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BOOK 2876

Book "A"

Survey Exterior

FIELD NOTES

OF THE

Retracement and Survey of ~~West~~ half of N. bdy. of T. 17 N. R. 18 W.,

Survey of the

North bdy. of T. 17 N., R. 20 W.,

North bdy. of T. 18 N., R. 20 W.,

West bdy. of T. 19 N., R. 20 W.,

North Bdy. of T. 19 N., R. 20 W.,

North bdy. of T. 19 N., R. 21 W.,

East bdy. of T. 20 N., R. 20 W. and

West bdy. of T. 20 N., R. 20 W.

and Retracement and Survey of the

West half of N. bdy. of T. 19 N. R. 19 W.

Of the Gila and Salt River Base and Meridian,

In the State of Arizona.

EXECUTED BY

Guy H. Richardson, and Otis Ross, U.S. Surveyors,

and

Hugo Price, U. S. Transitman,

under instructions dated January 4, 1915,
issued by the United States Surveyor General to govern surveys included in
Group No. 43, which were approved by the Commissioner of the General Land
Office, January 22, 1915 and Feb. 15, 1915.

Retracements and
Surveys commenced February 8, 1915

Retracements and
Surveys completed December 16, 1915.

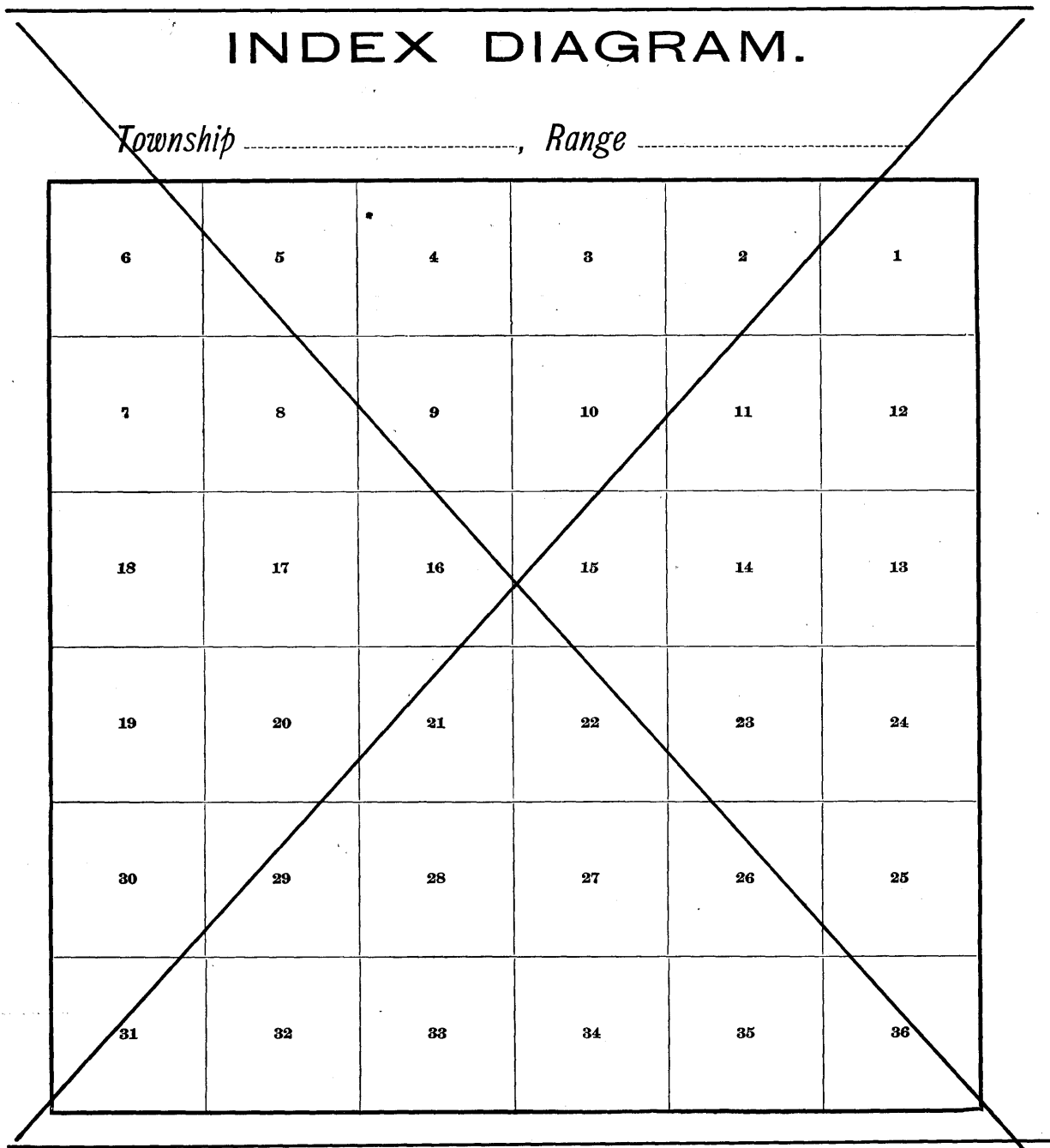
Executed under assignment
Instructions dated Jan. 31-1915 and Nov. 29-1915.

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Book "A" Group 43.

See Special Index.



SPECIAL INDEX DIAGRAM
 # Book "A" = Group 43 #

- Surveys described in this Book (indexed)
- ===== Retracements, Resurveys described in Book "B" Group 43.
- Accepted surveyed lines.
- Shaded area surveyed as per accepted plats on file.
- Surveys, executed under Group 42
- Surveys, Retracements + Resurveys executed under Group 44.
- Surveys, Retracements + Resurveys executed under Group 46.
- Subdivision & Meander lines Surveyed, Retraced or Resurveyed under Group 47.

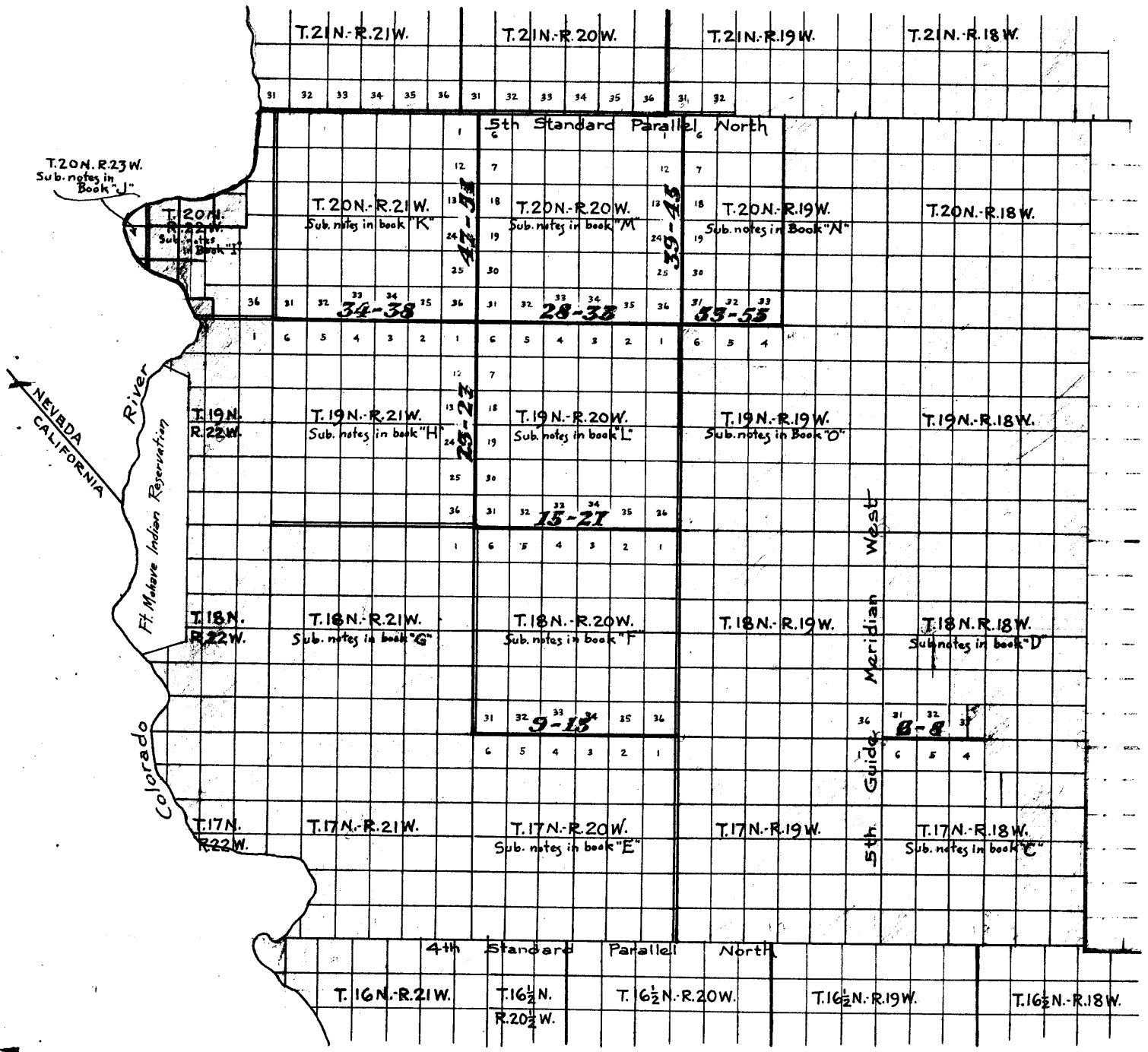
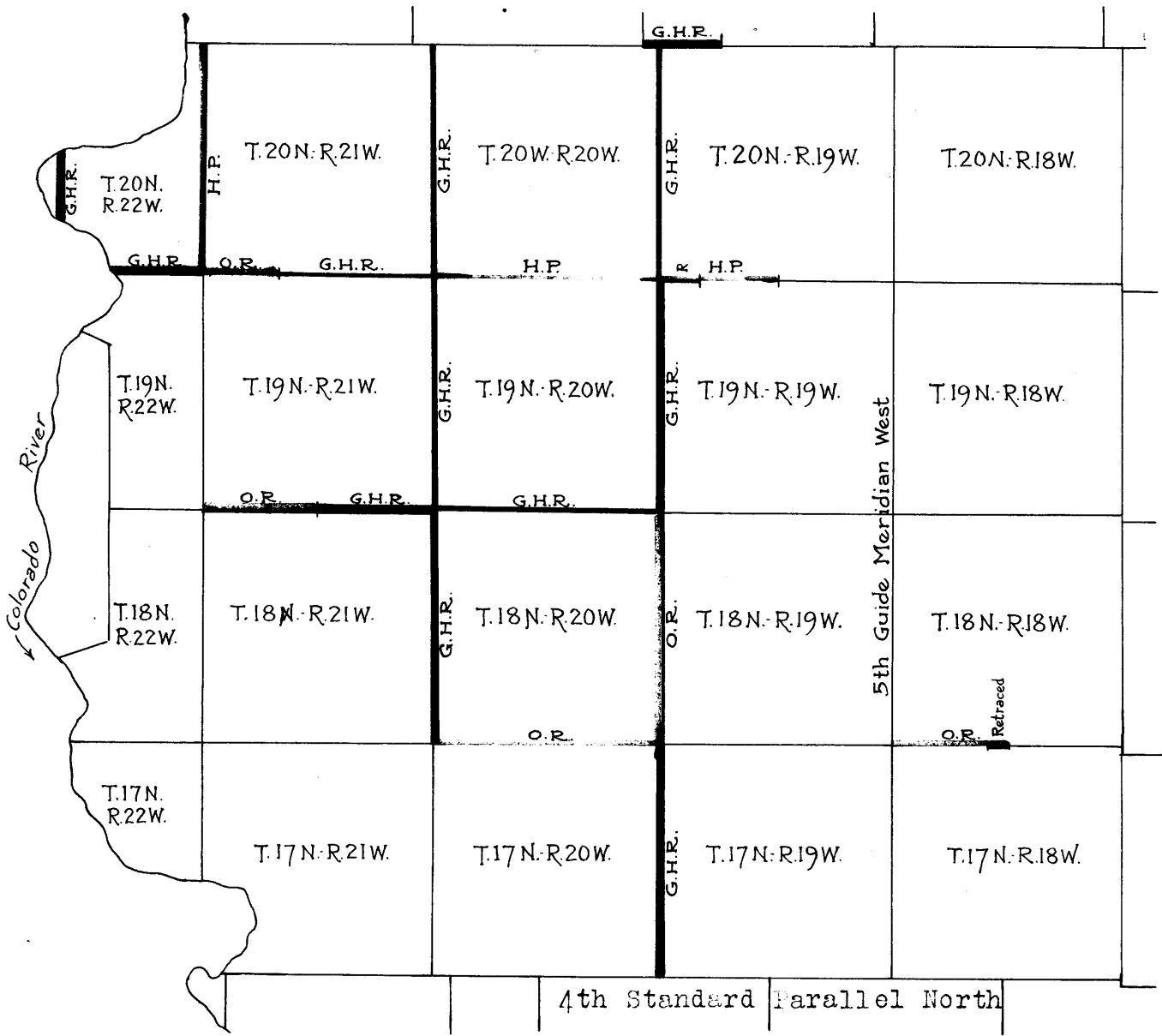


DIAGRAM.

BOOK 2876

SHOWING THE RESPECTIVE SURVEYS, RE-TRACEMENTS AND RESURVEYS OF STANDARD LINES AND TOWNSHIP EXTERIOR LINES EXECUTED BY EACH SURVEYOR AND TRANSITMAN UNDER INSTRUCTIONS FOR GROUP 43, ARIZONA.



- Surveyed by Guy H. Richardson,

U.S. Surveyor.
- Retraced or Resurveyed by U.S. Surveyor.
- Surveyed by Otis Ross, U.S. Surveyor.
- Retraced or Resurveyed by
- Surveyed by Hugo Price, U.S. Transitman.
- Retraced or Resurveyed by

BOOK 2876

FINAL CERTIFICATE OF U.S.SURVEYORS AND TRANSITMEN.

We, the undersigned, hereby certify on honor that, in pursuance of special instructions received from the U.S.Surveyor General for Arizona, bearing date of January 4, 1915, we have well, faithfully and truly, in our own proper persons, 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

GROUP 43,

which are represented on the diagram on the reverse hereof as having severally been executed by us, and under our direction; and we do further certify on honor 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 Arizona, and in the specific manner described in our respective field notes.

Guy S. Richardson
U. S. Surveyor.

Otis Ross
U.S.Surveyor.

Hugo Price
U.S.Transitman.

Retracement and survey of W. 1/4 of N. 1/4 of T, 17 N., R. 18 E.

Chains

Retracement and Survey commenced Feb. 8, 1915, and executed by Otis Ross, U. S. Surveyor, with a Young & Sons light mountain transit, No. 8477, with a Smith solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other, reading to single minutes of arc, which is the least count of the verniers of the latitude and declination arcs. The instrument was approved by the Assistant Supervisor of surveys for Arizona and California on Jan. 31, 1915. Feb. 3, 1915; I examine the adjustments 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 a meridian determined by observation on Polaris, I proceed as follows:

At a point near my camp, in the SE. 1/4 sec. 12, T. 17 N., R. 18 W. of the Gila and Salt River base and meridian, at 4h., p.m., l.m.t., I set off 16° 34' S. on the decl. arc, and 34° 52' on the lat. arc, and determine a meridian with the solar, and mark the meridian thus determined with a tack point on hub, about 5 chs. N. of my station.

At 10h., 34m., p.m., l.m.t., I observe Polaris at western elongation and mark the line thus obtained with a tack point on a hub about 5 chs. northerly from my station.

On Feb. 4, at 7h., a.m., I lay off the azimuth of Polaris 1° 24' to the east, and note that the meridian thus determined checks with the meridian established by solar observation, yesterday afternoon. At 8h., a.m., l.m.t., I set off 16° 22' S. on the decl. arc, and determine a meridian with the solar, and note that same is identical with the meridian obtained by Polaris observation.

Having tested the solar apparatus for a.m. and p.m. observations and found it to check with the meridian determined by Polaris observation, I conclude that the instrument is in good adjustment.

Refracement & survey of W. 1/2 of N. bdy. of T. 17 N., R. 18 W.

Chains Feb. 8, 1915; I commence at the cor. of secs. 3, 4, 33 and 34, on the N. bdy. of the township, which is a malpais stone, 10 X 10 X 4 ins. above ground, marked and witnessed as described by the surveyor general.

Preliminary to the survey, I retrace West bet. secs. 4 and 33.

40.00 Intersect $\frac{1}{4}$ sec. cor., which is a lime stone, 14 X 8 X 4 ins., and set in a mound of stone, and marked and witnessed as described by the surveyor general.

Completion of survey of N. bdy. of Tp. 17 North, Range 18 W.

At the $\frac{1}{4}$ sec. cor., above described, at 10h., 0m., a. m., 1. m. t., I set off $15^{\circ} 9'$ S. on the decl. arc, and $34^{\circ} 54'$ on the lat. arc, and determine a meridian with the solar. Thence I run,

West on a random line on the W. half mile bet. secs. 4 and 33.

40.00 Set temp. cor. of secs. 4, 5, 32 and 33.

At the temp. cor. of secs. 4, 5, 32 and 33, at apparent noon, I set off $15^{\circ} 7\frac{1}{2}'$ S. on the decl. arc and observe the sun on the meridian. The resulting lat. is $34^{\circ} 54'$.

West on a random line bet. secs. 5 and 32.

40.00 Set temp. $\frac{1}{4}$ sec. cor.

80.00 Set temp. cor. for secs. 5, 6, 31 and 32.

Feb. 8, 1915.

Feb. 9, 1915.

At the temp. cor. of secs. 5, 6, 31 and 32, at 9h., 0m., a. m., 1. m. t., I set off $14^{\circ} 50'$ S. on the decl. arc, and $34^{\circ} 54'$ on the lat. arc, and determine a meridian with the solar. Thence I run,

West on a random line bet. secs. 6 and 31.

40.00 Set temp. $\frac{1}{4}$ sec. cor.

80.79 Intersect the 5th. Guide meridian W., 47 lks. S. of old cor. of Tps. 17 and 18 N., Rs. 18 and 19 W., which is a malpais stone, 14 X 12 X 8 ins. above ground, marked

Completion of survey of N. boundary of T. 17 N., R. 18 W.

Chains	and witnessed as described by the surveyor general. The falling of 47 lks. S. in $2\frac{1}{2}$ miles of line gives a return true course of S. $89^{\circ}/52'$ E.

	From old cor. of Tps. 17 and 18 N., Rs. 18 and 19 W., hereinbefore described, I run S. $89^{\circ}/52'$ E. on a true line bet. secs. 6 and 31. Over mountainous land, covered with lava rock, and scant vegetation.
1.56	Desc. E. slope.
4.38	Foot of slight descent, gulch, course S., asc.
15.00	Top of spur, 72 ft. above gulch, bears SW. and NE., desc. slightly.
17.30	Begin to asc.
27.40	Gulch, course S., continue to asc.
40.79	Set a malpais stone, 18 X 10 X 8 ins., 15 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
56.70	Top of 700 ft. ascent, bench, bears N. and S.-----
61.54	Leave bench, desc. SE. slope.
68.58	Foot of 50 ft. descent, ravine, 25 lks. wide, course SW., asc.
80.79	260 ft. above ravine, set a malpais stone, 14 X 10 X 8 ins., 11 ins. in the ground for cor. of secs. 5, 6, 31 and 32, marked with 1 notch on W. edge and 5 notches on E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
	Land mountainous.
	Soil stony, 4th. rate.
	No timber.
	Undergrowth cactus and low sagebrush and greasewood.

	S. $89^{\circ}/52'$ E. on a true line bet. secs. 5 and 32. Over mountainous land, covered with scant vegetation, desc.
35.05	Foot of 440 ft. descent, wash, course SE., asc.

Completion of survey of N. boundary of T. 17 N., R. 18 W.

Chains

- 40.00 Top of 70 ft. asc., set a malpais stone, 16 X 10 X 6 ins. 12 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor., desc.
- 52.00 Foot of 137 ft. descent, box canyon, 100 ft. deep, 2 chs. wide, course SE., asc.
- 64.80 Top of malpais cliffs, 180 ft. above canyon, bear NW. and SE., desc.
- 80.00 452 ft. below top of cliffs, set a lime stone, 16 X 10 X 8 ins., 12 ins. in the ground for cor. of secs. 4, 5, 32 and 33, marked with 2 notches on W. edge and 4 notches on E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Land mountainous.

Soil stony, 4th. rate.

No timber.

Undergrowth scattering cactus, sagebrush and greasewood.

S. 89° 52' E. on a true line bet. secs. 4 and 33.

Over rolling mountainous land, desc.

- 27.35 Foot of malpais cliffs, bear N. and S., 192 ft. below sec. cor., continue to desc.

- 38.10 Granite cliffs, bear N. and S., continue to desc.

- 40.00 Foot of 123 ft. descent, $\frac{1}{4}$ sec. cor. bet. secs. 4 and 33, hereinbefore described.

Land rolling broken mountains.

Soil stony, 4th. rate.

No timber.

Undergrowth scattering cactus and sagebrush.

Feb. 9, 1915.

Otis Ross,

U. S. Surveyor.

North bdy. of T. 17 N., R. 20 W.

Chains Survey executed by Otis Ross, U.S. Surveyor, commencing Feb. 21, 1915, at the cor. of Ts. 17 and 18 N., Rs. 19 and 20 W., which is a stone, 10 X 12 X 12 ins. above ground, marked and witnessed as described by the Surveyor General. At this cor. at 9h. 0m. a.m. l.m.t. set off 10° 45' S. on the decl. arc, 34° 54' N. on the lat. arc, and determine a meridian with the solar.

Thence I run

West on a random line on the N. bdy. of the township, setting temp. 1/4 and sec. cors. at intervals of 40 chs., and at 160.00 chs. set temp. cor. for secs. 2, 3, 34 and 35.

Feb. 21, 1915.

Feb. 26, 1915; at the temp. cor. of secs. 2, 3, 34 and 35, at 9h. 0m., a. m., l.m.t., set off 8° 55' S. on the decl. arc, 34° 54' N. on the lat. arc, and determine a meridian with the solar. Thence I run,

West on a random line on the N. bdy. of the township, continuing measurement, setting temp. 1/4 and sec. cors. at intervals of 40.00 chains, and at

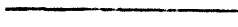
480.76 Intersect N. and S. line 224 lks. N. of old cor. of Tps. 17 and 18 N., Rs. 20 and 21 W., which is a malpais stone, 8 X 8 X 6 ins. above ground, marked and witnessed as described by the surveyor general.

The falling of 224 lks. N. in 6 miles of line gives a return course of N. 89° 44' E., thence I run N. 89° 44' E. on a true line bet. secs. 6 and 31.

Over gently rolling land.

40.76 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked.

1/4 S 31



S 6
1915

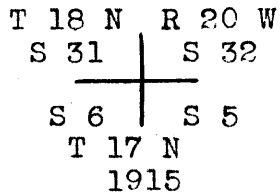
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

55.80 Dry wash, course SW.

North boundary of T. 17 N., R. 20 W.

Chains

80.76 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 5, 6, 31 and 32, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rolling.

Soil, stony and sandy, 3rd. rate.

Undergrowth, cacti and greasewood.

N. 89° 44' E. on a true line bet. secs. 5 and 32.

Over rolling land.

27.27 Wagon road, Oatman to Topock, bears N. and S.

33.00 Gulch, course SW.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked

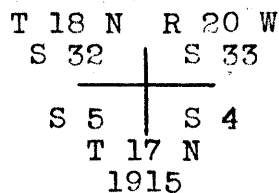
1/4 S 32



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

61.53 Gulch, course SW., asc.

80.00 159 ft. above gulch, set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 4, 5, 32 and 33, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rolling.

Soil, stony, and sandy, 3rd. rate.

Chains Undergrowth, cacti and greasewood.

N. 89° 44' E. on a true line bet. secs. 4 and 33.
Over rolling land, desc.

- 10.14 Gulch, course SW., 28 ft. below sec., cor., asc.
- 15.10 Top of spur, slopes SW., 45 ft. above gulch, desc.
- 23.16 Gulch, course SW., 45 ft. below top of spur, thence over rolling land.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked
1/4 S 33

S 4
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

- 60.10 Swale, bears N. and S., asc.
- 72.15 Top of spur, slopes S., 68 ft. above swale; desc.
- 75.04 Gulch, course SW., 16 ft. below top of spur, asc.

80.00 40 ft. above gulch, set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, with a brass cap, marked

T 18 N	R 20 W
S 33	S 34
S 4	S 3
1915	

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rolling.
Soil, stony and sandy, 3rd. rate.
Undergrowth, cacti and greasewood.

N. 89° 44' E. on a true line bet. secs. 3 and 34.
Over rolling land, asc.

40.00 143 ft. above sec. cor., set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked

1/4 S 34
S 3
1915

North bdy. of T. 17 N., R. 20 W.

Chains and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Thence over rolling land.

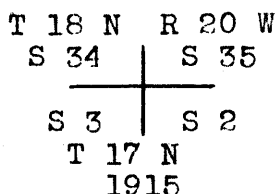
50.06 Swale, bears N. and S., asc.

54.05 Top of low spur, slopes S., 32 ft. above swail, desc.

58.50 Enter wash, course W. to SW., 35 ft. below top of spur.

79.80 Leave wash, course S. 80° W.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 2, 3, 34 and 35, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling.

Soil, stony and sandy, 3rd. rate.

Undergrowth, cacti and greasewood.

N. 89° 44' E. on a true line bet. secs. 2 and 35.

Asc, over rolling land.

3.75 Top of spur, 40 ft. above sec. cor., slopes N., desc.

5.83 Gulch, course NW., 17 ft. below top of spur, asc.

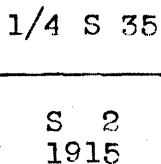
11.08 Top of spur, slopes S., 45 ft. above gulch, desc.

20.18 Wash, course NW, 12 ft. below top of spur, asc.

33.60 Bench, bears NE. and SW., 100 ft. above wash.

Thence over level land.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.

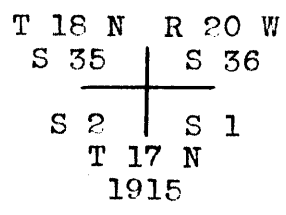
Thence over rolling land.

78.60 Wash, 75 lks. wide, course S.

North bdy. of T. 17 N., R. 20 W.

Chains

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 1, 2, 35 and 36, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, level and rolling.
Soil, stony and sandy, 3rd. rate.
Undergrowth, cacti and greasewood.

N. 89° 44' E. on a true line bet. secs. 1 and 36.

Asc. over rough mountainous land.

40.00 Set a malpais stone, 16 X 8 X 10 ins. on surface rock, in a mound of stone, marked 1/4 on N. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Iron post not available.

53.20 Top of spur, slopes S., 250 ft. above sec. cor., desc.

64.50 Gulch, course SE., 90 ft. below top of spur, asc.

68.10 Gulch, course S.

75.90 Top of cliff rocks, bear N. and S., 60 ft. above gulch, desc.

80.00 Old cor. of Ts. 17 and 18 N., Rs. 19 and 20 W., 75 ft. below top of cliffs.

Land, rough mountainous.
Soil, stony, 4th. rate.
Undergrowth, cacti and greasewood.

February 26, 1915.

----- Otis Ross -----
U. S. Surveyor.

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Chains.

Survey executed by Guy H. Richardson, U.S. Surveyor, commencing March 9, 1915, at the reestablished cor. of Ts. 18 and 19 N., Rs. 20 and 21 W., described in Book "B," where at 4h. 0m. p.m., l.m.t., set off $4^{\circ}35\frac{1}{2}'$ S. on the decl. arc; $34^{\circ}59'$ on the lat. arc, and determine a meridian with the solar. (Instrument and tests of same described in field notes of Subdivisions of T. 18 N., R. 20 W., in Book "F.")

Thence I run,

East, on a random line, bet. secs. 6 and 31.

40.50 Set temp. $\frac{1}{4}$ sec. cor.

80.50 Set temp. cor. for secs. 5, 6, 31 and 32.

March 9, 1915.

March 11, 1915: At the temp. cor. of secs. 5, 6, 31 and 32, at 9h. 0m., a.m., l.m.t., set off $3^{\circ}56'$ S. on the decl. arc; $34^{\circ}59'$ on the lat. arc, and determine a meridian with the solar.

Thence I run,

East, on a random line, bet. secs. 5 and 32.

Continuing measurement from township cor.

120.50 Set temp. $\frac{1}{4}$ sec. cor.

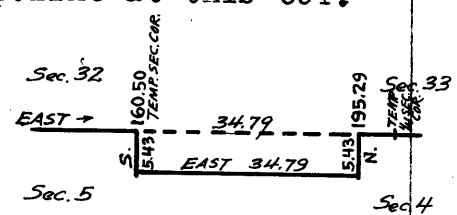
160.50 Set temp. cor. of secs. 4, 5, 32 and 33.

On account of cliffs E. of this cor. over which chaining is impracticable, I offset from Tp. line at this cor. as follows:

South, 5.43 chs., thence

East, 34.79 chs., thence

North, 5.43 chs., returning to random township line at



195.29 Thence continue measurement

East, on a random line, bet. secs. 4 and 33.

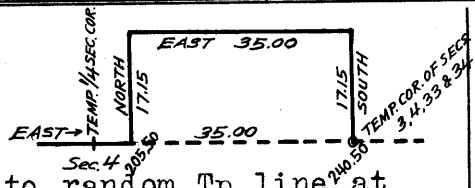
200.50 Set temp. $\frac{1}{4}$ sec. cor. of secs. 4 and 33.

205.50 Impracticable to continue on random Tp. line E. of this point; therefore, I offset as follows:

North boundary of Township 18 North, Range 20 West.

Chains.

North, 17.15 chs., thence
East 35.00 chs., thence
South, 17.15 chs. returning to random Tp. line at



240.50

Set temp. cor. of secs. 3, 4, 33 and 34.

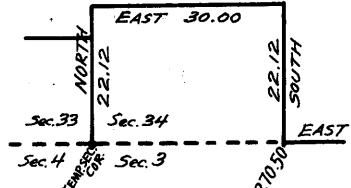
March 11, 1915.

March 18, 1915.

At this temp. sec. cor. at 9h. 9m. a.m., l.m.t., I set off
1°10½'S. on the decl. arc; 34°59' on the lat. arc, and de-
termine a meridian with the solar.

It being impracticable to continue on random Tp. line E. of
this cor., I offset as follows:

North, 22.12 chs., thence
East, 30.00 chs., thence
South, 22.12 chs. returning to random Tp. line at



270.50

Thence continue measurement

East, on random line, setting temp. sec. and sec. cors. at
intervals of 40.00 chs., until at

480.88

Fall 140 lks. N. of the old cor. of Ts. 18 and 19 N., Rs. 19
and 20 W., described in Book "B.". This falling gives
a true return course of N. 89° 50' W.

Thence I run,
N. 89° 50' W., on a true line, bet. secs. 1 and 36.

Descend over rolling land.

8.38

Wash, course SW., 220 ft. below Tp. cor.; ascend.

40.00

98 ft. above wash. Set an iron post, 3 ft. long, 1 in. in
diam., 12 ins. in the ground, to bed rock, in a mound
of stone, for ¼ sec. cor., with a brass cap, marked

¼ S 36

S 1
1915

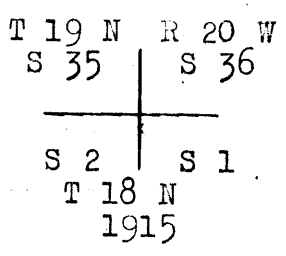
and raise a mound of stone 2 ft. base, 1½ ft. high, N.
of cor.

50.40

Enter level mesa land, bears N. and S., 42 ft. above ¼
sec. cor.

North boundary of Township 18 North, Range 20 West. 15.

Chains.
80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 8 ins. in the ground to bedrock, in a mound of stone, for cor. of secs. 1, 2, 35 and 36, with a brass cap, marked,



and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling and mountainous.

Soil, stony, 4th rate.

No timber.

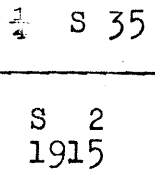
Undergrowth, cactus, sagebrush and greasewood.

N. 89° 50' W. on a true line, bet. secs. 2 and 35.

Over rough, mountainous land.

10.60 Leave mesa, bears N. and S.; descend.

40.00 790 ft. below mesa. Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bedrock, in a mound of stone for ¼ sec. cor., with a brass cap, marked



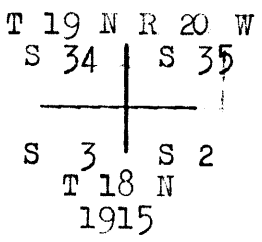
and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.

Continue to descend.

45.40 Foot of descent, 25 ft. below ¼ sec. cor.

Thence over rolling land.

80.00 Set an iron post 3 ft. long, 3 ins. in diam., 12 ins. in the ground to bedrock, in a mound of stone, for cor. of secs. 2, 3, 34 and 35, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high,

North boundary of Township 18 North, Range 20 West.

Chains.

W.of cor.

Land, rolling and mountainous.

Soil, stony, 4th rate.

No timber.

Undergrowth, cactus and greasewood.

N.89° 50'W. on a true line, bet. secs. 3 and 34.

Ascend over rough mountainous land.

- 4.65 Top of 70 ft. ascent; descend.
- 12.35 Foot of 175 ft. descent; ascend.
- 24.60 Top of 418 ft. ascent; descend.
- 40.00 Foot of 254 ft. descent, set an iron post, 3 ft. long, 1 in in diam., on surface rock, in a mound of stone, for $\frac{1}{4}$ sec.cor., with a brass cap, marked

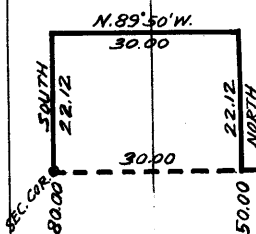
$\frac{1}{4}$ S 34

S 3
1915

and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,

N.of cor. Continue to descend.

- 45.55 Draw, course N., 260 ft. below $\frac{1}{4}$ sec.cor.; ascend.
- 50.00 85 ft. above draw. Impracticable to continue N.89°50'W. on Tp. line from this point, owing to cliffs; therefore, I offset as follows:



North, 22.12 chs. Descend 85 ft. thence
 N.89°50'W.30.00 chs. Ascend 35 ft. thence
 South, 22.12 chs. Ascend 100 ft. returning to
 Tp.line at

- 80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 8 ins. in the ground to bedrock, in a mound of stone, for cor. of secs. 3, 4, 33 and 34, with a brass cap, marked

T 19 N R 20 W
 S 33 S 34
 S 4 S 3
 T 18 N
 1915

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

North boundary of Township 18 North Range 20 West

Chains.

of cor.

Land, rough and mountainous.

Soil, stony, 4th rate.

No timber.

Undergrowth, cactus, sage brush and greasewood.

Impracticable to run on Tp. line west, bet. secs.4 and 33; therefore, offset from cor. of secs. 3,4,33 and 34, as follows:

North, 17.15 chs. Descend 65 ft. thence
N.89°50'W.35.00 chs. Ascending 175 ft. to

10.00 chs. Top of ascent. Descend
136 ft. to

35.00 chs. Foot of descent; thence
South 17.15 chs. Ascend 514 ft., returning to

Tp. line at

35.00 Thence N.89°50'W. bet. secs.4 and 33, continuing measurement.
Descend.

40.00 Point for 1/4 sec. cor. on steep rocky slope, impracticable
to set post here; therefore at

40.30 132 ft. below 35.00 ch. point.

Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in
the ground to bedrock, in a mound of stone for witness
cor. to 1/4 sec. cor., with a brass cap, marked

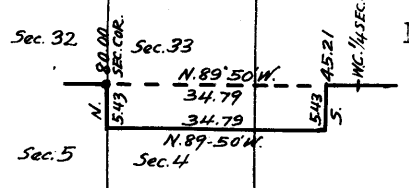
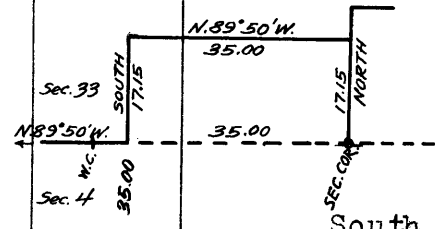
1/4 S 33
WC
S 4
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of
cor.; descend.

45.21 130 ft. below witness cor. to 1/4 sec. cor. Impracticable
to chain measurement on Tp. line N.89°50'W. from this
point; therefore, offset as follows:

South, 5.43 chs. Descend 124 ft. thence
N.89°50'W. 34.79 chs. Descend 550 ft. thence

North, 5.43 chs. Ascend, returning to Tp.

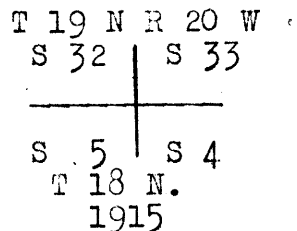


19. North bdy. of Township 18 North, Range 20 West.

Chains.

line at

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 10 ins. in the ground to bedrock, in a mound of stone, for cor. of secs. 4, 5, 32 and 33, with a brass cap, marked,



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

Land, exceptionally rough and mountainous.

Soil, stony, 4th rate.

No timber.

Undergrowth, scattering cactus and greasewood.

N. $89^{\circ}50'$ W., on a true line, bet. secs. 5 and 32.

Descend over rough, mountainous land.

24.40 Wash, course S., 340 ft. below sec. cor.; thence over rolling land.

31.30 Wagon road between Oatman and Topock, brs. N. and S.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in the ground to bedrock, in a mound of stone, for $\frac{1}{4}$ sec. cor., with a brass cap, marked

$$\frac{1}{4} \text{ S } 32$$

$$\begin{array}{c} \text{S } 5 \\ 1915 \end{array}$$

and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Descend.

50.45 Wash, course SW., 105 ft. below $\frac{1}{4}$ sec. cor.; descend.

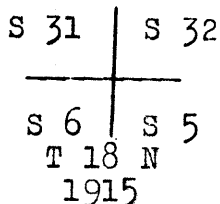
59.70 Wagon road bet. Oatman and Needles, bears N. and S.

80.00 68 ft. below wash, set an iron post, 3 ft. long, 3 ins. in diam., 8 ins. in the ground to bedrock, in a mound of stone for cor. of secs. 5, 6, 31 and 32, with a brass cap, marked

North boundary of Township 18 North, Range 20 West.

Chains.

T 19 N R 20 W



and raise a mound of stone, 2 ft. base, 1½ ft. high, W.of cor.

Land, rough and rolling.

Soil, stony, 4th rate.

No timber.

Undergrowth, cactus, sagebrush and greasewood.

N.89° 50' W., on a true line, bet. secs.6 and 31.

Over rolling land.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 8 ins. in the ground to bedrock, in a mound of stone, for ¼ sec.cor., with a brass cap, marked

¼ S 31

S 6
1915

and raise a mound of stone, 2 ft. base, 1½ ft. high, N.of cor.

60.40 Wash, course SW.

80.88 Cor. of Tps. 18 and 19 N., Rs. 20 and 21 W., reestablished by me, as described in Book "B."

Land, rolling.

Soil, sandy and stony, 3rd rate.

No timber,

Undergrowth, cactus and greasewood.

March 18, 1915.

Guy H. Richardson,

U. S. Surveyor.

Chains

Survey commenced March 29, 1915; and executed by Guy H. Richardson, U. S. Surveyor, with a Young & Sons light mountain transit, No. 8484. The instrument is provided with a Smith solar attachment.

For test of instrument, see notes of subdivision of T. 18 N., R. 20 W. in Book "F."

I commence at the cor. of Tps. 18 and 19 N., Rs. 20 and 21 N., reestablished by me, as described in Book "B." at 9h. 0m., a. m., l. m. t., I set off 3° 9½' N. on the decl. arc, 34° 59' N. on the lat. arc, and determine a meridian with the solar:

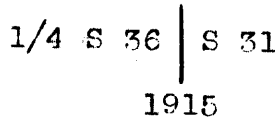
Thence I run

North bet. secs. 31 and 36.

Over rolling land.

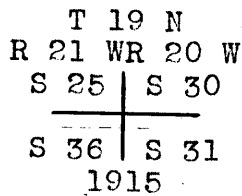
11.80 Wash, course SW.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land rolling.

Soil, stony, 4th. rate.

No timber.

Undergrowth, cactus, sagebrush and greasewood.

North bet. secs. 25 and 30.

Over rolling land.

Chains

1.25 Wagon road, bears N. 80° E. and S. 80° W.

7.00 Wash, 100 lks. wide, course SW.

25.00 Wash, course SW.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bedrock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

$$\begin{array}{c} 1/4 \text{ S } 25 \mid \text{ S } 30 \\ \hline 1915 \end{array}$$

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 12 ins. in the ground, to bedrock, in a mound of stone, for cor. of secs. 19, 24, 25 and 30, with a brass cap, marked

$$\begin{array}{c} \text{T } 19 \text{ N} \\ \text{R } 21 \text{ W} \mid \text{ R } 20 \text{ W} \\ \text{S } 24 \mid \text{ S } 19 \\ \hline \text{S } 25 \mid \text{ S } 30 \\ \hline 1915 \end{array}$$

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling.

Soil, stony, 4th. rate.

No timber.

Undergrowth, cactus and greasewood.

North bet. secs. 19 and 24.

Over rolling land.

16.66 Wash, course W.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bedrock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

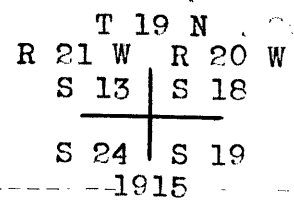
$$\begin{array}{c} 1/4 \text{ S } 24 \mid \text{ S } 19 \\ \hline 1915 \end{array}$$

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor., asc.

West bdy. of T. 19 N., R. 20 W.

Chains

- 45.00 Top of 100 ft. ascent, desc.
- 49.50 Foot of 90 ft. descent, asc.
- 80.00 150 ft. ascent, set an iron post, 3 ft. long, 3 ins. in dia., 14 ins. in the ground to bedrock, in a mound of stone, for cor. of secs. 13, 18, 19 and 24, with a brass cap, marked



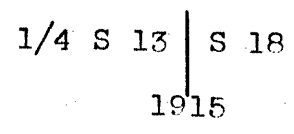
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

At the cor. of secs. 13, 18, 19 and 24, at apparent noon, I set off 3° 12' N. on the decl. arc, and observe the sun on the meridian, at noon, for lat. The resulting lat. is 35° 1 1/2' N.

North bet. secs. 13 and 18.

Asc. over rough mountainous land.

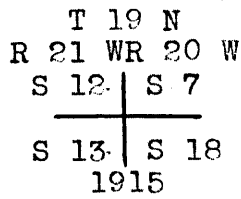
- 19.80 Top of spur, slopes SW., 380 ft. above sec. cor., desc.
- 40.00 340 ft. below top of spur, set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

- 40.05 Small gully, course W., desc.
- 44.60 Bottom of canyon, course W., 40 ft. below 1/4 sec. cor., asc.
- 80.00 700 ft. above canyon, set an iron post, 3 ft. long, 3 ins. in diam., 7 ins. in the ground to bedrock, in a mound of stone, for cor. of secs. 7, 12, 13 and 18, with a brass cap, marked

Chains



and raise a mound of stone, 2 ft. base, 1½ ft. high,
W. of cor.

Land rough mountainous.

Soil, stony, 4th. rate.

No timber.

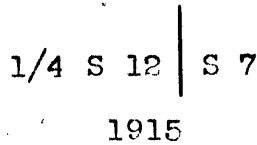
Undergrowth, cactus and greasewood.

North bet. secs. 7 and 12.

Asc. over rough mountainous land.

13.00 Top of rough spur, slopes W., 320 ft. above sec. cor.,
desc.

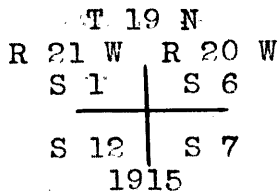
40.00 340 ft. below top of spur, set an iron post, 3 ft. long,
1 in. in diam., 6 ins. in the ground to bedrock, in a
mound of stone, for 1/4 sec. cor., with a brass cap,
marked



and raise a mound of stone, 2 ft. base, 1½ ft. high,
W. of cor. Continue to desc.

50.00 30 ft. below 1/4 sec. cor. Bottom of draw, course W., asc.

80.00 240 ft. above draw, set an iron post, 3 ft. long, 3 ins.
in diam., 14 ins. in the ground to bedrock, in a mound
of stone, for cor. of secs. 1, 6, 7 and 12, with a brass
cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high,
W. of cor.

Land rough mountainous.

Soil, stony, 4th. rate.

No timber.

Undergrowth, cactus and greasewood,

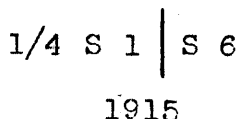
West bdy. of T. 19 N., R. 20 W.

Chains North bet. secs. 1 and 6.

Asc. over rough mountainous land.

19.70 Top of spur, slopes NW., 240 ft. above sec. cor., desc.

40.00 85 ft. below top of spur, set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

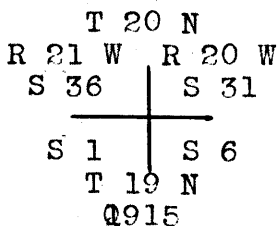


and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

50.00 Foot of 120 ft. descent, asc.

51.85 Top of rock spur, 30 ft. ascent, desc.

80.00 200 ft. below top of rock spur, set an iron post, 3 ft. long, 3 ins. in diam., 8 ins. in the ground to bedrock, in a mound of stone for cor. of Tps. 19 and 20 N., Rs. 20 and 21 W., with a brass cap, marked.



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S. of cor.

Land rough mountainous,

Soil, stony, 4th. rate.

No timber.

Undergrowth, cactus and greasewood.

March 29, 1915.

Guy H. Richardson,

U. S. Surveyor.

Chains Survey commenced Apr. 26, 1915, and executed by Hugo Price, U. S. Transitman, with a Young and Sons light mountain transit No. 8477, with Smith solar attachment. For test of instrument, see notes of subdivision of T. 18 N., R. 20 W. in Book "F."

At the cor. of Tps. 19 and 20 N., Rs. 20 and 21 W., which is an iron post, hereinbefore described, and at 10h., 0m., a. m., l. m. t., set off $13^{\circ} 21'$ N. on the decl. arc, $35^{\circ} 4'$ on the lat. arc, and determine a meridian with the solar,

Thence I run

East on a random line on the N. bdy. of the township, setting temp. cors. at intervals of 40.00 chs., and at

240.00 Set temp. cor. for secs. 3, 4, 33 and 34.

Apr. 26, 1915.

Apr. 27, 1915; At the temp. cor. of secs.

3, 4, 33 and 34, at 9h., 0m., a. m., l. m. t., set off $13^{\circ} 39\frac{1}{2}'$ N. on the decl. arc, $35^{\circ} 4'$ on the lat. arc, and determine a meridian with the solar.

Thence continue measurement,

East on a random line on the N. bdy. of the township.

setting temporary corners, at intervals of 40.00 chs. until at

479.75 Intersect a point 110 lks. N. of the cor. of Tps. 19 and 20 N., Rs. 19 and 20 W., which is a malpais stone, 10 X 10 X 6 ins. above ground, marked and witnessed as described by the surveyor general.

The falling of 110 lks. N. in 6 miles of line gives a return true course of $N. 89^{\circ} 52' W.$, thence I run $N. 89^{\circ} 52' W.$ on a true line bet. secs. 1 and 36.

Over gently rolling land.

38.20 Top of low spur, slopes S., desc.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

North bdy. of T. 19 N., R. 20 W.

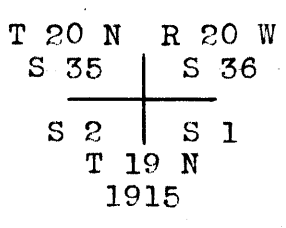
Chains

1/4 S 36

S 1
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
N. of cor.

- 42.15 Foot of 215 ft. desc., asc.
- 48.20 Top of cliffs, bear N. and S., 120 ft. ascent, desc.
- 65.20 Gulch, course SW., 388 ft. below top of cliffs, asc.
- 68.90 Top of round butte, 135 ft. above gulch, desc.
- 80.00 350 ft. below top of butte, set an iron post, 3 ft. long,
3 ins. in diam., 6 ins. in the ground to solid rock, in
a mound of stone, for cor. of secs. 1, 2, 35 and 36,
with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor.

Land, rolling and rough mountainous.
Soil, stony, 4th. rate.
Undergrowth, cacti and greasewood.

N. 89° 52' W. on a true line bet. secs. 2 and 35.
Desc. over rough mountainous land.

- 20.35 Canyon, course S., 300 ft. below sec. cor., asc.
- 35.00 Top of spur, slopes S., 155 ft. above canyon, desc.
- 40.00 34 ft. below top of spur, set an iron post, 3 ft. long,
1 in. in diam., 6 ins. in the ground to solid rock, in
a mound of stone for 1/4 sec. cor., with a brass cap,
marked

1/4 S 35

S 2
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
N. of cor., asc.

- 59.60 Top of ridge, bears N. and S., 790 ft. above 1/4 sec. cor.,
desc.

Chains

80.00 700 ft. below top of ridge, set an iron post, 3 ft. long, 3 ins. in diam., 12 ins. in the ground, to solid rock, in a mound of stone, for cor. of secs. 2, 3, 34 and 35, with a brass cap, marked

T 20 N		R 20 W
S 34		S 35
S 3		S 2
T 19 N		
1915		

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

Land, rough mountainous.

Soil, stony, 4th. rate.

Undergrowth, cacti and greasewood.

N. $89^{\circ} 52'$ W. on a true line bet. secs. 3 and 34.

Over rough mountainous land, desc.

1.00 Top of cliffs, bear N. and S., desc. abruptly, 300 ft.

40.00 500 ft. below sec. cor., set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for $\frac{1}{4}$ sec. cor., with a brass cap, marked

$\frac{1}{4}$ S 34

S 3
1915

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor., continue to desc.

45.36 Gulch, course N., 115 ft. below $\frac{1}{4}$ sec. cor., asc.

52.45 Power line, bears N. and S.

67.75 Top of spur, slopes N., 140 ft. above gulch, desc.

80.00 95 ft. below top of spur, set an iron post, 3 ft. long, 3 ins. in diam., 20 ins. in the ground to solid rock, in a mound of stone, for cor. of secs. 3, 4, 33 and 34, with a brass cap, marked

T 20 N		R 20 W
S 33		S 34
S 4		S 3
T 19 N		
1915		

North bdy. of T. 19 N., R. 20 W.

Chains and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor.
 Land, rough and mountainous.
 Soil, stony, 4th. rate.
 Undergrowth, cacti and greasewood.

 N. 89° 52' W. on a true line bet. secs. 4 and 33.
 Over rolling land.

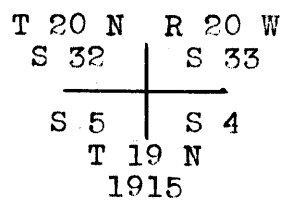
6.12 Gulch, course N., asc.
 35.80 Top of ridge, bears NW. and SE., 400 ft. above gulch, desc.
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in
 the ground to solid rock, in a mound of stone, for 1/4
 sec. cor., with a brass cap, marked

1/4 S 33

S 4
 1915

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor.

46.08 Gulch, course S., 110 ft. below top of ridge, asc.
 51.00 Top of spur, slopes S., 74 ft. above gulch, desc.
 80.00 377 ft. below top of spur, set an iron post, 3 ft. long,
 3 ins. in diam., 24 ins. in the ground for cor. of secs.
 4, 5, 32 and 33, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor.

Land, rolling.
 Soil, stony, 4th. rate.
 Undergrowth, greasewood and cacti.

 N. 89° 52' W. on a true line bet. secs. 5 and 32.
 Over rolling land.

0.78 Road, Oatman to Ruth mine, bears NW. and SE.
 5.68 Silver creek wash, course NW., asc.

Chains

- 7.95 Telephone line, bears NW. and SE.
- 19.22 Top of spur, slopes N., 230 ft. above wash, desc.
- 24.23 Mine shaft, 30 lks. N. of line.
- 27.55 Gulch, course N., 107 ft. below top of spur, asc.
- 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to solid rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

1/4 S 32

S 5
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

- 55.25 Top of spur, slopes N., 100 ft. above gulch, desc.
- 70.10 Gulch, course N., 123 ft. below top of spur, asc.
- 75.00 Top of spur, slopes N., 57 ft. above gulch, desc.
- 78.00 Gulch, course N., 57 ft. below top of spur, asc.
- 80.00 80 ft. above gulch, set an iron post, 3 ft. long, 3 ins. in diam., on surface rock, in a mound of stone, for cor. of secs. 5, 6, 31 and 32, with a brass cap, marked

T 20 N	R 20 W
S 31	S 32
S 6	S 5
T 19 N	
1915	

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rolling.

Soil, stony, 4th. rate.

Undergrowth, greasewood and cacti.

N. 89° 52' W. on a true line bet. secs. 6 and 31.

Desc. over rolling land.

- 10.60 Gulch, course N., 28 ft. below sec. cor., asc.
- 20.20 Top of spur, slopes N., 170 ft. above gulch, desc.
- 35.05 Gulch, course N., 177 ft. below spur, asc.
- 40.00 25 ft. above gulch, set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4

North bdy. of T. 19 N., R. 20 W.

Chains

sec. cor., with a brass cap, marked

1/4 S 31

S 6
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
N. of cor., desc.

45.62 Gulch, course N., 70 ft. below 1/4 sec. cor.

70.50 Swale, bears N. and S., asc.

77.80 Top of spur, slopes N., 118 ft. above swale, desc.

79.75 Cor. of Tps. 19 and 20 N., Rs. 20 and 21 W., hereinbefore
described, 66 ft. below spur.

Land, rolling.

Soil, stony, 4th. rate.

Undergrowth, greasewood and cacti.

April 27, 1915.

Hugo Price.

U. S. Transitman.

Chains Survey commenced Mar. 30, 1915 and executed jointly by Guy H. Richardson and Otis Ross, U. S. Surveyors, with Young & Sons light mountain transits, Nos. 8484 and 8477 respectively. The instruments are provided with Smith solar attachments, and were approved by the Assistant Supervisor of Surveys for Arizona and California on Jan. 31, 1915.

For field test of instruments on Polaris meridian, see notes of the subdivision of T. 18 N., R. 20 W., in Book "F."

Line run by Guy H. Richardson, U. S. Surveyor, as follows:

At the cor. of Tps. 19 and 20 N., Rs. 20 and 21 W., which is a 3 inch. iron post, hereinbefore described, at 9h. 0m., a. m., l.m.t., set off 3° 33' N. on the decl. arc, 35° 4' N. on the lat. arc, and determine a meridian with the solar, Thence I run, West on a random line on the N. bdy. of the twp., setting temp. cors. at intervals of 40.00 chs., and at

320.00 Set temp. cor. for secs. 4, 5, 32 and 33.
 Guy H. Richardson,
 U. S. Surveyor.
 March 30, 1915

April 3, 1915; Line run by Otis Ross, U. S. Surveyor, as follows;

At the temp. cor. of secs. 4, 5, 32 and 33, at 8h., 0m., a. m., l.m.t., set off 5° 4½' N. on the decl. arc, 35° 4' N. on the lat. arc, and determine a meridian with the solar, Thence I run, West on a random line on the N. bdy. of the twp., continuing measurement, and setting temp. cors. at intervals of 40.00 chs., until at

479.82 Intersect a point 2.38 chs. S. of old cor. of Tps. 19 and 20 N., Rs. 21 and 22 W., which is a granite stone, 18 X 18 X 16 ins. above ground, marked and witnessed as described by the surveyor general.

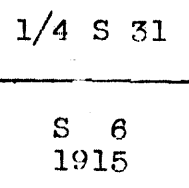
The falling of 238 lks. S. in the six miles of line, gives a return true course of S. 89° 43' E.

Thence I run

North bdy. of T. 19 N., R. 21 W.

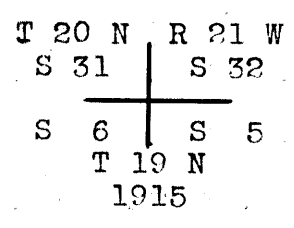
Chains S. 89° 43' E. on a true line bet. secs. 6 and 31.
 Over level land.

39.82 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in
 the ground for 1/4 sec. cor., with a brass cap, marked



59.82 Wash, course SW.

79.82 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in
 the ground for cor. of secs. 5, 6, 31 and 32, with a
 brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
 W. of cor.

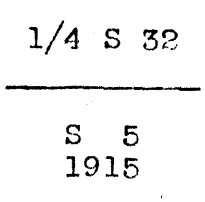
Land level.
 Soil, stony, 4th. rate.
 Undergrowth, cactus and greasewood.

S. 89° 43' E. on a true line bet. secs. 5 and 32.
 Over rolling land.

20.08 Gulch, course SW.

35.00 Wash, course SW.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in
 the ground for 1/4 sec. cor., with a brass cap, marked



78.72 Gulch, course SW.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in

Chains the ground for cor. of secs. 4, 5, 32 and 33, with a brass cap, marked

T 20 N	R 21 W
S 32	S 33
S 5	S 4
T 19 N	
1915	

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

Land, rolling.

Soil, stony, 4th. rate.

Undergrowth, cactus and greasewood.

Otis Ross,

U. S. Surveyor.

Line run by Guy H. Richardson, U.S. Surveyor, as follows:
S. $89^{\circ} 43'$ E. on a true line bet. secs. 4 and 33.

Over rolling land.

24.00 Wash, course S. 80° W.

39.70 Wash, course S. 30° W.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., $2\frac{6}{16}$ ins. in the ground for $1/4$ sec. cor., with a brass cap, marked

1/4 S 33

S 4
1915

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

Asc. from $1/4$ sec. cor.

55.00 125 ft. above $1/4$ sec. cor., thence over level land.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, with a brass cap, marked

T 20 N	R 21 W
S 33	S 34
S 4	S 3
T 19 N	
1915	

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

Land level and rolling.

Soil, sandy and stony, 3rd. rate.

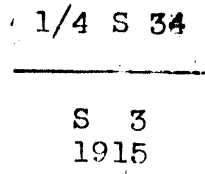
Undergrowth, cactus and greasewood.

North bdy. of T. 19 N., R. 21 W.

Chains S. 89° 43' E. on a true line bet. secs. 3 and 34.
 Over rolling land, asc.

8.00 Wash, course S. 60° W., 55 ft. above sec. cor., asc.

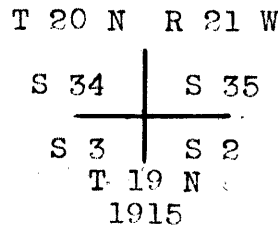
40.00 80 ft. above wash, set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor., desc.

67.00 Wash, course SW., 45 ft. below 1/4 sec. cor.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 2, 3, 34 and 35, with a brass cap, marked



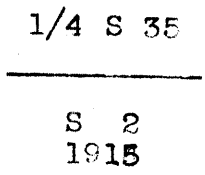
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rolling.
 Soil, stony, 4th. rate.
 Undergrowth, cactus and greasewood.

S. 89° 43' E. on a true line bet. secs. 2 and 35.
 Over rolling land, desc.

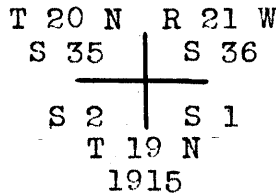
20.10 Wash, course SW., 47 ft. below sec. cor., asc.

40.00 80 ft. above wash, set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Chains Continue to asc.
 73.80 Top of spur, slopes NE., 255 ft. above 1/4 sec. cor., desc. —
 80.00 110 ft. below top of spur, set an iron post, 3 ft. long,
 3 ins. in diam., 24 ins. in the ground for cor. of
 secs. 1, 2, 35 and 36, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
 W. of cor.

Land rolling.

Soil, stony, 4th. rate.

Undergrowth, cactus and greasewood.

S. 89° 43' E. on a true line bet. secs. 1 and 36.

Over rolling land.

20.65 Draw, course NW., asc.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in
 the ground for 1/4 sec. cor., with a brass cap, marked

1/4 S 36.



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
 N. of cor.

42.90 Top of ridge, bears N. and S., 270 ft. above draw, desc.

76.75 Draw, course N., 325 ft. below top of ridge, asc.

80.00 Cor. of Tps. 19 and 20 N., Rs. 20 and 21 W. hereinbefore
 described, 95 ft. above draw.

Land rolling.

Soil, stony, 4th. rate.

Undergrowth, cactus and greasewood.

April 3, 1915.

 Guy H. Richardson
 U. S. Surveyor.

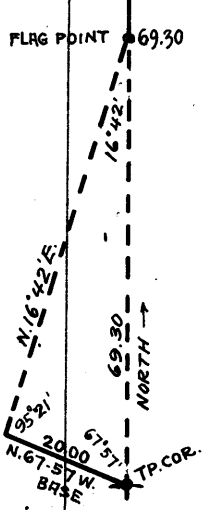
Chains.

Survey commenced May 17, 1915, and executed by Guy H. Richardson, U.S. Surveyor, with a Young and Sons' light mountain transit, No. 8484, provided with a Smith solar attachment. The instrument was examined and approved by the Assistant Supervisor of Surveys for Arizona and California on Jan. 31, 1915.

For field test of the instrument on Polaris meridian, see notes of the subdivision of T. 18 N., R. 20 W., in Book "F."

At old cor. of Ts. 19 and 20 N., Rs. 19 and 20 W., which is a malpais stone, 10x10x6 ins. above ground, marked and witnessed as described by the Surveyor General, at 2h. Om., p.m., l.m.t., I set off 19°14½' N. on the decl. arc; 35°4' on the lat. arc, and determine a meridian with the solar.

It being impracticable to chain measurement on Tp. line N. of this cor., owing to cliffs and canyon, I triangulate as follows:



Set a flag on Tp. line, north of Tp. cor.
 From Tp. cor. lay off a base N. 67° 57' W., 20.00 chs.
 From NW. end of base, flag brs. N. 16° 42' E.
 Included angles are 67° 57', 95° 21' and 16° 42', the sum of which is 180° 00'.

Therefore dist. on Tp. line from Tp. cor. to flag is obtained by

$$\frac{\text{Sine } 95^{\circ} 21' \times \text{base}}{\text{sine } 16^{\circ} 42'} \text{ or } \frac{.99564 \times 20.00}{0.28736} = 69.30 \text{ chs.}$$

20.00 (Approximate) Cottonwood Canyon, course W. 800 ft. deep.

69.30 Flag point. Point for ¼ sec. cor. is inaccessible. I locate the nearest suitable point for witness cor. to ¼ sec. cor. by triangulation, as follows:



Set flag on Tp. line S. of 69.30 ch. station.
 From triangulation point at 69.30 chs. I lay off a base west, 4.70 chs.
 From west end of base; flag brs. S. 11° 28' E.
 Included angles are 90° 00', 78° 32' and 11° 28', the sum of which is 180° 00'.

40 30. East bdy. of Township 20 North, Range 20 West.

Chains.

Therefore dist: on Tp. line from triangulation point S.
to flag is obtained by

Tang. $78^{\circ}32'$ x base or $4.92984 \times 4.70 = 23.17$ chs.

69.30 chs. - 23.17 chs. = dist. of flag N. of Tp. cor.

- 46.13 Flag point on top of ridge, bearing E. and W. At this point, I set an iron post, 3 ft. long, 1 in. in diam., 18 ins. in the ground, to solid rock in a mound of stone, for witness cor. to $\frac{1}{4}$ sec. cor., with a brass cap, marked

$\frac{1}{4}$
 WC
 S 36 | S 31
 1915

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Thence by triangulation measurement hereinbefore described, North, descending.

- 66.00 (Approximate) Ravine, course west. Ascend.
- 69.30 Flag point on SW. slope of ridge. Continue measurement by chaining, ascending.
- 76.29 Top of rocky ridge, bears $N.70^{\circ}W.$ and $S.70^{\circ}E.$, 110 ft. above flag point; descend.
- 80.00 28 ft. below top of ridge, set a granite stone, $16 \times 14 \times 9$ ins. on surface rock, in a mound of stone, for cor. of secs. 25, 30, 31 and 36, marked with 1 notch on S. and 5 notches on N. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Land, exceptionally rough and mountainous.

Soil, rocky, 4th rate.

Undergrowth, greasewood and cactus.

No timber, some scattering small junipers.

May 17, 1915.

May 19, 1915: At the cor. of secs. 25, 30, 31 and 36, hereinbefore described, at 10h. Om. a.m., l.m.t., set off

East boundary of Township 20 North, Range 20 West. 41

Chains.

19° 39' N. on the decl. arc; 35° 5' on the lat. arc; and determine a meridian with the solar.

It being impracticable to chain measurement on Tp. line North, bet. secs. 25 and 30, owing to cliffs, I establish a triangulation point on Tp. line, 3.83 chs. S. of the cor. of secs. 25, 30, 31 and 36, and triangulate as follows:

Set a flag on Tp. line, N. of sec. cor.

From triangulation point lay off a base, N. 81° 15' W., 5.58 chs.

From west end of base flag brs. N. 15° 10' E.

Included angles are 81° 15', 83° 35' and 15° 10', the sum of which is 180° 00'

Therefore dist. on Tp. line from triangulation point to flag is obtained by

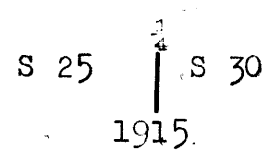
$$\frac{\text{sine } 83^{\circ} 35' \times \text{base}}{\text{sine } 15^{\circ} 10'} \quad \text{or} \quad \frac{.99374 \times 5.58}{.26163} = 21.20 \text{ chs.}$$

Dist. from sec. cor. to flag is

$$21.20 \text{ chs.} - 3.83 \text{ chs.} =$$

17.37 Flag point on top of ridge, brs. E. and W. Continue measurement by chaining. Descend over rough, mountainous land.

40.00 96 ft. below top of ridge, set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

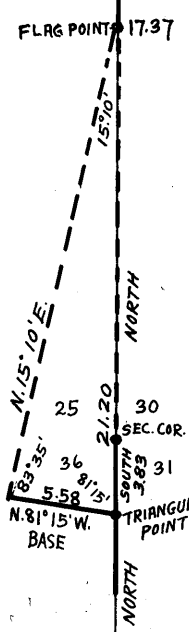


and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

45.00 Begin to ascend.

55.00 Top of ridge, brs. SW. and NE., 240 ft. above 1/4 sec. cor. Descend.

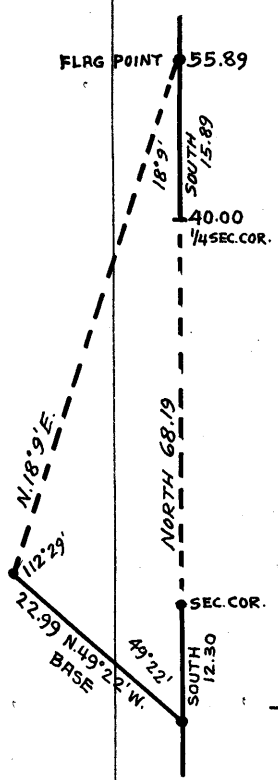
80.00 500 ft. below top of ridge, set a granite stone, 18x16x12 ins., 12 ins. in the ground, for cor. of secs. 19, 24, 25 and 30, marked with 2 notches, on S. edge and 4



Chains.

notches on N. edge, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
 Land, rough, mountainous.
 Soil, stony, 4th rate.
 Undergrowth, greasewood and cactus.

North, bet. secs. 19 and 24.
 It being impracticable to chain measurement on Tp. line N. from cor. of secs. 19, 24, 25 and 30, I triangulate as follows:

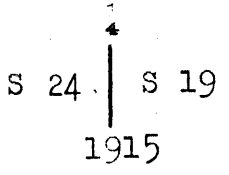


Set flag on Tp. line N. of sec. cor.
 Establish triangulation point, 12.30 chs. S. of sec. cor.
 From triangulation point, lay off a base, N. 49° 22' W., 22.99 chs.
 From NW. end of base, flag brs. N. 18° 9' E.
 Included angles are 49° 22', 112° 29' and 18° 9', the sum of which is 180° 00'
 Therefore, dist. on Tp. line from triangulation point to flag is obtained by

$$\frac{\text{sine } 112^\circ 29' \times \text{base}}{\text{sine } 18^\circ 9'} \text{ or } \frac{.92399 \times 22.99}{.31151} = 68.19 \text{ chs.}$$

68.19 chs. - 12.30 chs. = dist. from sec. cor. to flag =

55.89 Flag point from which I run, chaining measurement South, bet. secs. 19 and 24, 15.89 chs. to
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in the ground, to solid, rock, in a mound of stone for ¼ sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Thence I run, North, continuing measurement by chaining.

55.89 Flag point

East boundary of Township 20 North, Range 20 West. 31.43

Chains.

Descend over mountainous land.

70.55 Cliffs 200 ft. high, bear E. and W.; descend abruptly.

80.00 350 ft. below flag point, set a granite stone, 20x12x8 ins. on solid rock, in a mound of stone for cor. of secs. 13, 18, 19 and 24, marked with 3 notches on N. and S. edges, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rough, mountainous.

Soil, stony, 4th rate.

Undergrowth, greasewood and cactus.

May 19, 1915.

May 26, 1915: At the cor. of secs. 13, 18, 19 and 24, at 9h. 0m. a.m., l.m.t., set off 21° 1 1/2' N. on the decl. arc; 35° 7' on the lat. arc, and determine a meridian with the solar.

Thence I run,

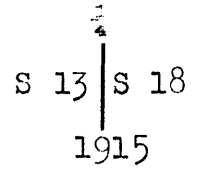
North, bet. secs. 13 and 18.

Descend over rough, mountainous land.

18.82 Draw, course E., 300 ft. below sec. cor.; ascend.

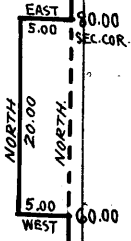
31.90 Top of spur, slopes E., 120 ft. above draw.

40.00 Set an iron post 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Descend.

60.00 215 ft. below 1/4 sec. cor.; owing to cliffs, it is impracticable to continue chaining on Tp. line north of this point; therefore, run on offset line, as follows:



West, 5.00 chs., thence

North, 20.00 chs. over rolling land; thence

East, 5.00 chs. returning to Tp. line at

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in

East boundary of Township 20 North, Range 20 West.

Chains.

the ground for cor. of secs. 7, 12, 13 and 18, with a brass cap, marked

	T 20 N	
R 20 W		R 19 W
S 12		S 7

S 13		S 18
1915		

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

Land, rough, mountainous.

Soil, stony, 4th rate.

Undergrowth, greasewood and cactus.

North, bet. secs. 7 and 12.

Descend over rough, mountainous land.

9.05 Draw, course E., 320 ft. below sec. cor.; thence over rolling, broken land.

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

	$\frac{1}{4}$	
S 12		S 7
1915		

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Descend into mountain pass, known as "Secret Pass."

59.80 Draw, in bottom of pass, course S. 80° E., 155 ft. below $\frac{1}{4}$ sec. cor.; ascend.

80.00 70 ft. above draw, set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 1, 6, 7, and 12, with a brass cap, marked,

	T 20 N	
R 20 W		R 19 W
S 1		S 6

S 12		S 7
1915		

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

Land, rough and mountainous. Soil, stony, 4th rate.

Undergrowth, greasewood and cactus. May 26, 1915.

Chains.

May 27, 1915: At the cor. of secs. 1, 6, 7 and 12; at 8h. 0m., a.m., l.m.t., set off 21° 12' N. on the decl. arc; 35° 08 1/2' on the lat. arc; and determine a meridian with the solar. Thence I run,

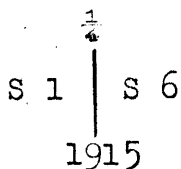
North, bet. secs. 1 and 6.

Ascend over rough, mountainous land.

24.97 Top of spur, slopes W., 375 ft. above sec. cor.; descend.

35.65 Draw, course S 80° W., 165 ft. below top of spur; ascend.

40.00 25 ft. above draw, set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Continue to ascend.

60.00 Top of ridge, bears NW. and SE., 416 ft. above 1/4 sec. cor. Descend.

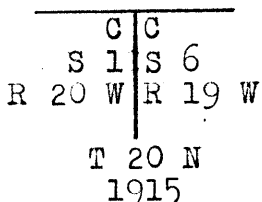
66.08 A point 34.34 chs. E. of old std. cor. of Ts. 21 N., Rs. 19 and 20 W. Set temp. sp. closing cor. at this point.

May 27, 1915.

December 16, 1915.

73.71 Intersect the 5th. Standard Parallel N., 35.18 chs. N. 77° 28' E. of old standard cor. of Ts. 21 N., Rs. 19 and 20 W., which is a granite stone, 24x16x12 ins., set in a mound of stone, marked and witnessed as described by the Surveyor General. (Intersection determined after re-survey of 5th. Standard Parallel North, through part of Range 19 West, as described in Book "B.")

At point of intersection, 135 ft. below top of ridge, set an iron post, 3 ft. long, 3 ins. in diam., 12 ins. in the ground, for closing cor. of Tps. 20 N., Rs. 19 and 20 W., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S.

46

East boundary of Township 20 North, Range 20 West.
Chains.

of cor.

Land, rough and mountainous.

Soil, stony, 4th rate.

Undergrowth, cactus and greasewood.

Dec. 16, 1915.

Guy H. Richardson,

U. S. Surveyor.

Chains

Survey executed by Guy H. Richardson, U.S. Surveyor, commencing April 15, 1915, at the corner of Ts. 19 and 20 N., Rs. 20 and 21 W., which is an iron post hereinbefore described, where at 9h. 30m., a.m., l.m.t., set off 9° 33½' N. on the decl. arc; and 35° 4' on the lat. arc, and determine a meridian with the solar.

Thence I run,

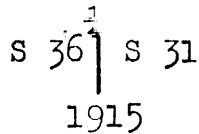
North, bet. secs. 31 and 36.

Descend along W. slope of broken, mountainous land.

15.00 125 ft. below Tp. cor.; thence over rolling land.

31.20 Begin to descend.

40.00 Foot of 150 ft. descent, set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., with a brass cap, marked

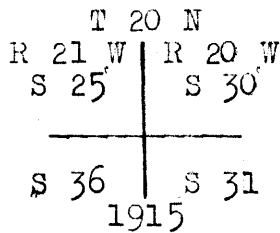


and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Thence over rolling land.

67.50 Telephone line, brs. E. and W.

69.00 Silver Creek wash, course N. 85° W.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land rolling and mountainous.

Soil, stony, 4th rate.

Undergrowth, greasewood and cactus.

North, bet. secs. 25 and 30.

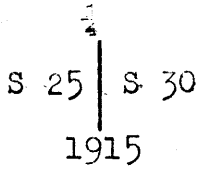
Over rolling hills.

27.70 Wash, 1 ch. wide, course W.

West boundary of Township 20 North, Range 20 West

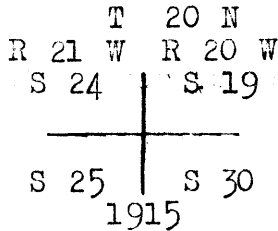
Chains.

40.00 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



and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Ascend from $\frac{1}{4}$ sec. cor..

80.00 100 ft. above $\frac{1}{4}$ sec. cor., set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 19, 24, 25 and 30, with a brass cap, marked



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

Land, rolling.

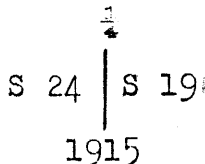
Soil, stony, 4th rate.

Undergrowth, greasewood and cactus.

North, bet. secs. 19 and 24.

Ascend over rolling land.

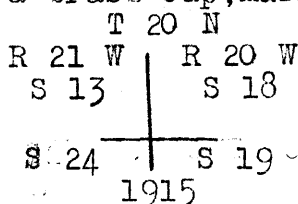
40.00 145 ft. above sec. cor., set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., with a brass cap, marked,



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

43.15 90 ft. above $\frac{1}{4}$ sec. cor.; descend.

80.00 218 ft. descent, set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 13, 18, 19 and 24, with a brass cap, marked



West bdy. of T. 20 N., R. 20 W.

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

Land rolling mountainous.

Soil, stony, 4th. rate.

Undergrowth, greasewood and cactus.

At the cor. of secs. 13, 18, 19 and 24, at apparent noon, I set off $9^{\circ} 36'$ N. on the decl. arc, and observe the sun on the meridian for lat. The resulting lat. is $35^{\circ} 7'$ N.

North bet. secs. 13 and 18.

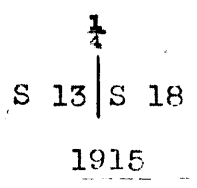
Over rolling land, desc.

2.90 Wash, course NE.

9.85 Wash, course NW., 80 ft. below sec. cor., continue to desc.

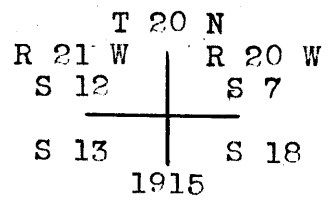
29.30 Wash, course W., 106 ft. below previous wash, thence over rolling land.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for $1/4$ sec. cor., with a brass cap, marked



and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Asc. gradually over rolling land.

80.00 60 ft. above $1/4$ sec. cor., set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 7, 12, 13 and 18, with a brass cap, marked



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

Land, rolling.

Soil, stony, 4th. rate.

Undergrowth, greasewood and cactus.

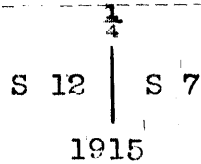
Chains

North bet. secs. 7 and 12.

Over rolling land.

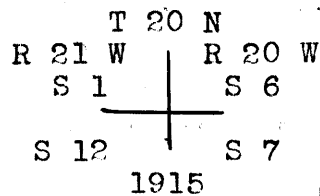
12.75 Creek, 5 lks. wide, course W.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



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

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 1, 6, 7 and 12, with a brass cap, marked



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

Land, rolling.

Soil, stony, 4th. rate.

Undergrowth, greasewood and cactus.

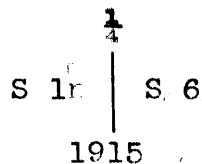
North bet. secs. 1 and 6.

Over rolling land.

3.80 Wash, course W.

21.50 Wash, course W.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked



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

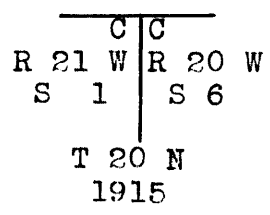
64.33 Intersect the 5th. Standard Parallel N. 4.80 chs. W. of the Std. 1/4 sec. cor. for sec. 31, T. 21 N., R. 20 W.,

West bdy. of T. 20 N., R. 20 W.

Chains

which is a stone, 20 X 16 X 14 ins., set in a mound of stone, and marked and witnessed as described by the surveyor general. At point of intersection,

Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for closing cor of Tps. 20 N., Rs. 20 and 21 W., with a brass cap, marked



and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S. of cor.

Land, rolling.

Soil, stony, 4th. rate.

Undergrowth, greasewood and cacti.

April 15, 1915.

Guy H. Richardson,
U. S. Surveyor.

Retracement and survey of W.half of N. bdy. of T. 19 N., R. 19 W.

Chains Retracement and survey commenced on December 7, 1915, and executed by Hugo Price, U. S. Transitman, with Young & Sons. light mountain transit, No. 8439. The instrument is provided with Smith solar attachment, and was approved by the Assistant Supervisor of Surveys for Arizona and California on Jan. 31, 1915. For field test of instrument on a meridian determined by an observation on Polaris, see notes of the subdivision of T. 20 N., R. 19 W. in Book "N."

old cor. of Tps. 19 and 20 N., Rs. 19 and 20 W. hereinbefore described, at 8h. 0m., a. m., l.m.t., set off $22^{\circ} 29'$ S. on the decl. arc, and $35^{\circ} 4'$ N. on the lat. arc, and determine a meridian with the solar. Thence I run,

East on a random line, betsecs. 6 and 31.

38.31 Intersect a point 30 lks. S. of old $1/4$ sec. cor., which is a malpais stone 6 X 6 X 5 ins. above ground, marked and witnessed as described by the surveyor general. True course and distance of west half between secs. 6 and 31 is therefore $N.89^{\circ} 33'E., 38.31$ chs. I continue same line and measurement.

78.27 Intersect a point 18 lks. N. of old cor. of secs. 5, 6, 31 and 32, which is a malpais stone, 14 X 8 X 7 ins. above ground, marked and witnessed as described by the surveyor general. True course and distance of E.half, bet. secs. 6 and 31 is therefore $S.89^{\circ} 19'E., 39.96$ chs.

Completion of survey N.bdy of T. 19 N., R. 19 W.

From the cor. of secs. 5, 6, 31 and 32, hereinbefore described, I run

East on a random line bet. secs. 5 and 32 and secs. 4 and 33, setting temp. $1/4$ and sec. cors. at intervals of 40.00 chs., and at

160.36 Intersect a point 89 lks. S. of old cor. of secs. 3, 4,

Completion of survey of N. bdy. of T. 19 N., R. 19 W.

Chains

33 and 34, which is a malpais stone, 6 X 8 X 5 ins. above ground, marked and witnessed as described by the surveyor general.

The true return course is S. 89° 41' W. and the proportional measurement for each half mile is 40.09 chs.

S. 89° 41' W. on a true line bet. secs. 4 and 33.

Asc. gradually over rolling land.

22.33 Dry gulch, course NE., continue to asc.

33.80 Pipe line, bears NW. and SE.

40.09 218 ft. above sec. cor., set an iron post, 3 ft. long, 1 in. in diam., on surface rock, in a mound of stone, for 1/4 sec. cor., with a brass cap, marked

1/4 S 33

S 4
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Enter mountainous land, asc.

52.00 Top of spur, slopes SE., 354 ft. above 1/4 sec. cor., desc.

64.30 Ravine, course SE., 96 ft. below top of spur, asc.

76.60 Perpendicular cliffs, 78 ft. high, bear N. and S.

80.18 520 ft. above ravine, set an iron post, 3 ft. long, 3 ins. in diam., on surface rock, in a mound of stone, for cor. of secs. 4, 5, 32 and 33, with a brass cap, marked

T 20 N R 19 W
S 32 | S 33
S 5 | S 4
T 19 N
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, rolling & mountainous.

Soil, stony, 4th. rate.

Undergrowth, cacti, greasewood and a scant growth of grass. No timber.

Completion of survey of N. bdy. of T. 19 N., R. 19 W.

Chains S. 89° 41' W. on a true line bet. secs. 5 and 32.
 Over mountainous land, asc. SE. slope.

21.22 Gulch, course SE., continue to asc.

39.90 Top of ridge, bears N. and S., 600 ft. above sec. cor.

40.09 Set an iron post, 3 ft. long, 1 in. in diam., 10 ins. in
 the ground to solid rock, in a mound of stone, for 1/4
 sec. cor., with a brass cap, marked

1/4 S 32

S 5
1915

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
 N. of cor.

46.09 Desc. W. slope, bears N. and S.

63.30 Ravine, course SE., 350 ft. below 1/4 sec. cor., asc.

80.18 Old cor. of secs. 5, 6, 31 and 32 hereinbefore described, 390
 ft. above ravine.

Land, mountainous.
 Soil, stony, 4th. rate.
 Undergrowth, greasewood and cacti.
 No grass or timber.

December 7, 1915.

 Hugo Price
 U. S. Transitman.

94
BOOK 51
2876

FOR CERTIFICATES OF UNITED STATES SURVEYORS and
UNITED STATES TRANSITMAN,

See page 4 of this Book.

I, _____, U. S. Surveyor, do solemnly swear that, in pursuance
of special instructions received from the U. S. Surveyor General for _____
bearing date of the _____ day of _____, 191____, 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 _____
_____ of the _____
_____ Meridian, in the State of _____, which are represented in
the foregoing field notes as having been executed by me, and under my direction; and I do further
solemnly swear that all the corners of said survey have been established and perpetuated in strict accord-
ance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor
General for _____ and in the specific manner described in the field notes, and that
the foregoing are the original field notes of such survey.

U. S. Surveyor.

Subscribed by said _____, and sworn to before me }
this _____ day of _____, 191____ }



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, *February 26*, 1917

The foregoing field notes of the survey of _____ the North bdrs. of Ts. 17 and 18 N.,
R. 20 W., Ts. 19 N., Rs. 20 and 21 W., the West bdrs. of Ts. 19 and 20
N., R. 20 W., the East bdy. of T. 20 N., R. 20 W., and Retracement
and Survey of W. 1/2 of North bdrs. of T. 17 N., R. 18 W., and T. 19 N.,
R. 19 W. of the Gila and Salt River Base and Meridian, in the State
of Arizona,

executed by Guy H. Richardson and Otis Ross, U.S. Surveyors, and
Hugo Price, U. S. Transitman,
under special instructions dated January 4 and 28, 1915, for Group 43, _____, having been
critically examined, and the necessary corrections and explanations made, the said field notes, and the
surveys they describe, are hereby approved.

Frank P. Frost

U. S. Surveyor General.
for Arizona.

~~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.~~