

4-679
(April 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

BOOK 4200

FIELD NOTES

OF RESURVEY OF

PART OF THE NORTH BOUNDARY

and

PART OF THE SUBDIVISION LINES

of

TOWNSHIP No. 19 NORTH, RANGE No. 24 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 May 10, 1938

Re Survey completed July 23, 1938

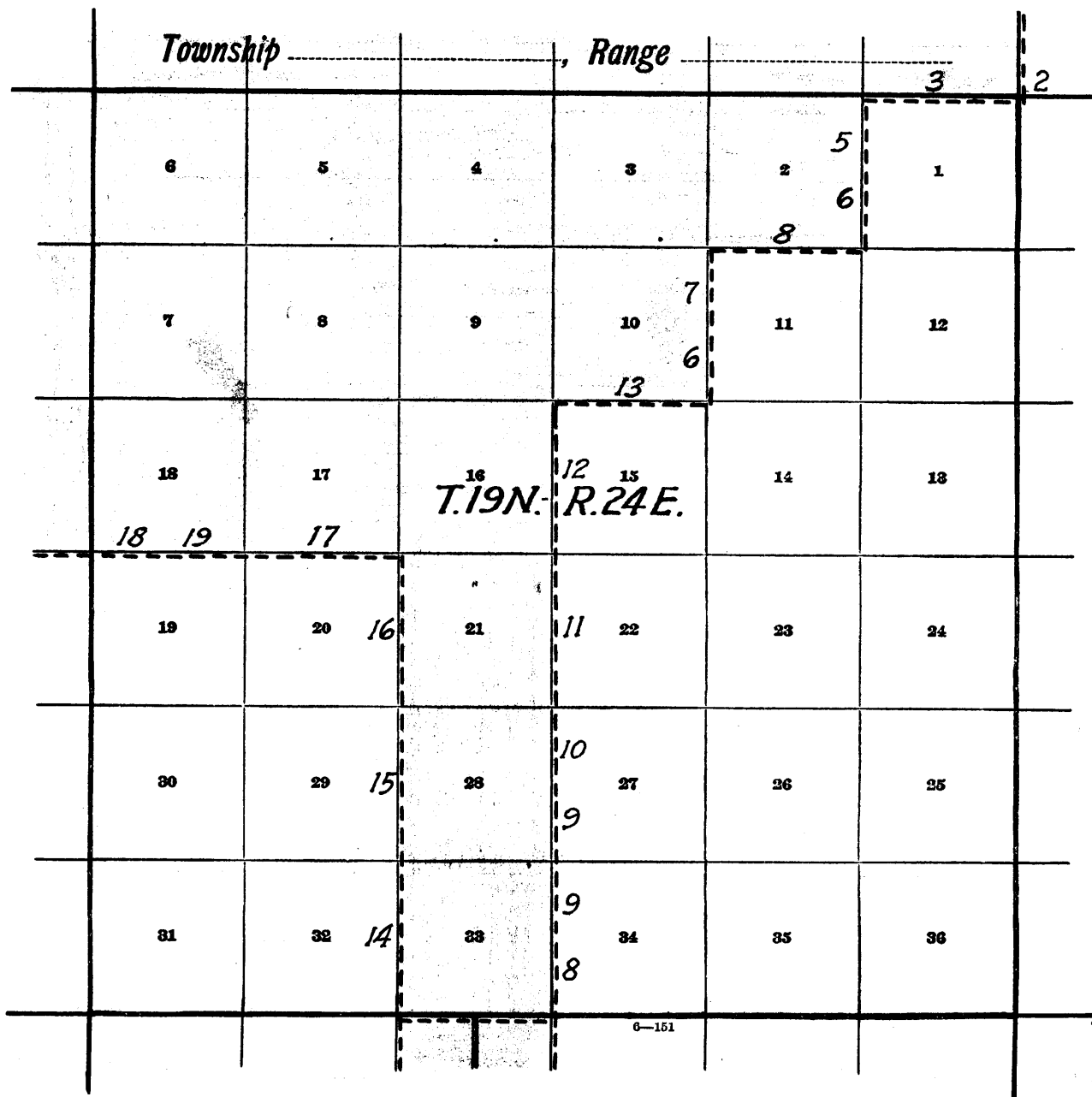
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4200


146
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BOOK 4200


4200
INDEX DIAGRAM.



 Area within Petrified Forest National Monument.

 Lines of accepted surveys.

 Lines resurveyed under this group.

 Lines surveyed under this group.

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.

May 15, 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; $18^{\circ}49\frac{1}{2}'N.$ 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 $18^{\circ}51'N.$ 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 $18^{\circ}53'N.$ 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: Part of North Boundary of T. 19 N., R. 24 E.

2.

Chains

The north boundary of T. 19 N., R. 24 E. was surveyed by H. Meyrick, U.S. Deputy Surveyor in 1882, and no retracement or resurvey of any part of said Tp. boundary is of record.

The following notes describe a dependent resurvey of the east 1 mile of said township bdy., reconstructing the original corner monuments with regulation brass capped iron posts, in their original positions, and retaining their original reference.

This resurveyed portion of the Tp. bdy. is identical with a part of the boundary of the Petrified Forest National Monument, the land to the N. being within said Monument.

Retracement for Resurvey.

From the original cor. of secs. 1, 2, 35 and 36, S. 89°54'E., on random line, bet. secs. 1 and 36 (W. 1/2).

40.50 A point 54 lks. N. of the original 1/4 sec. cor.

The true course and dist. of W 1/2 of line bet. secs. 1 and 36 are therefore, N. 89°08'W., 40.50 chs.

Thence

S. 89°54'E., on random line, bet. secs. 1 and 36 (E. 1/2)

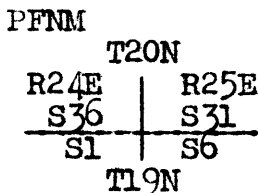
42.12 A point 2.56 chs. N. of the original cor. of Ts. 19 and 20 N., Rs. 24 and 25 E.

The true course and dist. of E. 1/2 of line bet. secs. 1 and 36 are therefore, N. 86°26'W., 42.20 chs.

RESURVEY

The original cor. of Ts. 19 and 20 N., Rs. 24 and 25 E., established by H. Meyrick, U.S.D.S. in 1882, is a mound of earth on top of which is lying a wood post, 3x4 ins. 4 ft. long, bearing faint but only partly legible marking on each face. Faint traces of old pits, one each E., W., N. and S., 6 ft. dist.

Reconstruct this Tp. cor. monument as follows: remove the mound, and in center of its position, set an iron post, 3 ft. long, 3 ins. in diam., 26 ins. in the ground, with the old wood post reset 3 ft. in ground alongside, for cor. of Ts. 19 and 20 N., Rs. 24 and 25 E., with brass cap marked



1882
1938

dig pits 24x24x12 ins., one each N., S., E. and W. of post, 6 ft. dist.

The boundary of Petrified Forest National Monument extends

Resurvey: Part of North Boundary of T. 19 N., R. 24 E.

3.

Chains

westerly and northerly from this Tp. cor., identical with the township boundaries.

U.S.G.S.B.M. (VS23 Elev. 5631) bears N. 0°48'E., 781 lks. dist.

Thence

N. 86°26'W., on true line, bet. secs. 1 and 36 (E. $\frac{1}{2}$).

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

42.20 The original $\frac{1}{4}$ sec. cor. of secs. 1 and 36, which is a mound of earth and stone, on top of which is lying several fragments of a broken sandstone. One fragment bears faint marking " $\frac{1}{4}$ ".

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 fragments of old cor. stone deposited at base, and raise a mound of stone around post, for $\frac{1}{4}$ sec. cor., with brass cap marked

$$\begin{array}{r} \text{PFNM} \\ \frac{1}{4} \text{ } \frac{\text{S36}}{\text{S1}} \end{array}$$

1882
1938

Thence

N. 89°08'W., on true line, bet. secs. 1 and 36 (W. $\frac{1}{2}$).

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

38.15 Telephone line, bears N. 70°E. and S. 70°W., parallel to and about 250 lks. S. from U.S. Highway No. 66.

40.50 The original cor. of secs. 1, 2, 35 and 36, which is a mound of earth and stone, witnessed by faint traces of pits, one 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., 24 ins. in the ground to bedrock, and in a mound of stone to top, for cor. of secs. 1, 2, 35 and 36, with brass cap marked

$$\begin{array}{r} \text{PFNM} \\ \text{T19N R24E} \\ \frac{\text{S35} \mid \text{S36}}{\text{S2} \mid \text{S1}} \\ \text{T19N} \end{array}$$

1882
1938

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

U.S.G.S.B.M. (Elev. 5729.2) bears N. 51°45'W., 131 lks. dist.

The boundary of Petrified Forest National Monument extends easterly from this cor. identical with the Tp. bdy., and southerly identical with the subdivision line bet. secs. 1 and 2, T. 19 N., R. 24 E., therefore discontinue resurvey of the N. bdy. of T. 19 N., R. 24 E., at this sec. cor.

Resurvey: Part of North Boundary of T. 19 N., R. 24 E.

4.

Chains

Land, gently rolling.
Soil, sandy, 3rd rate.
Timber, none.
Undergrowth, native weeds, and grasses.

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

5.

Chains	<p>The subdivision lines of T. 19 N., R. 24 E., were surveyed by Henry Meyrick, 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 subdivision lines which form part of the boundary of the Petrified Forest National Monument; reconstructing existing corner monuments in their original positions and reestablishing missing corners at intervals between existing corners proportional to the record of the original survey, except the cors. on lines bet. secs. 17 and 20, 20 and 21, 28 and 29, which are reestablished by single proportion between the cor. of secs. 16, 17, 20 and 21 reestablished by collateral evidence of U.S. Park Service fence cor., and original sec. cors. one mile westerly and two miles southerly therefrom.</p> <p>Monument all reconstructed and reestablished corners with regulation brass-capped iron posts.</p> <p>Preliminary to the resurvey, all of the lines were retraced by random lines on record courses, but the following notes omit a record of such random lines and present only the true courses and distances.</p> <hr/> <p>From the cor. of secs. 1, 2, 35 and 36, on N. bdy. of the Tp., hereinbefore described,</p> <p>S. 1°00'W., on true line, bet. secs. 1 and 2 (N. $\frac{1}{2}$).</p> <p>Over gently rolling sandy plain, thru scattering undergrowth.</p> <p>Desc. gradually over SE. slope.</p> <p>0.91 Telephone line, bears N. 70°E., and S. 70°W.</p> <p>3.60 Old stage road, bears E. and W.</p> <p>14.00 Enter flat, bears NE. and SW..</p> <p>27.00 Leave flat, bears NW. and SE. Enter badlands. Asc. 59 ft. over NE. slope.</p> <p>36.00 Spur, slopes E.; desc. 63 ft. over SE. slope to</p> <p>41.20 The original $\frac{1}{4}$ sec. cor., which is a mound of stone. 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., 18 ins. in the ground to bedrock, with a stone marked with a cross (x) deposited at base, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor., with brass cap marked</p> <div style="text-align: center;"> $\frac{1}{4}$ PFNM S2 S1 1882 1938 </div> <p>Thence</p> <p>S. 0°30'W., on true line, bet. secs. 1 and 2 (S. $\frac{1}{2}$).</p> <p>Over level land, thru scattering undergrowth.</p> <p>2.07 Leave level and enter rolling land. Asc. 23 ft. over N. slope.</p>
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Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

6.

Chains

4.10 Top of ascent near E. end of a blue butte, about 10 chs. long, bearing E. and W. Desc. 29 ft. over SE. slope.

12.92 Wash, 50 lks. wide, course SE. Leave rolling and enter level land.

24.05 Leave level and enter gently rolling land. Asc. 37 ft. over NE. slope to

32.07 The original cor. of secs. 1, 2, 11 and 12, which is a sandstone 2x8x12 ins., marked with 1 groove on N. face, firmly set. No accessories.
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 old cor. stone reset alongside, for cor. of secs. 1, 2, 11 and 12, with brass cap marked

PFNM

T19N	R24E
S2	S1
S11	S12

1882
1938

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

The boundary of Petrified Forest National Monument extends westerly and northerly from this cor., identical with subdivision lines. Section 2 is within said Monument.

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

The original cor. of secs. 10, 11, 14 and 15 is a sandstone 8x12x16 ins., marked with 4 notches on S. edge, 2 notches on E. edge, and 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, 2 ins. in diam., 20 ins. in the ground, to bedrock, with old cor. stone reset alongside, and in a mound of stone to top, for cor. of secs. 10, 11, 14 and 15, with brass cap marked

PFNM

T19N	R24E
S10	S11
S15	S14

1882
1938

The boundary of Petrified Forest National Monument extends westerly and northerly from this cor., identical with subdivision lines. Section 10 is within said Monument.

Thence

N. 2°20'W., on true line, bet. secs. 10 and 11.

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

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

7.

Chains

- 8.50 Low spur, slopes SE. Thence across top of same, ascending gradually.
- 27.50 Leave top of spur; desc. gradually over NE. slope.
- 35.00 Wash, 5 lks. wide, course SE.; asc. gradually over SE. slope.
- 40.30 (Midpoint) Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bedrock, with a stone marked with a cross (x) deposited at base, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor., with brass cap marked
- | | | |
|------|---------------|-----|
| | $\frac{1}{4}$ | |
| PFNM | S10 | S11 |
| | 1882 | |
| | 1938 | |
- ascend gradually over SE. slope to
- 43.20 Rim, bears NE. and SW. Leave gently rolling and enter level sandy plain.
- 80.60 The original cor. of secs. 2, 3, 10 and 11, which is a sandstone 3x12x12 ins., marked with 5 notches on S. edge, 2 notches on E. edge, and firmly set. No accessories.
Reconstruct this cor. monument as follows:
remove the stone, and in same place, set an iron post, 3 ft. long, 2 ins. in diam., 25 ins. in the ground to bedrock, with old cor. stone reset alongside, and in a mound of stone to top, for cor. of secs. 2, 3, 10 and 11, with brass cap marked
- | | | |
|--|------|------|
| | PFNM | |
| | T19N | R24E |
| | S3 | S2 |
| | S10 | S11 |
| | 1882 | |
| | 1938 | |
- U.S.G.S.B.M. (VS22 Elev. 5814) bears N. 12°40'E., 50.33 chs. dist.
- Fence cor. bears N. 64°40'W., 90 lks. dist., from which fences extend N., S. and S. 70°W.
- Painted Desert Inn, bears N. 41°55'W., about 113 chs. dist.
- Two frame houses, about 4 $\frac{1}{2}$ chs. apart E. and W., bear N. 70°40'W. about 80 chs. dist.
- House bears N. 8°E., about 25 chs. dist.
- Checking station, bears N. 11 $\frac{3}{4}$ °W., about 20 chs. dist.
- The boundary of Petrified Forest National Monument extends easterly and southerly from this cor., identical with the subdivision lines. Sections 2, 3, and 10 are within said Monument.
- Land, gently rolling and level.
Soil, sandy, 3rd rate.
Timber, none.
Undergrowth, native weeds, grasses and cacti.

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

8.

Chains	<p>From the cor. of secs. 1, 2, 11 and 12, hereinbefore described,</p> <p>N. 89°40'W., on true line, bet. secs. 2 and 11 (E. $\frac{1}{2}$).</p> <p>Over gently rolling land, thru scattering undergrowth. Ascend gradually over NE. slope.</p> <p>21.00 Desc. gradually over SW. slope.</p> <p>26.20 Wash, 10 lks. wide, course SE.; asc. over NE. slope to</p> <p>29.80 Rim, bears N. and S. Leave gently rolling land and enter nearly level sandy plain.</p> <p>42.70 The original $\frac{1}{4}$ sec. cor., which is a sandstone 7x8x8 ins. firmly set in a mound of earth and stone. Marking has been obliterated by erosion. 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., 25 ins. in the ground to bedrock, with old cor. stone reset alongside, and in a mound of stone to top, for $\frac{1}{4}$ sec. cor., with brass cap marked</p> <p style="text-align: center;">PFNM $\frac{1}{4}$ $\frac{S2}{S11}$ 1882 1938</p> <p>raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.</p> <p>Thence</p> <p>S. 74°40'W., on true line, bet. secs. 2 and 11 (W. $\frac{1}{2}$).</p> <p>Over nearly level sandy plain, thru scattering undergrowth.</p> <p>37.90 The cor. of secs. 2, 3, 10 and 11, hereinbefore described.</p> <p>Land, gently rolling and nearly level. Soil, sandy, 3rd rate. Timber, none. Undergrowth, native weeds, grasses and cacti.</p> <hr/> <p>From cor. of secs. 3, 4, 33 and 34, on S. bdy. of the Tp., reconstructed under this group as described in field notes of resurvey of part of N. bdy. of T. 18 N., R. 24 E.</p> <p>N. 3°50'W., on true line, bet. secs. 33 and 34 (S. $\frac{1}{2}$).</p> <p>Over gently rolling sandy plain thru scattering undergrowth. Ascend gradually over SE. slope.</p> <p>40.50 The original $\frac{1}{4}$ sec. cor., which is a sandstone, 2x12x12 ins., marked $\frac{1}{4}$ on W. face, 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, 1 in. in diam., 26 ins. in the ground, with old cor. stone reset alongside, for $\frac{1}{4}$ sec. cor., with brass cap marked</p>
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Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

9.

Chains										
	$\frac{1}{4}$ PFNM S33 S34 1882 1938 raise a mound of stone; 3 ft. base, 2 ft. high, W. of cor. Thence N. 0°10'E., on true line, bet. secs. 33 and 34 (N. $\frac{1}{2}$). Over gently rolling land, thru scattering undergrowth. Descend gradually over NE. slope. 2.20 Wash, 5 lks. wide, course SE.; asc. 40 ft. over S. slope to 10.80 Rim, bears E. and W., asc. gradually over SE. slope. 26.20 Low spur, slopes NE.; desc. gradually over N. slope. 35.00 Wash, 10 lks. wide, course SE.; asc. 20 ft. over S. slope to 40.20 The original cor. of secs. 27, 28, 33 and 34; which is a mound of earth and stone. Though no marked stone is found in the mound, its position is approximately midway between original $\frac{1}{4}$ sec. cors. northerly and southerly and at record dist. westerly from top of a bluff, therefore accept the mound as a remains of the original cor. monument: 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., 18 ins. in the ground to bedrock, with a stone marked with a cross (X) deposited at base; and in a mound of stone to top, for cor. of secs. 27, 28, 33 and 34, with brass cap marked <div style="text-align: center;"> <table border="1" style="margin: auto;"> <tr> <td></td> <td>T19N</td> <td>R24E</td> </tr> <tr> <td>PFNM</td> <td>S28</td> <td>S27</td> </tr> <tr> <td></td> <td>S33</td> <td>S34</td> </tr> </table> 1882 1938 The boundary of Petrified Forest National Monument extends northerly and southerly thru this sec. cor. identical with subdivision lines. Secs. 28 and 33 are within said Monument. Land, gently rolling. Soil, sandy and rocky, 3rd and 4th rates. Timber, none. Undergrowth, native weeds, grasses and cacti. <hr/> N. 1°23'E., on true line, bet. secs. 27 and 28 (S. $\frac{1}{2}$). Over rolling land, thru scattering undergrowth. Asc. 18 ft. over S. slope to 0.40 Rim, bears E. and W. Thence over level bench. 17.50 Leave level bench and asc. 15 ft. over broken SE. slope. 25.40 Point of spur, slopes SE.; desc. 29 ft. over NE. slope. </div>		T19N	R24E	PFNM	S28	S27		S33	S34
	T19N	R24E								
PFNM	S28	S27								
	S33	S34								

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

10

Chains

- 30.35 Wash, 10 lks. wide, course SE.; asc. 39 ft. over SW. slope.
- 37.35 Spur, slopes SE.; desc. 12 ft. over NE. slope to
- 40.00 The original $\frac{1}{4}$ sec. cor., which is a sandstone, 6x10x14 ins., marked $\frac{1}{4}$ on W. face, and firmly set in ground. No accessories.
Reconstruct this cor. monument as follows:
remove the stone, and in same place, set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, with old cor. stone reset alongside, for $\frac{1}{4}$ sec. cor., with brass cap marked
- | | | |
|------|---------------|-----|
| | $\frac{1}{4}$ | |
| PFNM | S28 | S27 |
| | 1882 | |
| | 1938 | |
- raise a mound of stone, 4 ft. base, 2 ft. high, W. of cor.
- Thence,
- N. 2°33'E., on true line, bet. secs. 27 and 28 (N. $\frac{1}{2}$).
- Over rolling land, thru scattering undergrowth.
Desc. 24 ft. over NE. slope.
- 8.55 Wash, 15 lks. wide, course SE.; asc. gradually over SE. slope.
- 9.60 Road, bears E. and W.
- 17.40 Spur, slopes E. and rim of clay colored badlands bears NE. and NW. Desc. 29 ft. over N. slope to
- 22.40 Foot of slope, bears E. and W. Leave rolling and broken land and enter level land.
- 38.97 The original cor. of secs. 21, 22, 27 and 28, which is a sandstone 5x8x8 ins., faintly notched on E. and S. edges, and firmly set in ground. No accessories.
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 old cor. stone reset alongside, for cor. of secs. 21, 22, 27 and 28, with brass cap marked
- | | | |
|------|------|------|
| | T19N | R24E |
| PFNM | S21 | S22 |
| | S28 | S27 |
| | 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 subdivision lines. Secs. 21 and 28 are within said Monument.
- Land, rolling, level and broken.
Soil, sandy and rocky, 3rd and 4th rates.
Timber, none.
Undergrowth, native weeds, grasses and cacti.

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

BOOK 4200 11

Chains	
	N. 1°44'E., on true line, between secs. 21 and 22 (S. $\frac{1}{2}$). Over level land, thru scattering undergrowth.
2.10	Wash, 30 lks. wide, 2 ft. deep, course SE.
8.00	Leave level land, and enter rolling and broken land. Asc. over S. slope to
12.30	Broken E. rim of mesa, bears NE. and W. Thence over level land on mesa near E. rim.
25.50	Wash, in cove, course E.; asc. 40 ft. over SE. slope.
30.45	Point in rim of mesa, bears NW. and SW.; desc. 74 ft. over NE. slope.
33.20	Wash, 30 lks. wide, course SE. Thence over level land.
38.20	The original $\frac{1}{4}$ sec. cor., which is a sandstone 1x13x14 ins., marked $\frac{1}{4}$ on W. face, and firmly set. No accessor- ies. Reconstruct this cor. monument as follows: remove the stone, and in same place, set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, with old cor. stone reset alongside, for $\frac{1}{4}$ sec. cor., with brass cap marked
	$\frac{1}{4}$ PFNM S21 S22 1882 1938
	raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.
	Thence
	N. 0°21'W., on true line, bet. secs. 21 and 22 (N. $\frac{1}{2}$). Over level land, thru scattering undergrowth.
2.20	Wash, 5 lks. wide, course SE.
8.55	Leave level and enter rolling land; asc. 95 ft. over SE. slope.
11.80	Rim of mesa, bears NE. and SW. Thence across level mesa.
16.50	Same rim of mesa, bears E. and W. Leave mesa and reenter rolling land. Desc. 65 ft. over NE. slope.
19.15	Wash, 10 lks. wide, course E.; asc. 65 ft. over SE. slope.
20.75	Point of mesa rim, bears NW. and SW.; desc. 40 ft. over NE. slope.
24.25	Asc. 52 ft. over rocky SE. slope.
29.00	Rim of mesa, bears NE. and SW. Thence over level point of mesa.
30.55	Same rim, bears NW. and SE.; desc. 70 ft. over NE. slope.
32.50	Foot of slope, bears E. and W.
33.50	Wash, 20 lks. wide, course SE.; asc. gradually over SE. slope.

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

12

Chains

38.56

The original cor. of secs. 15, 16, 21 and 22, which is a piece of petrified wood, 6x10x12 ins., marked with 3 notches on each of E. and S. edges, and firmly set. No accessories.

Reconstruct this cor. monument as follows:

remove the piece of petrified wood, and in same place, set an iron post, 3 ft. long, 2 ins. in diam., 14 ins. in the ground to bedrock, with the piece of petrified wood reset alongside, and in a mound of stone to top, for cor. of secs. 15, 16, 21 and 22, with brass cap marked

	T19N	R24E
PFNM	S16	S15
	S21	S22

1882
1938

The boundary of Petrified Forest National Monument extends northerly and southerly thru this cor., identical with subdivision lines. Secs. 16 and 21 are within said Monument.

Land, level, rolling and broken.

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

Timber, none.

Undergrowth, native weeds, grasses and cacti.

N. 0°40'W., on true line, bet. secs. 15 and 16 (S. $\frac{1}{2}$).

Over gently rolling land, thru scattering undergrowth. Desc. gradually over NE. slope.

3.83

Wash, 15 lks. wide, course SE.; asc. gradually over SE. slope to

39.93

The original $\frac{1}{4}$ sec. cor., which is a mound of earth and stone on top of which are several fragments of a broken sandstone, evidently remains of the original cor. stone, tho no marking is found on any of the fragments.

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, with the fragments of the old cor. stone deposited at base, for $\frac{1}{4}$ sec. cor., with brass cap marked

	$\frac{1}{4}$	
PFNM	S16	S15

1882
1938

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

Thence

N, 1°23'W., on true line, bet. secs. 15 and 16 (N. $\frac{1}{2}$).

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

4.30

Rim of mesa, bears NE. and SW. Thence over nearly level land on mesa.

39.61

The remains of original cor. of secs. 9, 10, 15 and 16,

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

4200

13

Chains

consisting of a small mound of earth and stone, alongside a fence cor. from which fences extend N., S. and E. The original marked cor. stone cannot be found, but accept the fence cor. as verifying the mound as a remains of the original cor.

Reconstruct this cor. monument as follows:

remove the mound, and in center of its position, which is on west side of wood post at fence cor., set an iron post, 3 ft. long, 2 ins. in diam., 20 ins. in the ground to bedrock, with a piece of petrified wood 2x3x6 ins. deposited at base, and in a mound of stone to top, for cor. of secs. 9, 10, 15 and 16, with brass cap marked

PFNM

T19N	R24E
S9	S10
S16	S15

1882
1938

U.S.G.S.B.M. (VS5 Elev. 5752) bears N. 5°25'W., 40.63 chs. dist.

The boundary of Petrified Forest National Monument extends easterly and southerly from this cor., identical with the subdivision lines. Sections 9, 10 and 16 are within said Monument.

Land, gently rolling and nearly level.

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

Timber, none.

Undergrowth, native weeds, grasses and cacti.

From cor. of secs. 10, 11, 14 and 15, hereinbefore described,

N. 89°21'W., on true line, bet. secs. 10 and 15

Over gently rolling land, thru scattering undergrowth. Descend gradually over SW. slope.

11.90 Wash, 20 lks. wide, course S.; asc. gradually over E. slope.

18.30 Fence cor. bears N. about 100 lks. dist., from which fences extend N. and W.

20.90 Low spur, slopes SE.; desc. gradually over SW. slope.

24.20 Wash, 30 lks. wide, 2 ft. deep, course SE. Ascend 63 ft. over SE. slope to

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

PFNM

$\frac{1}{4}$	S10
	S15

1882
1938

This cor. is at E. rim of mesa bearing NE. and SW.

Thence over nearly level land on mesa.

Chains

84.70 The cor. of secs. 9, 10, 15 and 16, hereinbefore described.

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

From the cor. of secs. 4, 5, 32 and 33, on S. bdy. of the Tp., reconstructed under this group as described in field notes of resurvey of part of N. bdy. of T. 18 N., R. 24 E.

N. 0°44'E., on true line, bet. secs. 32 and 33.

Over gently rolling land, sloping slightly to the W., thru scattering undergrowth, along W. side of wire fence parallel to sec. line.

41.92 (Midpoint) Set an iron post, 3 ft. long, 1 in. in diam., 28 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

	↓	
S32		S33
		PFNM
		1882
		1938

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

U.S.G.S.B.M. (VS3 Elev. 5483) bears S. 80°E., 34.69 chs. dist.

Continue over gently rolling land, thru scattering undergrowth, parallel to wire fence about 5 lks. E. of line.

83.84 The original cor. of secs. 28, 29, 32 and 33, which is a sandstone 6x36x36 ins. firmly set in a mound of earth, marked with 1 notch on the S. face and 4 notches on the E. face. 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, 2 ins. in diam., 28 ins. in the ground, with old cor. stone reset alongside, for cor. of secs. 28, 29, 32 and 33, with brass cap marked

T19N	R24E	
S29	S28	
S32	S33	PFNM
		1882
		1938

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

The boundary of the Petrified Forest National Monument extends northerly and southerly thru this cor. Secs. 28 and 33 are within said Monument.

Land, gently rolling.
Soil, sandy, 3rd rate.
Timber, none.
Undergrowth, native weeds, grasses and cacti.

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

BOOK 4200

15

Chains	N. 0°44'E., on true line, bet. secs. 28 and 29.
	Over gently rolling land, thru scattering undergrowth, parallel to wire fence 5 lks. E. of line.
	Ascend gradually over S. slope.
39.31	(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
	$\begin{array}{c} \frac{1}{4} \\ \text{S29} \mid \text{S28} \text{ PFM} \\ 1882 \\ 1938 \end{array}$
	raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.
	Airway beacon No. 51, bears N. 50°18'W.
	West end of Black Bluff bears N. 1°45'E., about $4\frac{1}{2}$ miles dist.
	Continue over gently rolling land, thru scattering undergrowth, parallel to wire fence 5 lks. E. of line.
	Ascend over S. slope.
45.00	Spur, slopes E.; desc. gradually over NE. slope.
74.00	Shallow draw, course SE.; asc. gradually over SE. slope.
78.40	Low ridge, bears NE. and SW.; desc. over NW. slope.
78.62	(Proportional dist.) Set an iron post, 3 ft. long, 2 ins. in diam., 26 ins. in the ground, for cor. of secs. 20, 21, 28 and 29, with brass cap marked
	$\begin{array}{c} \text{T19N} \mid \text{R24E} \\ \text{S20} \mid \text{S21} \text{ PFM} \\ \hline \text{S29} \mid \text{S28} \\ 1882 \\ 1938 \end{array}$
	raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.
	Airway beacon No. 51 bears N. 72°19'W.
	Rice service station on U.S. Highway No. 66, bears N. 57°50'W.
	West end of Black Bluff bears N. 1°53'E. about 4 miles dist.
	A mountain peak bears S. 38°55'E., about 20 miles dist.
	The above described $\frac{1}{4}$ sec. cor. and sec. cor. are re-established by single proportion N. and S. between original cor. of secs. 28, 29, 32 and 33 and reestablished cor. of secs. 16, 17, 20 and 21. The wire fence constructed by the U.S. Park Service is accepted as collateral evidence of the original alignment and the subdivision lines bet. secs. 28 and 29, and bet. secs. 20 and 21 are therefore resurveyed parallel to and 5 lks. W. of said fence.

Chains

Land, gently rolling.
Soil, sandy, 3rd rate.
Timber, none.
Undergrowth, native weeds, grasses and cacti.

N. 0°43'E., on true line, bet. secs. 20 and 21

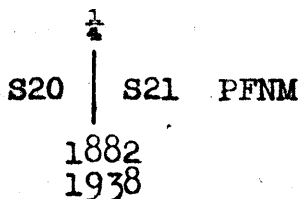
Over gently rolling land, thru scattering undergrowth, parallel to wire fence 5 lks. E. of line.

Descend gradually over NW. slope.

5.60 Gate in wire fence.

12.00 Ascend gradually over SW. slope.

39.31 (Proportional dist.) Set an iron post, 3 ft. long, 1 in. in diam., 28 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked



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

Airway beacon No. 51 bears S. 79°40'W.

Red Peak, bears N. 53°W., about 10 miles dist.

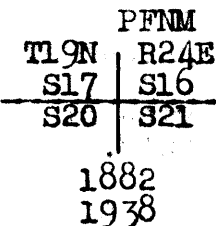
A mountain peak bears S. 38°05'E. about 20 miles dist.

U.S.G.S.B.M. (VS4 Elev. 5609) bears S. 67°30'E., 44.33 chs. dist.

Continue over gently rolling land, thru scattering undergrowth, parallel to wire fence 5 lks. E. of line.

Ascend gradually over SW. slope to

78.62 Set an iron post, 3 ft. long, 2 ins. in diam., 28 ins. in the ground, for cor. of secs. 16, 17, 20 and 21, with brass cap marked



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

Airway beacon No. 51, bears S. 55°34'W.

Rice service station on U.S.Highway No. 66, bears S. 70°15'W.

West end of Rabbit Mt., bears N. 28°10'W.

The above described sec. cor. is reestablished by collateral evidence consisting of fence cor. from which wire fences constructed by U.S.Park Service extend S. 0°

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

BOOK 4200

17

Chains	<p>43'W. and N. 89°45'W. The fence cor. post bears N. 45° E., 3 lks. dist. from sec. cor.</p> <p>The boundary of Petrified Forest National Monument extends westerly and southerly from this cor., identical with the subdivision lines. Secs. 16, 17 and 21 are within said Monument.</p> <p>Land, gently rolling. Soil, sandy, 3rd rate. Timber, none. Undergrowth, native weeds, grasses and cacti.</p>																					
41.93	<p>N. 88°37'W., on true line, bet. secs. 17 and 20</p> <p>Over gently rolling land, thru scattering undergrowth. Desc. 50 ft. over SW. slope to</p> <p>(Proportional dist.) 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</p> <div style="text-align: center;"> <table border="0"> <tr><td></td><td>PFNM</td><td></td></tr> <tr><td>$\frac{1}{4}$</td><td><u>S17</u></td><td></td></tr> <tr><td></td><td>S20</td><td></td></tr> </table> <p>1882 1938</p> </div> <p>dig pits 24x24x12 ins., one each E. and W. of post, 3 ft. dist.</p> <p>Wire fence, bearing nearly E. and W. is about 90 lks. S. of this cor.</p> <p>U.S.G.S.B.M. (VS21 Elev. 5584) bears N. 85°07'W., 10.67 chs. dist.</p> <p>Continue over gently rolling land, thru scattering undergrowth. Desc. gradually over SW. slope.</p> <p>45.00 Telephone line, bears N. 40°E. and S. 40°W. 46.55 Old highway, bears NE. and SW.</p> <p>50.26 Wire fence, bears N. 40°E., and S. 40°W. Thence across highway right-of-way.</p> <p>51.30 Center of U.S. Highway No. 66, bears N. 40°E. and S. 40°W.</p> <p>52.36 Wire fence, bears N. 40°E. and S. 40°W. Leave highway right-of-way.</p> <p>78.85 Road, bears N. and S.</p> <p>83.86 The original cor. of secs. 17, 18, 19 and 20, which is a sandstone 2x7x9 ins., marked with 3 notches on S. face and 5 notches on E. face, and firmly set in a mound of earth and 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., 20 ins. in the ground to bed rock, with old cor. stone reset alongside, and in a mound of stone to top, for cor. of secs. 17, 18, 19 and 20, with brass cap marked</p> <div style="text-align: center;"> <table border="0"> <tr><td></td><td>PFNM</td><td></td></tr> <tr><td>T19N</td><td> </td><td>R24E</td></tr> <tr><td>S18</td><td> </td><td>S17</td></tr> <tr><td>S19</td><td> </td><td>S20</td></tr> </table> <p>1882 1938</p> </div>		PFNM		$\frac{1}{4}$	<u>S17</u>			S20			PFNM		T19N		R24E	S18		S17	S19		S20
	PFNM																					
$\frac{1}{4}$	<u>S17</u>																					
	S20																					
	PFNM																					
T19N		R24E																				
S18		S17																				
S19		S20																				

Resurvey; Part of Subdivision Lines of T. 19 N., R. 24 E.

18

Chains

Wire fence bearing nearly E. and W. is about 160 lks. S. of this cor.

The boundary of Petrified Forest National Monument extends easterly and westerly thru this sec. cor. identical with subdivision lines. Secs. 17 and 18 are within said Monument.

Land, gently rolling.

Soil, sandy, 3rd rate.

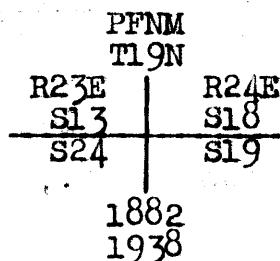
Timber, none.

Undergrowth, native weeds, grasses and cacti.

The original cor. of secs. 13, 18, 19 and 24 on the W. bdy. of the Tp., is a sandstone 18x12x6 ins., marked with 3 notches on each of N. and S. faces, 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., 27 ins. in the ground, with old cor. stone reset alongside, for cor. of secs. 13, 18, 19 and 24, with brass cap marked



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

Wire fence, bearing nearly E. and W. is about 20 lks. S. of this cor.

U.S.G.S.B.M. (VS20 Elev. 5412) bears N. 2°12'E., 219 lks. dist.

The boundary of Petrified Forest National Monument extends easterly and westerly thru this sec. cor., identical with subdivision lines. Secs. 13 and 18 are within said Monument.

Thence

N. 89°16'E., on true line, bet. secs. 18 and 19.

Over level land, thru scattering undergrowth.

4.02 Leave level and enter mountainous land. Asc. 100 ft. over steep W. slope to

6.42 Rim, bears N. and S. Leave mountainous and enter rolling land. Asc. 50 ft. over W. slope.

19.52 Spur, slopes N.; desc. 69 ft. over NE. slope.

30.82 Wash, 10 lks. wide, course N.; asc. 40 ft. over NW. slope to

43.37 (Proportional dist.) True point for reestablishment of the $\frac{1}{4}$ sec. cor. falls in wash, 5 lks. wide, course NW., where it is impracticable to monument the cor., therefore establish witness cor. 44 lks. N. 89°16'E.

Resurvey: Part of Subdivision Lines of T. 19 N., R. 24 E.

BOOK 4200 19

Chains

43.81 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., with brass cap marked

$$\text{WC}\frac{1}{4} \quad \frac{\text{PFNM}}{\text{S18}} \\ \text{S19}$$

1882
1938

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

Wire fence, bearing nearly E. and W. is about 75 lks. S. of this cor.

Continue over rolling land, thru scattering undergrowth.

Ascend 32 ft. over NW. slope.

48.52 Rim, bears NE. and SW. Enter gently rolling land. Asc. gradually over SW. slope.

60.87 Old stage road, bears NE. and SW.

87.62 The cor. of secs. 17, 18, 19 and 20, hereinbefore described.

Land, level, mountainous, rolling and gently rolling. Soil, sandy and rocky, 3rd and 4th rates.

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 preliminary field test of same described in the field notes of resurveys in T. 20 N., R. 25 E., and the final test of same for the resurveys of this group, described in the field notes of resurveys and surveys in T. 18 N., R. 24 E.

GENERAL DESCRIPTION.

This township, located in the drainage basin of the Little Colorado River, in the southern part of the northeast quarter of the State of Arizona, at an average elevation of about 5600 ft. above sea level, has several kinds of surface, level, nearly level, gently rolling, broken, rolling and mountainous. Gently rolling and nearly level land predominates.

The soil is sandy and rocky, 3rd and 4th rates. There is no timber in this township. A scattering undergrowth of native weeds, grasses and cacti is prevalent in all sections.

There are no springs or permanently flowing streams of water. Dead River, a normally dry water course, crosses sections 13, 23, 26, 27 and 34, with a general southwesterly course, and drains the larger part of the township. Carrizo Wash, course SW.; crosses sections 5, 6 and 7 and drains most of the NW. quarter of the township.

The Atchison Topeka and Santa Fe Railroad, double tracked, bearing NE. and SW.; crosses sections 35 and 36.

U. S. Highway No. 66, bearing NE. and SW., crosses secs. 2, 3, 10, 9, 16, 17, 20, 19 and 30. At a point in NW $\frac{1}{4}$ of sec. 16 this highway is crossed by another highway with oiled surface, extending southerly thru the Petrified Forest National Monument to a junction with U.S. Highway No. 260 at the southern end of said Monument, and northerly to the Painted Desert Inn. Where U.S. Highway No. 66 crosses the line bet. secs. 19 and 20 is an automobile service station known as the Rice Station, thru which a road extends northerly to Zuni Well in section 6, and southerly to the railroad and Post Office of Adamana in section 8, T. 18 N., R. 24 E. A number of other secondary roads branch off from the two main highways and traverse various sections, and an old road parallels the railroad, on the N. side thereof, thru secs. 35 and 36.

The right-of-way of U.S. Highway No. 66 is fenced on both sides and the U.S. Park Service has fences along most of the section lines which form the boundary of the Petrified Forest National Monument. Other fence lines enclose large areas in secs. 8, 10, 20, 29 and 32, and the railroad right-of-way is fenced on both sides.

A telephone line parallels U.S. Highway No. 66 close to and parallel to same, thru the township, and near where it crosses the section line bet. secs. 16 and 17 a branch telephone line extends southerly thru secs. 16, 21, 28 and 33. Telegraph and telephone lines parallel the railroad.

Other improvements are: one house in SW $\frac{1}{4}$ of sec. 2, checking station and houses in sec. 3, house in sec. 4, well in sec. 5 with pipe line therefrom extending thru secs. 4 and 5, house and corral in SE $\frac{1}{4}$ of sec. 8 and U.S. Airway Beacon No. 51 in sec. 20 about one quarter mile S. of Rice Station. Painted Desert Inn is located slightly N. of the N. bdy. of sec. 3, near the cor. of secs. 3, 4, 33 and 34.

There are no indications of valuable mineral deposits.

The Petrified Forest National Monument embraces sections 2, 3, 10, 21, 28 and 33, and the northwest quarter of the township.

The town of Holbrook, Arizona, on the A.T. & S.F. Railroad, and U.S. Highway No. 66 is about 20 miles southwesterly.

168
22
BOOK 4200

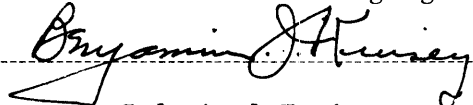
CERTIFICATE OF UNITED STATES SURVEYOR

I, Benjamin J. Kinsey, Surveyor and Cadastral Eng'r., 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 part of the North Boundary and part of the Subdivision Lines of

Township No. 19 North, Range No. 24 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 ^{re} 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. 10S., R. 31E., Arizona
March, 19, 1939.


Cadastral Engineer

CERTIFICATE OF APPROVAL

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

The foregoing field notes of the resurvey of part of the north boundary and part of the subdivision Lines of

Township No. 19 North, Range No. 24 East

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

executed by Benjamin J. Kinsey, Surveyor and 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 ^{re} survey therein described, are hereby approved.


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.~~