

original Sect. 310

2160

4-679.

Book F

Accepted letter E. #114-1909

BOOK 2160

FIELD NOTES

OF THE SURVEY OF THE

2160

2160 *Frac.* Subdivision of T. 12 S. R. 21 E.

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2160

Of the Gila & Salt River Base & Meridian,
Arizona.

AS SURVEYED BY

Jesse B. Wright, United States Deputy Surveyor,

Under his Contract No. 154, dated February 9, 1909

Survey commenced April 24 th, 1909

Survey completed April 30th, 1909

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NAMES AND DUTIES OF ASSISTANTS.

Walter Percival Chairman

Santiago Vinicola "

Antonio Jara Jr. Moundman

"

Severio Perato Axeman

"

"

Refugio Pacheco Flagman

BOOK 2160

INDEX DIAGRAM.

Township 12 South, Range 21 East

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Walter Percival and Santiago Vindicola
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the
chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that
we will report the true distances to all notable objects, and the true lengths of all lines that we assist in
measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of
Frac. Subdivision of T. 12 S. R. 21 E.

Walter Percival, Chainman.
Santiago Vindicola, Chainman.

Subscribed and sworn to before me this 21st
day of April, 1909



Jesse B. Wright
U.S. Deputy Surveyor

WE, Antonio Torres Jr. and
do solemnly swear that we will well and truly perform the duties of moundmen in the establishment
of corners, according to the instructions given us, to the best of our skill and ability, in the survey of
Frac. Subdivision of T. 12 S. R. 21 E.

Antonio Torres Jr., Moundman.
Moundman.

Subscribed and sworn to before me this 21st
day of April, 1909



Jesse B. Wright
U.S. Deputy Surveyor

WE, Silverio Peralto and
do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners
and other duties, according to instructions given us, to the best of our skill and ability, in the survey of
Frac. Subdivision of T. 12 S. R. 21 E.

Silverio Peralto, Axman.
Axman.

Subscribed and sworn to before me this 21st
day of April, 1909



Jesse B. Wright
U.S. Deputy Surveyor

I, Refugio Pacheco, do solemnly swear that I will well and truly
perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the
survey of Frac. Subdivision of T. 12 S. R. 21 E.

Refugio Pacheco, Flagman.

Subscribed and sworn to before me this 21st
day of April, 1909



Jesse B. Wright
U.S. Deputy Surveyor

Frac. Subdivision of T. 12 S. R. 21 E.

Chains

My Gurley transit being damaged by a fall on morning of the 24th, In these subdivisions I use my Young & Son's inst. Survey commenced April 24th, 1909, and executed with a Young & Sons light mountain transit No. 6492 with Smith patent solar attachment on side. The horizontal limb of the instrument is provided with two double verniers placed opposite to each other and each reading to 1' of arc, which is also the least reading of the verniers of the latitude and declination arcs and the vertical arc of the instrument.

I examine and test the levels, the line of collimation, and standards of the instrument and find same correct. I also examine, test and adjust carefully the latitude arc of the solar by means of the strident level, and begin as per instructions at the cor. of secs. 35, 36, 1 & 2 on S. bdy. of Tp., which is a Volcanic stone 11x7 ins. x 6 ins. above ground marked & witnessed as described by Surv. Gen. I test the declination arc and hour circle of the solar and find same correct.

All parts of the instrument being in satisfactory adjustments as to tests, in order to test the solar apparatus by comparing the results of solar observations for meridian made during a.m. & p.m. hours with a true meridian determined by Polaris observations, I proceed as follows:-

at 3h p.m., l.m.t., at the cor. above described, I set off $12^{\circ} 54' N.$ on the decl. arc and $32^{\circ} 20' N.$ on the lat. arc and observe the sun for meridian, and mark the meridian thus determined by a small nail driven in a tree 6 chs. N. of my station, April 24, 1909,

at 5h 19m a.m., l.m.t., I observe Polaris at E. Elong. in accordance with instructions in the "Manual" and mark the line thus determined by a tack in a stake driven in the ground 6 chs. N. of my station.

April 25, 1909, at 7h a.m., l.m.t., I set off the azimuth of Polaris $1^{\circ} 23'$ to the W. and mark the true meridian thus determined by a tack in the tree 6 chs. N. of my station, which line is 0.30 ins. W. of the line as given by the solar on preceding evening.

At 7h 30m^{a.m.} l.m.t., I set off $13^{\circ} 7' 30'' N.$ on the decl. arc and $32^{\circ} 20' N.$ on the lat. arc and determine a meridian with the solar, which meridian gives a line identical with the true meridian determined by Polaris observations.

The solar apparatus by p.m. & a.m. observations defines positions for meridians respectively $14'' E.$ and identical with the true meridian determined by Polaris observations; hence I conclude that the adjustments of the instrument are satisfactory.

From the cor. above described I run,
N. $0^{\circ} 01'$ W. bet. secs. 35 & 36.

Var. $13^{\circ} 20'$ E.

Over mts. land asc.

- 6.00 Top of flat ridge, brs. SW. & NE., desc.
- 22.00 Enter wash, course SSW.
- 25.00 Leave wash, asc. steep.
- 38.00 Top of ridge, brs. SW. & NE. desc.
- 40.00 Set a malapais stone 24x12x8 ins. 18 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face and raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor.
No bearings available. Pits impracticable.
- 45.00 Head of Gulch, course SW. asc.
- 50.00 Spur, brs. W. & E. desc.
- 59.25 Main gulch 125 lks. wide, course SW. asc. steep.
- 72.00 Ridge, brs. SW. & NE. desc.
- 76.50 Gulch 50 lks. wide, course SW. Heads 10 chs. NE. asc.
- 80.00 St a Volcanic stone 24x15x10 ins. 18 ins. in the ground for cor. of secs. 25, 26, 35, & 36, marked with 1 notch on S. & E. edges and raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor. No bearings available.

Subdivision of T. 12 S. R. 21 E.

Chains

Land, Mts. rough, broken.
Soil, 2nd & 3rd rate, stony, gravelly.
Timber, few oak trees in canyons.
Undergrowth, Scattering mesquite., Yucca, Cacti. Good grass.
Mountainous land exceptionally difficult to
survey 80.00 chs.

East on a random line bet. secs. 25 & 36.
40.00 Set temp. $\frac{1}{4}$ sec. cor.
80.00 Intersect E. bdy. 5 lks. S. of cor. of secs. 25, 36, 30 & 31,
whence I run,
S. $89^{\circ} 58'$ W. on a true line bet. secs. 25 & 36.
Over mts. land desc along SSW. slope of ridge.
40.00 Set a volcanic stone 24x12x10 ins. 18 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.
No bearings available.
Desc. steep.
44.50 Main gulch 80 lks. wide, course SW. asc. steep.
60.00 Top, thence along S. slope of ridge.
80.00 To cor. of secs. 25, 26, 35 & 36.
Land, mts.
Soil, 2nd rate, stony, gravelly.
Timber, few oak trees in larger canyons.
Undergrowth, mesquite, cacti, yucca.
Mts. land exceptionally difficult to survey, 80.00 chs.
At this cor. at noon, I set off $13^{\circ} 10' 30''$ N. on the
decl. arc and observe the sun on the meridian.
The resulting latitude is $32^{\circ} 21' N.$

N. $0^{\circ} 01'$ W. bet. secs. 25 & 26.
Over mts. land asc.
7.00 Top of ridge, brs. SW. & NE. desc.
14.00 Gulch 20 lks. wide, course SW. asc. steep.
16.00 Pt. of small spur SW. desc.
17.40 Gulch 40 lks. wide, course, SW. asc. steep.
36.00 Ridge, course SW. & NE. desc.
40.00 Set a Volcanic stone 24x12x8 ins. 18 ins. in the ground
for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face and raise a mound of
stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor.
No bearings available.
50.00 Canyon, 50 lks. wide, 50 ft. deep, course WSW. asc. steep.
60.00 Ridge, brs. W. & E. desc. grad.
68.00 Canyon, 50 lks. wide, course WSW. asc. prec.
70.00 Top of rim, asc. grad.
80.00 Set a Volcanic stone 24x10 x8 ins. 18 ins. in the ground
for cor. of secs. 23, 24, 25 & 26 marked with 2 notches on
S. & 1 notch on E. edges and raise a mound of stone
2 ft. base $1\frac{1}{2}$ ft. high W. of cor.
No bearings available.
Land Mts.
Soil, 2nd & 3rd rate, stony, gravelly.
No timber,
Undergrowth, scattering mesquite, yucca, cacti. Native grass.
Mts. land exceptionally difficult to survey, 80.00 chs.

N. $89^{\circ} 58'$ E. on a random line bet. secs. 24 & 25.
40.00 Set temp. $\frac{1}{4}$ sec. cor.
80.04 Intersect E. bdy. at cor. of secs. 24, 25, 19 & 30, whence I run,
S. $89^{\circ} 58'$ W. on a true line bet. secs. 24 & 25.
Over Mts. land, desc. grad. along foot of main slope, SW.
40.02 Set a volcanic stone 24x12x8 ins. 18 ins. in the ground for
 $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face and raise a md. of stone 2 ft.
base $1\frac{1}{2}$ ft. high N. of cor. No bearings available.
58.00 Wash 20 lks. wide, course WSW.
80.04 To cor. of secs. 23, 24, 25 & 26.
Land mts. Soil, 2nd rate, gravelly. No timber. Few mesquite.
Mts. land 80.04 chs.

April 25, 1909.

Subdivision of T. 12 S. R. 21 E.

Chains.

April 26, 1909.
 At 7h a.m., l.m.t., at the cor. of secs. 34, 35, 2 & 3 on S. bdy. of Tp., which is a volcanic stone 10x7 ins. x 8 ins. above ground marked and witnessed as described by the Surveyor General.
 I set off 13° 27' N. on the decl. arc and 32° 20' N. on the lat. arc and determine a true meridian with the solar.
 Thence I run,
 N. 0° 01' W. bet. secs. 34 & 35.
 Var. 13° 20' E.
 Over mts. land desc. steep.
 20.00 Main canyon 2 chs. wide, 100 ft. deep, course WSW.
 Asc. steep.
 35.00 Long ridge, course WSW. & ENE. desc.
 40.00 Mark a volcanic boulder in place 2 ft. x 1 ft. x 1 ft. above ground with cross (x) on top and 1/4 on W. of cross for 1/4 sec. cor. and raise a mound of stone 2 ft. base 1 1/2 ft. high W. of cor.
 No bearings available.
 46.27 Ridge, brs. WSW. & ENE. desc. steep.
 53.00 Canyon 50 lks. wide, course WSW. asc. steep.
 60.00 Ridge, brs. W. & E. desc. steep
 72.00 Drain, course W.
 80.00 Set a volcanic stone 20x12x10 ins. 15 ins. in the ground for cor. of secs. 26, 27, 34 & 35, marked with 1 notch on S. & 2 notches on E. edges and raise a mound of stone 2 ft. base 1 1/2 ft. high W. of cor.
 No bearings available.
 Land, mts.
 Soil, 2nd & 3rd rate, gravelly.
 No timber.
 Undergrowth, scattering mesquite. Yucca, cacti.
 Mts. land exceptionally difficult to survey, 80.00 chs.

East on a random line bet. secs. 26 & 35.
 40.00 Set temp. 1/4 sec. cor.
 80.28 Intersect N. & S. line at cor. of secs. 25, 26, 35 & 36, whence I run,
 West on a true line bet. secs. 26 & 35.
 Over mts. land desc. grad. on S. slope of ridge.
 32.00 Cross top of ridge, brs. WSW. & ENE. desc. along NW. slope.
 40.14 Set a Volcanic stone 24x12x8 ins. 18 ins. in the ground for 1/4 sec. cor. marked 1/4 on N. face and raise a mound of stone 2 ft. base 1 1/2 ft. high W. of cor.
 No bearings available.
 Continue desc. along broken NW. slope.
 80.28 To cor. of secs. 26, 27, 34 & 35.
 Land Mts.
 Soil, 3rd rate, gravelly.
 No timber.
 Undergrowth, scattering mesquite, Yucca, Good grazing.
 Mts. land 80.28 chs.

N. 0° 01' W. bet. secs. 26 & 27.
 Over mts. land desc.
 4.00 Canyon 50 lks. wide, 50 ft. deep, course SW. asc.
 9.00 Long ridge, brs. WSW. & ENE. desc.
 17.00 Canyon 50 lks. wide, course WSW. asc. steep.
 28.00 Long ridge, brs. WSW. & ENE. desc.
 35.00 Long Canyon, 3 chs. wide, 100 ft. deep, course WSW. asc. steep.
 40.00 Set a Volcanic stone 24x10x8 ins. 18 ins. in the ground for 1/4 sec. cor. marked 1/4 on W. face and raise a mound of stone 2 ft. base 1 1/2 ft. high W. of cor.
 No bearings available.
 At this cor. at 11h 58m a.m., l.m.t., I set off 13° 30' N. on the decl. arc and observe the sun on the meridian.
 The resulting lat. is 32° 21' N.

Subdivision of T. 12 S. R. 21 E.

Chains

50.00 Long ridge, brs. WSW. & ENE. desc.
 65.00 Wash 30 lks. wide, course WSW. asc. grad.
 80.00 Set a volcanic stone 24x10x8 ins. 18 ins. in the ground for
 Cor. of secs. 22, 23, 26 & 27, marked with 2 notches on S.
 & E. edges and raise a mound of stone 2 ft. base 1 1/2 ft.
 high W. of cor.
 No bearings available.
 Land mts.
 Soil, 3rd rate, stony, gravelly.
 No timber.
 Undergrowth, scattering mesquite. paloverde, cacti.
 Mts. land exceptionally difficult to survey 40.00 chs.
 Mountainous land -- 40.00 chs.

East on a random line bet. secs. 23 & 26.
 40.00 Set temp. 1/4 sec. cor.
 80.20 Intersect N. & S. line 6 1/2 lks. N. of cor. of secs. 23, 24,
 25 & 26, whence I run,
 N. 89° 57' W. on a true line bet. secs. 23 & 26.
 Over mts. land desc. along foot of main slope,
 over stony ground.
 27.00 Flat ridge from main ridge, brs. SW. & NE.
 40.00 Set a volcanic stone 24x8x8 ins. 18 ins. in the ground
 for 1/4 sec. cor. marked 1/4 on N. face and raise a mound of
 stone 2 ft. base 1 1/2 ft. high N. of cor.
 No bearings available.
 61.00 Wash 50 lks. wide, course SW. asc. grad.
 80.20 To cor. of secs. 22, 23, 26 & 27.
 Land, mts.
 Soil, 3rd rate, stony.
 No timber.
 Undergrowth, scattering mesquite, paloverde, cacti.
 Mountainous land, --- 80.20 chs.

April 26, 1909.

April 27, 1909.

At 7h a.m., l.m.t., at the cor. of secs. 33, 34, 3, & 4
 on S. bdy. of Tp. which is a Volcanic stone 15x10x10
 ins. marked and witnessed as described by the Surveyor
 General: the cor. being loose in ground and mound of
 stone in a very dilapidated condition, I re-mark and
 re-set stone 10 ins. in ground in original position,
 and rebuild the mound of stone 3 ft. base 2 ft. high W
 W. of cor. No bearings available.
 I set off 13° 45' 00" N. on the decl. arc and 32° 20' N.
 on the lat. arc and determine a true meridian with
 the solar, thence I run,
 N. 0° 2' W. bet. secs. 33 & 34.
 Over mts. land desc. steep.

3.00 Mouth of wash 150 lks. wide, course from E. to W.
 6.00 Main wash of Canyon 4 chs. wide, course SW.
 8.00 Begin steep asc. Over broken SW. slope.
 32.00 Ridge, brs. SE. & NW. desc.
 40.00 Set a Volcanic stone 24x15x10 ins. 18 ins. in the ground
 for 1/4 sec. cor. marked 1/4 on W. face and raise a mound of
 Stone 2 ft. base 1 1/2 ft. high W. of cor.
 No bearings available.
 45.00 Gulch 50 lks. wide, course SE. asc. steep.
 67.00 Spur, brs. SE. & NW. desc.
 75.00 Gulch 50 lks. wide, course SE. asc. steep.
 80.00 Set a Volcanic stone 24x12x10 ins. 18 ins. in the ground for
 Cor. of secs. 27, 28, 27 & 28, marked with 2 notches on S. edge
 & 3 notches on E. edge & raise a md. of stone 2 ft. base 1 1/2
 ft. high W. of cor. No bearings available.
 Land, Mts. Soil, 3rd rate gravelly. No timber.
 Undergrowth, dense mesquite in main wash. paloverde, cacti.
 Mts. land exceptionally difficult to survey 80.00 chs.

Subdivision of T. 12 S. R. 21 E.

Chains

East on a random line bet. secs. 27 & 34.

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

80.30 Intersect N. & S. line 5 lks. N. of cor. of secs. 26, 27, 34 & 35, whence I run, N. $89^{\circ} 58'$ W. on a true line bet. secs. 27 & 34. Over mts. land desc. steep.

8.00 Canyon 80 lks. wide, course SW., thence along N. side of same over very rough ground. As $\frac{1}{4}$ sec. cor. will fall in canyon at

31.45 I set a Volcanic stone 24x12x8 ins. 18 ins. in the ground to bedrock in mound of stone for Witness cor. to $\frac{1}{4}$ sec. cor. marked WC. $\frac{1}{4}$ on W. face and raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor. No bearings available. Cor. on small spur from N. to S.

33.00 Enter Canyon, course W.

40.15 Cor. point for $\frac{1}{4}$ sec. cor. in canyon.

57.00 Leave canyon, runs S.W.

58.00 Point of ridge, brs SW. & ENE.

60.00 Main Canyon, 4 chs. wide, course SSW. Drains all land to E. & N.

62.00 Begin very steep asc.

75.00 Point of spur from main ridge, brs. SE. & NW. Thence on S. slope.

80.30 To cor. of secs. 27, 28, 33 & 34. Land, mts. Soil, 3rd rate, gravelly. No timber. Undergrowth, scattering mesquite, paloverde. Mts. land exceptionally difficult to survey 80.30 chs. At this cor. at 11h 57 m. a.m., l.m.t., I set off $13^{\circ} 49'$ N. on the decl. arc and observe the sun on the meridian. The resulting lat. is $32^{\circ} 21'$ N.

N. $0^{\circ} 2'$ W. bet. secs. 27 & 28
Over mts. land asc. along E. slope of ridge.

40.00 Set a Volcanic stone 24x12x8 ins. 18 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face and raise a md. of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor. No bearings available. desc.

44.00 Head of Gulch, course SE. asc. steep.

52.00 Top of main ridge, brs. SSW. Thence on same.

80.00 Set a volcanic stone 20x10x8 ins. 15 ins. in the ground for cor. of secs. 21, 22, 27 & 28, marked with 2 notches on S. & 3 notches on E. edges and raise a md. of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor. No bearings available. Land, mts. Soil, 2nd & 3rd rate, gravelly. No timber. Undergrowth, scattering mesquite, paloverde. Mountainous land, --- 80.00 chs.

S. $89^{\circ} 58'$ E. on a random line bet. secs. 22 & 27.

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

80.32 Intersect N. & S. line 19 lks. N. of cor. of secs. 22, 23, 26 & 27, whence I run, N. $89^{\circ} 50'$ W. on a true line bet. secs. 22 & 27. Over mts. land desc.

15.00 Flat ridge, brs. SW. & NE. desc. grad. over NW. slope.

30.00 Wash 20 lks. wide, course SW. asc. grad.

40.16 Set a volcanic stone 20x12x6 ins. 15 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on N. face and raise a md. of stone 2 ft. base $1\frac{1}{2}$ ft. high N. of cor. No bearings available. Cor. on top of flat ridge, brs S. & N. desc. grad.

56.00 Main wash 50 lks. wide, course SSE. asc. grad.

80.32 To cor. of secs. 22, 22, 27 & 28. Land, mts. Soil, 2nd & 3rd rate. No timber. Undergrowth, scattering mesquite. Paloverde. Mountainous land, ---80.32 chs.

April 27, 1909.

Chains

April 28, 1909.

At the cor. of secs. 32, 33, 4 & 5 on S. bdy. of Tp., which is a volcanic stone 12x7 ins. x 8 ins. above ground, marked as described by the Surveyor General, with faint traces of mound and pits. The stone being poorly marked, I re-mark same with 4 notches on E. & 2 notches on W. edges, and raise a mound of stone 3 ft. base 2 ft. high W. of cor.

No bearings available. On account of shifty nature of the ground, being gravelly and so susceptible to wash, it is impracticable and useless to dig pits.

Pits and mounds of earth as accessories to corners in such soil should be prohibited as in a year or so they are utterly useless. In every case, where pits & mounds of earth have been constructed as accessories in such soil I have found it very hard to locate and identify corners neither have the settlers for whom the original survey was made.

Where stone is plentiful for mounds as in this and many other cases that have come under my observation, mounds of stone should be required, as they are more permanent and easy to locate, by settlers or others.

At the cor. above described at 7h a.m., l.m.t., I set off 14° 05' N. on the decl. arc and 32° 20' N. on the lat. arc and determine a true meridian with the solar.

Thence I run,

N. 0° 2' W. bet. secs. 32 & 33.

Var. 13° 20' E.

Over mts. land asc.

- 2.00 Ridge, brs. SW. & NE. desc.
 - 11.00 Wash 50 lks. wide, course SW. asc.
 - 13.00 Ridge, brs. SW. & NE. desc.
 - 25.00 Main wash 2 chs, wide, course SW. asc. steep. on S. slope of butte.
 - 40.00 Set a volcanic stone 24x12x8 ins. 18 ins. in the ground for $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face and raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor.
No bearings available.
 - 54.00 Top of high butte is E. 2 chs. desc.
 - 59.00 Head of gulch, course W. asc.
 - 68.00 Top of spur, brs. SW. & NE. desc. prec.
 - 80.00 Set a volcanic stone 24x12x8 ins. 18 ins. in the ground for cor. of secs. 28, 29, 32 & 33, marked with 1 notch on S. & 4 notches on E. edges and raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor. from which,
A cedar tree 12 ins. diam. brs. N. 42° E. 130 lks. dist.
marked T. 12 S. R. 21 E. S. 32 B.T.
A cedar tree 15 ins. diam. brs. S. 82° E. 65 lks. dist.
marked T. 12 S. R. 21 E. S. 33 B.T.
A cedar tree 12 ins. diam. brs. S. 43° W. 72 lks. dist.
marked T. 12 S. R. 21 E. S. 32 B.T.
No other bearings available.
- Land mts. broken.
Soil, 3rd rate, stony, gravelly.
Timber, few cedar.
Undergrowth, mesquite, in washes, paloverde, amole.
Mts. land exceptionally difficult to survey, 80.00 chs.

East on a random line bet. secs. 28 & 33.

- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
- 80.20 Intersect N. & S. line 5 lks. N. of cor. of secs. 27, 28, 33 & 34, whence I run,
N. 89° 58' W. on a true line bet. secs. 28 & 33.
Over mts. land asc.
- 7.00 Top of long ridge, brs. SSW. & NNE. desc. steep.
- 20.00 Gulch 20 lks. wide, course NW. asc.
- 27.00 Point of spur, brs. NW. & SE. desc. prec.
- 33.00 Long wash 150 lks. wide, course SSW. asc. steep.

Chains

April 29, 1909,

At 7h a.m., l.m.t., at the cor. of secs. 31, 32, 5 & 6,
on S. bdy. of Tp. which is a Volcanic stone 15x9x10 ins.
(Porphyry as in original notes by Surv. Gen. in error.)

set 10 ins. in ground marked as described by the Surveyor
General, with traces of pits and mounds.

I raise a mound of stone 3 ft. base 2 ft. high W. of cor.
pits and mound of earth impracticable and useless owing
to gravelly, loose nature of soil. ;

I set off $14^{\circ} 24'$ N. on the decl. arc and $32^{\circ} 20'$ N. on
the lat. arc and determine a true meridian with the
solar, thence I run,

N. $0^{\circ} 3'$ W. bet. secs. 31 & 32.

Over mts. land asc. grad. over broken ground, slopes SW.

23.18

Road, brs. NE. & SW.

26.45 Wire fence, brs. E. & W. enter pasture of Chas. Drew.

28.50 Same road as above, brs. E. & W. turn is 5 chs. E.

29.00 Ridge, brs. W. & E. desc.

35.80 Gulch 50 lks. wide, course NW. asc.

40.00 Set a sandstone 20x12x10 ins. 15 ins. in the ground for
 $\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face and raise a mound of
stone 2 ft. base $1\frac{1}{2}$ ft. high W. of cor. from which,
A cedar tree 10 ins. diam. brs. E. 43 lks. dist.
marked $\frac{1}{4}$ S. 32 B.T.

A cedar tree 12 ins. diam. brs. S. 82° W. 97 lks. dist.
marked $\frac{1}{4}$ S. 31 B.T.

43.50 Top of ridge, brs. WNW. & ESE. desc. steep NE. slope.

45.60 Wire fence, brs. NW. & SE.

58.00 Gulch 50 lks. wide, course NW. asc.

60.00 Point of flat ridge, brs SW. & NE. desc.

House of Joseph W. Dell on S. side of Bass Canyon, brs. W. 8 chs.

House of Chas. W. Drew, on high knoll, brs. S. 72° W. 34 chs.

66.23 Wire fence, brs. NE. & SW. Enter dense Cottonwood, sycamore. Oak.

68.50 Bass Canyon 150 lks. wide, course SW. asc.

Bas Canyon runs about 8 miners inches of water.

70.50 Irrigation ditch, brs. SW. & NE. Leave cottonwood & Sycamore.

80.00 Set a volcanic stone 30x18x6 ins. 10 ins. in ground to
bedrock in mound of stone for cor. of secs. 29, 30, 31 &
32 marked with 1 notch on S. & 5 notches on E. edge and
raise an mound of stone 3 ft. base 2 ft. high W. of cor.
from which,

An oak tree 15 ins. diam. brs. N. $73^{\circ} 50'$ E. 247 lks. dist.
marked T. 12 S. R. 21 E. S. 29 B.T.

An old chimney brs. N. 61° E. 3 chs. dist.

No other bearings available.

Land, mts. Soil, 2nd & 3rd rate, sandy, loamy, stony.

Timber, good cottonwood, sycamore, & oak in canyons. cedar.

Undergrowth, cedar, mesquite, tesselata.

Mts. land or land covered with dense undergrowth and
exceptionally difficult to survey --- 80.00 chs.

East on a random line bet. secs. 29 & 32.

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

80.16 Intersect N. & S. line at cor. of secs. 28, 29, 32, & 33,
Whence I run,

West on a true line bet. secs. 29 & 32.

Over mts. land desc. prec.

00.50 Canyon 50 lks. wide, 30 ft. deep, course SW. asc. prec.

12.00 Top of spur, brs. SW. & NE. desc. steep.

20.00 Canyon 30 lks. wide, course SW. asc. steep.

31.50 Top of high butte, brs. N. & S. desc. steep WNW. slope.

40.08 Set a volcanic stone 30x15x10 ins. 10 ins. in ground to
bedrock in mound of stone 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. from which,

A cedar tree 12 ins. diam. brs. N. 15° E. 50 lks. dist.
marked $\frac{1}{4}$ S. 29 B.T.

No other bearings available. Pits impracticable.

Subdivision of T. 12 S. R. 21 E.

Chains Thence on steep NW.slope through scattering cedar,
 45.00 Head of Canyon, course NW.
 72.00 Desc. prec. 80 ft. into Bass Canyon. Dense Oak & cottonwood
 75.00 Bass Canyon 130 lks. wide, course SW.
 77.00 Asc.
 80.16 To cor. of secs.29,30,31 & 32.
 Land, mts. very rough and broken.
 Soil, 2nd,3rd rate , stony, gravelly.
 Timber, cedar.,Cottonwood, Oak & Sycamore in canyon.
 Undergrowth, cedar, paloverde, mesquite.
 Mts. land exceptionally difficult to survey, 80.16 chs.
 At this cor. at noon, I set off 14° 27' N. on the decl. arc.
 and observe the sun on the meridian,
 The resulting lat. is 32° 21' N.

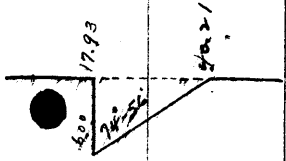
N.0° 03' W. bet. secs. 29 & 30.
 Over mts. land asc. over very rough broken ground,
 being a weathered granite bedrock broken by small
 box canyons, general trend SE.
 15.00 Canyon 120 lks. wide, course SW. 50 ft. deep.
 25.00 Top of ridge, brs. SW. & NE. desc. prec. slope on bed rock.
 37.75 Set a volcanic stone 24x12x6 ins. 18 ins. in the ground for
 40.00 ¼ sec. cor. marked ¼ on W. face and raise a mound of stone
 2 ft. base 1½ ft. high W. of cor.No bearings available.
 41.50 Canyon 50 lks.wide, 50 ft. deep, course W. asc.prec.
 48.00 Top of spur, brs. WSW. & ENE. desc. steep.
 56.00 Gulch 50 lks. wide, course SW. asc. steep.
 59.00 Spur, brs. SW. & NE. desc. steep.
 62.30 Canyon 50 lks. wide, 50 ft. deep, course SW. asc. prec.
 70.00 Spur, brs. SW. & NE.desc.steep.
 75.00 Head of gulch, course SW.
 80.00 Set a volcanic stone 24x12x8 ins. 18 ins. in the ground
 for cor. of secs.19,20,29 & 30, marked with 2 notches
 on S. & 5 notches on E. edges and raise a mound of
 stone 2 ft. base 1½ ft. high W. of cor.
 No bearings available. Pits impracticable.
 Land mts. very rough.Soil, 3rd & 4th rate, stony.
 Timber, scattering cedar.
 Undergrowth, cedar, paloverde, cacti, palmeo, amole.
 Mts. land exceptionally difficult to survey, 80.00 chs.

East on a random line bet. secs. 20 & 29.
 40.00 Set temp. ¼ sec.cor.
 80.10 Intersect N. & S. line 12 lks. S. of cor.of secs.20,21,28
 & 29, whence I run,
 S.89° 55' W. on a true line bet. secs. 20 & 29.
 Over mts. land asc. steep.
 6.00 Top of main ridge, brs. SSW. & NNE. desc. steep.
 25.00 Canyon 2 chs. wide, 100 ft. deep, course SSW. asc. prec.
 As cor. point for ¼ sec. cor. will fall in canyon, at
 35.05 I set a Volcanic stone 24x12x8 ins. 18 ins. in the
 ground for Witness cor. to ¼ sec.cor.marked WC.¼ on N.
 face and raise a mound of stone 2 ft. base 1½ ft. high
 N. of cor. No bearings available.
 Cor. on top ridge, brs. S. & N. desc. prec.
 37.00 Desc. abrupt 150 ft. into Bass Canyon,
 40.00 Cor. point of ¼ sec.cor. in Bass canyon 5 chs. wide, brs.S.
 43.00 Asc. abrupt 180 ft.
 46.00 W. rim of canyon. thence asc. steep. SE. slope.
 50.00 Ridge, brs.S. & N. desc. steep. W. slope.of same.
 56.00 Canyon 50 lks. wide, 50 ft. deep, course SW. asc. steep.
 76.00 Top high spur, brs. S. & N.High butte on same is 5 chs.NW.
 80.10 To cor. of secs. 19,20,29 & 30.
 Land mts. very rough & broken.
 Soil, 2nd & 3rd rate, stony, gravelly.
 Timber, few oak in canyons, cedar, paloverde.
 Undergrowth, cedar, paloverde, cacti. amole. yucca.
 Mts.land exceptionally difficult to survey,80.10 chs.
 April 29,1909.

Subdivision of T. 12 S. R. 21 E.

Chains April 30, 1909.
 At 7h a.m., l.m.t., at the cor. of secs. 29, 30, 31 & 32, I set off 14° 42' 30" N. on the decl. arc and 32° 21' N. on the lat. arc and determine a true meridian with the solar. Thence I run,
 West on a random line bet. secs. 30 & 31.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.06 Intersect W. bdy. 5 lks. S. of cor. of secs. 30, 31, 25 & 36, whence I run,
 S. 89° 58' E. on a true line bet. secs. 30 & 31.
 Over mts. land desc. steep.
 6.00 Canyon 150 lks. wide, course S. asc. steep.
 16.00 High spur, brs. S. & N. desc. prec. over very broken ground. many small canyons, general, course SE. barren bed rock.
 40.06 Set a Volcanic stone 18x14x12 ins. on bedrock in mound of stone 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.
 No bearings available. Pits impracticable.
 41.00 Box canyon 50 lks. wide, 50 ft. deep, course S. asc. steep.
 44.50 Ridge, brs. S. & N. desc. steep.
 46.00 Wash 90 lks. wide, course S. asc.
 50.00 Ridge, brs. S. & N. desc.
 60.00 Main canyon, 2 chs. wide, course S. asc. abrupt 30 ft.
 63.15 Wire fence, brs. N. & S. Dense oak & cottonwood in canyons.
 64.50 Canyon 2 chs. wide, 30 ft. deep, course S. asc. grad.
 70.00 Top of flat ridge, brs. S. & N. desc.
 80.06 To cor. of secs. 29, 30, 31 & 32.
 Land, mts. Soil, 2nd & 3rd rate. gravelly, stony.
 Timber, Oak, cottonwood, & sycamore in main canyons.
 Undergrowth, Oak, paloverde, mesquite.
 Mts. land exceptionally difficult to survey, 80.06 chs.

From the cor. of secs. 19, 20, 29 & 30, I run,
 N. 89° 58' W. on a random line bet. secs. 19 & 30.
 40.00 Set temp. $\frac{1}{4}$ sec. cor.
 80.00 Intersect W. bdy. at cor. of secs. 19, 30, 24 & 25, whence I run,
 S. 89° 58' E. on a true line bet. secs. 19 & 30.
 Over mts. land asc.
 2.50 Top of ridge, brs. SSW. & NNE. desc. steep.
 13.00 Canyon, 50 lks. wide, 50 ft. deep, course SE. asc. prec. over barren granite bedrock.
 17.93 Top of Rough granite ridge, brs. S. & N.
 Thence line descends over huge granite boulders and rocky ledges over which it is impracticable to chain, So I set a flag on line across the main canyon and turn an angle of 90° from this flag and measure precisely the longest base line possible to the North, taking the mean of two measurements of 5 and 6 chs. This base being short, for the distance to be triangulated, I use extreme care in the measurements, and repeat the angle which is correct. At 5 chs. on base, angle to E. flag is 77° 21', the tang. of which is 4.456, which multiplied by 5 chs. the base, gives 22.28 chs. to E. flag.
 At 6 chs. on base, angle to E. flag is 74° 56', the tang. of which is 3.7147, which multiplied by 6 chs. the base, gives 22.282 chs. to E. flag.
 My triangulations checking, I assume them to be correct. 22.28 chs. added to 17.93 chs. gives, 40.21 chs. to E. flag. at about,
 33.00 Is centre of main canyon, 200 feet deep, 10 chs. wide. with perp. walls. course SE. Cottonwood, Oak, water in same. I measure back west from flag 21 lks. and at
 40.00 On top of high rocky spur, brs. S. & N., I Mark a cross on granite bedrock, with $\frac{1}{4}$ on N. of cross for $\frac{1}{4}$ sec. cor. and raise a mound of stone 4 ft. base 3 ft. high N. of cor.
 No bearings available.
 Desc. precipitous.



Subdivision of T. 12 S. R. 21 E.

Chains 43.00 53.00 55.00 60.00 65.00 80.00	<p>Head of gulch, course SE. asc. rocky SW. slope. Rocky spur, brs. SSW. & NNE. desc. steep. Desc. abrupt, 80 ft. Canyon 80 lks. wide, course SSW. asc. abrupt. Top of spur, brs. SW. & NE. desc. on same. To cor. of secs. 19, 20, 29 & 30. Land mts. Very rough & broken. Soil, 3rd & 4th rate, stony. Timber, Oak, cottonwood, sycamore, willow in main canyon. Undergrowth, paloverde, mesquite, scrub oak, cacti. Mts. land exceptionally difficult to survey, 80.00 chs.</p>
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At this cor., at noon, I set off $14^{\circ} 46'$ N. on the decl. a
 arc and observe the sun on the meridian.

The resulting lat. is $32^{\circ} 21' 30''$ N.

Here I discontinue the subdivision of this township.
 oooOooo

General description.

This township is very broken and mountainous.

The rock formation is mostly broken granite and porphyry, underlying a great outflow of volcanic matter. The canyons have worn deep gorges through this lava sheet in many places and over considerable areas, the volcanic matter has been eroded, exposing the underlying granite and porphyry.

No well defined strata is shown.

The soil is mostly gravelly, and stony, with some very fertile small loamy tracts in the valleys of the larger canyons.

These tracts are irrigated from the water in Bass Canyon, which has a good yearly flow of about 8 miners inches.

The Eastern and NE. portion of the township is mostly covered with a good growth of fine native grass which affords excellent grazing, but there is not sufficient rainfall to produce without irrigation and no water available for irrigation.

There is considerable cottonwood, sycamore and oak timber in the larger canyons, and some cedar in places on the N. slopes.

There is very little indication of mineral in the township, only small traces of iron noted, outcropping, but as all outcropping mineral was evidently destroyed by the volcanic outflow, there should be mineral deposits at some greater depth. No prospecting has been done.

There are two settlers in the township in sec. 31;

Chas W. Drew and Joseph W. Dell.

These settlers have cleared several tracts of land along Bass Canyon, built irrigation ditches and fences, and highly improved the lands that they occupy.

They have erected good frame houses and barns and corrals.

There are several other small tracts of land in the SW. portion of secs. 31, which are irrigated from the hot springs on S. side of Hot Springs canyon, in sec. 6 of T. 13 S. R. 21 E.

These tracts are irrigated and cultivated by D.W. Isaakson, the proprietor of the Hot Springs.

No notary available without great loss of time and expense.

Jesse B. Wright
 U.S. Deputy Surveyor.

No authority for red ink corrections on
Deputy's letter of May 14-1907.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Jesse B. Wright

a, United States Deputy Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of

Frac. Subdivision of T. 12 S R. 21 E.

showing the respective capacities in which they acted:

Walter Percival, Chainman.

Santiago Vindiola, Chainman.

Antonio Torres Jr., Moundman.

Silverio Peralt, Axman.

Refugio Pacheco, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Jesse B. Wright

a, United States Deputy Surveyor, in surveying all these parts or portions of the Subdivision of T. 12 S. R. 21 E.

of the Gila & Salt River Base & meridian, Terr. of ARIZONA, which are represented

in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor

General for ARIZONA

Walter Percival, Chainman.

Santiago Vindiola, Chainman.

Antonio Torres Jr., Moundman.

Silverio Peralt, Axman.

Refugio Pacheco, Flagman.

Subscribed and sworn to before me this 30th day of April, 1909

Jesse B. Wright
U. S. Deputy Surveyor



FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Jesse B. Wright, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Frank S. Ingalls United States Surveyor General for Arizona, bearing date of the 9th day of February, 1909, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Arizona, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of

Frac. Subdivision of T. 12 S. R. 21 E.

of the Gila & Salt River Base & meridian, in the Terr. of Arizona, which are represented in the foregoing field notes as having been surveyed 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 accordance with the Manual of Surveying Instructions, and the special written instructions of the United States Surveyor General for Arizona and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Jesse B. Wright

United States Deputy Surveyor.

Subscribed by said Jesse B. Wright, and sworn to before me }
this 10th day of May, 1909

W. H. Murray
U. S. Commissioner



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Ariz. Jan'y 20, 1910

The foregoing field notes of the survey of the subdivision lines of
the south two (2) sections of T. 12 S. R. 21 E
Gila and Salt River Base and Meridian, Arizona

executed by Jesse B. Wright U.S. Deputy Surveyor
under his contract No. 154, dated February 9, 1909, having been
critically examined, and the necessary corrections and explanations made, the said field notes, and the
surveys they describe, are hereby approved.

Frank S. Ingalls
United States Surveyor General.

I certify that the foregoing transcript of the field notes of the above-described surveys in
has been correctly copied from the original notes on file in this office.

United States Surveyor General.