

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GENERAL LAND OFFICE

BOOK 4201

FIELD NOTES

4201

OF RESURVEY OF

FIFTH STANDARD PARALLEL NORTH

thru

WEST HALF OF RANGE 25 EAST

SOUTH HALF OF WEST BOUNDARY

and

PART OF THE SUBDIVISION LINES OF

TOWNSHIP No. 20 NORTH, RANGE No. 25 EAST

Of the Gila and Salt River Meridian,

In the State of ARIZONA  
to define the Boundary of Addition to Petrified Forest National Monument.

EXECUTED BY

Benjamin J. Kinsey

Surveyor and Cadastral Engineer

Under special instructions dated March 8, 1938, which provided  
for the surveys included under Group No 222, Arizona, bearing the approval of the  
Commissioner of the General Land Office under date of April 8, 1938  
and assignment instructions dated April 13, 1938

Re Survey commenced July 20, 1938

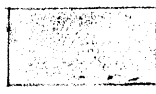
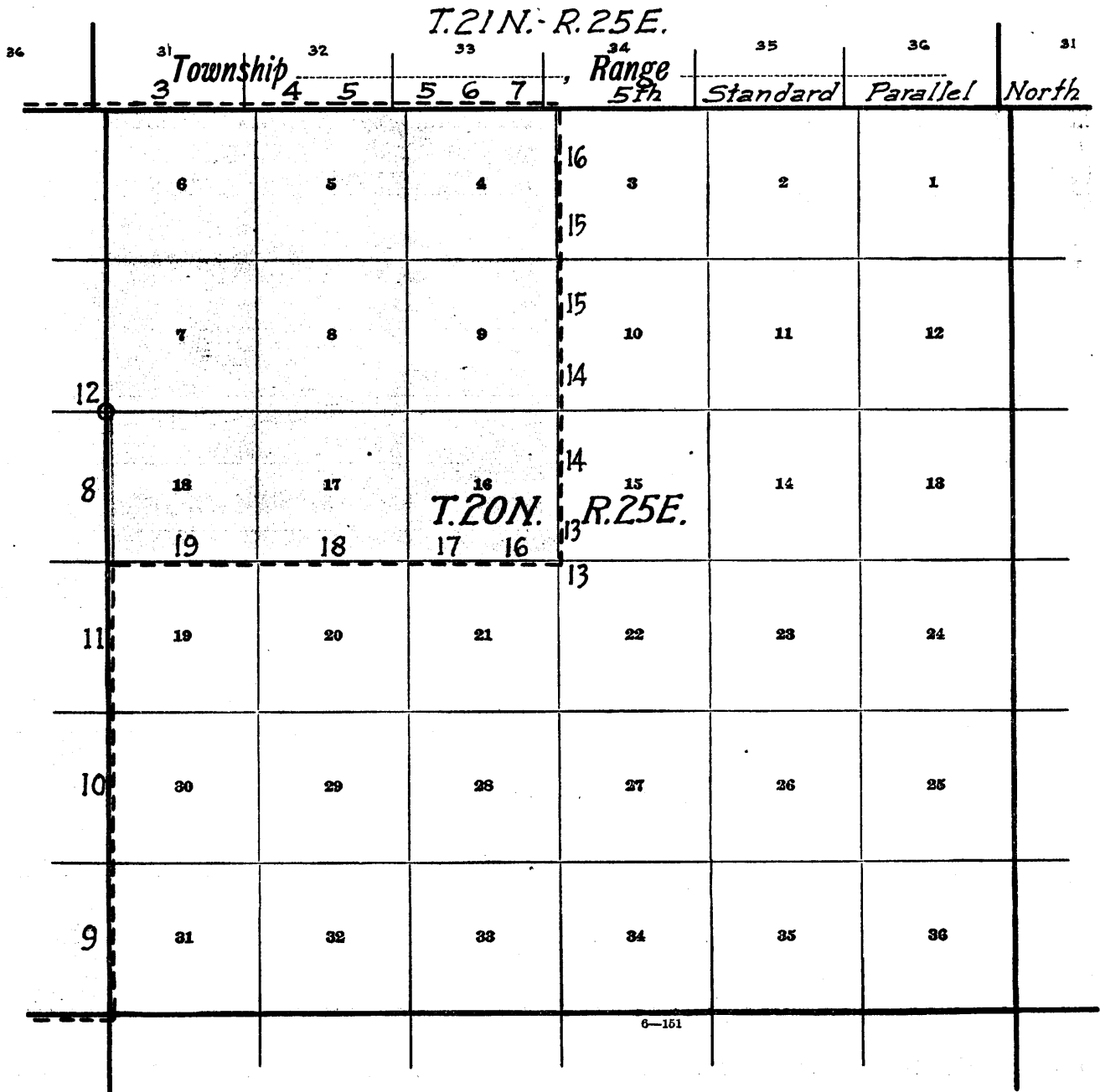
Re Survey completed August 25, 1938

4201

170  
1A

ROCK 4201

# INDEX DIAGRAM.



Area within Petrified Forest National Monument.



Lines of accepted surveys.



Lines resurveyed under this group.



Lines retraced to remote control cors.



Remote control original cor. (outside lines of resurvey) Reconstructed with brass-capped iron post.

The resurveys herein described were executed by Benjamin J. Kinsey, Surveyor and Cadastral Engineer, using a Buff transit No. 18000. The instrument is equipped with the improved Smith solar attachment and otherwise conforms to the standard specifications of the General Land Office.

The measurements were made with a Lufkin steel tape, 5 chs. in length, graduated every link for the first 100 lks., and thereafter at intervals of 10 lks. The tape was tested by comparison with a Lufkin standard and found correct. Measurements were made on the slope; vertical angles determined by clinometer in good adjustment, and the slope measurements reduced to horizontal equivalents for entry in the field notes.

#### PRELIMINARY FIELD TEST OF INSTRUMENT.

July 17, 1938; at station 20 chs. NE. from the cor. of secs. 11, 12, 13 and 14, T. 20 N., R. 26 E., G. & S. R. B. & M., Arizona, in latitude  $35^{\circ}08'N.$  and longitude  $109^{\circ}32\frac{1}{2}'W.$ , examine the adjustments of Buff transit No. 18000 and find no errors. Then to test the solar apparatus by comparing its indications with a true meridian established at this station by Polaris observation at the beginning of the work on May 8, 1938, as described in field notes of resurveys and surveys in T. 18 N., R. 24 E., proceed as follows:

At 9h.00m., a.m., app.t., set off  $35^{\circ}08'N.$  on the latitude arc;  $21^{\circ}15'N.$  on the declination arc; and determine a meridian with the solar, which agrees with the true meridian.

At app. noon, with the latitude arc unchanged, observe the sun on the meridian, and obtain a reading of  $21^{\circ}13\frac{1}{2}'N.$  on the declination arc, which agrees with the computed declination of the sun.

At 3h.00m., p.m., app.t., with the latitude arc unchanged, set off  $21^{\circ}12\frac{1}{2}'N.$  on the declination arc, and determine a meridian with the solar, which agrees with the true meridian.

As all of the solar observations, taken during the usual hours of solar work come within 1' of the true meridian, conclude that the adjustments of the instrument are satisfactory on this date.

Resurvey: 5th Standard Parallel North, thru  $W.\frac{1}{2}$  of R. 25 E.

2.

Chains

The 5th Standard Parallel North was surveyed thru Range 25 East by Frank Follman, U.S. Deputy Surveyor, in 1882, and no retracement or resurvey of any part of the Parallel in said range is of record.

The following notes describe a dependent resurvey of said Parallel thru the west half of Range 25 East, reconstructing the existing std. cors. in their original positions, reestablishing missing std. cors. and closing cors. thereon at intervals proportional to the official record, establishing the  $N.\frac{1}{4}$  sec. cors. of secs. 4 and 5, T. 20 N., R. 25 E. at midpoints of N. bdrs. of said secs., and the  $N.\frac{1}{4}$  sec. cor. of sec. 6 at a point determined by the proportion between the E. and W. halves of N. bdy. of said section as shown on the original plat of T. 20 N., R. 25 E.

Monument the reconstructed, reestablished, and newly established cors. with regulation brass-capped iron posts.

RETRACEMENT FOR RESURVEY.

From the original std. cor. of Ts. 21 N., Rs. 24 and 25 E. East, on random line, S. of secs. 31, 32, and  $W.\frac{1}{2}$  of 33.

- 3.77 No trace of original closing cor. of Ts. 20 N., Rs. 24 and 25 E. can be found.  
Set temp. cor. and continue line and measurement.
- 40.00 No trace of original std.  $\frac{1}{4}$  sec. cor. of sec. 31 can be found.  
Set temp. cor. and continue line and measurement.
- 80.00 No trace of original std. cor. of secs. 31 and 32 can be found.  
Set temp. cor. and continue line and measurement.
- 83.15 No trace of original closing cor. of secs. 5 and 6 can be found.  
Set temp. cor. and continue line and measurement.
- 120.00 No trace of original std.  $\frac{1}{4}$  sec. cor. of sec. 32 can be found.  
Set temp. cor. and continue line and measurement.
- 160.00 No trace of original std. cor. of secs. 32 and 33 can be found.  
Set temp. cor. and continue line and measurement.
- 163.88 No trace of original closing cor. of secs. 4 and 5 can be found.  
Set temp. cor. and continue line and measurement.
- 198.34 A point 202 lks. N. of the original std.  $\frac{1}{4}$  sec. cor. of sec. 33.

True course and dist. of the Parallel from std. cor. of Ts. 21 N., Rs. 24 and 25 E. to the std.  $\frac{1}{4}$  sec. cor. of sec. 33 are therefore, S.  $89^{\circ}25'E.$ , 198.35 chs., which, to maintain original proportion between std. cor. intervals, gives 5 intervals of 39.67 chs. each, for the reestablishment of the missing std. cors. on this portion of the Parallel.

From original std. cor. of sec. 33,

East, on random line, S. of sec. 33 ( $E.\frac{1}{2}$ ).

Resurvey: 5th Standard Parallel North, thru W.  $\frac{1}{2}$  of R. 25 E.

3.

Chains

40.08

A point 64 lks. N. of the original std. cor. of secs. 33 and 34.

True course and dist. of E.  $\frac{1}{2}$  of S. bdy. of sec. 33 are therefore, S. 89°05'E., 40.09 chs.

RESURVEY.

From the original std. cor. of Ts. 21 N., Rs. 24 and 25 E., reconstructed under this group, as described in field notes of resurvey of 5th Std. Parallel North thru R. 24 E.,

S. 89°25'E., on true line, on S. bdy. of sec. 31.

Over gently rolling badlands, thru scattering undergrowth.

Descend gradually over SE. slope.

3.74

(Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 14 ins. in the ground to bedrock, with a stone 6x6x2 ins. marked with a cross (x) deposited at base, and in a mound of stone to top, for closing cor. of Ts. 20 N., Rs. 24 and 25 E., with brass cap marked

T21N	R25E
S31	
S1	S6
R24E	R25E
T20N	
CC	
PFNM	

1882  
1938

25.00 Enter wash, 50 lks. wide, course S. 40°W., from E. Thence in wash.

27.50 Leave wash, course W. from N. 15°E., joined at this point by another wash from S. 40°E.

Ascend gradually over NW. slope.

39.67

(Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 27 ins. in the ground, for std.  $\frac{1}{4}$  sec. cor. of sec. 31, with brass cap marked

SC	
$\frac{1}{4}$ S 31	
PFNM	

1882  
1938

raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.

42.79

(Proportional dist.) The true point for the establishment of the  $\frac{1}{4}$  sec. cor. of sec. 6 is in a wash, course NW., which is joined at this point by a wash from NE. As it is impracticable to monument said cor. at its true point, establish witness cor. 29 lks. S. 89°25'E.

Ascend gradually over W. slope.

43.08

Set an iron post, 3 ft. long, 1 in. in diam., 27 ins. in the ground, for witness cor. to  $\frac{1}{4}$  sec. cor. of sec. 6, with brass cap marked

Resurvey: 5th Standard Parallel North thru W.  $\frac{1}{2}$  of R. 25 E.

4.

Chains

WC  $\frac{1}{4}$  S6

PFNM

1938

raise a mound of stone, 4 ft. base, 2 ft. high, S. of cor.

79.34 (Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 27 ins. in the ground, for std. cor. of secs. 31 and 32, with brass cap marked

	SC	
T21N		R25E
S31		S32

S6

T20N R25E

PFNM

1882

1938

raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.

The boundary of Petrified Forest National Monument extends easterly and westerly thru this cor., identical with the Parallel. Area to the S. is within the Monument.

Land, gently rolling and broken.

Soil, sandy and gumbo, 3rd and 4th rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

S. 89°25'E., on true line, on S. bdy. of sec. 32.

Over gently rolling and broken land, thru scattering undergrowth.

Ascend 115 ft. over W. slope to ridge.

3.12 (Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 14 ins. in the ground to bedrock, with a stone 5x4x4 ins., marked with a cross (x) deposited at base, and in a mound of stone to top, for closing cor. of secs. 5 and 6, T. 20 S., R. 25 E., with brass cap marked

T21N R25E

S32

S6 | S5

T20N R25E

CC

PFNM

1882

1938

24.00 Ridge, bears N. and S., descend 59 ft. over E. slope to

39.67 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bedrock, with a stone 5x5x3 ins., marked with a cross (x) deposited at base, and in a mound of stone to top, for std.  $\frac{1}{4}$  sec. cor. of sec. 32, with brass cap marked

Resurvey: 5th Standard Parallel North, thru W.  $\frac{1}{2}$  of R. 25 E.

BOOK 400 5.

Chains

SC  
 $\frac{1}{4}$  S 32  
 PFM

1882  
 1938

Desc. 50 ft. over E. slope to wash.

- 43.15 (Midpoint of N. bdy. of sec. 5) Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bedrock, with a stone 4x4x6 ins. marked with a cross (x) deposited at base and in a mound of stone to top, for  $\frac{1}{4}$  sec. cor. of sec. 5, with brass cap marked

$\frac{1}{4}$  S 5  
 PFM

1938

- 52.75 Wash, 30 lks. wide, course S. 60°E. Thence over S. slope.

- 57.75 Wash, 30 lks. wide, course S. 60°W.; asc. gradually over W. slope.

- 76.00 Low ridge, bears N. and S. Fence cor. on line from which wire fences extend N. and S. 89°E. Desc. gradually over E. slope, nearly parallel to and along N. side of wire fence.

- 79.34 (Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 27 ins. in the ground, for std. cor. of secs. 32 and 33, with brass cap marked

SC  
 T21N | R25E  
 S32 | S33  
 S5  
 T20N R25E  
 PFM

1882  
 1938

raise a mound of stone, 4 ft. base, 2 ft. high, N. of cor.

The boundary of Petrified Forest National Monument extends easterly and westerly thru this cor., identical with the Parallel. Area to the S. is within the Monument.

Land, gently rolling and broken.  
 Soil, sandy, rocky and gumbo, 3rd and 4th rate.  
 Timber, none.  
 Undergrowth, native weeds, grasses and cacti.

S. 89°25'E., on true line, on S. bdy. of sec. 33 (W.  $\frac{1}{2}$ ).

Over gently rolling and broken land, thru scattering undergrowth.

Desc. gradually over E. slope, nearly parallel to wire fence about 10 lks. S. of line.

- 3.85 (Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 27 ins. in the ground, for closing cor. of secs. 4 and 5, T. 20 N., R. 25 E., with brass cap marked

Resurvey: 5th Standard Parallel North thru  $W.\frac{1}{2}$  of R. 25 E.

6.

Chains	
	T21N R25E <u>S33</u> S5   S4 T20N   R25E CC PFNM  1882 1938
	raise a mound of stone, 4 ft. base, 2 ft. high, S. of cor.
	Desc. 31 ft. over E. slope to wash, along N. side of wire fence about 10 lks. S. of line.
15.47	Center of wash, 150 lks. wide, course SE.; asc. 19 ft. over SW. slope.
19.50	Thence over S. slope.
35.00	Desc. gradually over SE. slope.
36.65	Wire fence, bears E. and W.; thence along S. side of same.
39.67	<p>The original std. <math>\frac{1}{4}</math> sec. cor. of sec. 33, which is a mound of earth and stone, on top of which are three fragments of a broken sandstone, one of which shows marking <math>\frac{1}{4}</math>. No accessories.</p> <p>Reconstruct this cor. monument as follows: remove the mound and in center of its position, set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bedrock, with the pieces of old cor. stone deposited at base, and in a mound of stone to top, for std. <math>\frac{1}{4}</math> sec. cor. of sec. 33, with brass cap marked</p> <div style="text-align: center;">           SC  <u><math>\frac{1}{4}</math> S 33</u>            PFNM             1882            1938         </div> <p>Thence</p> <p>S. <math>89^{\circ}05'E.</math>, on true line, on S. bdy. of sec. 33 (<math>E.\frac{1}{2}</math>).</p> <p>Over gently rolling and hilly land, thru scattering undergrowth, nearly parallel to wire fence N. of line.</p> <p>Desc. gradually over SE. slope to wash.</p>
3.68	Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bedrock, with a stone 6x6x4 ins. marked with a cross (x) deposited at base, and in a mound of stone to top, for witness cor. to $\frac{1}{4}$ sec. cor. of sec. 4, with brass cap marked
	<u><math>\frac{1}{4}</math> S 4 WC</u> PFNM  1938
3.86	<p>(Midpoint of N. bdy. of sec. 4) True point for <math>\frac{1}{4}</math> sec. cor. of sec. 4 is in a wash, 10 lks. wide, course S., where it is impracticable to monument said cor., therefore establish witness cor. 18 lks. N. <math>89^{\circ}05'W.</math></p> <p>Ascend gradually over W. slope.</p>



Resurvey: 5th Standard Parallel North thru W.  $\frac{1}{2}$  of R. 25 E.

EPCON 4207.

## Chains

- 9.00 Desc. 31 ft. over E. slope.
- 17.29 Wash, 50 lks. wide, course S. 10°E.; asc. gradually over W. slope.
- 25.10 Low spur, slopes S.; desc. gradually over broken E. and SE. slopes.
- 30.05 Old trail, bears NW. and SE.
- 40.09 The original std. cor. of secs. 33 and 34, which is a sandstone 5x16x24 ins., marked SC on N. face and 3 notches on each of E. and W. faces, firmly set in ground and witnessed by a mound of stone N. Reconstruct this cor. monument as follows: remove the stone, and in same place, set an iron post, 3 ft. long, 2 ins. in diam., 18 ins. in the ground to bedrock, with the old cor. stone reset alongside, and in a mound of stone to top, for std. cor. of secs. 33 and 34, with brass cap marked

	SC	
T21N		R25E
S33		S34
	S4	
T20N		R25E
	PFNM	

1882  
1938

A wire fence bearing nearly E. and W. is about 100 lks. N.

The boundary of Petrified Forest National Monument extends easterly and westerly thru this sec. cor., identical with the Parallel, and at the closing cor. of secs. 3 and 4 extends southerly identical with the subdivision line bet. said secs.

Land, gently rolling, broken and hilly.  
Soil, sandy, rocky and gumbo, 3rd and 4th rates.  
Timber, none.  
Undergrowth, native weeds, grasses and cacti.

Resurvey: South half of West boundary of T. 20 N., R. 25 E.

8.

Chains	
	<p>The west boundary of T. 20 N., R. 25 E. was surveyed by Frank Follman, U.S. Deputy Surveyor, in 1882, and no retracement or resurvey of any part of same is of record.</p> <p>The following notes describe a dependent resurvey of the south half of said township boundary, reconstructing the existing corner monuments in their original positions, and reestablishing the missing corner monuments at intervals between existing cors. proportional to the official record. No original cor. monument can be found between the cor. of secs. 25, 30, 31 and 36, and the cor. of secs. 7, 12, 13 and 18, therefore the latter cor. serves as a control for the reestablishment of the missing cors. pertaining to the portion of the line bet. secs. 25 and 30, and bet. secs. 19 and 24.</p> <p>Monument the reconstructed and reestablished corners and the control cor. with regulation brass-capped iron posts.</p>
	<p style="text-align: center;"><u>RETRACEMENT FOR RESURVEY.</u></p> <p>From the cor. of Ts. 19 and 20 N., Rs. 24 and 25 E. North, on random line, bet. secs. 31 and 36 (S. <math>\frac{1}{2}</math>).</p> <p>40.01 A point 391 lks. W. of the original <math>\frac{1}{4}</math> sec. cor. True course and dist. of S. <math>\frac{1}{2}</math> of line bet. secs. 31 and 36 are therefore, N. 5°35'E., 40.20 chs. Thence North, on random line, bet. secs. 31 and 36 (N. <math>\frac{1}{2}</math>).</p> <p>39.87 A point 243 lks. E. of the original cor. of secs. 25, 30, 31 and 36. True course and dist. of N. <math>\frac{1}{2}</math> of line bet. secs. 31 and 36 are therefore, N. 3°29'W., 39.94 chs.</p>
	<p>From original cor. of secs. 25, 30, 31 and 36. North, on random line, bet. secs. 25 and 30, 19 and 24, and 13 and 18.</p> <p>40.00 No trace of original <math>\frac{1}{4}</math> sec. cor. of secs. 25 and 30 can be found. Set temp. cor. and continue line and measurement.</p> <p>80.00 No trace of original cor. of secs. 19, 24, 25 and 30 can be found. Set temp. cor. and continue line and measurement.</p> <p>120.00 No trace of original <math>\frac{1}{4}</math> sec. cor. of secs. 19 and 24 can be found. Set temp. cor. and continue line and measurement.</p> <p>160.00 No trace of original cor. of secs. 13, 18, 19 and 24 can be found. Set temp. cor. and continue line and measurement.</p> <p>200.00 No trace of original <math>\frac{1}{4}</math> sec. cor. of secs. 13 and 18 can be found. Continue line and measurement.</p> <p>254.96 A point 445 lks. W. of the original cor. of secs. 7, 12, 13 and 18.</p>

Resurvey: South half of West boundary of T. 20 N., R. 25 E.

BOOK 4201 9.

Chains

True course and dist. of Tp. bdy. from original cor. of secs. 25, 30, 31 and 36 to the original cor. of secs. 7, 12, 13 and 18 are therefore, N. 1°00'E., 255.00 chs., which, to maintain original proportion between corner intervals gives 6 intervals of 42.50 chs. each for re-establishment of missing corner monuments thereon.

RESURVEY:

From the original cor. of Ts. 19 and 20 N., Rs. 24 and 25 E., reconstructed under this group as described in field notes of resurvey of part of North bdy. of T. 19 N., R. 24 E.

N. 5°35'E., on true line, bet. secs. 31 and 36 (S.  $\frac{1}{2}$ ).

Over gently rolling sandy plain, thru scattering undergrowth.

Ascend gradually over SE. slope.

9.90 Telephone line bears N. 89°E. and S. 89°W.

10.70 Old highway bears N. 89°E. and S. 89°W.

32.50 Low ridge, bears NE. and SW.; desc. gradually over NW. slope.

35.58 Wire fence, bears NE. and SW. Thence across highway right-of-way.

36.40 Center of U.S. Highway No. 66, bears N. 70°E. and S. 70°W.

37.25 Wire fence, bears NE. and SW. Leave highway right-of-way. From a point in this fence about 350 lks. NE. another wire fence extends N. 1°W.

40.25 The original  $\frac{1}{4}$  sec. cor. which is a sandstone 8x10x16 ins. marked  $\frac{1}{4}$  on W. face, firmly set in a mound of earth. No accessories.

Reconstruct this cor. monument as follows: remove the stone and mound, and in center of its position, set an iron post, 3 ft. long, 1 in. in diam., 27 ins. in the ground, with old cor. stone deposited at base, for  $\frac{1}{4}$  sec. cor., with brass cap marked

$\frac{1}{4}$   
 PFTM    S36 | S31  
 1882  
 1938

dig pits 24x24x12 ins., one each, N. and S. of post, 3 ft. dist.

Wire fence bearing N. 1°W. and S. 1°E. is about 3 chs. E. of this cor.

Thence

N. 3°29'W., on true line, bet. secs. 31 and 36 (N.  $\frac{1}{2}$ ).

Over gently rolling sandy plain, thru scattering undergrowth.

Descend gradually over N. slope.

11.00 Ascend slightly over S. slope.

15.00 Low spur, slopes E.; desc. gradually over N. slope.

Resurvey: South half of West boundary of T. 20 N., R. 25 E.

10

Chains

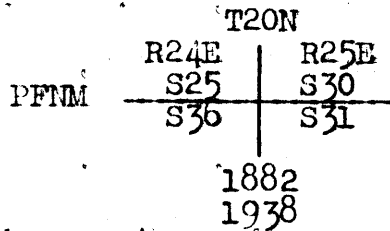
18.35

Wash, 40 lks. wide, course E.; asc. gradually over SE. slope.

39.94

The original cor. of secs. 25, 30, 31 and 36, which is a mound of earth with crumbled remains of a sandstone lying on top. Faint traces of pits are visible in each sec.

Reconstruct this cor. monument as follows: remove the mound, and in center of its position, set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in the ground, with remains of old cor. stone deposited at base, for cor. of secs. 25, 30, 31 and 36, with brass cap marked



dig pits 24x24x12 ins., one in each sec. 3 ft. dist.

U.S.G.S.B.M. (Elev. 5673.6) bears N. 63°30'W., 7.60 chs. dist.

The boundary of Petrified Forest National Monument extends northerly and southerly thru this sec. cor. identical with the Tp. bdy. Area to the W. is within the Monument.

Wire fence bearing N. 1°W. and S. 1°E. is about 5 chs. E.

Land, gently rolling.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

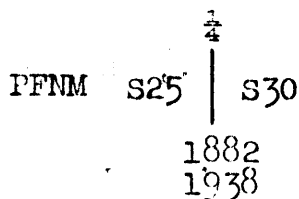
N. 1°00'E., on true line, bet. secs. 25 and 30.

Over gently rolling sandy plain, thru scattering undergrowth.

Ascend gradually over SE. slope.

42.50

(Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor., with brass cap marked



dig pits 24x24x12 ins., one each N. and S. of post, 3 ft. dist.

Wire fence, bearing N. 1°W. and S. 1°E. is about 3.50 chs. E.

Ascend gradually over SE. slope.

77.00

Wash, 5 lks. wide, course SE.; asc. gradually over S. slope.

85.00

(Proportional dist.) Set an iron post, 3 ft. long, 2 ins.

Resurvey: South half of West boundary of T. 20 N., R. 25 E.

BOOK 401

11

## Chains

in diam., 27 ins. in the ground, for cor. of secs. 19, 24, 25 and 30, with brass cap marked

	T20N		
	R24E		R25E
PFNM	S24		S19
	S25		S30
	1882		
	1938		

dig pits 24x24x12 ins., one in each sec. 3 ft. dist.

The boundary of Petrified Forest National Monument extends northerly thru this sec. cor., identical with the Tp. bdy. Area to the W. is within the Monument.

Wire fence bearing N. 1°W. and S. 1°E. is about 2.00 chs. E.

Land, gently rolling.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

N. 1°00'E., on true line, bet. secs. 19 and 24.

Over gently rolling sandy plain, thru scattering undergrowth.

Ascend 30 ft. over S. slope.

12.00 Low ridge, bears E. and W.; desc. gradually over N. slope.

27.00 Sag, drains E. into dry lake about 2 chs. in diam., about 4 chs. E. of this point.

Ascend gradually over S. slope.

42.50 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor., with brass cap marked

	$\frac{1}{4}$		
	PFNM S24		S19
	1882		
	1938		

dig pits 24x24x12 ins., one each N. and S. of post, 3 ft. dist.

Wire fence, bearing N. 1°W. and S. 1°E. is about 70 lks. E.

Continue gradual ascent over S. slope.

61.36 Wire fence, bears N. 1°W. and S. 1°E.

85.00 (Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 27 ins. in the ground, for cor. of secs. 13, 18, 19 and 24, with brass cap marked

	PFNM		
	T20N		
	R24E		R25E
	S13		S18
	S24		S19
	1882		
	1938		

Resurvey: South half of West boundary of T. 20 N., R. 25 E.

12

Chains

dig pits 24x24x12 ins., one in each sec. 3 ft. dist.

Wire fence, bearing N. 1°W. and S. 1°E. is about 85  
lks. W.

The boundary of Petrified Forest National Monument extends southerly identical with the Tp. bdy., and easterly identical with the subdivision line bet. secs. 18 and 19. Secs. 13, 18 and 24 are within the Monument.

Discontinue resurvey of the Tp. bdy. at this cor.

Land; gently rolling.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

Reconstruction of the corner of Secs. 7, 12, 13 and 18.

The original cor. of secs. 7, 12, 13 and 18 is a limestone 15x15x8 ins. marked with 2 notches on N. edge and 4 notches on S. edge, and firmly set in a mound of stone.

Reconstruct this cor. monument as follows:

remove the stone and mound, and in center of its position, set an iron post, 3 ft. long, 2 ins. in diam., 18 ins. in the ground, to bedrock, with old cor. stone deposited at base, and in a mound of stone to top, for cor. of secs. 7, 12, 13 and 18, with brass cap marked

T20N	
R24E	R25E
S12	S7
S13	S18
1882	
1938	

dig pits 24x24x12 ins., one in each sec. 3 ft. dist.

U.S.G.S.B.M. (Sandhill Elev. 5903) bears S. 40°40'W.,  
6.41 chs. dist.Top of broken descent into badlands, bearing NE. and  
SW. is 1.00 ch. N.

## Resurvey: Part of Subdivision Lines of T. 20 N., R. 25 E.

BOOK 13

## Chains

The subdivision lines of T. 20 N., R. 25 E., were surveyed by Frank Follman, U.S. Deputy Surveyor, in 1882 and no retracement or resurvey of any part of same is of record.

The northwest quarter of this township is now within the Petrified Forest National Monument.

The following notes describe a dependent resurvey of those subdivision lines of this township which form a part of the boundary of said Monument, reconstructing existing corner monuments in their original positions, and reestablishing missing cor. monuments at intervals between existing cor. proportional to those of the official record.

Monument the reconstructed and reestablished corners with regulation brass-capped iron posts.

Preliminary to the resurvey the lines are retraced by random lines on record courses, but the following notes omit the record of such random lines and present only the resulting true courses and distances.

The cor. of secs. 15, 16, 21 and 22, is a sandstone 14x12 x6 ins., showing 3 grooves faintly marked on S. face, and firmly set in ground, on NW. slope of left bank of Dead River, 5 ft. high, bearing NE. and SW. The official record of the establishment of this corner monument describes a wood post in a mound of earth, witnessed by pits in each sec. Diligent search in this vicinity fails to reveal any trace of such a corner monument, and since retracements to the south and east are unsuccessful in locating control corners in those directions, accept the sandstone as marking the original cor. of secs. 15, 16, 21 and 22.

Reconstruct this cor. monument as follows: remove the stone, and in same place, set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in the ground, with the old stone deposited at base, for cor. of secs. 15, 16, 21 and 22, with brass cap marked

PFNM	
T20N	R25E
S16	S15
S21	S22

1882  
1938

raise a mound of stone, 4 ft. base, 2 ft. high, W. of cor.

The boundary of Petrified Forest National Monument extends northerly and westerly from this cor., identical with the subdivision lines. Sec. 16 is within the Monument.

Thence

N. 7°58'W., on true line, bet. secs. 15 and 16.

Over gently rolling land, thru scattering undergrowth.

Desc. slightly over NW. slope.

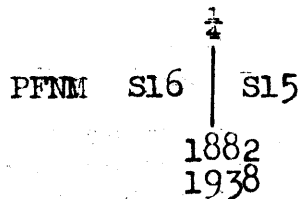
1.25 Foot of bank, bears NE. and SW.; thence across nearly level, dry, sandy bed of Dead River, course SW.

## Resurvey: Part of Subdivision Lines of T. 20 N., R. 25 E.

14

## Chains

- 15.00 Center of main channel of Dead River, 3 chs. wide, course SW. Continue across sandy river bed.
- 30.50 Foot of right bank of river, bears NE. and SW.; leave river bed. Ascend 4 ft. to
- 30.60 Top of right bank of Dead River, bears NE. and SW. Thence over gently rolling land. Ascend gradually over SE. slope.
- 39.57 (Midpoint) Set an iron post, 3 ft. long, 1 in. in diam., 27 ins. in the ground, for  $\frac{1}{4}$  sec. cor., with brass cap marked



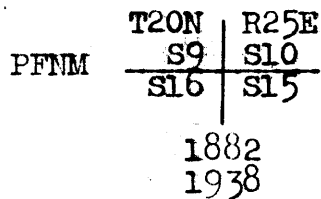
dig pits 24x24x12 ins., one each N. and S. of post, 3 ft. dist.

U.S.G.S.B.M. (VS 19 Elev. 5754) bears N. 79°20'W., 46.24 chs. dist.

Continue over gently rolling land, thru scattering undergrowth.

Ascend gradually over SE. slope.

- 79.14 The original cor. of secs. 9, 10, 15 and 16, which is a mound of earth with fragments of a crumbled sandstone lying on top. Faint traces of pits are visible in each sec.  
Reconstruct this cor. monument as follows:  
remove the mound, and in center of its position, set an iron post, 3 ft. long, 2 ins. in diam., 27 ins. in the ground, with the fragments of the old stone deposited at base, for cor. of secs. 9, 10, 15 and 16, with brass cap marked



raise a mound of stone, 4 ft. base, 2 ft. high, W. of cor,

The boundary of Petrified Forest National Monument extends northerly and southerly thru this sec. cor. identical with the subdivision lines. Area to the W. is within the Monument.

Land, gently rolling and nearly level.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

N. 0°45'E., on true line, bet. secs. 9 and 10.

Over gently rolling land, thru scattering undergrowth.  
Ascend gradually over SE. slope.



## Resurvey: Part of Subdivision Lines of T. 20 N., R. 25 E.

BOOK 4202

15

## Chains

16.50 Wash, 30 lks. wide, course SE.

41.27 (Midpoint) Set an iron post,  $\frac{3}{4}$  ft. long, 1 in. in diam., 27 ins. in the ground, for  $\frac{1}{4}$  sec. cor., with brass cap marked

		$\frac{1}{4}$	
	PFNM	S9	S10
		1882	
		1938	

raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

Continue gradual ascent over SE. slope.

59.50 Wash, 50 lks. wide, course SE.

82.54 The original cor. of secs. 3, 4, 9 and 10, which is a mound of earth and stone, Faint traces of pits in each sec. The wood post of record cannot be found. Reconstruct this cor. monument as follows: remove the mound, and in center of its position, set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in the ground, for cor. of secs. 3, 4, 9 and 10, with brass cap marked

	T20N		R25E
PFNM	S4		S3
	S9		S10
			1882
			1938

raise a mound of stone, 4 ft. base, 2 ft. high, W. of cor.

The boundary of Petrified Forest National Monument extends northerly and southerly thru this sec. cor., identical with the subdivision lines. Area to the W. is within the Monument.

Land, gently rolling.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

N.  $0^{\circ}41'E.$ , on true line, bet. secs. 3 and 4 ( $S.\frac{1}{2}$ ).

Over gently rolling land, thru scattering undergrowth.

Ascend gradually over SE. slope.

16.90 Earthen reservoir bears West 3 chs. dist.

22.30 Wash, 30 lks. wide, course SE.

29.70 Center of wash, 150 lks. wide, course SE.

38.10 The original  $\frac{1}{4}$  sec. cor., which is a mound of earth and stone. No trace of the wood post of record can be found in the vicinity. Reconstruct this cor. monument as follows: remove the mound, and in center of its position, set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor., with brass cap marked

## Resurvey: Part of Subdivision Lines of T. 20 N., R. 25 E.

16

Chains

$$\begin{array}{c} \frac{1}{2} \\ \text{PFNM S4} \mid \text{S3} \\ 1882 \\ 1938 \end{array}$$

raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

Thence

N.  $0^{\circ}41'E.$ , on true line, bet. secs. 3 and 4 (N.  $\frac{1}{2}$ ).

Over gently rolling land, thru scattering undergrowth.

Ascend gradually over SE. slope.

25.80 Enter wash, 50 lks. wide, course SE. from N. Ascend slightly in wash to

35.00 Leave wash, course S. from NW.; ascend gradually over SE. slope.

44.80 The original closing cor. of secs. 3 and 4, on 5th Std. Parallel N., which is a mound of earth and stone, with faint traces of pits, one each E., W. and S. No trace of the wood post of record can be found. The original std. cor. of secs. 33 and 34, T. 21 N., R. 25 E., reconstructed as hereinbefore described, bears West 3.45 chs. dist. which agrees with the official record. Reconstruct this closing cor. monument as follows: remove the mound, and in center of its position, set an iron post, 3 ft. long, 2 ins. in diam., 18 ins. in the ground to bedrock, with a stone 6x5x5 ins. marked with a cross (x) deposited at base, and in a mound of stone to top, for closing cor. of secs. 3 and 4, with brass cap marked

$$\begin{array}{c} \text{T21N R25E} \\ \text{S34} \\ \hline \text{S4} \mid \text{S3} \\ \text{T20N} \mid \text{R25E} \\ \text{CC} \end{array}$$

PFNM

$$\begin{array}{c} 1882 \\ 1938 \end{array}$$

The boundary of Petrified Forest National Monument extends westerly and southerly from this cor., identical with the std. parallel and the subdivision line. Sec. 4 is within the Monument.

Land, gently rolling.

Soil, sandy and rocky, 3rd and 4th rates.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

From the cor. of secs. 15, 16, 21 and 22.

N.  $82^{\circ}37'W.$ , on true line, bet. secs. 16 and 21.

Over gently rolling land, thru scattering undergrowth.

Descend slightly over NW. slope to

1.00 Foot of bank, bears NE. and SW.; thence across nearly level, dry, sandy bed of Dead River, course SW.

7.45 Foot of right bank of Dead River, bears NE. and SW. Leave

## Resurvey: Part of Subdivision Lines of T. 20 N., R. 25 E.

BOOK 4103

17

Chains	river bed. Ascend 5 ft. over SE. slope to.						
7.60	Top of river bank, bears NE. and SW. Reenter gently rolling land. Ascend gradually over SE. slope.						
35.25	Toe of spur, sloping S.; desc. gradually over SW. slope.						
38.73	(Midpoint) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked						
	PFNM $\frac{1}{4} \frac{S16}{S21}$  1882 1938						
	raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.						
	Desc. slightly over SW. slope.						
38.85	Wash, 10 lks. wide, course SE.; asc. gradually over SE. slope.						
45.00	Desc. gradually over SW. slope.						
53.05	Wash, 30 lks. wide, course S.; ascend gradually over SE. slope to sec. cor.						
56.45	Wash, 30 lks. wide, course SE.						
61.90	Wash, 30 lks. wide, course SE.						
68.20	Wash, 20 lks. wide, course SE.						
77.45	<p>The original cor. of secs. 16, 17, 20 and 21, which is a sandstone 10x10x4 ins., marked with 3 grooves on S. face, firmly set in a mound of earth. No accessories. No trace of wood post of record can be found in this vicinity.</p> <p>Reconstruct this cor. monument as follows: remove the stone and mound, and in center of its position, set an iron post; 3 ft. long, 2 ins. in diam., 27 ins. in the ground, with the old stone deposited at base, for cor. of secs. 16, 17, 20 and 21, with brass cap marked</p>						
	PFNM <table border="1" style="margin: auto;"> <tr> <td>T20N</td> <td>R25E</td> </tr> <tr> <td>S17</td> <td>S16</td> </tr> <tr> <td>S20</td> <td>S21</td> </tr> </table> 1882 1938	T20N	R25E	S17	S16	S20	S21
T20N	R25E						
S17	S16						
S20	S21						
	raise a mound of stone, 4 ft. base, 2 ft. high, N. of cor.						
	The boundary of Petrified Forest National Monument extends easterly and westerly thru this sec. cor. identical with the subdivision lines. Area to the N. is within the Monument.						
	Land, gently rolling and nearly level. Soil, sandy, 3rd rate. Timber, none. Undergrowth, native weeds, grasses and cacti.						

Chains

N. 88°00'W., on true line, bet. secs. 17 and 20 (E.  $\frac{1}{2}$ ).

Over gently rolling land, thru scattering undergrowth.

Ascend gradually over SE. slope.

5.14 Low ridge, bears N. 20°E. and S. 20°W.; desc. gradually over NW. slope.

25.00 Wash, 14 lks. wide, course SW.; thence over S. slope.

42.14 The original  $\frac{1}{4}$  sec. cor., which is a sandstone 12x10x4 ins., marked  $\frac{1}{4}$  on N. face, firmly set in a mound of earth. No accessories. No trace of wood post of record can be found in this vicinity.

Reconstruct this cor. monument as follows: remove the stone and mound, and in center of its position, set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, with the old stone deposited at base, for  $\frac{1}{4}$  sec. cor., with brass cap marked

$$\frac{1}{4} \begin{array}{c} \text{PFNM} \\ \text{S17} \\ \hline \text{S20} \end{array}$$

$$\begin{array}{c} 1882 \\ 1938 \end{array}$$

raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.

Thence

S. 85°27'W., on true line, bet. secs. 17 and 20 (W.  $\frac{1}{2}$ ).

Over gently rolling land, thru scattering undergrowth.

Desc. slightly over SW. slope.

3.44 Wash, 20 lks. wide, course S.; asc. gradually over SE. slope.

7.45 Wash, 20 lks. wide, course SE.; asc. 39 ft. over E. slope.

25.50 Short spur, slopes SE.; desc. over SW. slope.

32.54 Head of sag, drains SE.; asc. 17 ft. over NE. slope to

35.94 The original cor. of secs. 17, 18, 19 and 20, which is a sandstone 10x5x4 ins., marked with 3 grooves on S. face, firmly set in a mound of earth. No accessories. No trace of wood post of record can be found in this vicinity.

Reconstruct this cor. monument as follows: remove the stone and mound, and in center of its position, set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in the ground, with the old stone deposited at base, for cor. of secs. 17, 18, 19 and 20, with brass cap marked

$$\begin{array}{ccc} & \text{PFNM} & \\ \text{T20N} & | & \text{R25E} \\ \text{S18} & | & \text{S17} \\ \hline \text{S19} & | & \text{S20} \end{array}$$

$$\begin{array}{c} 1882 \\ 1938 \end{array}$$

dig pits 24x24x12 ins., one in each sec., 3 ft. dist.

## Resurvey: Part of Subdivision Lines of T. 20 N., R. 25 E.

BOOK 402

19

## Chains

The boundary of Petrified Forest National Monument extends easterly and westerly thru this sec. cor., identical with the subdivision lines. Area to the N. is within the Monument.

Land, gently rolling.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

From the cor. of secs. 13, 18, 19 and 24, on W. bdy. of the Tp., reestablished under this group as hereinbefore described,

S. 84°50'E., on true line, bet. secs. 18 and 19.

Over gently rolling land, thru scattering undergrowth, along S. slope.

29.00 Low spur, slopes SE.; descend gradually over NE. slope.

39.33 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor., with brass cap marked

$$\begin{array}{r} \text{PFNM} \\ \frac{1}{4} \frac{\text{S18}}{\text{S19}} \end{array}$$

1882  
1938

dig pits 24x24x12 ins., one each E. and W. of post, 3 ft. dist.

Continue gradual descent over gently rolling NE. slope.

80.06 The cor. of secs. 17, 18, 19 and 20.

Land, gently rolling.

Soil, sandy, 3rd rate.

Timber, none.

Undergrowth, native weeds, grasses and cacti.

The continued satisfactory adjustment of Buff transit No. 18000 throughout the resurveys described in the foregoing field notes is indicated from the results of preliminary test of same described in the notes of resurveys in T. 19 N., R. 23 E., and the final test for this group, described in the notes of resurveys and surveys in T. 18 N., R. 24 E.

## GENERAL DESCRIPTION

This township is located in the southern part of the northeastern quarter of the State of Arizona, in the drainage basin of the Little Colorado River, at an average elevation of 5700 feet above sea level. The highest elevation in the township is 5900 feet in the southwest part of section 7.

The larger part of the surface is either gently rolling or nearly level. Parts of sections 5, 6 and 7 are rough, broken, badlands. Some areas can be classed as hilly.

The soil is in general sandy, 3rd rate. In the northwestern part the soil is rocky and gumbo, 4th rate.

There is no timber except in section 1 where there is a scattering growth of cedar.

A scattering undergrowth of various kinds of native weeds, grasses and cacti is prevalent in all sections.

There are no springs or streams of running water. Parts of sections 5, 6 and 7 drain westerly into Lithodendron Wash, course southerly thru the east half of the adjoining township to the west. The southeastern part of the township drains southerly into the Rio Puerco River, course southwesterly thru the adjoining township to the south. The remainder of the township is drained by the Dead River, a normally dry watercourse, course southerly thru the township from the north boundary of section 3 to the south boundary of section 32.

U.S. Highway No. 66, paved, and fenced both sides, crosses the south half of the township, southwesterly from the east boundary of section 24 to the west boundary of section 31. The old highway lies to the south of the present improved highway, not parallel thereto, but varying from about 20 to 70 chs. distant. There are no other improved roads in the township. A road extends northerly and southerly thru the east half of the township, and another road bearing northwest and southeast crosses the southwest quarter. There are a number of old roads in the southern part. There are no roads in the northwest quarter.

The Atchison, Topeka and Santa Fe Railroad, bearing NE. and SW., double tracked, with its right-of-way fenced both sides, and paralleled within the R. of W. by telegraph and telephone lines, crosses section 36 in close proximity to the SE. cor. of the township. At this point is located the railroad station named PINTA. Improvements there consist of depot, section house, stock loading pens, fences, spur tracks, etc.

There is an old house in section 32, near and north of the old highway. In addition to the highway and railroad fences there are fence lines along parts of all the township boundaries, and a number of fences within the township, mainly in the southwest quarter to the south of the highway.

There are no indications of valuable mineral deposits.

The Petrified Forest National Monument embraces the northwest quarter of this township, and all of the adjoining township to the west. The adjoining township to the north is within the Navajo Indian Reservation.

The town of Holbrook, Arizona, on the A.T. & S.F. Railroad, and U.S. Highway No. 66, is about 30 miles southwesterly.

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BOOK 400

4-680  
(Revised May 1934)

**FIELD ASSISTANTS**

**Benjamin J. Kinsey, Surveyor and Cadastral Engineer**

NAMES	CAPACITY
Clair Pearson	Prin. Assistant
Walter Wright	Chainman
Norman Simser	Flagman
Heber Kleinman	Cornerman
Eslie C. Landis	Cornerman
Jack Williams	Axeman
Louis L. Francis, Jr.	Axeman

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BOOK 4201

### CERTIFICATE OF UNITED STATES SURVEYOR

I, Benjamin J. Kinsey, Cadastral Engineer, HEREBY CERTIFY upon honor that, in pursuance of special instructions bearing date of the 8th day of March, 1938, received from the district cadastral engineer for Arizona, with assignment instructions dated April 13, 1938, I have resurveyed the Fifth Standard Parallel North thru West half of Range 25 East, South half of West Boundary and part of the Subdivision Lines of

Township no. 20 North, Range No. 25 East

of the Gila and Salt River Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me and under my direction; and that said <sup>re-</sup>survey has been made in strict conformity with said instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, and in the specific manner described in the foregoing field notes.

T. 10 S., R. 31 E., Arizona  
March 20, 1939

Benjamin J. Kinsey  
Cadastral Engineer

### CERTIFICATE OF APPROVAL

OFFICE OF ~~the~~ SUPERVISOR OF SURVEYS,  
Denver, Colorado, March 25, 1939

The foregoing field notes of the resurvey of Fifth Standard Parallel North thru West half of Range 25 East, South half of West Boundary and Part of the Subdivision Lines of

Township No. 20 North, Range No. 25 East

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

executed by Benjamin J. Kinsey, Cadastral Engineer, under special instructions dated March 8, 1938 for Group 222, Arizona, and assignment instructions dated April 13, 1938, having been critically examined, and the necessary corrections made prior to their certification by the engineer, the said field notes, and the <sup>re-</sup>survey therein described, are hereby approved.

Samuel Johnson  
Supervisor of Surveys.

### CERTIFICATE OF TRANSCRIPT

I certify that the foregoing transcript of the field notes of the above-described surveys in \_\_\_\_\_, is a true copy of the original field notes on file in the public survey office.

U.S. Supervisor of Surveys.