

3647

Book "H"

4-679

# BOOK 3647 FIELD NOTES

OF THE SURVEY OF THE

7th Standard Parallel North, thru part of Range 10 West,

Part of the North boundary, and

Part of the Subdivision Lines of

TOWNSHIP 29 NORTH, RANGE 10 WEST,

Of the Gila and Salt River Base and Meridian,

In the State of Arizona

EXECUTED BY

William E. Hiester, U.S. Surveyor

and

Benjamin J. Kinsey, U.S. Transitman.

In the capacity of U. S. Surveyor, under Special Instructions dated October 12., 1916, issued by the United States Surveyor General to govern surveys included in Group No. 74, Arizona, which were approved by the Commissioner of the General Land Office, October 24., 1916, and Assignment Instructions dated August 11, 1921 and March 30, 1922.

Survey commenced January 2., 1923.

Survey completed May 26., 1923.

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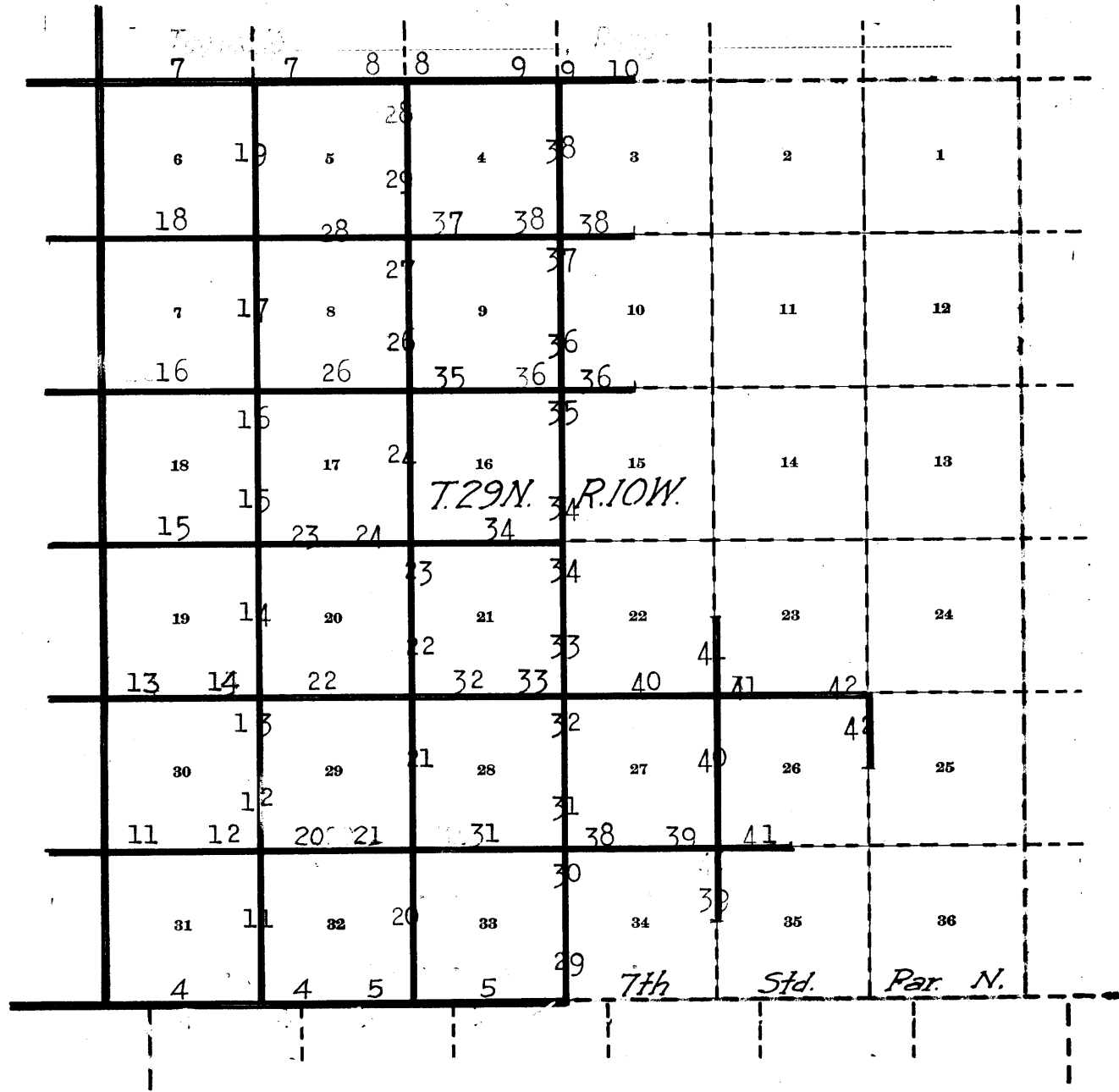
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Book "H"  
Group 74 - Arizona.

# BOOK 3647

## INDEX DIAGRAM.



————— Lines surveyed under this group.

----- Unsurveyed.

# BOOK 3647

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Book "H"

Group 74 - - - Arizona.

Township 29 North, Range 10 West.

DATE DIAGRAM  
1923.

For dates of execution of survey of this line see Book "F."

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7th Std. Par. N.

Indicates surveys executed by William E. Hiester, U.S. Surveyor, on dates shown thereon.

Indicates surveys executed by Benjamin J. Kinsey, U.S. Transitman, on dates shown thereon.

Surveys herein described were executed on dates shown on diagram on page 1, hereof, by William E. Hiester, U.S. Surveyor, and Benjamin J. Kinsey, U.S. Transitman, using Buff and Buff transits Nos. 9977 and 10125 respectively, each equipped with full vertical circles and Smith solar attachments.

Field Test of Instrument No. 10125 by Benjamin J. Kinsey,  
U.S. Transitman.

December 21, 1922: I examine the adjustments of the transit and correct all errors; then, to test the solar apparatus, by comparing its indications resulting from observations made during a.m. and p.m. hours with a meridian established by Polaris observation, I proceed as follows:

At camp, in the center of sec. 23, T. 29 N., R. 11 W., G. and S. R. B. and M., Arizona, lat.  $35^{\circ}54'N.$ ; long.  $113^{\circ}27'W.$ ; at 1h. 34m. a.m., l.m.t., I observe Polaris at western elongation, making four observations, two each with the telescope in direct and reversed positions, and mark the mean point in the line thus determined on a peg driven firmly in the ground 5 chs. N.

Azimuth of Polaris at western elongation,  $1^{\circ}21'44''$ .

December 22, 1922: At 7h. 30m. a.m., l.m.t., I lay off the azimuth of Polaris,  $1^{\circ}21\frac{1}{2}'$  to the east, and mark the meridian thus determined by a tack in a peg driven firmly in the ground, 5 chs. N.

At 8h. 0m. a.m., l.m.t., I set off  $35^{\circ}54'N.$  on the lat. arc, and  $23^{\circ}22'S.$  on the decl. arc; and determine a meridian with the solar, which I find to agree with the true meridian.

At apparent noon, with the lat. arc unchanged, I observe the sun on the meridian; the resulting reading of the decl. arc is  $23^{\circ}25'S.$ , which agrees with the computed decl. of the sun.

At 4h. 0m. p.m., l.m.t., with the lat. arc unchanged, I set off  $23^{\circ}22'S.$  on the decl. arc, and determine a meridian with the solar, which I find to agree with the true meridian.

As all of the solar observations during the usual hours of solar work, come within  $1'30''$  of the true meridian, I conclude that the adjustments of the instrument are satisfactory.

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Field test of Instrument No. 9977 by William E. Hiester,  
U. S. Surveyor.

I examine the adjustments of the transit and correct all 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 from observations on Polaris proceed as follows:

May 9, 1923: At camp, near the cor. of secs. 3, 4, 33 and 34 on the N. bdy. of T. 29 N., R. 10 W., Gila and Salt River Base and Meridian, in latitude  $35^{\circ}57'N.$ , longitude  $113^{\circ}22'W.$  of Greenwich at 4h. 31m. a.m., l.m.t., observe Polaris at eastern elongation making four observations, two each with telescope in direct and reversed positions, and mark the mean point of lines thus determined on a stake driven firmly in the ground 5 chs. N. of my station.

Azimuth of Polaris at eastern elongation =  $1^{\circ}22'14''$ .

At 7h. a.m., l.m.t., lay off the azimuth of Polaris  $1^{\circ}22'$  to the west, and mark a point in the meridian thus determined by a tack in a stake driven firmly in the ground 5 chs. N.

At 8h.0h. a.m., l.m.t., set off  $35^{\circ}57'N$ . on the latitude arc;  $17^{\circ}12'N$ . on the decl. arc, and determine a meridian with the solar, which agrees with the Polaris meridian.

At 4h.0m.p.m., l.m.t., with the latitude arc unchanged, set off  $17^{\circ}17\frac{1}{2}'N$ . on the declination arc, and determine a meridian with the solar, which agrees within 1' of the true meridian.

I therefore, conclude that the adjustments of the solar are satisfactory.

Unless otherwise specified all measurements are made with Lufkin 5 chain steel tapes compared with a standard steel tape, and found correct. The measurements are made on the slope, the slope angles determined with a clinometer, and the slope distances reduced to the horizontal, equivalent for entry in the field notes.

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# BOOK 3647

4 Survey of ... 7th. Std. Par. N., thru. part of R. 10 W.

Chains.

From the Standard cor. of Ts. 29 N., Rs. 10 and 11 W., on 7th Standard Parallel North, described in Book "F" of this group,

East, on a true line, on S. bdy. of sec. 31.

Over mountainous land, thru. scattering timber and dense undergrowth.

- 3.06 Ascend 58 ft., over NW. slope.
- Point of spur, slopes NE.
- 23.00 Descend 250 ft., over E. slope, to
- Enter wash, 50 lks. wide, course E. from NW. Thence in wash.
- 32.00 Descend 30 ft., to
- Leave wash, course N. 80° E. from W.
- 35.00 Ascend 31 ft., over NW. slope.
- 39.70 Descend 53 ft., over NE. slope.
- Same wash, course SE.
- 40.00 Ascend 5 ft., over SW. slope, to
- Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for standard  $\frac{1}{4}$  sec. cor., marked on brass cap,

S C  
T 29 N | R 10 W  
S 31 | S 31

1923

No bearing trees available.

Ascend 102 ft. over SW. slope.

- 45.13 Point of spur, slopes SE.

Descend 210 ft., over SE. slope.

- 70.00 Same wash, 50 lks. wide, course N. 80° E.

Ascend 115 ft., over NW. slope, to

- 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for standard cor. of secs. 31 and 32, marked on brass cap,

S C  
T 29 N | R 10 W  
S 31 | S 32

1923

No bearing trees available.

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

Soil, rocky, 4th rate.

Timber, cedar and pinyon.

Undergrowth, scrub oak and black brush.

East, on true line, on S. bdy. of sec. 32.

Over mountainous land, thru. very scattering timber and dense undergrowth.

- 6.80 Descend 76 ft., over NE. slope.

Gulch, course NE.

- 10.00 Ascend 60 ft., over NW. slope.

- 15.00 Descend 57 ft., over NE. slope.

- 23.50 Ascend 80 ft., over NW. slope.

- 30.00 Descend 85 ft., over NE. slope.

- 34.00 Ascend 80 ft., over NW. slope.

Spur, slopes NE.

- 40.00 Descend 63 ft., over E. slope, to

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

S C  
T 29 N | R 10 W  
S 31 | S 32

1923

Survey of 7th Std. Par. N. thru. part of Range 10 West. 5

Chains.

No bearing trees available. Raise a mound of stone, 3 ft. ft. base, 2 ft. high, N. of cor.  
 Descend 25 ft., over E. slope.  
 45.00 Ascend 57 ft., over NW. slope.  
 50.00 Descend 220 ft., over NE. slope, to  
 64.00 Wash, 20 lks. wide, course SE.  
 Ascend 15 ft., over SW. slope.  
 65.50 Point of spur, slopes S.  
 Descend 65 ft., over SE. slope.  
 67.00 Same wash, course N. 10° E.  
 Ascend 20 ft., over NW. slope.  
 69.30 Point of spur, slopes N.  
 Descend 50 ft., over NE. slope.  
 72.50 Wash, 20 lks. wide in gulch, course N.  
 Ascend 150 ft., over NW. slope, to  
 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 4 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for standard cor. of secs. 32 and 33, marked on brass cap,

S C  
 T29N | R10W  
S32 | S33  
 1923

No bearing trees or bearing objects available.  
 Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, cedar and pinyon.  
 Undergrowth, scrub oak and black brush.

-----  
 East, on true line, on S. bdy. of sec. 33.  
 Over mountainous land, in gulch, thru. very scattering timber and dense undergrowth.  
 Ascend 56 ft., over steep NW. slope, to  
 1.80 Rim of gulch, brs. NE. and SW. Leave gulch.  
 Ascend 73 ft., over gradual NW. slope.  
 9.70 Descend 34 ft., over NE. slope.  
 14.50 Ascend 40 ft., over NW. slope.  
 20.00 Spur, slopes N.  
 Descend 150 ft., over E. slope.  
 29.40 Wash, 20 lks. wide, course NE.  
 Ascend 130 ft., over NW. slope.  
 39.00 Spur, slopes NE.  
 Descend slightly over SE. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for standard 1/4 sec. cor., marked on brass cap,

S C  
1/4 S 33  
 1923

No bearing trees available.  
 Descend 130 ft., over SE. slope.  
 50.00 Ascend 175 ft., over NW. slope, to  
 64.50 Enter Colorado River Canyon.  
 Descend 126 ft., over NE. slope, to  
 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 14 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for standard cor. of secs. 33 and 34, marked on brass cap,

S C  
 T29N | R10W  
S33 | S34  
 1923

# BOOK 3647

## BOOK 3647

6 Survey of part of 7th. Std. Par. N., thru part of Range 10 W.

Chains.

No bearing trees or bearing onjects available.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, cedar and pinyon.

Undergrowth, scrub oak and black brush.

East of the above described cor., the parallel passes over impassable slopes in Colorado River Canyon; therefore, discontinue survey at said cor.

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Chains.

From the cor. of Ts. 29 and 30 N., Rs. 10 and 11 W., described in Book "E" of this group, East, on a true line, bet. secs. 6 and 31. Over mountainous land, thru. scattering timber and dense undergrowth.

- Ascend 220 ft., over W. slope.
- 11.00 Spur, slopes N.
- Descend 52 ft., over NE. slope.
- 15.90 Ascend 37 ft., over NW. slope.
- 19.90 Descend 103 ft., over NE. slope.
- 29.70 Ascend 51 ft., over NW. slope.
- 32.63 Descend 85 ft., over NE. slope.
- 39.30 Wash, 20 lks. wide, course N.
- Ascend slightly over NW. slope, to
- 39.58 (40.00 chs. - 0.42 chs. convergency) Set an iron post, 3 ft. long, 1 in. in diam., 14 ins. in the ground to bed rock, supported in a mound of stone for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$  S 31  
 S 6  
 1923

from which,

- A pinyon, 6 ins. in diam., brs. N. 72° E., 264 lks. dist., marked  $\frac{1}{4}$  S 31 BT.
- A pinyon, 8 ins. in diam., brs. S. 32° E., 107 lks. dist., marked  $\frac{1}{4}$  S 6 BT.

- Ascend 180 ft., over NW. slope, to
- 59.60 Wash, 20 lks. wide, course NW.
- Ascend 85 ft., over W. slope.
- 64.30 Spur, slopes N.
- Descend 102 ft., over NE. slope.
- 68.90 Wash, 20 lks. wide, course N.
- Ascend 160 ft., over NW. slope, to
- 79.58 Point of spur, slopes N. Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 5, 6, 31 and 32, marked on brass cap,

T30N R10W  
 S31 | S32  
 S 6 | S 5  
 T29N  
 1923

from which,

- A pinyon, 14 ins. in diam., brs. S. 82 $\frac{1}{2}$ ° W., 145 lks. dist., marked T29N R10W S6 BT.
- A pinyon, 12 ins. in diam., brs. N. 88° W., 115 lks. dist., marked T30N R10W S31 BT.

No other bearing trees available.

Land, mountainous.

Soil, rocky, 4th. rate.

Timber, cedar and pinyon.

Undergrowth, black brush, cactus and catclaw.

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

Over mountainous land, thru. scattering timber and undergrowth.

- Descend 230 ft., over NE. slope.
- 13.50 Wash, 20 lks. wide, course N.
- Ascend 162 ft., over W. slope, to
- 24.00 Top of ascent, brs. N. and S. Thence over nearly level land.
- 34.00 Leave nearly level land.
- Descend 56 ft., over E. slope, to
- 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, supported in a mound of stone, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

Chains.

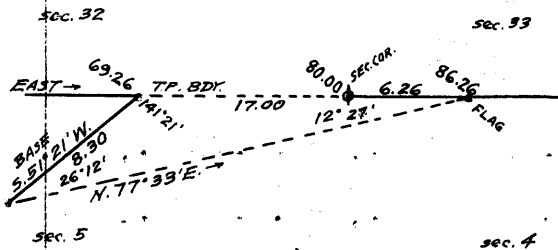
$\frac{1}{4}$  S 32  
S 5  
1923

from which,

A pinyon, 10 ins. in diam., brs. N.  $32\frac{1}{2}^{\circ}$  W., 170 lks. dist., marked  $\frac{1}{4}$  S 32. BT.

A pinyon, 12 ins. in diam., brs. S.  $79\frac{1}{2}^{\circ}$  W., 150 lks. dist., marked  $\frac{1}{4}$  S 5 BT.

- 49.30 Descend 114 ft., over E. slope.
- Wash, 30 lks. wide, in gulch, course SE.
- Ascend 180 ft., over SW. slope.
- 56.60 Point of spur, slopes S.
- Descend 105 ft., over SE. slope, to
- 69.26 Top of cliff, 250 ft. high, bearing NE and SW., facing SE., and forming left rim of a canyon. Cliffs and precipitous slopes in canyon prevent chaining; therefore, triangulate as follows:



Measure a Base, S.  $51^{\circ}21'W$ , 8.30 chs. along canyon rim.

Set flag ahead on Tp. bdy. in canyon, the vertical angle to which is  $-25\frac{3}{4}^{\circ}$ .

From SW. end of Base, the flag brs. N.  $77^{\circ}33'E$ .

- Dist. on Tp. bdy., bet. secs. 5 and 32 = 69.26 chs. East.
- Dist. triangulated = 17.00 chs. East.
- Total distance = 86.26 chs. East.
- Distance by return measurement, = 6.26 chs. West.
- 80.00 chs. East.

- 80.00 Descent from 69.26 ch. station to sec. cor. = 445 ft.
- Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 4, 5, 32 and 33, marked on brass cap,

T30N | R10W  
S32 | S33  
S 5 | S 4  
T29N  
1923

No bearing trees or bearing objects available.  
Land, mountainous.  
Soil, rocky; 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, black brush, sagebrush, cactus, yucca and catclaw.

- East, on a true line, bet. secs. 4 and 33.
- Over mountainous land, in canyon, thru. scattering timber and undergrowth.
- 6.26 Descend 95 ft., over steep SE. slope, to
- Flag point of the triangulation used in measurement of preceding mile. Continue chaining.
- Ascend 22 ft., over SW. slope.
- 8.70 Descend 380 ft., over steep broken, SE. slope.
- 37.95 Wash, 30 lks. wide, course NE. in bottom of canyon.
- Ascend slightly over N. slope, to
- 40.00 Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for sec. cor., marked on brass cap,

$\frac{1}{4}$  S 33  
S 4  
1923

Chains.

No bearing trees or bearing objects available.  
Descend slightly over NE.slope, to

41.00 Wash, 50 lks.wide, course N. Precipitous ascent over cliffs prevents further chaining; therefore, triangulate as follows:

Set flag on the  $\frac{1}{4}$  sec.cor.of secs.4 and 33.

From a point ahead on Tp.bdy. at top of cliffs and right rim of canyon, measure a Base S.6°34'W., 8.08 chs., along canyon rim.

From SW.end of Base, the flag brs.N.75°17'W.

From NE.end of Base, the vertical angle to flag is - 22 $\frac{1}{2}$ °.

Dist. on Tp. bdy. = 40.00 chs.East.

Dist. triangulated = 31.49 chs.East.

Total distance = 71.49 chs.East.

71.49 Top of cliffs, bearing N.6 $\frac{1}{2}$ °E. and S.6 $\frac{1}{2}$ °W., facing NW., and forming right rim of canyon. This point is 860 ft. above the  $\frac{1}{4}$  sec.cor. of secs.4 and 33.

Continue line and measurement by chaining. Enter rolling bench land.

80.00 Ascend 56 ft., over NW.slope, to Set an iron post 3 ft. long, 2 ins. in diam., 6 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for cor.of secs. 3,4, 33 and 34, marked on brass cap,

T30N	R10W
S33	S34
S 4	S 3
T29N	
1923	

from which,

A pinyon, 14 ins.in diam., brs. S.74 $\frac{1}{2}$ °W., 404 lks.dist., marked T29N R10W S4BT.

A pinyon, 8 ins. in diam., brs. N.86 $\frac{1}{2}$ °W., 320 lks.dist., marked T30N R10W S33 BT.

No other bearing trees available.

Land, mountainous.

Soil, rocky, 4th rate.

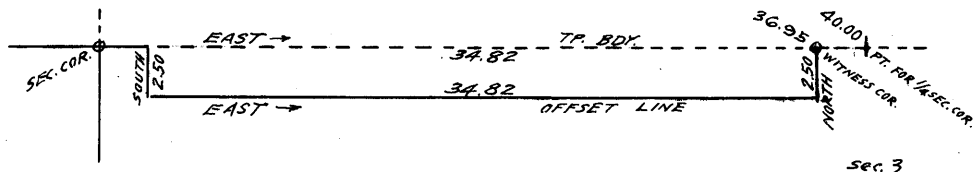
Timber, cedar and pinyon.

Undergrowth, black brush, cactus, yucca and catclaw.

East, on true line, bet. secs.3 and 34 (W.  $\frac{1}{2}$ ).

Over rolling bench land, thru.scattering timber and undergrowth.

2.13 Ascend 20 ft., over NW.slope, to Rim of canyon, brs.NW. and SE., turning to East at about 150 lks.SE. Almost perpendicular descent from this rim prevents continuation of chaining on Tp.bdy.; therefore, measure by offset line as follows:



From 2.13 ch. station on Tp. bdy., South, 2.50 chs. to offset point.

Thence,

East, 34.82 chs.on offset line in sec.3, parallel to and 2.50 chs.S.of Tp.bdy. Over rolling

10 Survey of part of North bdy. of T. 29 N., R. 10 W.

Chains.

bench land, near rim of canyon, bearing E and W. Asc. gradually over NW. and N. slopes to wash, 50 lks. wide, course N. at 12.78 chs. E. of offset point; thence ascend 110 ft., over NW. slope to right rim of Colorado River Canyon, bearing N. and S. at 34.82 chs. E. of offset point.

Thence,

North, 2.50 chs. along right rim of Colorado River canyon, returning to point on Tp. bdy. at 36.95 chs. East from cor. of secs. 3, 4, 33 and 34.

From offset point at 2.13 ch. station, the approximate topography on Tp. bdy. measuring from sec. cor. is described as follows:

Enter mountainous land, in side canyon; descend over cliffs facing NE.

15.00 (Approx.) Wash, 50 lks. wide, in gulch, course N. into side canyon. Enter rolling land on point of bench.

Ascend over cliffs, facing NW., to

34.00 (Approx.) Rim of side canyon, brs. NE. and SW. Leave side canyon. Enter rolling land on point of bench.

Ascend gradually over NW. slope, to

36.95 Offset point at right rim of Colorado River Canyon, bearing NW. and S. at junction with the rim of side canyon, around which the offset line was surveyed.

Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in the ground to bed rock, supported in a mound of stone, for witness cor. to the 1/4 sec. cor., marked on brass cap,

1/4 S 34 WC  
S 3  
1923

from which,

A pinyon, 14 ins. in diam., brs. S. 24° E., 24 lks. dist., marked WC 1/4 S 3 BT.

A pinyon, 6 ins. in diam., brs. S. 6 1/2° W., 12 lks. dist., marked WC 1/4 S 3 BT.

40.00 The true point for 1/4 sec. cor. falls on cliffs, and is inaccessible.

The remainder of this Tp. bdy. falls in the Colorado River Canyon, and is unsurveyable.

The river is approximately one mile East of the 1/4 sec. cor. of secs. 3 and 34.

Land, rolling and mountainous.

Soil, rocky, 4th rate.

Timber, cedar and pinyon.

Undergrowth, black brush, cactus, yucca and sagebrush.

Chains.

From the standard cor. of secs. 31 and 32, on S. bdy. of Tp., (7th. Std. Par. N.) hereinbefore described, N.  $0^{\circ}3'$  W., bet. secs. 31 and 32. Over mountainous land, thru. scattering timber and undergrowth.

10.00 Descend 140 ft., over N. slope, to Wash, 40 lks. wide, course NE.

11.40 Ascend slightly over E. slope, to Wash, 40 lks. wide, course E.

26.00 Ascend 195 ft., over SE. slope, to Wash, 20 lks. wide, course SE. Heads 5 chs. NW.

35.00 Ascend 115 ft., over SE. slope, to Enter rolling land.

40.00 Descend gradually over E. slope, to Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$   
S31 | S32  
1923

No bearing trees or bearing objects available. Continue over rolling land.

58.75 Descend gradually over NE. slope, to Enter mountainous land.

60.50 Descend 60 ft., over NE. slope. Wash, 30 lks. wide, course SE.

74.00 Ascend 130 ft., over SE. slope. Descend 20 ft., over NE. slope.

76.00 Wash, 20 lks. wide, course E.

80.00 Ascend 46 ft., over SE. slope, to Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 29, 30, 31 and 32, marked on brass cap,

T29N | R10W  
S30 | S29  
S31 | S32  
1923

from which,  
A pinyon, 10 ins. in diam., brs. S.  $32\frac{1}{2}^{\circ}$  E., 39 lks. dist., marked T29N R10W S32 BT.

No other bearing trees available.  
Land, mountainous and rolling.  
Soil, rocky, 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, black brush, cactus and catclaw.

West, on a random line, bet. secs. 30 and 31.

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

80.06 Fall 18 lks. N. of the cor. of secs. 25, 30, 31 and 36 on W. bdy. of Tp., described in Book "F" of this group.

Thence,  
N.  $89^{\circ}52'$  E., on a true line, bet. secs. 30 and 31.  
Over mountainous land, thru. scattering timber and dense undergrowth.

Descend 585 ft., over SE. slope to  $\frac{1}{4}$  sec. cor.

0.75 Wash, 20 lks. wide, course SE.

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

$\frac{1}{4}$  S 30  
S 31  
1923

12 Survey of part of Subdivision lines of T. 29 N., R.10 W.

Chains. No bearing trees available. Raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.  
 45.00 Descend 84 ft., over SE. slope.  
 50.00 Ascend 23 ft., over SW. slope.  
 51.40 Descend 67 ft., over SE. slope.  
 Wash, 20 lks. wide, course S. 20° E.  
 55.00 Ascend 67 ft., over SW. slope, to  
 71.00 Descend 62 ft., over S and SE. slopes, to  
 Top of cliff, 50 ft. high, bearing NE and SW. facing SE.  
 80.06 Descend 295 ft., over steep SE. slope, to  
 The cor. of secs. 29, 30, 31 and 32.  
 Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, cedar and pinyon.  
 Undergrowth, black brush, cactus and yucca.

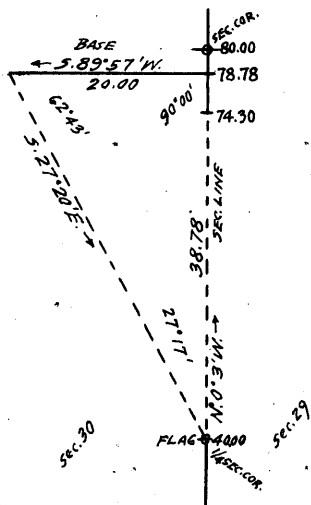
N. 0° 3' W., bet. secs. 29 and 30.  
 Over mountainous land, thru. scattering timber and undergrowth.  
 9.10 Ascend 300 ft., over steep broken SE. slope, to  
 Top of cliff, 50 ft. high, bearing NE. and SW. facing SE.  
 at point of spur, sloping SE.  
 13.00 Descend 66 ft., over NE. slope.  
 25.50 Ascend 85 ft., over SE. and S. slopes.  
 28.00 Spur, slopes SE.  
 38.19 Descend 60 ft., over NE. slope.  
 Wash, 30 lks. wide, course SE.  
 40.00 Ascend 120 ft., over S. slope.  
 49.85 Spur, slopes E. from NW.  
 Descend 20 ft., over NE. slope, to  
 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for 1/4 sec. cor., marked on brass cap,

1/4  
 S30 | S29  
 1923

from which,

- A pinyon, 4 ins. in diam., brs. N. 34° E., 38 lks. dist., marked BT.
- A pinyon, 8 ins. in diam., brs. N. 44° W., 42 lks. dist., marked 1/4 S 30 BT.

49.85 Descend 100 ft., over broken NE. slope, to  
 Top of cliffs, bearing NW and SE. facing NE., and forming right rim of canyon. Beyond this point, the sec. line passes over head of a canyon, precipitous slopes in which prevent chaining. Triangulate as described as follows:

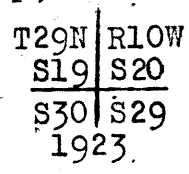


Set flag on the 1/4 sec. cor. of secs. 29 and 30.  
 From a point ahead on sec. line, measure a Base S. 89° 57' W., 20.00 chs.  
 From W. end of Base, the flag brs. S. 27° 20' E.  
 From E. end of Base, the vertical angle to flag is 0°.  
 Dist. on sec. line = 40.00 chs. N. 0° 3' W.  
 Dist. triangulated = 38.78 chs. N. 0° 3' W.  
 Total distance = 78.78 chs. N. 0° 3' W.  
 Dist. by return measurement = 4.48 chs. S. 0° 3' E.  
 74.30 chs. N. 0° 3' W. to

56.00 left rim of canyon.  
 (Approx.) Wash, course E. in bottom of canyon.  
 Ascend over precipitous SE. slope.

Survey of part of the Subdivision lines of T.29 N., R.10 W. 13

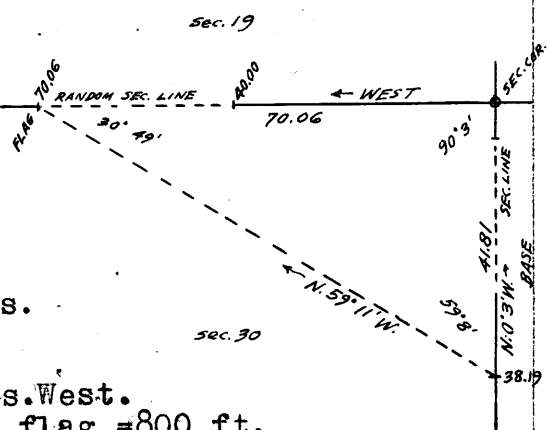
Chains.  
 50.00 (Approx.) Gulch, course N. in bottom of canyon.  
 Ascend over precipitous SE. slope.  
 72.00 (Approx.) Gulch, course SE.  
 Ascend over SE. face of cliff.  
 74.30 Top of cliff, about 200 ft. high, bearing NE and SW., facing SE. and forming left rim of canyon. Leave canyon. Continue line and measurement by chaining.  
 Ascend 50 ft., over SE. slope to sec. cor.  
 78.78 Triangulation point. Continue chaining.  
 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 12 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 19, 20, 29 and 30, marked on brass cap,



No bearing trees or bearing objects available.  
 Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, cedar and pinyon.  
 Undergrowth, black brush.

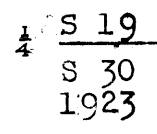
40.00 West, on random line, bet. secs. 19 and 30.  
 Set temp.  $\frac{1}{4}$  sec. cor.  
 Beyond this point, precipitous ascent over cliffs prevents chaining; therefore, triangulate as follows:

Set flag ahead on random sec. line, at top of cliffs.  
 The vertical angle from temp.  $\frac{1}{4}$  sec. cor. to flag is  $+ 22^\circ$ .  
 From 38.19 ch. station on sec. line bet. secs. 29 and 30, the flag brs. N.  $59^\circ 11' W$ .  
 The base on said sec. line is therefore, 80.00 - 38.19 chs. = 41.81 chs. N.  $0^\circ 3' W$ .



Dist. triangulated = 70.06 chs. West.  
 Ascend from temp.  $\frac{1}{4}$  sec. cor. to flag = 800 ft.  
 70.06 Triangulation point at top of cliffs.  
 Continue line and measurement by chaining.  
 80.01 Fall 23 lks. S. of the cor. of secs. 19, 24, 25 and 30, on W. bdy. of Tp., described in Book "F" of this group.

Thence, S.  $89^\circ 50' E$ ., on a true line, bet. secs. 19 and 30.  
 Over mountainous land, thru dense timber and undergrowth.  
 Ascend 70 ft., over SW. slope.  
 5.00 Point of spur, slopes SE.  
 Descend 70 ft., over SE. slope, to  
 9.95 Triangulation point at top of cliffs, bearing N. and S., facing E. Discontinue chaining. Leave dense, and enter very scattering timber and undergrowth. Measurement to  $\frac{1}{4}$  sec. cor. by triangulation, hereinbefore described.  
 Descend 800 ft., over cliffs, to  
 40.01 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap,



No bearing trees available.  
 Raise a mound of stone, 4 ft. base, 2 ft. high, N. of cor.  
 Continue line and measurement by chaining.

# BOOK 3647

## 14 Survey of part of Subdivision lines of T.29 N., R.10 W.

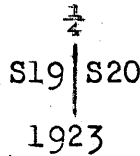
Chains.

- 74.00 Descend 660 ft., over E. slope.  
Wash, 20 lks. wide, course SE.
- 75.00 Ascend 23 ft., over SW. slope.
- 80.01 Descend 52 ft., over SE. slope, to  
The cor. of secs. 19, 20, 29 and 30.  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, black brush, yucca and cactus.

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N.0°3'W., bet. secs. 19 and 20.  
Over mountainous land, thru. scattering timber and undergrowth.

- 4.00 Ascend 63 ft., over SE. slope.
- 6.50 Descend 20 ft., over NE. slope.  
Wash, 30 lks. wide, course E.
- 14.00 Ascend 60 ft., over SE. slope.  
Spur, slopes E.
- 23.00 Descend 40 ft., over N. slope.  
Wash, 30 lks. wide, course E.
- 28.70 Ascend 123 ft., over SE. slope.  
Point of spur, slopes E.
- 31.00 Descend 120 ft., over NE. slope.  
Wash, 10 lks. wide, course SE.
- 36.00 Ascend 45 ft., over SE. slope.  
Point of spur, slopes SE.
- 38.50 Descend 40 ft., over NE. slope.  
Wash, 10 lks. wide, course SE.
- 40.00 Ascend 50 ft., over SW. slope, to  
Set an iron post, 3 ft. long, 1 in. in diam., 18 ins. in the ground to bed rock, supported in a mound of stone, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

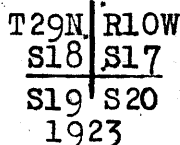


from which,

A pinyon, 10 ins. in diam., brs. N.10°E., 25 lks. dist., marked  $\frac{1}{4}$ S 20 BT.

A pinyon, 14 ins. in diam., brs. S.8°W., 210 lks. dist., marked  $\frac{1}{4}$ S 19 BT.

- 45.50 Ascend 55 ft., over SW. slope.  
Spur, slopes SE.
- 55.00 Descend 190 ft., over NE. slope.  
Wash, 20 lks. wide, course SE.
- 80.00 Ascend 50 ft., over SE. and E. slopes, to  
Set an iron post, 3 ft. long, 2 ins. in diam., 6 ins. in the ground, to bed rock, supported in a mound of stone for cor. of secs. 17, 18, 19 and 20, marked on brass cap,



from which,

A pinyon, 8 ins. in diam., brs. N.55°E., 160 lks. dist., marked T29N R10W S17 BT.

A cedar, 6 ins. in diam., brs. S.10°E., 54 lks. dist., marked T29N R10W S20 BT.

A cedar, 4 ins. in diam., brs. S.51°W., 49 lks. dist., marked BT.

A cedar, 7 ins. in diam., brs. N.49°W., 71 lks. dist., marked T29N R10W S18 BT.

Land, mountainous.  
Soil, rocky, 3rd rate.  
Timber, cedar and pinyon.  
Undergrowth, black brush and scrub oak.



Survey of part of Subdivision lines of T. 29 N., R. 10 W. 15

Chains.

West, on a random line, bet. secs. 18 and 19.  
 40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
 79+79 Intersect the cor. of secs. 13, 18, 19 and 24, on W. bdy. of  
 Tp., described in Book "F" of this group.  
 Thence,  
 East, on true line, bet. secs. 18 and 19.  
 Over mountainous land, thru. dense timber and undergrowth.  
 Ascend 60 ft., over N. slope.  
 6.50 Descend 100 ft., over NE. slope.  
 9.60 Wash, 10 lks. wide, course N.  
 Ascend 254 ft., over NW. and W. slopes.  
 14.45 Old trail, brs. N. and S.  
 24.10 Spur, slopes N.  
 Descend 40 ft., over E. slope, to  
 33.05 Top of cliffs, bearing NE. and SE. facing E. Leave dense  
 and enter scattering timber and undergrowth.  
 Descend 320 ft., over cliffs to  
 39.79 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$  S 18  
 S 19  
 1923

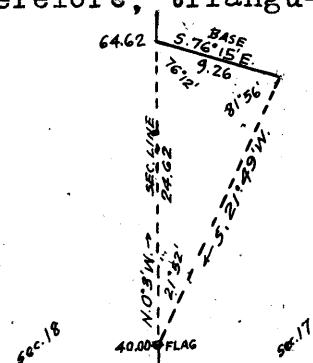
No bearing trees available. Raise a mound of stone, 3  
 ft. base, 2 ft. high, N. of cor.  
 Continue over mountainous land, thru. scattering timber  
 and undergrowth.  
 Descend 865 ft., over steep E. slope, to  
 79.79 The cor. of secs. 17, 18, 19 and 20.  
 Land, mountainous.  
 Soil, rocky, 3rd rate.  
 Timber, cedar and pinyon.  
 Undergrowth, black brush.

N. 0° 3' W., bet. secs. 17 and 18.  
 Over mountainous land, thru. scattering timber and under-  
 growth.  
 Descend 40 ft., over NE. slope.  
 7.00 Wash, 10 lks. wide, course SE. Trail, brs. NW. and SE.  
 Ascend 50 ft., over S. slope.  
 15.00 Spur, slopes SE.  
 Descend 355 ft., over NE. slope.  
 39.00 Wash, 10 lks. wide, course SE.  
 Ascend 10 ft., over S. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in  
 the ground to bed rock, deposit a stone, marked with  
 a cross (x) at base of post, and raise a mound of  
 stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass  
 cap,

$\frac{1}{4}$   
 S 18 | S 17  
 1923

No bearing trees or bearing objects available.  
 Beyond this cor., the sec. line passes over a series of  
 cliffs, bearing E. and W. facing S., the ascent over  
 which is too precipitous to chain; therefore, triangulate  
 as follows:

Set flag on the  $\frac{1}{4}$  sec. cor.  
 From a point ahead on sec.  
 line at top of cliffs, measure  
 a Base S. 76° 15' E., 9.26 chs.  
 From SE. end of Base, the flag brs.  
 S. 21° 49' W.  
 From NW. end of Base, the vertical  
 angle to flag is - 30°.



## BOOK 3647

16 Survey of part of Subdivision lines of T. 29 N., R. 10 W.

Chains.

- Dist. on sec. line = 40.00 chs. N.  $0^{\circ}3'W$ .  
 Dist. triangulated = 24.62 chs. N.  $0^{\circ}3'W$ .  
 Total distance = 64.62 chs. N.  $0^{\circ}3'W$ .  
 Ascent from  $\frac{1}{4}$  sec. cor. to top of cliffs = 935 ft.
- 64.62 Triangulation point at top of cliffs, bearing N.  $76\frac{1}{2}^{\circ}W$ . and  
 S.  $76\frac{1}{2}^{\circ}E$ , facing S.  
 Continue line and measurement by chaining.  
 Ascend 40 ft., over SW. slope.
- 69.80 Descend 25 ft., over NW. slope.
- 72.95 Draw, course SW. near head.
- 80.00 Ascend 60 ft., over S. slope, to  
 Ridge, brs. E. and W. Set an iron post, 3 ft. long, 2 ins.  
 in diam., 12 ins. in the ground to bed rock, supported  
 in a mound of stone for cor. of secs. 7, 8, 17 and 18,  
 marked on brass cap,

T29N	R10W
S 7	S 8
S18	S17
1923	

from which,

- A cedar, 10 ins. in diam., brs. N.  $32\frac{1}{2}^{\circ}E$ , .37  
 lks. dist., marked T29N R10W S8 BT.
- A cedar, 8 ins. in diam., brs. S.  $1^{\circ}E$ , .27  
 lks. dist., marked T29N R10W S17 BT.
- A pinyon, 18 ins. in diam., brs. S.  $77\frac{1}{2}^{\circ}W$ , .95  
 lks. dist., marked T29N R10W S18 BT.
- A pinyon, 6 ins. in diam., brs. N.  $86\frac{3}{4}^{\circ}W$ , .39  
 lks. dist., marked T29N R10W S7 BT.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, cedar and pinyon.

Undergrowth, black brush, sagebrush and cactus.

- West, on random line, bet. secs. 7 and 18.
- 40.00 Set temp.  $\frac{1}{4}$  sec. cor.
- 79.60 Fall 30 lks. S. of the cor. of secs. 7, 12, 13 and 18, on W. bdy.  
 of Tp., described in Book "F" of this group.
- Thence,  
 S.  $89^{\circ}47'E$ , on a true line, bet. secs. 7 and 18.  
 Over mountainous land, thru dense timber and undergrowth.
- 3.60 Descend 94 ft., over NE. slope.  
 Wash, 20 lks. wide, course N.
- 19.00 Ascend 350 ft., over NW. slope.  
 Point of spur, slopes N.
- 26.10 Descend 117 ft., over NE. slope.  
 Wash, 10 lks. wide, course NW.
- 39.60 Ascend 225 ft., over SW. slope, to  
 Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in  
 the ground, to bed rock, supported in a mound of  
 stone, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$ S	7
S 18	
1923	

from which,

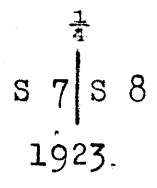
- A pinyon, 8 ins. in diam., brs. N.  $9^{\circ}W$ , .50 lks.  
 dist., marked  $\frac{1}{4}$  S 7 BT.
- A cedar, 18 ins. in diam., brs. S.  $54\frac{1}{2}^{\circ}E$ , .72 lks.  
 dist., marked  $\frac{1}{4}$  S 18 BT.
- Ascend 60 ft., over SW. slope.
- 55.00 Ridge, brs. NW. and SE.  
 Descend 30 ft., over NE. slope.
- 59.37 Wash, 10 lks. wide, course NW.  
 Ascend 90 ft., over W. slope, to
- 72.00 End of ridge, bearing E. and W. Thence along top of ridge.  
 Ascend 35 ft. to
- 79.60 The cor. of secs. 7, 8, 17 and 18, on top of ridge, bearing E.  
 and W.

Survey of part of Subdivision lines of T. 29 N. R. 10 West. 17

Chains.

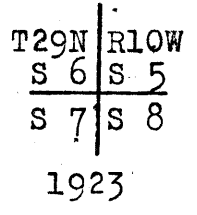
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, scrub oak, catclaw and sagebrush.

N.0°3'W., bet. secs. 7 and 8.  
Over mountainous land, thru dense timber and undergrowth.  
Descend 285 ft., over N. slope.  
24.00 Wash, 10 lks. wide, course NE., joined by wash from NW. Enter scattering timber.  
Ascend 380 ft., over S. slope, to  
40.00 Set an iron post, 3 ft. long, 1 in. in diam., 15 ins. in the ground to bed rock, supported in a mound of stone, for  $\frac{1}{4}$  sec. cor., marked on brass cap,



from which,  
A cedar, 8 ins. in diam., brs. S. 80 $\frac{3}{4}$ ° E., 93 lks. dist., marked  $\frac{1}{4}$ S 8 BT.  
A cedar, 10 ins. in diam., brs. S. 32 $\frac{1}{2}$ ° W., 139 lks. dist., marked  $\frac{1}{4}$ S 7 BT.

Ascend 84 ft., over SE. slope.  
48.70 Sharp spur, slopes NE.  
Descend 115 ft., over NW. slope,  
52.80 Descend 235 ft., over NE. slope.  
66.24 Wash, 10 lks. wide, course E.  
Ascend 260 ft., over S. slope.  
77.00 Spur, slopes E. from NW., and top of cliffs, bearing NW. and E., facing NE., and forming right rim of canyon. Enter canyon.  
Descend 55 ft., over cliffs, to  
80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 10 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 5, 6, 7 and 8, marked on brass cap,



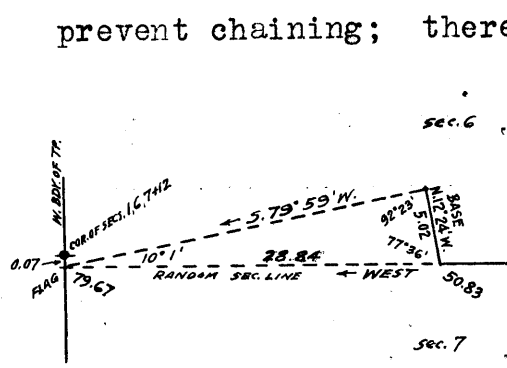
from which,  
A pinyon, 12 ins. in diam., brs. S. 7 $\frac{1}{2}$ ° W., 13 lks. dist., marked T29N R10W S7 BT.  
A pinyon, 14 ins. in diam., brs. N. 62° W., 32 lks. dist., marked T29N R10W S6 BT.

No other bearing trees available.  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, scrub oak, sagebrush and black brush.

West, on random line, bet. secs. 6 and 7.  
40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
50.83 Top of cliffs, bearing N. 12 $\frac{1}{2}$ ° W. and S. 12 $\frac{1}{2}$ ° E. Beyond this point, the random line passes over the head of a canyon, course NW., and cliffs and precipitous slopes

18 Survey of part of Subdivision lines of T. 29 N., R. 10 W.

Chains.



prevent chaining; therefore, triangulate as follows:  
 From 50.83' ch. station on random line, measure a Base, N. 12° 24' W., 5.02 chs. along top of cliffs.  
 This is as long a Base as can be secured.  
 Set flag ahead on random sec. line at 7 lks. S. of the cor. of secs. 1, 6, 7 and 12 on the W. bdy. of Tp., the vertical angle to which is - 4°.

From NW. end of Base, the flag brs. S. 79° 59' W.  
 Dist. on random sec. line = 50.83 chs. West.  
 Dist. triangulated = 28.84 chs. West.  
 Total length of random line = 79.67 chs. West.  
 79.67 Fall 7 lks. S. of the cor. of secs. 1, 6, 7 and 12, on W. bdy. of the Tp., hereinbefore described.  
 Thence, S. 89° 57' E., on true line, bet. secs. 6 and 7.  
 Over mountainous land, in head of canyon, course NW., thru dense timber and undergrowth. Measurement of 28.84 chs. by triangulation, as hereinbefore described.  
 Descend over cliffs, facing NE. and N.  
 16.00 (Approx.) Ascend over cliffs, facing NW. and W.  
 28.84 Triangulation point at top of cliff, bearing N. 12½° W. and S. 12½° E., facing W., and forming right rim of canyon.  
 Leave head of canyon. Enter nearly level land on mesa. Continue line and measurement by chaining.  
 39.67 Ascend slightly over SW. slope, to...  
 Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec. cor., marked on brass cap,

$$\frac{S \quad 6}{S \quad 7}$$
 1923

from which,  
 A cedar, 6 ins. in diam., brs. N. 33½° E., 57 lks. dist., marked ¼ S 6 BT.  
 A cedar, 8 ins. in diam., brs. S. 13° E., 80 lks. dist., marked ¼ S 7 BT.  
 Continue over nearly level land, thru dense timber and undergrowth, on mesa.  
 Descend slightly over SE. slope, to  
 53.00 East rim of mesa, brs. N. and S. Leave mesa. Enter mountainous land, scattering timber and undergrowth.  
 Descend 70 ft., over E. slope.  
 63.60 Wash, 10 lks. wide, in gulch, course SE.  
 Ascend 44 ft., over SW. slope.  
 66.70 Point of spur, slopes S.  
 Descend 53 ft., over SE. slope.  
 68.00 Wash, 10 lks. wide, in gulch, course S.  
 Ascend 230 ft., over steep SW. slope.  
 77.53 Spur, slopes SE., and right rim of canyon, bearing NW. and SE.  
 Descend 115 ft., over cliffs, to  
 79.67 The cor. of secs. 5, 6, 7 and 8.  
 Land, mountainous.  
 Soil, rocky, 3rd rate.  
 Timber, cedar and pinyon.  
 Undergrowth, scrub oak, sagebrush and black brush.

Survey of part of Subdivision lines of T. 29 N., R. 10 W. 10

Chains.

0.60 North, on random line, bet. secs. 5 and 6.  
Top of cliff, brs. NW and SE. Beyond this point, chaining is impracticable owing to cliffs and precipitous slopes in head of canyon; therefore, triangulate as follows:

From 0.60 ch. station on random sec. line, measure a Base, N.  $68^{\circ}00'W.$ , 6.60 chs. along top of cliff.

This is as long a Base as it is practicable to chain.

Set flag ahead on random sec. line, at opposite rim of canyon.

From NW end of Base, the flag brs. N.  $9^{\circ}37'E.$

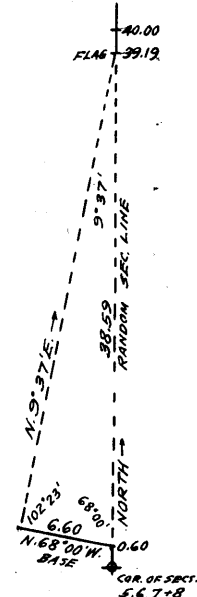
From SE end of Base, the vertical angle to flag is  $-17^{\circ}$ .

From flag the vertical angle to point on sec. line in bottom of canyon is  $-25^{\circ}$ .

Distance on random sec. line = 0.60 chs. North.

Distance triangulated = 38.59 chs. North.

Total distance, = 39.19 chs. North.



39.19 Triangulation point.

Continue line and measurement by chaining.

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

79.80 Fall 26 lks. E. of the cor. of secs. 5, 6, 31 and 32 on the N. bdy. of the Tp., hereinbefore described.

Thence,

S.  $0^{\circ}11'E.$ , on true line, bet. secs. 5 and 6.

Over mountainous land, along top of spur, sloping N., thru scattering timber and undergrowth.

Ascend 70 ft. to

7.13 Leave top of spur, slopes N. from S.  $10^{\circ}W.$

Ascend 682 ft., over cliffs on steep broken E. and NE. slopes.

30.80 Ridge, brs. NE. and SW.

Descend 85 ft., over SE. slope, to

39.80 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone, around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$   
S 6 | S 5

1923

No bearing trees or bearing objects available.

Descend 8 ft., over SE. slope, to

40.61 Triangulation point at top of cliffs, bearing NE. and SW., facing SE., and forming left rim of canyon. Enter head of canyon. Discontinue chaining. Measurement of 38.59 chs. by triangulation hereinbefore described.

Descend about 440 ft., over cliffs, to

54.80 (Approx.) Wash, 30 lks. wide, course E. in bottom of canyon.

Ascend about 1220 ft., over cliffs to

79.20 Triangulation point at top of cliff about 400 ft. high, bearing NW: and SE., facing NE. Continue line and measurement by chaining.

Ascend 10 ft., over NE. slope, to

79.80 The cor. of secs. 5, 6, 7 and 8.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, cedar and pinyon.

Undergrowth, scrub oak and black brush.

20 Survey of part of Subdivision lines of T. 29 N. R. 10 W.

Chains.

From the standard cor. of secs. 32 and 33, on the S. bdy. of the Tp. (7th. Std. Par. N.) hereinbefore described, N. 0° 3' W., bet. secs. 32 and 33.  
 Over mountainous land in gulch, thru. very scattering timber and dense undergrowth.  
 Descend 240 ft., over steep broken NW. slope, to  
 9.50 Bottom of gulch, 40 lks. wide, course E.  
 Ascend 60 ft., over SE. slope.  
 14.00 Point of spur, slopes E.  
 Descend 80 ft., over NE. slope.  
 19.70 Bottom of canyon, 50 lks. wide, course SE.  
 Ascend 365 ft., over steep SW. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 22 ins. in the ground to bed rock, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$   
 S32 | S33  
 1923

No bearing trees or bearing objects available.  
 Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.  
 Ascend 150 ft., over steep SE. slope, to  
 46.00 Spur, slopes SE. Leave canyon.  
 Descend 100 ft., over NE. slope.  
 55.00 Ascend 40 ft., over E. slope.  
 65.00 Descend 15 ft., over NE. slope.  
 69.40 Wash, 30 lks. wide, course SE.  
 Ascend 345 ft., over steep SW. slope, to  
 80.00 Rim of mesa, brs. NW and SE. Set an iron post, 3 ft. long, 2 ins. in diam., 4 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 28, 29, 32 and 33, marked on brass cap,

T29N | R10W  
 S29 | S28  
 S32 | S33  
 1923

No bearing trees or bearing objects available.  
 Land, mountainous.  
 Soil, sandy clay loam, 3rd rate.  
 Timber, cedar and pinyon.  
 Undergrowth, black brush.

West, on a random line, bet. secs. 29 and 32.  
 40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
 79.98 Fall 7 lks. S. of the cor. of secs. 29, 30, 31 and 32.  
 Thence,  
 S. 89° 57' E., on a true line, bet. secs. 29 and 32.  
 Over mountainous land, thru. very scattering timber and dense undergrowth.  
 Descend 132 ft., over steep broken SE. slope.  
 14.00 Wash, 30 lks. wide, in gulch, course SE.  
 Ascend 180 ft., over SW. slope.  
 23.50 Spur, slopes SE.  
 Descend 90 ft., over E. slope.  
 30.60 Wash, 40 lks. wide, course SE.  
 Ascend 175 ft., over SW. slope, to  
 39.99 Mark a cross (x) on surface rock at exact cor. point, and over same, Set an iron post, 3 ft. long, 1 in. in diam., and raise a mound of stone 5 ft. base, 2 $\frac{1}{2}$  ft. high around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$  S 29  
 S 32  
 1923

Survey of part of Subdivision lines of T. 29 N. R. 10 W. 21

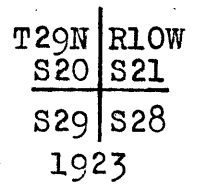
Chains.

from which,  
 A pinyon, 8 ins. in diam., brs. S. 22° W., 94 lks. dist., marked  $\frac{1}{4}$ S 32 BT.  
 A pinyon, 6 ins. in diam., brs. N. 8° W., 64 lks. dist., marked  $\frac{1}{4}$ S 29 BT.  
 Ascend 86 ft., over SW. slope, to  
 50.00 Rim of mesa, brs. NW. and SE. Enter nearly level land on mesa.  
 Descend slightly over SE. slope, to  
 65.00 Rim of mesa, brs. N. and S. Leave mesa. Enter mountainous land.  
 Descend 105 ft., over E. slope.  
 75.00 Ascend 53 ft., over SW. slope, to  
 79.98 The cor. of secs. 28, 29, 32 and 33 at rim of mesa, bearing NW. and SE.  
 Land, mountainous, nearly level.  
 Soil, rocky clay, 3rd rate.  
 Timber, pinyon and cedar.  
 Undergrowth, black brush and sagebrush.

N. 0° 3' W., bet. secs. 28 and 29,  
 Over nearly level land, on mesa, thru. very scattering timber and dense undergrowth.  
 15.00 Rim of mesa, brs. NE. and SW. Leave mesa. Enter mountainous land.  
 Descend 225 ft., over steep NW. slope.  
 22.10 Wash, 10 lks. wide, course NE.  
 Ascend 15 ft., over SE. slope.  
 25.00 Point of spur, slopes E.  
 Descend 245 ft., over NE. slope.  
 31.60 Wash, 20 lks. wide, in gulch, course E.  
 Ascend 106 ft., over SE. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in the ground to bed rock, supported in a mound of stone, for  $\frac{1}{4}$  sec. cor., marked on brass cap,



No bearing trees or bearing objects available.  
 Raise a mound of stone, 3 ft. base, 1 1/2 ft. high, W. of cor.  
 Ascend 165 ft., over SE. slope.  
 50.00 Spur, slopes E.  
 Descend 267 ft., over NE. slope, to  
 62.70 Wash, 10 lks. wide, course NE.  
 Descend 127 ft., over NE. slope, to  
 69.20 Wash, 30 lks. wide, course NE.  
 Ascend 124 ft., over SE. slope.  
 74.50 Point of spur, slopes E.  
 Descend 61 ft., over NE. slope.  
 78.00 Wash, 30 lks. wide, course SE.  
 Ascend 23 ft., over SE. slope, to  
 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 10 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone, around post, for cor. of secs. 20, 21, 28 and 29, marked on brass cap,



No bearing trees or bearing objects available.  
 Land, mountainous.  
 Soil, clay loam, rocky, 3rd rate.  
 Timber, cedar.  
 Undergrowth, black brush and sagebrush.

## 22 Survey of part of Subdivision lines of T.29 N., R.10 W.

## Chains.

- West, on a random line, bet. secs.20 and 29.  
 40.00 Set temp.  $\frac{1}{4}$  sec. cor.  
 80.00 Intersect the cor. of secs. 19, 20, 29 and 30.  
 Thence,  
 East, on true line, bet. secs. 20 and 29.  
 Over mountainous land, thru. scattering timber and under-  
 growth.  
 Descend 120 ft., over SE. slope, to  
 7.80 Left rim of canyon, brs. NW. and SW. Enter canyon  
 Descend 245 ft., over steep E. slope.  
 17.50 Wash, 20 lks. wide, in gulch, course SE.  
 Ascend 150 ft., over SW. slope.  
 26.80 Spur, slopes SE.  
 Descend 135 ft., over NE. slope.  
 39.50 Wash, 10 lks. wide, course SE.  
 Ascend 44 ft., over SW. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 18 ins. in  
 the ground to bed rock, supported in a mound of stone,  
 for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$  S 20  
 S 29  
 1923

from which,

A cedar tree, 10 ins. in diam., brs. N. 77° W., 200  
 lks. dist., marked  $\frac{1}{4}$  S 20 BT.

No other bearing tree available; therefore, raise a mound  
 of stone, 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

- Ascend 45 ft., over SW. slope.  
 42.50 Descend gradually over S. slope, to  
 49.90 Spur, slopes SE.  
 Descend 130 ft., over E. slope, to  
 70.80 Wash, 30 lks. wide, course SE. in bottom of canyon.  
 Descend gradually over SE. slope, to  
 74.76 Same wash, course E.  
 Descend gradually in wash, to  
 79.00 Leave wash, course SE. from W.  
 Descend slightly over SE. slope, to  
 80.00 The cor. of secs. 20, 21, 28 and 29.  
 Land, mountainous.  
 Soil, sandy loam, rocky, 3rd rate.  
 Timber, cedar and pinyon.  
 Undergrowth, sagebrush and black brush.

N. 0° 3' W., bet. secs. 20 and 21.

Over mountainous land in canyon, thru. very scattering  
 timber and scattering undergrowth.

- Ascend 20 ft., over SE. slope.  
 .90 Trail, brs. SE. and NW.  
 Descend 12 ft., over NE. slope.  
 3.00 Wash, 20 lks. wide, course SE.  
 Ascend 280 ft., over SE. slope, to  
 33.00 Enter wash, 10 lks. wide, course SE. from N.  
 Ascend slightly in wash.  
 35.00 Leave wash, course S. and SE. from NW.  
 Ascend 68 ft., over SE. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in  
 the ground, to bed rock, deposit a stone, marked with  
 a cross (x) at base of post, and raise a mound of stone  
 around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$   
 S20 | S21  
 1923

No bearing trees or bearing objects available.  
 Ascend 25 ft., over SE. slope, to



Survey of part of Subdivision lines of T.29 N. R. 10 W. 23

Chains.  
 42.50 Wash, 10 lks. wide, course SE. Asc. 186 ft. over SW. & S. slopes, to  
 61.10 Spur, slopes E. at head of canyon. Leave canyon to the S.,  
 and enter another canyon N. of this point.  
 Descend 168 ft., over N. slope.  
 64.00 Head of wash, course E. Asc. 80 ft., over S. slope.  
 69.00 Spur, slopes E. Desc. 346 ft., over N. slope.  
 79.50 Wash, 20 lks. wide, course E. from SW. in bottom of canyon.  
 Ascend 12 ft., over SE. slope, to  
 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 6 ins. in the  
 ground to bed rock, deposit a stone, marked with a cross  
 (x) at base of post, and raise a mound of stone around  
 post, for cor. of secs. 16, 17, 20 and 21, marked on brass  
 cap,

T29N | R10W  
 S17 | S16  
 S20 | S21  
 1923

No bearing trees or bearing objects available.  
 Land, mountainous.  
 Soil, rocky clay, 3rd rate.  
 Timber, cedar and pinyon.  
 Undergrowth, sagebrush and black brush.

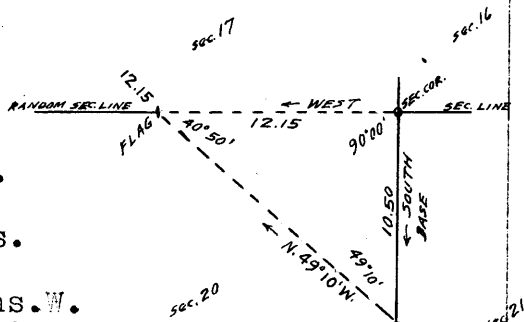
West, on random line, bet. secs. 17 and 20.  
 Precipitous ascent over cliffs prevents chaining; there-  
 fore triangulate as follows:

From cor. of secs. 16, 17, 20 and  
 21, measure a Base, South,  
 10.50 chs.

Set flag ahead on random sec.  
 line at top of cliffs, the  
 vertical angle from sec. cor.  
 being + 33°.

From E. end of Base, the flag brs.  
 N. 49° 10' W.

Distance triangulated = 12.15 chs. W.  
 Ascent from sec. cor. to flag = 520 ft.



12.15 Triangulation point.  
 Continue line and measurement by chaining.  
 40.00 Set temp. 1/4 sec. cor.  
 80.22 Fall 23 lks. S. of the cor. of secs. 17, 18, 19 and 20.  
 Thence, S. 89° 50' E., on a true line, bet. secs. 17 and 20.  
 Over mountainous land, thru. scattering timber and dense  
 undergrowth. Desc. 57 ft., over E. slope.  
 4.90 Ascend 103 ft., over W. slope.  
 9.60 Top of knoll. Desc. 70 ft., over E. slope.  
 13.50 Wash, 10 lks. wide, course SE. Asc. 158 ft., over SW. slope.  
 15.00 Point of spur, sloping S. Trail, brs. NW. and SE.  
 Descend 18 ft., over SE. slope.  
 18.70 Wash, 10 lks. wide, course S. Asc. 106 ft., over SW. slope.  
 23.00 Point of spur, slopes SE. Desc. 15 ft., over E. slope.  
 25.00 Wash, 20 lks. wide, course SE. Asc. 30 ft., over SW. slope.  
 27.00 Point of spur, slopes S. Desc. 84 ft., over SE. slope.  
 31.50 Wash, 10 lks. wide, course S., near head.  
 Ascend 80 ft., over W. slope.  
 34.00 Spur, slopes S. Desc. 10 ft., over E. slope.  
 36.00 Wash, 10 lks. wide, course S. Asc. 10 ft., over SW. slope.  
 40.11 Set an iron post, 3 ft. long, 1 in. in diam., on surface  
 rock, deposit a stone, marked with a cross (x) at base  
 of post, and raise a mound of stone around post, for 1/4  
 sec. cor., marked on brass cap,

1/4 S 17  
 S 20  
 1923

No bearing trees or bearing objects available. Raise a  
 mound of stone, 3 ft. base, 2 ft. high, N. of cor.  
 60.00 Ascend 210 ft., over SW. and S. slopes.  
 68.07 Ascend 250 ft., over steep W. slope, to  
 Triangulation point at end of spur, sloping S., and top of  
 cliffs, bearing N. and S., facing E., and forming left.

# BOOK 3647

24 Survey of part of Subdivision lines of T. 29 N. R. 10 W.

Chains.

rim of canyon. Enter head of canyon. Discontinue chaining.

80.22 Measurement to sec.cor.by triangulation,hereinbefore described. Desc.520 ft.,over cliffs,to The cor.of secs.16,17,20 and 21.

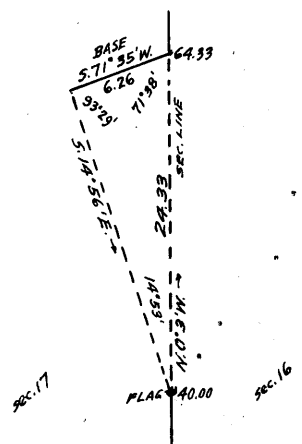
Land, mountainous. Soil,rocky, 4th rate. Timber, cedar and pinyon. Undergrowth, black brush and cactus.

12.60 N.0°3'W., bet. secs.16 and 17. Over mountainous land,in head of canyon,thru.scattering timber and undergrowth. Asc.505 ft.,over cliffs,to Top of cliffs, bearing NE. and SW., facing SE., and forming left rim of canyon. Leave canyon.

40.00 Ascend 390 ft.,over S.and SE.slopes,to Set an iron post, 3 ft.long, 1 in. in diam.,6 ins.in the ground to bed rock,deposit a stone,marked with a cross (x) at base of post,and raise a mound of stone around post, for 1/4 sec.cor., marked on brass cap,

1/4  
S17|S16  
1923

No bearing trees or bearing objects available. Beyond the 1/4 sec.cor.,precipitous ascent over cliffs prevents chaining; therefore, triangulate as follows:

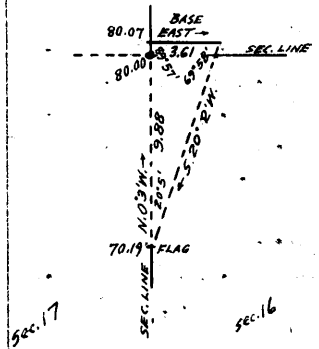


Set flag on the 1/4 sec.cor.of secs.16 and 17. From a point ahead on sec.line, at top of cliffs,measure a Base S.71°35'W.,6.26 chs. This is as long a Base as it is practical to chain. From SW.end of Base,the flag brs. S.14°56'E. From NE. end of Base,the vertical angle to flag is - 36 1/2°.

Dist.on sec.line = 40.00 chs.N.0°3'W.  
Dist.triangulated= 24.33 chs.N.0°3'W.  
Total distance = 64.33 chs.N.0°3'W.

64.33 Ascent from 1/4 sec.cor.to flag = 1175 ft. Triangulation point at end of sharp spur,sloping E.,and top of cliffs,bearing N.71°E.and S.71°W.,facing SE. Continue line and measurement by chaining.

70.19 Descend 258 ft., over N.slope,to Top of a series of cliffs,bearing E.and W. Precipitous descent over cliffs prevents chaining;therefore,triangulate as follows:



Set flag at 70.19 ch..station on sec.line. From a point ahead on sec.line, near foot of cliffs,measure a Base East,3.61 chs. From E.end of Base,the flag brs. S.20°02'W. From W.end of Base,the vertical angle to flag is + 42°.

Dist.on sec.line = 70.19 chs.N.0°3'W.  
Dist.triangulated= 9.88 chs.N.0°3'W.  
Total distance = 80.07 chs.N.0°3'W.  
Dist.by return measurement = 0.07 chs.S.0°3'E.  
Dist.to sec.cor. = 80.00 chs.N.0°3'W.

80.00 Descent from 70.19 ch.station to sec.cor. = 585 ft. Set an iron post, 3 ft.long, 2 ins.in diam.,14 ins. in the ground to bed rock, supported in a mound of stone for cor.of secs. 8,9,16 and 17, marked on brass cap,

Survey of part of Subdivision lines of T1 29 N., R. 10 W. 25

Chains.

T29N	R.10W
S 8	S 9
S17	S16
1923	

from which,

- A pinyon, 12 ins. in diam., brs. N. 58° E., 153 lks. dist., marked T29N R10W S9 BT.
- A pinyon, 6 ins. in diam., brs. S. 50<sup>3</sup>/<sub>4</sub>° W., 31 lks. dist., marked T29N R10W S17 BT.
- A pinyon, 8 ins. in diam., brs. N. 61<sup>1</sup>/<sub>4</sub>° W., 94 lks. dist., marked T29N R10W S8 BT.

No other bearing trees available.

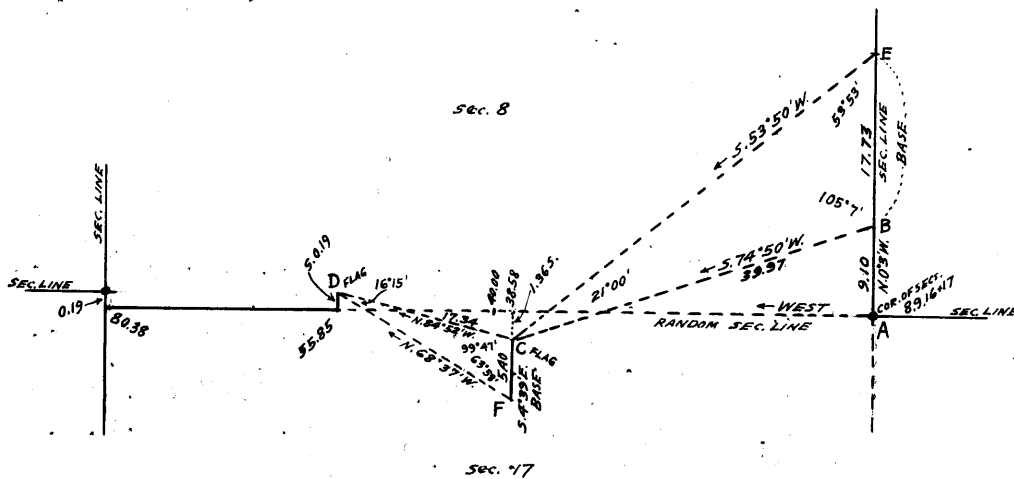
Land, mountainous.

Soil, stony, 4th rate.

Timber, cedar and pinyon.

Undergrowth, black brush and sagebrush.

West, on random line, bet. secs. 8 and 17.  
Precipitous ascent over cliffs prevents chaining; therefore, triangulate a traverse, as described as follows, and as shown on the diagram hereon.



From point on sec. line, bet. secs. 8 and 9, indicated on diagram at (B) which is 9.10 chs. N. 0° 3' W. from cor. of secs. 8, 9, 16 and 17 (A), measure a Base, N. 0° 3' W., 17.73 chs. along the sec. line to point (E).

No point ahead on random line in the E. 1/4 mile being accessible, set a flag at point (C).

Bearing of (B-C) is S. 74° 50' W., with a vertical angle of + 23°.

Bearing of (E-C) is S. 53° 50' W.

Length of (B-C) by triangulation = 39.97 chs. S. 74° 50' W.  
Latitude of (B-C) = 10.45 chs. South. Departure of (B-C) = 38.57 chs. West.

The latitude of traverse (A-B-C) is 1.36 chs. South, and the departure 38.58 chs. West.

Point (C) is therefore 1.36 chs. S. of 38.58 ch. station on random line, or 1.97 chs. S. 46° 14' E. of the point for temp. 1/4 sec. cor. on random sec. line.

Set temp. witness cor. to 1/4 sec. cor. at point (C) as no point closer to the 1/4 sec. cor. point can be reached owing to cliffs.

It being impracticable to chain westerly on offset line from point (C), triangulate as described as follows, and as shown on same diagram.

From (C) measure a Base S. 4° 39' E., 5.40 chs. to point (F). Set flag (D) at top of cliffs.

Bearing of (C-D) is N. 84° 52' W., with a vertical angle of + 43°.

Bearing of (F-D) is N. 68° 37' W.

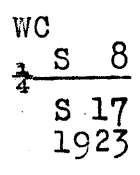
Length of (C-D) by triangulation = 17.34 chs. N. 84° 52' W.  
Latitude of (C-D) = 1.55 chs. North. Departure of (C-D) = 17.27 chs. West.

# BOOK 3647

26 Survey of part of Subdivision line of T. 29 N., R. 10 W.

Chains.

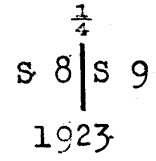
- The latitude of traverse (A-B-C-D) is 0.19 chs. North, and the departure 55.85 chs. W.
- Point (D) is therefore 0.19 chs. N. of the 55.85 ch. station on random sec. line; therefore, measure South 0.19 chs. to
- 55.85 Thence, West, on random line, bet. secs. 8 and 17, continuing measurement.
- 80.38 Fall 19 lks. S. of the cor. of secs. 7, 8, 17 and 18. Thence, S. 89° 52' E., on true line, bet. secs. 8 and 17. Over mountainous land, thru. dense timber and undergrowth, along top of ridge, bearing E. and W. Ascend gradually to
- 4.80 Descend 40 ft., along top of ridge to
- 10.00 Leave top of ridge, brs. W. and SE. Descend 165 ft., over NE. slope, to
- 24.53 Triangulation point at top of almost perpendicular cliff about 600 ft. high, bearing NW and SE, facing NE. Discontinue chaining. Measurement of remainder of line by triangulated traverse, as hereinbefore described.
- 40.19 Point for 1/4 sec. cor. falls on face of cliffs, where it is inaccessible. Witness cor. established at a point 2.17 chs. S. 47° 54' E., herefrom as follows:  
At point of spur sloping N. 5° W., Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, supported in a mound of stone, for witness cor. to 1/4 sec. cor., marked on brass cap,



from which,  
 A pinyon, 10 ins. in diam., brs. S. 32 3/4° E., 40 lks. dist., marked 1/4 S 17 WC BT.  
 A pinyon, 8 ins. in diam., brs. S. 32 3/4° W., 20 lks. dist., marked 1/4 S 17 WC BT.

This witness cor. is 85 ft. below 24.53 ch. station on sec. line, and 850 ft. above the cor. of secs. 8, 9, 16 and 17.  
 From point for 1/4 sec. cor.,  
 80.38 Over cliffs and precipitous impassable slopes to The cor. of secs. 8, 9, 16 and 17.  
 Land mountainous.  
 Soil, rocky, 3rd and 4th rate.  
 Timber, cedar and pinyon.  
 Undergrowth, black brush and catclaw.

-----  
 N. 0° 03' W., bet. secs. 8 and 9.  
 Over mountainous land, thru. scattering timber and undergrowth.  
 Descend 150 ft., over NE. slope, to  
 5.00 Wash, 10 lks. wide, course NE.  
 Descend 130 ft., over NE. slope, to  
 10.00 Wash, 10 lks. wide, course NE.  
 Descend 415 ft., over NE. slope, to  
 32.00 Right rim of canyon, brs. E. and W. Enter canyon.  
 Descend 336 ft., over steep broken N. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 10 ins. in the ground to bed rock, supported in a mound of stone, for 1/4 sec. cor., marked on brass cap,



from which,  
 A pinyon, 10 ins. in diam., brs. S. 85° E., 16 lks. dist., marked 1/4 S 9 BT.

Survey of part of Subdivision lines of T. 29 N., R. 10 W. 27

Chains.

A pinyon, 10 ins. in diam., brs. S. 79° W., 12 lks. dist., marked  $\frac{1}{4}$  S 8 BT.  
 Beyond this  $\frac{1}{4}$  sec. cor. chaining is impracticable, owing to precipitous slopes and cliffs. Triangulate as follows:

From  $\frac{1}{4}$  sec. cor., measure a Base, N. 79° 46' E. 4.79 chs.

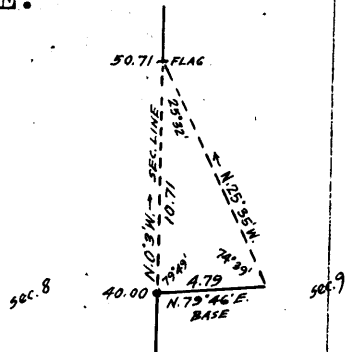
Set flag ahead on sec. line at N. or left rim of canyon, the vertical angle to which is + 16°.

From NE end of Base, the flag brs. N. 25° 35' W.

Dist. on sec. line = 40.00 chs. N. 0° 3' W.

Dist. triangulated = 10.71 chs. N. 0° 3' W.

50.71 chs. N. 0° 3' W.



42.00 (Approx.) Wash, 50 lks. wide, course E. in bottom of canyon, about 140 ft. below  $\frac{1}{4}$  sec. cor.

Ascend about 345 ft., over cliffs to

50.71 Triangulation point at N. or left rim of canyon, bearing NE. and SW. Leave canyon.

Continue line and measurement by chaining.

Ascend 35 ft., over SE. slope, to

52.44 Point of spur, slopes SE.

59.78 Descend 103 ft., over NE. slope.

Head of wash, course SE.

68.03 Ascend 205 ft., over SW. slope.

Spur, slopes SE.

Descend 76 ft., over NE. slope.

75.40 Head of wash, 20 lks. wide, course SE.

Ascend 40 ft., over SW. slope, to

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., on sandstone ledge, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 4, 5, 8 and 9, marked on brass cap,

T29N	R10W
S 5	S 4
S 8	S 9
1923	

from which,

A pinyon, 10 ins. in diam., brs. S. 82 $\frac{1}{2}$ ° W., 111 lks. dist., marked T29N R10W S8 BT.

A pinyon, 6 ins. in diam., brs. N. 82 $\frac{1}{2}$ ° W., 167 lks. dist., marked T29N R10W S5 BT.

No other bearing trees available.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, pinyon and cedar.

Undergrowth, black brush and cactus.

N. 89° 55' W., on random line, bet. secs. 5 and 8, for distance only, a flag at 1.67 chs. W. of the cor. of secs. 5, 6, 7 and 8, being visible on such bearing.

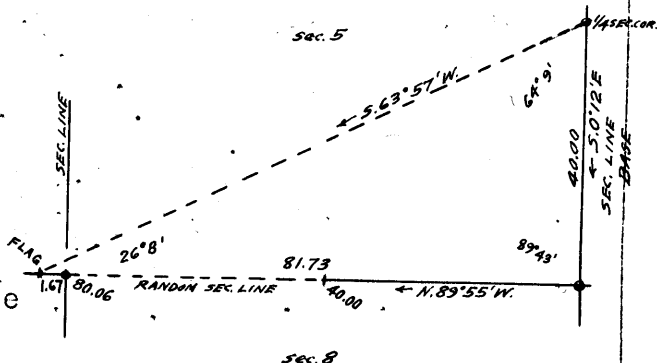
40.00 Set temp.  $\frac{1}{4}$  sec. cor.

Precipitous slopes and cliffs prevent chaining the W.  $\frac{1}{2}$  of the random sec. line; therefore, triangulate as follows:

From the  $\frac{1}{4}$  sec. cor. of secs. 4 and 5, the flag brs. S. 63° 57' W.

The S.  $\frac{1}{2}$  of line bet. secs. 4 and 5 is used as a Base (S. 0° 12' E., 40.00 chs.)

From cor. of secs. 4, 5, 8 and 9, the vertical angle to flag is + 20°.



part of  
28 Survey of Subdivision lines of T.29 N., R. 10 W.

Chains.

- Triangulated dist. = 81.73 chs. N.89°55'W.  
Dist. by return measurement = 1.67 chs. S.89°55'E.
- Total length of sec. line, = 80.06 chs. N.89°55'W.
- 80.06 Intersect the cor. of secs. 5, 6, 7 and 8. Thence, S.89°55'E., on true line, bet. secs. 5 and 8. Over mountainous land, in canyon, thru scattering timber and undergrowth. Measurement of W.  $\frac{1}{2}$  of line by triangulation, hereinbefore described.
- 40.03 Descend over cliffs facing NE. and N. Spur, slopes NE. about 1275 ft. below the cor. of secs. 5, 6, 7 and 8. Set a granite stone, 24x16x6 ins., 16 ins. in the ground, marked  $\frac{1}{4}$  on N. face for  $\frac{1}{4}$  sec. cor., from which,  
A pinyon, 18 ins. in diam., brs. S.46 $\frac{1}{2}$ °W., 33 lks. dist., marked  $\frac{1}{4}$  S 8 BT.  
A pinyon, 12 ins. in diam., brs. N.20 $\frac{1}{2}$ °W., 56 lks. dist., marked  $\frac{1}{4}$  S 5 BT.
- 62.06 Continue line and measurement by chaining. Leave canyon. Descend 580 ft., over steep E. slope.
- 73.72 Wash, 20 lks. wide, course SE. Ascend 45 ft., over SW. slope.
- 80.06 Spur, slopes S. Descend 100 ft., over SE. and S. slopes, to The cor. of secs. 4, 5, 8 and 9. Land, mountainous. Soil, rocky, 4th rate. Timber, cedar and pinyon. Undergrowth, black brush.
- 
- 40.00 N.0°3'W., on random line, bet. secs. 4 and 5. Set temp.  $\frac{1}{4}$  sec. cor.
- 57.44 South, or right rim of canyon. Precipitous slopes prevent chaining; therefore, triangulate the remainder of the random sec. line, as follows:
- 
- Measure a Base, S.79°40'W., 10.10 chs. along rim of canyon. Set flag ahead on random sec. line at a point 21 lks. E. of the cor. of secs. 4, 5, 32 and 33, on N. bdy. of the Tp. From SW. end of Base, the flag brs. N.22°7'E. From NE. end of Base the vertical angle to flag is - 17° and to point on random sec. line in bottom of canyon is - 46°. Dist. on random sec. line = 57.44 chs. 0°3'W. Dist. triangulated = 22.59 chs. N.0°3'W. Total length of random sec. line = 80.03 chs. N.0°3'W.
- 80.03 Fall 21 lks. E. of the cor. of secs. 4, 5, 32 and 33 on N. bdy. of Tp., hereinbefore described. Thence, S.0°12'E., on true line, bet. secs. 4 and 5. Over mountainous land, in canyon, thru scattering timber and undergrowth. Measurement of 22.59 chs. by triangulation, hereinbefore described.
- 10.00 Descend about 400 ft., over precipitous SE. slope. (Approx.) Wash, 25 lks. wide in bottom of canyon course NE.
- 22.59 Ascend about 850 ft., over precipitous N. slope, to Triangulation point at S. or right rim of canyon, bearing N.80°E. and S.80°W. Leave canyon.

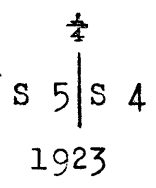
Survey of part of Subdivision lines of T. 29 N., R. 10 W. 29

Chains

Continue line and measurement by chaining.  
Ascend 105 ft., over N.slope.

38.30  
40.03

Descend 22 ft., over SE.slope, to  
Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in  
the ground, for 1/4 sec. cor., marked on brass cap,



from which,

A pinyon, 8 ins. in diam., brs. N. 77° E., 64 lks. ±  
dist., marked 1/4 S 4 BT.

A pinyon, 10 ins. in diam., brs. N. 86° W., 184 lks.  
dist., marked 1/4 S 5 BT.

45.18  
48.30  
68.77  
80.03

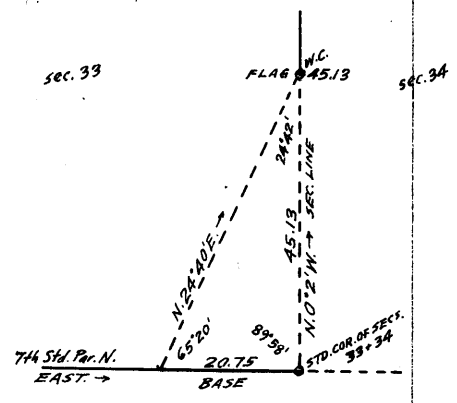
Ascend 54 ft., over NE.slope.  
Spur slopes E.  
Descend 107 ft., over S.slope.  
Wash, 20 lks. wide, course SE.  
Ascend 81 ft., over NE.slope.  
Spur, slopes SE.  
Descend 160 ft., over S.slope, to  
The cor. of secs. 4, 5, 8 and 9.  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, black brush, cactus, catclaw and yucca.

From standard cor. of secs. 33 and 34, on S. bdy. of Tp.  
(7th. Std. Par. N.) hereinbefore described,  
N. 0° 2' W., bet. secs. 33 and 34.

Over mountainous land, in side canyon, near its junction  
with the Colorado River Canyon, thru scattering under-  
growth.

Precipitous slopes and cliffs prevent chaining; therefore,  
triangulate as follows:

Set flag ahead on sec. line.  
From 59.25 ch. station on S.  
bdy. of sec. 33, the flag brs.  
N. 24° 40' E.  
Use as a Base, the E. 20.75 chs.  
of the S. bdy. of sec. 33.  
Vertical angle from E. end of Base  
to flag is - 5° and to point on  
sec. line in bottom of canyon is  
- 34°.

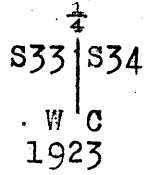


28.00  
40.00  
45.13

Distance triangulated = 45.13 chs. N. 0° 2' W.  
(Approx.) Wash, 40 lks. wide, in bottom of side canyon, course  
NE., about 1250 ft. below the standard cor. of secs. 33  
and 34.

Ascend about 1000 ft., over cliffs to the W.C. to 1/4 sec. cor.  
True point for 1/4 sec. cor. falls on face of cliffs, and is  
inaccessible.

Triangulation point on ledge bearing N. 2° E. and S. 40° W.  
Set an iron post, 3 ft. long, 1 in. in diam., on surface  
rock, deposit a stone, marked with a cross (x) at base  
of post, and raise a mound of stone around post, for  
witness cor. to 1/4 sec. cor., marked on brass cap,

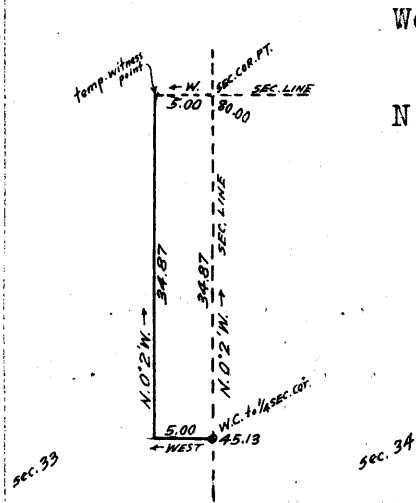


No bearing trees, or bearing objects available.

30 Survey of part of Subdivision lines of T. 29 N., R.10 W.

Chains.

Beyond this point the sec. line crosses cliffs facing E., and chaining is impracticable; therefore, measure the remainder of the line by offset, as follows:



West, 5.00 chs. to offset point in sec. 33.

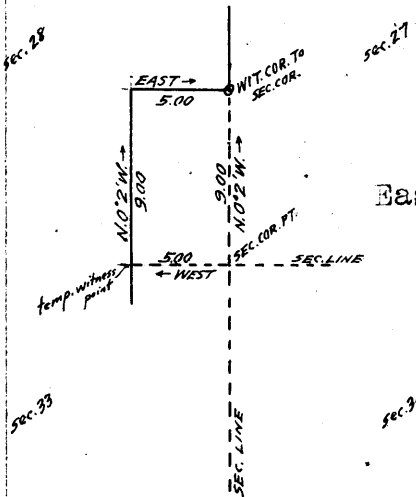
Thence, N.0°2'W. 34.87 chs. on offset line in sec. 33, parallel to and 5.00 chs. W. of sec. line, along E. slope above top of cliffs, bearing N. and S. Asc. 150 ft. to a point 17 chs. N.0°2'W., from offset point, thence descend 137 ft. to a point on offset line, 5.00 chs. W. from true point for cor. of secs. 27, 28, 33 and 34.

Set temp. witness point here for use in survey of line bet. secs. 28 and 33.

Precipitous descent over cliffs E. of this point prevents chaining a return of the offset line to the sec. cor. point; therefore, continue offset line into sec. 28, as follows:

N.0°2'W., 9.00 chs. descending 75 ft. along E. slope of spur, sloping NE.

Cross top of spur at 5.00 chs., and descend 60 ft. over NW. slope to offset point, which is 43.87 chs. N.0°2'W. from the offset point in sec. 33.



Thence, East, 5.00 chs. descending 75 ft., over NW. slope to point on sec. line, bet. secs. 27 and 28, at point of spur sloping NE. at 9.00 chs. N.0°2'W. from true point for cor. of secs. 27, 28, 33 and 34.

Cliffs S. of this point prevent return measurement on sec. line, bet. secs. 27 & 28 toward sec. cor. point; therefore, establish witness cor. point to sec. cor. at 9.00 chs. N.0°2'W., from cor. point as follows:

Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for witness cor. to cor. of secs. 27, 28, 33 and 34, marked on brass cap,

T29N	R10W
S28	S27
S33	S34
W	C
1923	

No bearing trees or bearing objects available.

Thence by computed measurement, S.0°2'E., 9.00 chs. along sec. line, bet. secs. 27 and 28, over E. face of cliffs to

80.00 True point for cor. of secs. 27, 28, 33 and 34, on E. face of cliffs, where it is inaccessible.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, none. Undergrowth, black brush and sagebrush.



Survey of part of Subdivision lines of T. 29 N., R. 10 W. 31

Chains.

From true point for cor. of secs. 27, 28, 33 and 34, West, on random line, bet. secs. 28 and 33. Measurement of 5.00 chs. by offset line, as hereinbefore described in notes of line, bet. secs. 33 and 34.

5.00 Temp. witness point. Continue line and measurement by chaining.

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

80.00 Fall 5 lks. S. of the cor. of secs. 28, 29, 32 and 33. Thence, S.  $89^{\circ}58'E.$ , on true line, bet. secs. 28 and 33. Over nearly level land on mesa, thru. dense undergrowth.

10.00 Rim of mesa, brs. NW and SE. Leave mesa. Enter mountainous land and scattering undergrowth. Descend 340 ft., over steep E. slope.

25.04 Wash, 10 lks. wide, course NE. Ascend 60 ft., over NW. slope.

32.04 Spur, slopes NE. Descend 112 ft., over E. slope, to

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in the ground to bed rock, deposit a stone marked with a cross (x), at base of post, and raise a mound of stone around post for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$  S 28  
S 33  
1923

No bearing trees or bearing objects available. Descend 161 ft., over E. slope.

50.58 Wash, 10 lks. wide, course NW. Ascend 190 ft., over W. slope.

65.00 Spur, slopes N. Descend 130 ft., to

72.41 Spur, slopes NE. Descend 50 ft., over E. slope, to

75.00 Intersect the offset line surveyed N.  $0^{\circ}2'W.$ , at 5.00 chs. W. of the meridional sec. line, as hereinbefore described. Discontinue chaining owing to precipitous descent. Measurement to sec. cor. point computed from offset line.

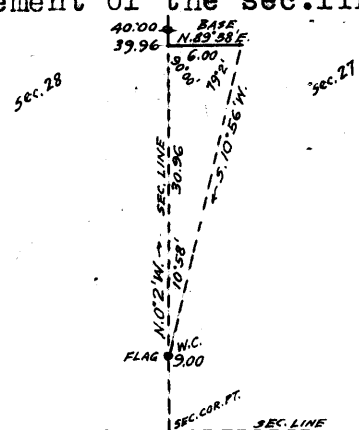
80.00 True point for cor. of secs. 27, 28, 33 and 34, on precipitous E. slope, where it is inaccessible. Witness cor. 5.00 chs. N.  $0^{\circ}2'W.$  Land, nearly level and mountainous. Soil, rocky and sandy, 3rd rate. Timber, none. Undergrowth, black brush and sagebrush.

From true point for cor. of secs. 27, 28, 33 and 34, N.  $0^{\circ}2'W.$ , bet. secs. 27 and 28. Over mountainous land, thru. scattering undergrowth, across E. face of cliffs. Measurement of 9.00 chs. by offset line 5.00 chs. W., as hereinbefore described in notes of line bet. secs. 33 and 34.

9.00 The witness cor. to cor. of secs. 27, 28, 33 and 34 at point of spur, sloping NE. and top of cliffs bearing NW. and SW., forming right rim of canyon. Enter canyon. Cliffs and precipitous slopes in canyon prevent chaining; therefore, triangulate the measurement of the sec. line across canyon as follows:

Set flag at this W.C.

From a point ahead on sec. line at left rim of canyon, measure a Base N.  $89^{\circ}58'E.$ , 6.00 chs. A longer Base is impracticable. From East end of Base, the flag brs. S.  $10^{\circ}56'W.$  From W. end of Base, the vertical angle to flag is  $+ 2^{\circ}$  and to point on sec. line in bottom of canyon is  $- 52^{\circ}$ .



## BOOK 3647

32 Survey of part. of Subdivision lines of T.29 N., R. 10 W.

Chains

- Distance on sec. line = 9.00 chs. N. 0° 2' W.  
 Dist. by triangulation = 30.96 chs. N. 0° 2' W.  
 Total distance, = 39.96 chs. N. 0° 2' W.
- 28.00 (Approx.) Bottom of canyon, course SE., about 1085 ft. below the W.C. to cor. of secs. 27, 28, 33 and 34.
- 39.96 Ascend about 1015 ft., over cliffs; to Triangulation point at left rim of canyon, bearing N. 85° W. and S 85° E. Leave canyon. Continue line and measurement by chaining.
- 40.00 Descend slightly to Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$   
 S28 | S27  
 1923

- No bearing trees available. The Snyder mine brs. N. 37° W.  
 Descend 153 ft., over NW. slope.
- 45.00 Shanley Spring brs. S. 23° W., about 10 chs. dist.
- 49.90 Draw, course SW.  
 Ascend 40 ft., over SE. slope.
- 64.00 Spur, slopes SW.  
 Descend 84 ft., over NW. slope.
- 71.50 Head of wash, course SW.  
 Ascend 40 ft., over SW. slope.
- 77.05 Ridge, brs. SE. and NW.  
 Descend 34 ft., over NE. slope, to
- 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 10 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 21, 22, 27 and 28, marked on brass cap,

T29N | R10W  
S21 | S22  
 S28 | S27  
 1923

No bearing trees or bearing objects available.  
 Land, mountainous.  
 Soil, rocky and sandy, 3rd rate.  
 Timber, none.  
 Undergrowth, black brush.

- 40.00 West, on random line, bet. secs. 21 and 28.  
 Set temp.  $\frac{1}{4}$  sec. cor.
- 80.00 Intersect the cor. of secs. 20, 21, 28 and 29.  
 Thence,  
 East, on true line, bet. secs. 21 and 28.  
 Over mountainous land, thru. scattering undergrowth.  
 Descend 90 ft., over SE. and E. slopes.
- 3.25 Trail, brs. SE. and NW.
- 15.90 Wash, 10 lks. wide, course SE.  
 Ascend 146 ft., over SW. slope.
- 39.90 Spur, slopes SE.  
 Descend slightly over E. slope, to
- 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

$\frac{1}{4}$  S 21  
S 28  
 1923

Survey of part of Subdivision lines of T. 29 N., R. 10 W. 33

Chains. No bearing trees or bearing objects available.  
 Descend 59 ft., over E. slope.  
 46.90 Wash, 20 lks. wide, course S.  
 Ascend 371 ft., over SW. slope.  
 60.00 Spur, slopes S.  
 Descend 90 ft., over SE. slope, to  
 65.00 Descend gradually over S. slope.  
 67.75 Snyder Mine brs. S. 40° W.  
 69.25 Ridge, brs. NW and SE.  
 Descend 112 ft., over NE. slope, to  
 80.00 The cor. of secs. 21, 22, 27 and 28.  
 Land, mountainous.  
 Soil, clay and rocky, 3rd rate.  
 Timber, none.  
 Undergrowth, black brush and sagebrush.

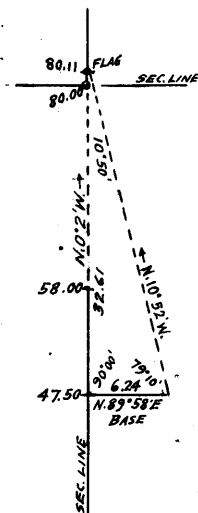
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N. 0° 02' W., bet. secs. 21 and 22.  
 Over mountainous land, thru. scattering undergrowth.  
 Descend 160 ft., over NE. slope.  
 18.00 Wash, 10 lks. wide, course E.  
 Ascend 65 ft., over S. slope.  
 23.00 Spur, slopes E.  
 Descend 165 ft., over N. slope.  
 29.08 Trail, brs. NW and SE.  
 29.38 Trail, brs. E. and W.  
 29.48 Wash, 10 lks. wide, course E.  
 Ascend 65 ft., over SE. slope.  
 33.50 Point of spur, slopes SE.  
 Descend 85 ft., over NE. slope.  
 36.00 Rocky wash, 20 lks. wide, course SE.  
 Ascend 120 ft., over SW. slope, to  
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., on surface  
 rock, deposit a stone marked with a cross (x) at base  
 of post, and raise a mound of stone around post, for  
 1/4 sec. cor., marked on brass cap,

1/4  
 S21 | S22  
 1923

No bearing trees or bearing objects available.  
 Ascend 100 ft., over SW. slope.  
 47.50 Spur, slopes SE.  
 Descend 45 ft., over NE. slope, to  
 58.00 South, or right rim of canyon, brs. E. and W. Enter can-  
 yon.  
 Descend about 200 ft. to bottom. Cliffs on each side of  
 canyon prevent chaining; therefore, triangulate as  
 follows:

Set flag ahead on sec. line.  
 From 47.50 ch. station on sec.  
 line, measure a Base N. 89° 58'  
 E., 6.24 chs.  
 From East end of Base, the flag  
 brs. N. 10° 52' W.  
 Flag is visible from the cor. of  
 secs. 16, 17, 20 and 21, and brs.  
 due east from same.  
 Dist. on sec. line = 47.50 chs. N. 0° 2' W.  
 Dist. by triangu-  
 lation = 32.61 chs. N. 0° 2' W.  
 Total distance = 80.11 chs. N. 0° 2' W.  
 Dist. by return  
 measurement = 0.11 chs. S. 0° 2' E.  
 80.00 chs. N. 0° 2' W.



## 34 Survey part of Subdivision lines of T. 29 N., R. 10 W.

Chains.

- 69.00 (Approx.) Wash, 50 lks. wide, in bottom of canyon.  
Ascend about 250 ft., to
- 80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 12 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 15, 16, 21 and 22, marked on brass cap,

T29N	R10W
S16	S15
S21	S22
1923	

No bearing trees or bearing objects available.  
Land, mountainous.  
Soil, rocky, 3rd rate.  
Timber, none.  
Undergrowth, black brush.

- N. 89° 55' W., on a random line, bet. secs. 16 and 21, for distance only, a flag on the cor. of secs. 16, 17, 20 and 21 being visible on such bearing.
- 40.00 Set temp.  $\frac{1}{4}$  sec. cor.
- 80.12 Intersect the cor. of secs. 16, 17, 20 and 21.  
Thence,  
S. 89° 55' E., on a true line, bet. secs. 16 and 21.  
Over mountainous land in canyon, thru. scattering undergrowth.
- 7.40 Descend 150 ft., over SE. slope, to  
Wash, 30 lks. wide, course SE.  
Ascend 32 ft., over SW. slope.
- 18.00 Descend 170 ft., over SE. slope.
- 25.28 Wash, 20 lks. wide, course NE. in bottom of canyon.  
Ascend 26 ft., over NW. slope.
- 35.15 Descend 80 ft., over NE. slope, to
- 40.06 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

S 16
$\frac{1}{4}$
S 21
1923

- No bearing trees or bearing objects available.  
Continue in canyon.  
Descend 230 ft., over NE. slope.
- 63.48 Wash, 50 lks. wide, in bottom of canyon, course SE.  
Ascend 155 ft., over W. face of cliff.
- 66.53 Top of cliff, brs. N. and S. facing W.  
Ascend 50 ft., over SW. and S. slopes to
- 80.12 The cor. of secs. 15, 16, 21 and 22.  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, none.  
Undergrowth, black brush, and cactus.

- N. 0° 2' W., bet. secs. 15 and 16.  
Over mountainous land on N. side of canyon, thru. scattering timber and undergrowth.  
Ascend 426 ft., over S. and SW. slopes, to
- 21.49 Bend in wash, 10 lks. wide, course SW. from NW.  
Ascend 104 ft., over S. slope.
- 29.25 Ridge, brs. E. and W. and N. or left rim of canyon. Leave canyon.  
Descend 70 ft., over N. slope, to

Chains.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 8 ins. in the ground to bed rock, supported in a mound of stone, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

±  
S16 | S15  
1923

from which,

A pinyon, 4 ins. in diam., brs. S. 76° E., 39 lks. dist., marked BT.

A pinyon, 10 ins. in diam., brs. S. 10° W., 120 lks. dist., marked  $\frac{1}{4}$  S 16 BT.

40.30 Descend slightly over N. slope, to Top of cliff, 40 ft. high, brs. NW. and E. facing N., and forming right rim of canyon. Enter head of canyon.

48.93 Descend 252 ft. to Wash, 20 lks. wide, in bottom of canyon, course NE. Ascend 238 ft., over SE. and S. slopes.

68.50 Spur, slopes E. between canyons.

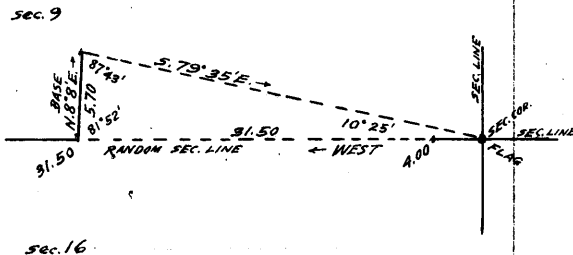
80.00 Descend 312 ft., over steep broken N. slope, to Set an iron post, 3 ft. long, 2 ins. in diam., 8 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post for cor. of secs. 9, 10, 15 and 16, marked on brass cap,

T29N | R10W  
S 9 | S10  
S16 | S15  
1923

No bearing trees or bearing objects available.  
Land, mountainous.  
Soil, rocky and sandy, 3rd rate.  
Timber, pinyon.  
Undergrowth, black brush.

4.00 West, on random line, bet. secs. 9 and 16. Wash, 30 lks. wide, course NE. in bottom of canyon. Beyond this point, the random line passes over a series of cliffs, and chaining is impracticable; therefore, triangulate as follows:

Set flag on the cor. of secs. 9, 10, 15 and 16.  
From point on random sec. line at left rim of canyon, measure a Base N. 8° 8' E., 5.70 chs. along canyon rim.



From NE. end of Base, the flag brs. S. 79° 35' E.  
From SW. end of Base, the vertical angle to flag is - 21°.  
Distance triangulated = 31.50 chs. West.

31.50 Triangulation point at left rim of canyon, bearing N. 8° 1/2' and S. 8° 1/2' W.

40.00 Continue line and measurement by chaining.

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

80.08 Fall 5 lks. S. of the cor. of secs. 8, 9, 16 and 17.

Thence S. 89° 58' E., on true line, bet. secs. 9 and 16.  
Over mountainous land, thru scattering timber and undergrowth.

23.19 Descend 264 ft., over broken NE. slope, to Wash, 10 lks. wide, course N. from SW.

24.50 Ascend 35 ft., over NW. slope.

40.04 Descend 150 ft., over N. slope, to

Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in

## 36 Survey of part of Subdivision lines of T. 29 N., R. 10 W.

Chains.

the ground to bed rock, supported in a mound of stone, for  $\frac{1}{4}$  sec.cor., marked on brass cap,

$\frac{1}{4}$  S 9  
S 16  
1923

from which,

A cedar, 8 ins.in diam., brs.S.82 $\frac{1}{2}$ °E., 52 lks.  
dist., marked  $\frac{1}{4}$  S 16 BT.

A pinyon, 6 ins. in diam., brs.N.30°E., 132 lks.  
dist., marked  $\frac{1}{4}$  S 9 BT.

- 48.58 Descend 201 ft., over NE.slope, to  
Triangulation point at left rim of canyon, bearing N.8 $\frac{1}{4}$ °E.  
and S.8 $\frac{1}{4}$ °W. Enter canyon. Discontinue chaining.
- 76.08 Descend 870 ft., over cliffs facing SE.  
Wash, 30 lks.wide, in bottom of canyon, course NE.
- 80.08 Ascend 70 ft., over broken NW.slope, to  
The cor.of secs.9,10,15 and 16.  
Land, mountainous.  
Soil, rocky, 4th rate.  
Timber, cedar and pinyon.  
Undergrowth, black brush, cactus, and yucca.

-----  
East, on true line, bet. secs.10 and 15 (W. $\frac{1}{2}$ ).

Over mountainous land in canyon, thru. scattering under-  
growth.

- 15.00 Descend 130 ft., over steep N.slope.  
Ascend 26 ft., over NW.slope.
- 21.20 Descend 150 ft., over NE.slope, to
- 40.00 Set an iron post, 3 ft.long, 1 in. in diam., on surface  
rock, deposit a stone, marked with a cross (x) at Base  
of post, and raise a mound of stone around post, for  
 $\frac{1}{4}$  sec.cor., marked on brass cap,

$\frac{1}{4}$  S 10  
S 15  
1923

No bearing trees or bearing objects available.

At 3 chs.E.of this cor., the line intersects the right  
rim of the Colorado River Canyon, and the remainder  
of the sec.line falls in said canyon, and is unsurvey-  
able.

The Colorado River, course south, is about one mile East  
from the above described  $\frac{1}{4}$  sec.cor.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, none.

Undergrowth, black brush, catclaw, cactus and yucca.

-----  
From the cor.of secs. 9,10,15 and 16,

N.0°2'W., bet. secs.9 and 10.

Over mountainous land in canyon, thru. scattering under-  
growth.

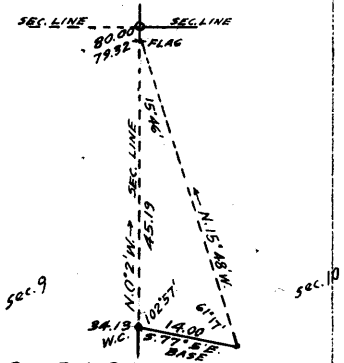
- 4.27 Descend 133 ft., over steep N.slope.  
Wash, 70 lks.wide, course E. in bottom of canyon.
- 27.67 Ascend 529 ft., over S.slope.  
Sharp spur, slopes E. Leave canyon.
- 34.13 Descend 80 ft., over N.slope, to  
South, or right rim of canyon, brs.E.and W.  
Set an iron post, 3 ft.long, 1 in.in diam., on surface rock,  
deposit a stone, marked with a cross (x) at base of  
post, and raise a mound of stone around post, for witness  
cor.to  $\frac{1}{4}$  sec.cor., marked on brass cap,

Chains.

W C  
S 9 | S 10  
1923

No bearing trees or bearing objects available. Owing to cliffs and precipitous slopes, chaining on sec. line beyond this point is impracticable; therefore, triangulate as follows.

From W.C. to 1/4 sec. cor., measure a Base S, 77°05'E., 14.00 chs. Set flag ahead on sec. line, the vertical angle to which is -5°. From SE. end of Base, the flag brs. N. 15°48'W.



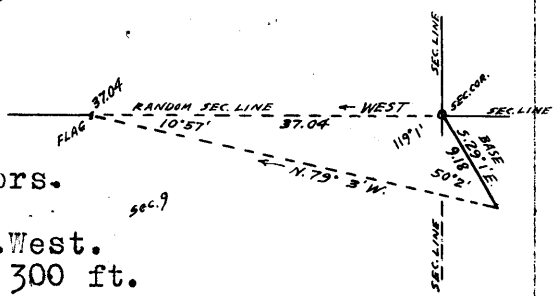
- 40.00 Dist. on sec. line = 34.13 chs. N. 0°2'W.
- 48.00 Dist. triangulated = 45.19 chs. N. 0°2'W.
- 72.00 Total dist. = 79.32 chs. N. 0°2'W.
- 79.32 True point for 1/4 sec. cor. falls on face of cliffs on S. side of canyon, where it is inaccessible.
- 80.00 (Approx.) Wash, 100 lks. wide, course E. in bottom of canyon, about 860 ft. below the W.C. to 1/4 sec. cor. Ascend about 500 ft., over precipitous S. slope & cliffs, to (Approx.) Top of cliffs, bearing E. and W., facing S. Ascend about 100 ft., over steep S. slope, to Triangulation point. Continue line and measurement by chaining. Asc. 20 ft., over steep S. slope, to Set an iron post, 3 ft. long, 2 ins. in diam., 12 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 3, 4, 9 and 10, marked on brass cap,

T29N | R10W  
S 4 | S 3  
S 9 | S 10  
1923

No bearing trees or bearing objects available. Land, mountainous. Soil, rocky, 4th rate. Timber, none. Undergrowth, black brush, cactus, catclaw and yucca.

West, on random line, bet. secs. 4. and 9. Precipitous S. and SE. slopes prevent chaining; therefore, triangulate as follows:

From cor. of secs. 3, 4, 9 and 10, measure a Base S. 29°01'E., 9.18 chs. to top of cliffs. Set flag ahead on random sec. line at N. or left rim of canyon, the vertical angle to which is + 7°. From SE. end of Base, the flag brs. N. 79°03'W.



- 37.04 Dist. triangulated = 37.04 chs. West.
- 40.00 Ascent from sec. cor. to flag = 300 ft.
- 80.06 Triangulation point at canyon rim. Continue line and measurement by chaining.
- 13.70 Set temp. 1/4 sec. cor.
- 25.20 Fall 10 lks. N. of the cor. of secs. 4, 5, 8 and 9. Thence, N. 89°56'E., on true line, bet. secs. 4. and 9. Over mountainous land, thru scattering timber and undergrowth. Desc. gradually over S. slope.
- 40.03 Ascend 70 ft., over SW. slope. Spur, slopes SE. Desc. 65 ft., over SE. slope, to Set an iron post, 3 ft. long, 1 in. in diam., 18 ins. in the ground to bed rock, supported in a mound of stone, for 1/4 sec. cor., marked on brass cap,

1/4 S 4  
S 9  
1923

from which, A pinyon, 8 ins. in diam., brs. S. 74°W., 270 lks. dist., marked 1/4 S 9 BT.

## BOOK 3647

38 Survey of part of Subdivision lines of T.29 N. R.10 W.

Chains.	A pinyon, 8 ins. in diam., brs. N. $69\frac{1}{4}^{\circ}$ W., 222 lks. dist., marked $\frac{1}{4}$ S 4 BT.
43.02	Descend 15 ft., over E. slope, to Triangulation point at N, or left rim of canyon, bearing NE. and SW. Enter canyon. Discontinue chaining. Measurement to sec. cor. by triangulation, hereinbefore described.
80.06	Descend 300 ft., over cliffs, facing SE. and S. The cor. of secs. 3, 4, 9 and 10. Land, mountainous. Soil, rocky, 4th rate. Timber, cedar and pinyon. Undergrowth, scrub oak, black brush, catclaw and yucca.
40.00	East, on true line, bet. secs. 3 and 10 ( $W \frac{1}{2}$ ). Over mountainous land, in canyon, thru scattering undergrowth. Desc. 547 ft., over steep, broken S. & SE. slopes, to Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in the ground to bed rock, deposit a stone, marked with a cross (X) at base of post, and raise a mound of stone around post, for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4} \text{ S } 3$ S 10. 1923 No bearing trees or bearing objects available. At 9.50 chs. E. from this $\frac{1}{4}$ sec. cor., the line intersects the right rim of the Colorado River Canyon, bearing NE. and SW., and the remainder of the sec. line falls in said canyon, and is unsurveyable. The river, course S. is about three quarters of a mile E. from this $\frac{1}{4}$ sec. cor. Land, mountainous. Soil, rocky, 4th rate. Timber, none. Undergrowth, black brush, cactus, catclaw and yucca.
40.00	From cor. of secs. 3, 4, 9 and 10, N. $0^{\circ} 2' W.$ , on random line, bet. secs. 3 and 4.
79.90	Set temp. $\frac{1}{4}$ sec. cor. Intersect the N. bdy. of the Tp., 37 lks. E. of the cor. of secs. 3, 4, 33 and 34, hereinbefore described. Thence, S. $0^{\circ} 18' E.$ , on true line, bet. secs. 3 and 4.
9.40	Over gently rolling bench land, thru scattering timber and undergrowth. Asc. gradually over NW. slope, to Enter nearly level land.
30.80	Enter rolling land. Desc. 60 ft., over SE. slope, to
39.90	Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, supported in a mound of stone, for $\frac{1}{4}$ sec. cor., marked on brass cap, $\frac{1}{4} \text{ S } 4 \text{ S } 3$ 1923 from which, A pinyon, 18 ins. in diam., brs. S. $20^{\circ} E.$ , 100 lks. dist., marked $\frac{1}{4}$ S 3 BT. A pinyon, 18 ins. in diam., brs. N. $85^{\circ} W.$ , 235 lks. dist., marked $\frac{1}{4}$ S 4 BT.
45.38	Continue over rolling land, thru scattering timber and undergrowth. Desc. 20 ft., over SE. slope, to Enter mountainous land. Desc. 115 ft., over SE. slope.
56.30	Wash., 20 lks. wide, course NE. Asc. 156 ft., over NE. slope.
71.10	North, or left rim of canyon, brs. E. and W. Enter canyon. Descend 316 ft., over steep S. slope, to
79.90	The cor. of secs. 3, 4, 9 and 10. Land, gently rolling, nearly level, rolling and mountainous. Soil, rocky, 4th rate. Timber, cedar and pinyon. Undergrowth, black brush, cactus and yucca.
	From true point for cor. of secs. 27, 28, 33 and 34, East, on true line, bet. secs. 27 and 34. Over mountainous land in canyon, thru scattering undergrowth. The sec. cor. point is inaccessible, and the $W \frac{1}{2}$ of line

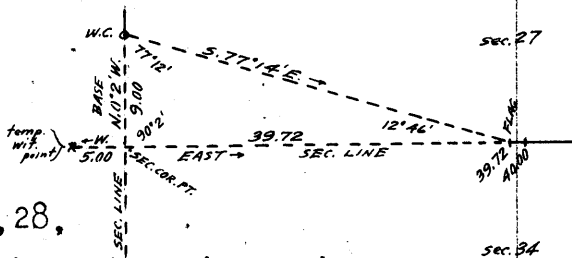


Chains.

bet. secs. 27 and 34 crosses precipitous slopes and cliffs in canyon; therefore, triangulate as described as follows:

From the temp. witness point, 5.00 chs. W. of the true sec. cor. point, line in a flag E. on the sec. line, bet. secs. 27 and 34.

From the W.C. to cor. of secs. 27, 28, 33 and 34, which is 9.00 chs. N. 0° 2' W. from cor. point, the flag brs. S. 77° 14' E.



15.00 Dist. triangulated = 39.72 chs. East. (Approx.) Bottom of canyon, course SE. about 1200 ft. below the W.C. to cor. of secs. 27, 28, 33 and 34.

30.00 Ascend about 600 ft., over cliffs to (Approx.) Top of cliffs, bearing NW and SE., and forming left rim of canyon. Leave canyon.

39.72 Ascend about 150 ft., over W. slope, to Triangulation point at end of spur, sloping SW. Continue line and measurement by chaining.

40.00 Ascend slightly over S. slope, to Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

S 27  
S 34  
1923

60.10 No bearing trees or bearing objects available. Ascend 114 ft., over steep S. slope, to Wash, 20 lks. wide, in gulch, course SW.

68.73 Ascend 255 ft., over precipitous W. slope, to Rim of gulch, brs. N. and S. Leave gulch. Ascend gradually over S. slope.

75.10 Descend 57 ft., over E. slope, to Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone, around post, for cor. of secs. 26, 27, 34 and 35, marked on brass cap.

T29N | R10W  
S27 | S26  
S34 | S35  
1923

80.00 No bearing trees or bearing objects available. Land, mountainous. Soil, rocky, 4th rate. Timber, none. Undergrowth, black brush, catclaw and cactus.

S. 0° 1' E., bet. secs. 34 and 35 (N.  $\frac{1}{2}$ ). Over mountainous land, thru. scattering undergrowth. Ascend gradually over E. slope, to

10.00 Wash, course E. Asc. 45 ft., over NE. slope. 20.00 Spur, slopes NE. From this point, a natural bridge in SE.  $\frac{1}{4}$  of sec. 26, brs. N. 60° 5' E. Desc. 125 ft. over SE. slope.

25.25 Wash, 20 lks. wide, course NE. Asc. 100 ft., over N. slope. 29.00 Ridge, brs. E. and W. From this point, the same natural bridge brs. N. 54° 37' E. Desc. 130 ft., over S. slope, to

37.00 Wash, 20 lks. wide, course SW. in gulch, heads about 10 chs. NE. Descend 40 ft., over W. slope, to

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 18 ins. in the ground to bed rock, deposit a stone marked with a cross (X) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

S34 | S35  
1923

No bearing trees or bearing objects available. The Colorado River, course SW. is about three quarters of a mile W. from this  $\frac{1}{4}$  sec. cor.

# BOOK 3647

40 Survey of part of Subdivision lines of T. 29 N., R. 10 W.

Chains.

About 25 chs. S. of this  $\frac{1}{4}$  sec. cor., the sec. line intersects the right rim of the Colorado River Canyon, beyond which are impassable cliffs in the canyon; therefore, the S.  $\frac{1}{2}$  of this sec. line is unsurveyable.

Land, mountainous.

Soil, sandy and rocky, 3rd and 4th rate. Timber, none.

Undergrowth, black brush, and catclaw.

From cor. of secs. 26, 27, 34 and 35.

N. 0° 1' W., bet. secs. 26 and 27.

Over mountainous land, thru scattering undergrowth.

Ascend gradually over E. slope, to

18.75 Wash, 20 lks. wide, course SE. Asc. 45 ft., over S. slope.

26.23 Spur, slopes E. Desc. 378 ft., over steep N. slope.

39.50 Wash, 20 lks. wide, course NE. Asc. slightly to

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

S27 | S26

1923

No bearing trees or bearing objects available.

Ascend 35 ft., over SE. slope.

46.76 Point of spur, slopes E. Desc. 181 ft. over NE. slope.

53.72 Wash, 10 lks. wide, course E. Asc. 149 ft., over SE. slope.

70.51 Spur, slopes E. Desc. 93 ft., over N. slope.

73.00 Ascend 30 ft., over SE. slope.

75.10 Descend 69 ft., over NE. slope, to

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 10 ins. in the ground to bed rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post, for cor. of secs. 22, 23, 26 and 27, marked on brass cap,

T29N | R10W

S22 | S23

S27 | S26

1923

No bearing trees or bearing objects available.

Land, mountainous.

Soil, rocky and sandy, 3rd rate. Timber, none.

Undergrowth, catclaw and black brush.

West, on random line, bet. secs. 22 and 27.

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

80.00 Intersect the cor. of secs. 21, 22, 27 and 28.

Thence,

East, on true line, bet. secs. 22 and 27.

Over mountainous land, thru scattering undergrowth.

Descend 17 ft., over NE. slope.

3.00 Head of wash, 10 lks. wide, course N. Asc. 70 ft., over NW. slope.

8.43 Point of spur, slopes N. Desc. 30 ft., over NE. slope.

14.43 Head of wash, course NW. Asc. 90 ft., over W. slope, to

19.80 Spur, slopes SW. Asc. 160 ft., over S. and SW. slopes, to

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, deposit a stone marked with a cross (x) at base of post, for  $\frac{1}{4}$  sec. cor., marked on brass cap,

S 22

S 27

1923

No bearing trees or bearing objects available.

Ascend 23 ft., over W. slope.

41.97 Spur, slopes SW. Desc. 200 ft., over SE. slope.

58.70 Wash, 20 lks. wide, course NE. Asc. 154 ft., over NW. slope.

62.13 Spur, slopes N. Desc. 31 ft., over NE. slope.

65.00 Wash, 10 lks. wide, course N. Asc. 85 ft., over NW. slope.

78.00 Spur, slopes N. Desc. 20 ft., over NE. slope, to

80.00 The cor. of secs. 22, 23, 26 and 27.

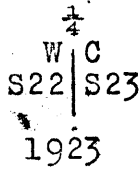
Land, mountainous. Soil, sandy and rocky, 3rd rate.

Timber, none. Undergrowth, black brush and cactus.

Survey of part of Subdivision lines of T.29 N., R. 10 W. 41

Chains.

N.0°01'W., bet.secs. 22 and 23 (S. $\frac{1}{2}$ ).  
 Over mountainous land, thru.scattering undergrowth.  
 Descend 116 ft., over NE.slope, to  
 11.86 Wash, 20 lks.wide, course NE., near head.  
 Descend 110 ft., over E.slope, to  
 20.50 Wash, 10 lks.wide, course E. Asc.145 ft.  
 22.00 Point of spur, slopes E. Desc.60 ft., over NE.slope.  
 25.00 Wash, 10 lks.wide, course SE. Asc.74 ft., over SE.slope.  
 30.00 Point of spur, slopes NE. Desc.52 ft., over N.slope, to  
 39.00 Top of cliff about 400 ft.high, bearing NE, and SW., facing  
 NW., and forming right rim of the Colorado River Canyon.  
 Set an iron post, 3 ft.long, 1 in. in diam., 4 ins.in the  
 ground to bed rock, deposit a stone, marked with a cross  
 (x) at base of post, and raise a mound of stone, around  
 post, for witness cor.to  $\frac{1}{4}$  sec.cor., marked on brass  
 cap,



40.00 No bearing trees or bearing objects available.  
 True point for  $\frac{1}{4}$  sec.cor.falls on face of cliff, where it is  
 inaccessible.  
 The N. $\frac{1}{2}$  of this line falls in the Colorado River Canyon,  
 and is unsurveyable.  
 Land, mountainous.  
 Soil, rocky and sandy, 3rd rate. Timber, none.  
 Undergrowth, black brush and cactus.

From cor.of secs. 26, 27, 34 and 35,  
 East, on true line, bet. secs.26 and 35 (W. $\frac{1}{2}$ ).  
 Over mountainous land, in side canyon, thru.scattering  
 undergrowth. Desc.85 ft., over E.slope.  
 6.80 Wash, 20 lks.wide, course SE., in bottom of canyon.  
 Ascend 30 ft., over SW.slope.  
 7.80 Descend 256 ft., over steep broken SE.slope, to  
 15.00 Same wash, 30 lks.wide, course NE.in bottom of canyon.  
 Descend 120 ft., over steep N.and NE.slopes, to  
 27.10 Wash, 20 lks.wide, course NE.  
 Descend 165 ft., over NE. slope, to  
 39.10 Bend in wash, 30 lks.wide, course NE.from NW. in bottom  
 of canyon, joined at this point by wash from SW.  
 Ascend 55 ft., over steep NW.slope, to  
 40.00 Mark a cross (x) on surface rock, at exact cor.point,  $\frac{1}{4}$  S  
 26, N.of cross, and S 35 S of cross for  $\frac{1}{4}$  sec.cor.  
 No bearing trees or bearing objects available.  
 Raise a mound of stone 4 ft.base, 3 ft.high, N, of cor.  
 Beyond this  $\frac{1}{4}$  sec.cor., the sec.line passes over cliffs  
 at junction of side canyon with the Colorado River  
 Canyon, and the E. $\frac{1}{2}$  of the line is therefore unsurvey-  
 able.  
 The Colorado River, course SW. is about one-half mile E.from  
 this  $\frac{1}{4}$  sec.cor.  
 Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, none.  
 Undergrowth, black brush and cactus.

From cor.of secs.22, 23, 26 and 27,  
 East, on true line, bet. secs.23 and 26.  
 Over mountainous land, thru.scattering undergrowth.  
 Descend 32 ft., over NE.slope.  
 1.96 Wash, 10 lks.wide, course N. Asc.78 ft., over NW.slope.  
 9.95 Spur, slopes N. Desc.266 ft., over NE.slope.  
 27.00 Rocky wash, 30 lks.wide, in gulch, course NE.  
 Ascend 207 ft., over NW.slope, to  
 40.00 Set an iron post, 3 ft.long, 1 in.in diam., 8 ins.in the  
 ground, to bed rock, deposit a stone, marked with a  
 cross (x) at base of post, and raise a mound of stone,  
 around post, for  $\frac{1}{4}$  sec.cor., marked on brass cap,

# BOOK 3647

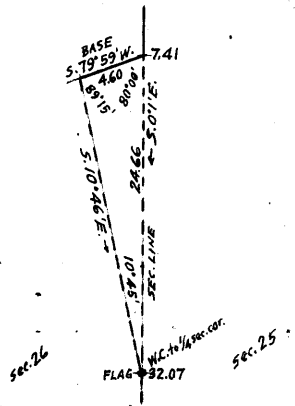
42 Survey of part of Subdivision lines of T. 29 N., R. 10 W.

Chains.

$\frac{1}{4}$  S 23  
S 26  
1923

No bearing trees available.  
The old "Bonnie" mining tunnel brs.S. about 15 chs.dist. from this  $\frac{1}{4}$  sec.cor. Asc.97 ft.,over NW.slope.  
54.89 Spur,slopes N. Desc.90 ft.,over E.slope,to  
68.55 Top of cliff, about 500 ft.high,bearing N and S.,facing E.,and forming right rim of Colorado River Canyon.  
Enter said canyon. Desc.over cliffs,to  
75.00 Gulch, course NE.  
Ascend 175 ft., over precipitous N.slope,to  
80.00 True point for cor.of secs. 23,24,25 and 26, falls on face of small cliff,where it is impracticable to monument the cor.; therefore, establish witness cor.at 0.50 chs.E., as follows: Set a stone,18x8x8 ins.,12 ins. in the ground,marked 1 notch on E.face,2 notches on S.face, and WC.on W.face,for WC.to cor.of secs.23,24,25 and 26. No bearing trees or bearing objects available.  
Raise a mound of stone,3 ft.base,2 ft.high,W.of cor. North and East from this cor.,the sec.lines are unsurveyable,as they cross impassable cliffs in the Colorado River Canyon. The Colorado River,course S.,is about  $\frac{1}{2}$  mile E.,and about 2000 ft.below this sec.cor.,and about  $\frac{1}{2}$  mile N.; the river, course SE.is about 1600 ft.below.  
Land,mountainous.  
Soil,rocky, 4th rate. Timber,none.  
Undergrowth,black brush and cactus.

From true point for cor.of secs.23,24,25 and 26, S.0°1'E.,bet.secs.25 and 26 (N. $\frac{1}{2}$ ).  
Over mountainous land,along W.side of Colorado River Canyon,thru.scattering undergrowth.  
Ascend 76 ft.,over N.slope.  
7.41 Beyond this point,the sec.line crosses cliffs and precipitous slopes,and chaining is impracticable.Triangulate as follows:



Measure a Base,S.79°59'W.,4.60 chs.  
This is as long a Base as it is practicable to chain.  
Set flag ahead on sec.line.  
From SW.end of Base,the flag brs. S.10°46'E.  
From NE.end of Base,the vertical angle to flag is 0°.  
Dist.on sec.line = 7.41 chs.S.0°1'E.  
Dist.triangulated=24.66 chs.S.0°1'E.  
Total distance =32.07 chs.S.0°1'E.

17.00 (Approx.) Bottom of gulch,course NE.  
Ascend over cliffs and precipitous NE.and E.slopes,to  
32.07 Triangulation point on ledge,bearing NE and SW. The point for  $\frac{1}{4}$  sec.cor.being inaccessible,and it being impossible to reach a point closer thereto,establish witness cor.to  $\frac{1}{4}$  sec.cor.at the 32.07 ch.station,as follows:  
Mark a cross (x) on top of a rock,12ft.x18ft.x2 ft.on ledge,and WC  $\frac{1}{4}$  S of cross,for witness cor.to  $\frac{1}{4}$  sec.cor.  
No bearing trees or bearing objects available.  
Raise a mound of stone, 3 ft.base, 2 ft.high, W.of witness cor.  
Descend over cliffs, facing SE.  
40.00 True point for  $\frac{1}{4}$  sec.cor. falls on face of cliffs,where it is inaccessible.  
The S. $\frac{1}{2}$  of line is unsurveyable,as no point thereon is accessible.  
The Colorado River,course SW.is about one-half mile E.from  $\frac{1}{4}$  sec.cor.point.  
Land,mountainous.. Soil,rocky,4th rate.  
Timber,none.  
Undergrowth, black brush.

Survey of part of Subdivision lines of T.29 N., R. 10 W. 43

Chains.

Final Field Test of Buff and Buff Transit No.10125, by  
Benjamin J. Kinsey, U.S. Transitman.

Feb. 17, 1923: Examine the adjustment of the transit, and correct all errors, then test the solar apparatus as follows:

At camp, near center of sec. 23, T. 29 N., R. 11 W., Gila and Salt River Base and Meridian, Arizona, in latitude  $35^{\circ} 54' N.$ , longitude,  $113^{\circ} 27' W.$ , at 8h. 0m. a.m., l.m.t., set off  $35^{\circ} 54' N.$  on the lat. arc;  $12^{\circ} 8\frac{1}{2}' S.$  on the decl. arc, and determine a meridian with the solar, which agrees with the true meridian determined by Polaris observation at this point on December 21, 1922, as described in Book "F" of this group.

At app. noon, set off  $12^{\circ} 6\frac{1}{2}' S.$  on the decl. arc, and observe the sun on the meridian. The resulting reading of the lat. arc is  $35^{\circ} 54' N.$

At 4h. 0m. p.m., l.m.t., set off  $35^{\circ} 54' N.$  on the lat. arc;  $12^{\circ} 1\frac{1}{2}' S.$  on the decl. arc, and determine a meridian with the solar, which agrees with the true meridian.

From the results of the above described tests, conclude that the instrument is in satisfactory adjustment at the conclusion of the surveys executed under Group 74, Ariz., with said instrument.

Final Field Test of Buff and Buff Transit No. 9977, by  
William E. Hiester, U.S. Surveyor.

July, 15, 1923: Examine the adjustment of the transit, and correct all errors; then test the solar apparatus, as follows:

At camp, in the SW.  $\frac{1}{4}$  of sec. 13, T. 31 N., R. 13 W., Gila and Salt River Base and Meridian, Arizona, in latitude  $36^{\circ} 5' N.$ ; longitude,  $113^{\circ} 39' W.$ , at 8h. 0m. a.m., l.m.t., set off  $36^{\circ} 5' N.$  on the lat. arc;  $21^{\circ} 38\frac{1}{2}' N.$  on the decl. arc, and determine a meridian with the solar, which agrees with the true meridian determined by Polaris observation at this point with Young and Sons light mountain transit No. 8532 on June 8, 1923, as described in notes of T. 31 N., R. 13 W., Group 73, Arizona.

At app. noon, set off  $21^{\circ} 35\frac{1}{2}' N.$  on the decl. arc, and observe the sun on the meridian. The resulting reading of the lat. arc is  $36^{\circ} 5' N.$

At 4h. 0m. p.m., l.m.t., set off  $36^{\circ} 5' N.$  on the lat. arc;  $21^{\circ} 35\frac{1}{2}' N.$  on the decl. arc, and determine a meridian with the solar, which agrees with the true meridian.

From the results of the above described tests, conclude that the instrument is in satisfactory adjustment at the conclusion of surveys executed under Group 74, Arizona, with said instrument.

Boundaries of that part of T.29 N., R.10 W. surveyed under  
Group No.74, Arizona.

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Latitudes, departures, and Closing Errors.  
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Lines designated.	True course.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
South boundary (7th.Std.Par.N.)	West,	240.00				240.00
West boundary,	North,	480.00	480.00			
North boundary,	East,	240.00			240.00	
Subdivisional boundary,	S.0°18'E.	79.90		79.90	.42	
	S.0°2'E.	240.00		240.00	.14	
	East,	80.00			80.00	
	S.0°1'E.	80.00		80.00	.02	
	West, S.0°2'E.	80.00 80.00		80.00 80.00	.05	80.00
Convergency,					.28	
Totals,			480.00 479.90	479.90	320.91 320.00	320.00
	Error in latitude.		0.10			
	Error in departure.				0.91	

#### GENERAL DESCRIPTION.

This township is mountainous, the most of the East half being situated in the Colorado River Canyon, which portion is unsurveyable.

The surveyed portion is broken by side canyons to the Colorado River Canyon, and in small scattered areas between the canyons, there is gently rolling and nearly level surface.

The soil is rocky, 3rd and 4th rate.

The timber, consisting of cedar and pinyon, in dense and scattering growths covers most of the west half of the township. The remainder of the township has no timber.

The undergrowth, consisting of black brush, sagebrush, catclaw and cactus, in dense and scattering growths, is prevalent in all secs.

The only watercourse carrying a permanent flow of water is the Colorado River, course S., thru the unsurveyed portion of the township.

Shanley Spring in sec.28 is the only spring in the surveyed area.

There are indications of valuable mineral deposits in secs. 26 and 28.

There are no settlers, no roads or improvements.

Several trails are the only means of travel.

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4-680

FIELD ASSISTANTS. to

Benjamin J. Kinsey, U. S. Transitman,

NAMES.	CAPACITY.
Henry Hiester.	1st chainman.
Hale Pearce.	2nd chainman.
Henry McKelvey.	cornerman.
James Arthur.	cornerman.
Guy Semple.	axman.
Thomas Tennison.	flagman.

## CERTIFICATE OF UNITED STATES TRANSITMAN.

I, Benjamin J. Kinsey, U.S. Transitman, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 74, Arizona, bearing date of the 12th day of October, 1916, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the  
7th Standard Parallel North, in Range 10 West, and  
Subdivision lines of

TOWNSHIP 29 NORTH, RANGE 10 WEST,

of the Gila and Salt  
River Base and Meridian, in the State of Arizona, which are represented in and by diagram on page 1 hereof, the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 74, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Place: Phoenix Ariz.  
 Date: Nov. 1, 1927.

*Benjamin J. Kinsey*  
 U.S. Transitman.

**APPROVAL**

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

The 12th, October, 1916

The foregoing field notes of the survey of       

executed by         
 under his special instructions dated       , 19      , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

        
 U. S. Surveyor General.

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

        
 U. S. Surveyor General.



4-680

FIELD ASSISTANTS. to

William E. Hiester, U. S. Surveyor.

NAMES.	CAPACITY.
John Boggs,	1st chainman,
Frank Vaile,	2nd chainman,
Thomas Tennison,	2nd chainman,
James Arthur,	cornerman,
Lowell McAllister,	cornerman,
Cray Fullerton,	cornerman,
Guy Semple,	axman,
Earl Laub,	axman,
Reed Hunt,	flagman,
Clarence Laub,	flagman.

CERTIFICATE OF UNITED STATES SURVEYOR.

I, William E. Hiester, U. S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 74, Arizona, bearing date of the 12th day of October, 1916, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the North boundary, and Subdivision lines of

TOWNSHIP 29 NORTH, RANGE 10 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona, and by diagram on page 1 hereof the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 74, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Place: Hurricane Stak. Date: Jan 24, 1925. Signature: William E. Hiester, U. S. Surveyor.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, FEB 16 1925, 1925.

The foregoing field notes of the survey of the 7th Standard Parallel North, thru Range 10 West, the South boundary, and the Subdivision lines of TOWNSHIP 29 NORTH, RANGE 10 WEST,

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

executed by William E. Hiester, U. S. Surveyor, and Benjamin J. Kinsey, U. S. Transitman, under his special instructions dated October 12, 1916, for Grp. 74, Arizona, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Signature: Charles M. Douglas, U. S. Surveyor General.

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