 East. 15

Chains.

Reconstruction of cor. of secs. 1, 2, 11 and 12.

The original cor. of secs. 1, 2, 11 and 12, as found in the retracements hereinbefore described, is a sandstone, 8x7x4 ins. above ground, firmly set, marked with 1 notch on E. edge and 5 notches on S. edge.

No accessories.

Reconstruct this cor. as follows:

Alongside the old stone, set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 1, 2, 11 and 12, T. 17 N., R. 23 E., marked on brass cap,

T17N	R23E
S 2	S 1
S11	S12
1921	

Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. This cor. is reconstructed as a basis for the reestablishment of the cor. of secs. 25, 26, 35 and 36, T. 17 N., R. 23 E., a line monument of the Bdy. of the Petrified Forest National Monument.

Reconstruction of Cor. of secs. 2, 3, 10 and 11.

The original cor. of secs. 2, 3, 10 and 11, as found in the retracements hereinbefore described, is a sandstone, 12x7x6 ins. above ground, firmly set, marked with 2 notches on E. edge, and 5 notches on S. edge.

No accessories.

Reconstruct this cor. as follows.

Alongside old stone, set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 2, 3, 10 and 11, T. 17 N., R. 23 E., marked on brass cap,

T17N	R23E
S 3	S 2
S10	S11
1921	

Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. This cor. is reconstructed as a basis for the reestablishment of the cor. of secs. 26, 27, 34 and 35, T. 17 N., R. 23 E., a line monument of the Bdy. of the Petrified Forest National Monument.

The continued satisfactory adjustment of the solar apparatus during the execution of the resurveys hereinbefore described, is indicated from field tests, as described in Book "D."

36

Boundaries of that part of Township 17 North, Range
23 East, situated within the Petrified Forest
National Monument.

Latitudes, Departures and Closing Errors.

Lines designated.	True bearing.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
South boundary, (4th. Std. Par. N.)	S. 89° 59' W.	241.68		.07		241.68
Subdivisional Boundary, (P.F.N.M. Bdy.)	N. 1° 19' E.	80.88	80.86		1.86	
	S. 89° 41' E.	79.68		.44	79.68	
	S. 89° 45' E.	79.48		.35	79.48	
	N. 89° 39' E.	79.92	.49		79.92	
East boundary	S. 1° 5' E.	40.33		40.32	.76	
	S. 0° 4' W.	40.11		40.11		.05
Convergency,					1.04	
<u>Totals.</u>			81.35	81.29	241.74	241.73
			81.29		241.73	
Error in latitude,			0.06			
Error in departure,					0.01	

GENERAL DESCRIPTION.

The Petrified Forest National Monument embraces all of secs. 34, 35 and 36 of this township.

The surface of the greater part of these sections is nearly level or gently rolling. Along the S. and E. boundaries of the Tp., the surface is broken and hilly.

The soil is sandy and rocky, 2nd and 3rd rate, except in the broken and hilly land, where it is rocky, 4th rate.

There is no timber or undergrowth, but a good growth of grass is prevalent in all parts.

There is no permanent running water, the water courses being dry washes. Cottonwood Wash, course SW., thru. sec. 36, is the principal water course.

There are no settlers, and no indications of valuable mineral deposits.

The National Old Trails Road bearing E. and W. along the S. bdy. of sec. 34, extends westerly to Holbrook, and southeasterly to St. Johns and Springerville.

Another road bearing NE. and SW. thru. secs. 34 and 35 extends northerly to Adamana, and joins the National Old Trails Road in sec. 33. These roads constitute the only improvements.

The group of petrified trees known as the "Rainbow Forest" is situated in secs. 34 and 35.

CERTIFICATE OF UNITED STATES CADASTRAL ENGINEER.

I, Sidney E. Blout, U.S. Cadastral Engineer, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 118, Arizona, bearing date of the 14th day of June, 1921, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the East boundary and Subdivision lines of TOWNSHIP 17 NORTH, RANGE 23 EAST, and Reconstructed, Cor. of secs. 1, 2, 11 and 12, and Cor. of secs. 2, 3, 10 and 11 of TOWNSHIP 17 NORTH, RANGE 23 EAST, of the Gila and Salt River Base and Meridian, in the State of Arizona, and by diagram on page 1 hereof the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 118, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Place: Continental Arizona

Sidney E. Blout U.S. Cadastral Engineer

Date: July 5, 1923

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, July 9, 1923.

The foregoing field notes of the survey of the East boundary and part of the Subdivision lines of TOWNSHIP 17 NORTH, RANGE 23 EAST, and the Reconstruction of Cor. of secs. 1, 2, 11 and 12, and cor. of secs. 2, 3, 10 and 11 of TOWNSHIP 17 NORTH, RANGE 23 EAST,

of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by Sidney E. Blout, U.S. Cadastral Engineer,

under his special instructions dated June 14, 1921, for Grp. 118, Arizona, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

James A. Smith U.S. Surveyor General

I certify that the foregoing transcript of the field notes of the above described surveys in

has been correctly copied from the original notes on file in this office.