

Accepted G.L.O. letter "E" Nov. 19 - 1913

# FIELD NOTES

OF THE SURVEY OF THE

East Boundary of Township 42 North, Range 15 West,

East boundary Township 41 North, Range 15 West,

10th Standard Parallel North, through Range 15 West,

Portion West Bdy. Township 41 North, Range 15 West,

West Boundary Township 40 North, Range 15 West,

Portion of South Bdy. Township 40 North, Range 15 West,

South Boundary Township 40 North, Range 16 West,

South Boundary Township 39 North, Range 16 West,

East Boundary Township 39 North, Range 16 West,

Of the Gila and Salt River Base and Meridian,

In the State of Arizona,

EXECUTED BY

Thomas B. Matthews,

In the capacity of U. S. Surveyor, under instructions dated June 6, 1912, issued by the United States Surveyor General to govern surveys included in Group No. 21, which were approved by the Commissioner of the General Land Office, June 20, 1912, pursuant to authority contained in the Act of Congress dated August 24, 1912.

Survey commenced November 30, 1912.

Survey completed December 9th, 1912.

2011 2011

# INDEX DIAGRAM.

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BOOK 2445

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State Boundary

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Explanation

- This Book. 2445
- See " E , Group 21 . 2449
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N E V A D A

State Boundary

Book "E."

Book "D."

Retracement of Mile 311 Utah-Arizona State Boundary. 1.

Chains.

Survey commenced Nov.19, 1912, and executed by Thomas B. Matthews, U.S. Surveyor, with a Young & Son's Light Mountain Transit, No. 8480, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of latitude and declination arcs of the solar.

The instrument was approved by Frank M. Johnson, Supervisor of Surveys, on Oct. 28, 1912, conditional upon satisfactory field test, which last occurred on the meridian at the Surveyor General's office at Phoenix, Arizona, Nov. 12, 1912.

I examine the adjustment of the transit and correct the levels; then to test the solar apparatus by comparing its indication resulting from solar observation made during a.m. and p.m. hours, with a meridian determined by observations on Polaris, I proceed as follows:

At the witness cor. to 10 mile cor. on Utah-Arizona State Bdy., which is a limestone 30x10x10 ins., firmly set in a mound of stone, and marked and witnessed as described by the Surveyor-General, the same being at Latitude 37° N.; longitude, 113° 51' 54" W., I set off 37° N. on the latitude arc; 19° 30' S. on the decl. arc; and at 4h. 15m. p.m., l.m.t., determine with the solar a meridian, and mark a point thereon, on a stone in place about 10 chs. N. of my station.

At 7h. 30m., p.m., l.m.t., I observe Polaris in accordance with Manual or Instructions, and mark a point in the line thus determined by cutting a cross (x) on a rock in place about 10 chs. N. of my station.

Nov. 19, 1912.

Nov. 20, 1912.

At 7h. 30m. a.m., l.m.t., I lay off the azimuth of Polaris 45' to the west, which line intersects the point marked on the meridian as determined by solar observation, Nov. 19.

At 8h. 0m. a.m., l.m.t., I set off 37° N. on the latitude arc; 19° 39' S. on the decl. arc. The meridian thus determined with the solar intersects the point marked on the meridian determined Nov. 19.

The solar apparatus by both p.m. and a.m. observations defining position for meridian the same as that established by Polaris observation, I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8h. 10m. a.m., l.m.t. is N. 16° 30' W.; the angle thus determined gives the mag. decl. 16° 30' E.

From the witness corner to 10 mile cor., Utah-Arizona State Bdy. above described; I retrace

East on random line along 11th mile, Utah-Arizona State Bdy.

Set temp. closing cor.

5.93  
65.25

At 1 lk. S of 11 mile cor., which is a limestone 12x10x12 ins. above ground, firmly set, marked and witnessed as described by the Surveyor General,

Thence I run,

West on true line along 11th mile of Utah-Arizona State Bdy., ascending east slope, over very rocky land.

18.00  
46.00

Top of high spur, bears N. and S.; descend 600 ft.

Bottom of rocky canon, dry wash, 15 lks. wide, course N. 45° W.; ascend along N. slope.

50.00  
55.00

Top of spur, descend NW. slope, 300 ft.

Bottom of canyon, dry wash, 10 lks. wide, course north; ascend east slope 500 ft.

59.30

Set an iron post 3/4 ft. long, 3 ins. in diam., 24 ins. in ground for closing cor. to T. 42 N., Rs. 14 and 15 W., with a brass cap, marked

C C S of center,  
T 42 N in S. half;

2. Retracement of Mile 311, Utah-Arizona State Boundary.

Chains.

S 31 R 14 W in SE.,  
 S 36, R 15 W in SW. quadrant; raise a mound  
 of stone 4 ft. base, 3 ft. high, S. of cor.  
 64.00 Top of ascent; thence along rocky N. slope.  
 65.25 The witness corner to 10 mile corner, hereinbefore de-  
 scribed.  
 Land, broken, mountainous.  
 Soil, very rocky and thin; good bunch grass among the  
 rock,  
 No timber.

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 East Boundary of Township 42 North, Range 15 West.  
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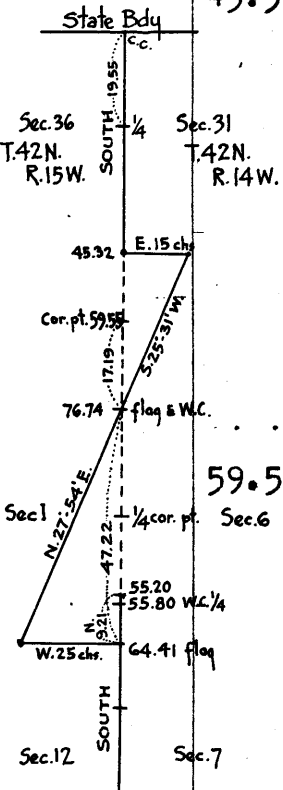
At the closing corner of T. 42 N., Rs. 14 and 15 W., I set  
 off 19°44' S. on the decl. arc, and at 11h. 45m. 41s., 1.m.  
 t., I observe the sun on the meridian; the resultant  
 lat. is 36° 59' N. or within 1' of the proper lat.  
 From closing corner already described, I run south, bet.  
 secs. 31 and 36, ascending 500 ft. along steep, rocky  
 NE. slope of Beaver Dam Mountain.  
 17.40 Top of ridge, slopes north 10° W., thence along west slope.  
 19.55 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  
 $\frac{1}{4}$  S 36 in W., and  
 S 31 in E. half; raise a mound of stone 3  
 ft. base, 3 ft. high, W. of cor.  
 22.00 Descend rocky south slope, 600 ft. into canyon.  
 34.00 Bottom of canyon, dry wash 20 lks. wide, course W.; ascend  
 N. slope, 500 ft.  
 42.65 Top of spur, slopes west; descend rocky south slope, 100  
 ft.  
 45.32 Edge of steep rocky canyon 1000 ft. deep, impractical to  
 chain across same. To determine the distance across  
 same I set a flag on line on rocky spur on opposite  
 side of canyon; thence measure a base line, east 15  
 chs. to a point where the flag bears S. 25° 31' W.; from  
 the flag the east end of the base bears N. 25° 31' E.; by  
 separate measurement of each angle they are found re-  
 spectively 90°, 64° 29' and 25° 31' their sum being 180°  
 I compute the distance around the canyon as follows:

15 chs.  $\frac{15}{\tan. 25^\circ 31'}$  = 31.42 chs., which makes total distance  
 (45.32 chs. + 31.42 chs.) = 76.74 chs. to W.C. to cor.  
 to Tps. 41 and 42 N., Rs. 14 and 15 W., 17.19 chs. S. of  
 cor. point, at

59.55 The point for the cor. of Tps. 41 and 42 N., Rs. 14 and 15 W.  
 inaccessible land, broken, mountainous; soil, rocky,  
 very thin.

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 East Boundary of Township 41 North, Range 15 West.  
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From the true point for the cor. of Tps. 42 N., Rs. 14 and  
 15 W., south on triangulation noted above, bet.  
 secs. 1 and 6, T. 41 N., Rs. 14 and 15 W., ascending 700  
 ft. along steep rocky side of Beaver Dam Mountain.  
 17.19 Top of narrow rocky spur, brs. NW. and SE., pt. where I  
 set flag for above triangulation.  
 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for witness cor. to cor. of Tps. 41 and 42  
 N., Rs. 14 and 15 W., with a brass cap, marked  
 center W C, S of Center,  
 T 41 N in S., and  
 R 15 W in West half,  
 S 36 in NW.,  
 S 31 in NE.,  
 S 6 in SE., and



East Boundary of Township 41 North, Range 15 West, 3.

Chains.

S 1 in SW. quadrants, and raise mound of stone south of cor. Descend SW. slope of Beaver Dam Mountain 3500 ft.; impractical to chain down same; to determine the distance down same, I set a flag on line in level valley at foot of mountain, then measure a base from said flag west 25.00 chs. to a point from which the witness cor. to Ts. 41 and 42 N., Rs. 14 and 15 W. bears N. 27° 54' E. I compute the distance down the mountain said as follows:

tan. 27° 54' or log. 25 = 1.397940  
" tan. 27° 54' = 9.723849  
1.674096 = log. 47.22 chs.

which makes total distance, Tp. cor. pt. to flag at ft. of Mt. (17.19 chs. + 47.22 chs.) = 64.41 chs. from which pt. I run back N. 9.21 chs. to

55.20 Ft. of steep descent, SW. slope of Beaver Dam Mountain. Thence I run, south, continuing measurements from cor. pt. for Tp. cor. Tps. 41 and 42 N., Rs. 14 and 15 W.

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

W C 1/4 in N. half;  
S 6 in SE., and  
S 1 in SW. quadrants; raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.

60.00 Descend SW. slope 100 ft. Foot of Beaver Dam Mountain, thence over level valley land, through shellac brush, 1 to 2 ft. high. Rocky soil, 2 to 3 ft. deep.

64.41 Pt. where I set flag for above triangulation. Dry wash, 20 lks. wide, course west, ascend 400 ft.

65.00 Top of ridge, brs. E. and W.; descend SW. slope, 400 ft.

73.57 Point for cor. of secs. 1, 6, 7 and 12, falls on solid rock; impractical to set iron post, cut cross (x) on rock at exact cor. point, and raise mound of stone 3 ft. base, 3 ft. high, west of cor. point.

Nov. 20, 1912.

Nov. 21. At 9h. 30m. A.M. I set off 36° 58 1/2' N. on the lat. arc; 19° 55' S. on the decl. arc, and determine a meridian with the solar at the point for cor. of secs. 1, 6, 7 and 12 above described.

Thence I run, South, bet. secs. 7 and 12, descending SW. slope, over rocky land, through shellac brush 2 to 3 ft. high; soil, rocky.

6.00 Foot of descent; thence over level rocky valley land.

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

W C S of center,  
T 41 N in N. half,  
R 15 W, S 1 in NW.,  
R 14 W, S 6 in NE.,  
S 7 in SE., and  
S 12 in SW. quadrants, and raise mound of

17.50 stone 3 ft. base, 3 ft. high, W. of cor. Dry wash, 100 lks. wide, course W.; ascend 800 ft. over rocky mountain side.

36.46 Top of rocky ridge, bears N. 45° W., and S. 45° E.; descend 500 ft. over very rocky mountain side.

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

1/4 S 12 in W., and  
S 7 in E. half; raise mound of stone 3 ft. base, 2 ft. high, W. of cor.

41.00 Dry wash, 15 lks. wide, course S. 80° W.; ascend NW. slope, 400 ft.

## BOOK 2445

4 East boundary of Township 41 North, Range 15 West.

Chains.

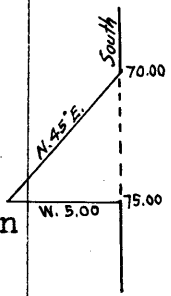
- 50.00 Top of rocky spur, slopes W., descending SW. slope, 500 ft.  
 57.00 Dry wash, 10 lks. wide, course W.; ascend 450 ft.  
 70.50 Top of spur slopes W.; descend 400 ft.  
 77.00 Dry wash, 10 lks. wide, course N. 70° W.; ascend N. slope  
 500 ft.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of secs. 7, 12, 13 and 18, with a  
 brass cap, marked  
     T 41 N in N. half,  
     R 15 W S 12 in NW.,  
     R 14 W, S 7 in NE.,  
     S 18 in SE., and  
     S 13 in SW. quadrants; raise mound of stone  
     3 ft. base, 3 ft. high, W. of cor.  
 Land, rough, mountainous.  
 Soil, thin, sandy loam.  
 No timber.  
 Undergrowth, scattering shellac brush.
- 
- South, bet. secs. 13 and 18.  
 Ascend rocky NE. slope 200 ft. Soil, rocky, through shel-  
 lac brush, 2 to 3 ft. high.  
 3.50 Top of rocky spur, slopes NW.; descend steep rocky S.  
 slope, 800 ft.  
 12.00 Dry wash, 20 lks. wide, course W.; thence over level, rocky  
 land.  
 15.00 Ascend N. slope, 75 ft.  
 20.00 Top of spur, slopes W.; descend 75 ft.  
 25.00 Dry wash, 10 lks. wide, course W.; ascend 50 ft.  
 27.00 Top of small spur, slopes west; descend gentle slope to S.  
 31.00 Dry wash, 10 lks. wide, course W.  
 34.00 Top of low spur, slopes W.; descend.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  
      $\frac{1}{4}$  S 13 in W., and  
     S 18 in E. half; raise a mound of stone  
     3 ft. base, 3 ft. high, W. of cor.; thence over rolling,  
     rocky land.  
 47.00 Dry gravelly wash, 60 lks. wide, course W.  
 50.00 Dry wash, 20 lks. wide, course W.  
 52.00 Dry wash, 15 lks. wide, course W.  
 62.00 Dry wash, 75 lks. wide, course N. 45° W.  
 68.00 Dry wash, 15 lks. wide, course N. 40° W.  
 70.00 Rocky butte 200 ft. high, bears W. 5 chs.  
 79.90 Edge of bank, 15 ft. high, bears N. 45° E. and S. 45° W.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of secs. 13, 18, 19 and 24, with  
 brass cap, marked,  
     T 41 N in N. half;  
     R 15 W, S 13 in NW.,  
     R 14 W S 18 in NE.,  
     S 19 in SE., and  
     S 24 in SW. quadrant, and raise a mound of  
     stone 4 ft. base, 3 ft. high, W. of cor.  
 N. 25 chs. mountainous.  
 S. 55 chs. rolling, soil, rocky.  
 Sandy loam, coarse texture  $\frac{1}{2}$  to 2 ft. deep.  
 Undergrowth, shellac brush and scattering bunch grass.  
 Nov. 21, 1912.
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- Nov. 22, 1912. At 9h. 30m. a.m., l.m.t., I set off 36°  
 56 $\frac{1}{2}$ ' N. on the lat. arc; 20° 8' S. on the decl. arc, and de-  
 termine a meridian with the solar at the above de-  
 scribed cor.  
 Thence I run,  
 South, bet. secs. 19 and 24, over rolling, rocky land, throo  
 shellac brush, 2 to 3 ft. high.  
 0.50 Dry wash, 3 lks. wide, course S. 45° W.

East boundary of Township 41 North Range 15 West. 5.

Chains.  
 4.50 Dry wash, 2 lks.wide, course S.45°W.  
 8.50 Dry wash, 2 lks.wide, course S.45°W..  
 12.00 Dry wash, 12 lks.wide, course S.70°W.  
 14.50 Dry wash, 40 lks.wide, course S.40°W.  
 19.50 Dry wash, 20 lks.wide, course S.40°W.  
 26.00 Dry wash, 40 lks.wide, course S.30°W.  
 34.50 Dry wash, 10 lks.wide, course W.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec.cor., with a brass cap, marked  $\frac{1}{4}$  S 24 in W., and S 19 in E.half; raise a mound of stone 3 ft.base, 2 ft. high,W.of cor.  
 47.30 Dry wash, 15 lks.wide, course S.45°W.  
 53.20 Dry wash, 50 lks.wide, cpurse S.30°W.  
 56.00 Dry wash, 3 lks.wide, course S.80°W.  
 58.60 Descend 40 ft. to  
 59.00 Dry wash, 100 lks.wide, course S.80°W.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor.of secs. 19,24,25 and 30, with a brass cap, marked  
 T 41 N in N.half;  
 R 15 W S 24 in NW.,  
 R 14 W S 19 in NE.,  
 S 30 in SE., and  
 S 25 in SW. quadrants; raise a mound of stone 3 ft.base, 3 ft. high,W.of cor.  
 Land, rolling and rocky.  
 Soil, sandy loam, coarse texture.  
 Undergrowth, shellac brush.

South, bet. secs.25 and 30.

Over rolling, rocky land, along foot of Beaver Dam Mountains, through shellac brush, 2 to 3 ft. high.  
 29.00 Descend 70 ft. along steep rocky side of canyon.  
 31.50 Dry wash, 5 lks.wide, course S.30°W., thence along steep rocky W. slope.  
 39.00 Dry wash, 3 lks.wide, course S.80°W.  
 40.00 Set iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec.cor., with a brass cap, marked  $\frac{1}{4}$  S 25 in W., and S 30 in E.half; raise a mound of stone 3 ft. base, 3 ft. high,W.of cor.  
 54.00 Dry wash. 10 lks.wide, course W.; ascend.  
 55.50 Top of rocky spur, slopes west.  
 56.00 Descend steep rocky slope,75 ft.  
 66.00 Bottom of descent, thence along steep rocky south slope.  
 70.00 Right edge of canyon, through which Virgin River flows, canyon, 250 ft. deep, course west. To determine the distance across, I set a flag on line on left bank of canyon, and erect a flag on line at the 70.00 ch. point. I then measure a base W. from flag on left bank of river 5 chs. to a point from which the flag on right bank bears N. 45°E. I compute the distance across the canyon as follows:  $5.00 \div \tan.45^\circ = 5.00 \div 1 = 5.00$  chs. Width of water 2 chains.  
 75.00 Left edge of canyon, ascend steep rocky N.slope, 600 ft.  
 80.00 Set iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor.of secs. 25,30, 31 and 36, with a brass cap, marked  
 T 41 N in N.half,  
 R 15 W S 25 in NW.,  
 R 14 W S 30 in NE.,,  
 S 31 in SE., and  
 S. 36 in SW. quadrants, and raise a mound of stone 3 ft.base, 3 ft. high,W.of cor.  
 Land, rough and mountainous.  
 Soil, very rocky and thin, coarse texture.  
 Undergrowth, scattering shellac brush.



Nov. 22, 1912.



6. East boundary of Township 41 North, Range 15 West.

Chains.

Nov. 23, 1912. At 9h.0m. a.m., l.m.t., I set off 36°55' N. on the lat. arc; 20°20½' S. on the decl. arc, and determine a meridian with the solar at the above described corner.

Thence I run,  
 South, bet. secs. 31 and 36, ascending steep rocky N. slope, along NW. ft. of Virgin Mts.

5.00 Top of rocky spur, slopes N. 80° W.; descend 100 ft. into small canyon.

8.00 Bottom of canyon, dry wash 5 lks. wide, course W.; ascend N. slope, 500 ft.

15.00 Top of spur, slopes N. 45° W.; thence descend, 200 ft.

28.00 Descend steep rocky S. slope, 600 ft.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., with a brass cap, marked ¼ S 36 in W., and S 31 in E. half; raise mound of stone 3 ft. base, 3 ft. high, W. of cor.

40.75 Dry wash, 75 lks. wide, course N. 70° W.; ascend NW. slope 200 ft.

46.00 Top of spur, slopes W.; descend 100 ft.

53.00 Dry wash, 10 lks. wide, course W., thence along rocky W. slope.

60.00 Dry wash, 15 lks. wide, course W.

67.00 Dry wash, 50 lks. wide, course N. 80° W.; ascend 100 ft.

73.00 Top of rocky spur, slopes W.; descend SW. slope, 100 ft.

80.00 Point for stand. township cor. of T. 41 N., Rs. 14 and 15 W. falls on solid bed of rock. I cut a cross (x) in the rock, and raise mound of stone 3 ft. base, 3 ft. high, N. of cor. point.

Land, rough, mountainous.  
 Soil, very rocky and thin, sandy, coarse texture.  
 Undergrowth, scattering shellac brush.

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 10th. Standard Parallel North, through Range 15 West.  
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At pt. for the Standard cor. of T. 41 N., Rs. 14 and 15 W., above described, I lay off from the meridian an angle of 90° from north to west on tangent S. of sec. 36.

Descend gentle NW. slope at foot of Virgin Mountains, through shellac brush, 2 to 3 ft. high. Soil, rocky.

0.15 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for witness cor. to standard cor. of T. 41 N., Rs. 14 and 15 W., with a brass cap, marked  
 W C S of center,  
 T 41 N, R 15 W,  
 S 36, R 14 E, S 31 in N. half; and raise a mound of stone 3 ft. base, 3 ft. high, N. of cor.

21.00 Dry wash, 50 lks. wide, course N. 60° W.

38.00 Dry wash, 10 lks. wide, course N. 45° W.; thence along N. slope.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for standard ¼ sec. cor., with a brass cap, marked ¼ S 36 in N. half; raise mound of stone 3 ft. base, 3 ft. high, N. of cor.

55.50 Dry wash, 2 lks. wide, course N. 40° W.

59.30 Dry wash 5 lks. wide, course N. 40° W.

69.00 Dry wash, 10 lks. wide, course N. 45° W.

74.20 Dry wash, 10 lks. wide, course N.

80.00 N. 1 lk. from tangent.

Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for the standard cor. of secs. 35 and 36, with a brass cap, marked  
 T 41 N R 15 W in N. half;  
 S 35 in NW., and  
 S 36 in NE. quadrant; and raise a mound of stone 3 ft. base, 3 ft. high, N. of cor.

Land, slightly rolling.

11/23/12  
 57 x 38

10th Standard Parallel North, through Range 15 West. 7.

Chains. Soil, rocky and sandy; coarse texture, 1 to 3 ft. deep. Undergrowth, shellac brush, with scattering bunch grass.

S. 89°59' W. on tangent, S. of sec. 35. Descending gentle NW. slope, through shellac brush, 2 to 4 ft. high.

0.50 Soil, rocky and sandy, coarse texture. Dry wash, 20 lks. wide, course N. 20° W.

40.00 N. 2 lks. from tangent. Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for standard 1/4 sec. cor., with a brass cap, marked, 1/4 S 35 in N. half; and raise a mound 2 ft. base, 2 ft. high, N. of cor.

56.50 Dry wash, course NW.

67.00 Wagon road, bears N. 70° E. and S. 70° W.

76.00 Leave shellac brush, enter ploughed land.

80.00 N. 3 lks. from tangent.

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

T 41 N, R 15 W in N. half;

S 34 in NW.,

S 35 in NE. quadrant; dig pits 24x18x12

ins. crosswise on each line, E. and W of post 3 ft. dist. and N. 7 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, N. of cor.

East, 70 chs. slightly rolling, sandy loam, 2 to 3 ft. deep; coarse texture. Undergrowth, cactus and shellac brush.

Nov. 23, 1912.

Nov. 26, 1912. At 8h. 30m., a.m., l.m.t., at the above described cor., I set off 36°54' N. on the lat. arc; 20°55' S. on the decl. arc, and determine a meridian with the solar.

Thence I run,

S. 89°58 1/2' W., S. of sec. 34 on tangent, over level bench land.

13.00 Wagon road, brs. N. 80° E., and S. 80° W.; leave cultivated land; enter shellac brush, 2 to 4 ft. high.

32.40 Dry wash, 40 lks. wide, course N.

36.20 Dry wash, 2 lks. wide, course N. 10° W.

40.00 N. 5 lks. from the tangent.

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

1/4 S 34 in N., and raise a mound of stone 3 ft. base, 3 ft. high, N. of cor.

43.00 Descend bluff, 75 ft. into river bottom, bears N. 50° E. and S. 50° W.

44.50 Bottom of bluff, thence over very sandy bottom land, through shellac brush, 4 to 5 ft. high.

47.50 Left bank of Virgin River, course S. 40° W. I obtain the distance across river by actual measurement, water 2 ft. deep, quicksand bed.

49.50 Leave edge of water, thence over sand bar in river bed.

60.30 Right bank of Virgin River, 8 ft. high, bears N. 70° E., and S. 70° W.; thence over very sandy bottom land, through mesquite brush, 4 to 10 ft. high.

62.30 Wire fence brs. N. 50° E. and S. 50° W.; leave mesquite brush, enter field of Sam Reber, Jr.

65.80 Wire fence brs. N. 10° W., and S. 10° E.; Leave field of Sam Reber, Jr.; enter field of Sam Reber, Sr.

75.50 Wire fence brs. N. 40° E., and S. 40° W.; leave field; ascend 75 ft. to cor.

80.00 N. 7 lks. from the tangent.

Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for standard cor. of secs. 33 and 34, with

8. 10th Standard Parallel North, through Range 15 West.

Chains.

- a brass cap, marked
  - T 41 N R 15 W in N.half;
  - S 33 in NW., and
  - S 34 in NE. quadrants; raise a mound of stones 3 ft. base, 3 ft. high, N. of cor.
- East, 40 chs. level, sandy loam, coarse texture, 2 to 3 ft. deep.
- Undergrowth, shellac brush, 2 to 4 ft. high.
- West, 40 chs. broken along river banks.
- Soil, sandy, 2 to 6 ft. deep, fine texture.
- Undergrowth, shellac and mesquite brush.
- 
- S. 89° 58' W., on a tangent, S of sec. 33.
- Over rolling land, through shellac brush, 2 to 3 ft. high.
- 3.00 Dry wash, 10 lks. wide, course S. 10° W.
- 9.70 Dry wash, 30 lks. wide, course S.
- 11.50 Descend 30 ft. to
- 12.00 Dry wash, 20 lks. wide, course S. 45° E.; ascend 50 ft.
- 13.00 Top of ascent; thence over rolling bench land.
- 24.30 Telephone line from St. George, Utah, to Mesquite, Nevada, brs. N. 10° E., and S. 10° W.
- 26.00 Dry wash, 5 lks. wide, course S. 10° W.
- 27.00 Dry wash, 20 lks. wide, course S. 10° E.
- 28.50 Wagon road, brs. N. 10° E. and S. 10° W.
- 30.00 Descend into small ravine, 40 ft. deep.
- 31.00 Dry wash, 20 lks. wide, course S. 30° E.; ascend 40 ft.
- 32.00 Leave ravine, thence over rolling land.
- 40.00 North 9 lks. from the tangent.
- Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for standard  $\frac{1}{4}$  sec. cor., with a brass cap, marked,
- $\frac{1}{4}$  S 33 in N. half; and raise a mound of stone 2 ft. base, 2 ft. high, N. of cor.
- 40.50 Wagon road, from St. George, Utah, to Littlefield, Ariz., bears N. 45° E., and S. 45° W.
- 41.25 Descend W. slope, 50 ft.; thence over rolling bench land.
- 51.00 Ravine, 100 lks. wide, course N.
- 51.10 Old wagon road, brs. N. and S.
- 54.00 Ravine, 200 lks. wide, course S.
- 60.00 Descend vertical bank 40 ft. into Beaver Dam bottom, bears N. and S.; thence over level bottom land, through mesquite and shellac brush, 6 to 10 ft. high, and scattering cottonwood trees.
- 72.00 Right bank of Beaver Dam Creek, 4 ft. high, course S. 50° E.
- 78.00 Left bank of small island in channel.
- 78.90 N. 12 lks. from the tangent.
- Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for witness cor. to standard cor. of secs. 32 and 33, with a brass cap, marked
- W C S of center;
- T. 41 N R. 15 W,
- S 32 S 33 in N. half; raise mound of stone 3 ft. base, 3 ft. high, N. of cor.
- 79.50 Right bank of small island, bank 4 ft. high, thence over dry bed of Beaver Dam Creek.
- 80.00 Point for stand. cor. of secs. 32 and 33, falls in bed of Beaver Dam Creek, impracticable to set same.
- East 60 chs. rolling, with scattering rock; soil, sandy, coarse texture, 2 to 3 ft. deep.
- Undergrowth, shellac brush, 2 to 3 ft. high.
- West 20 chs. level bottom land; soil, rich sandy loam; fine texture, 4 to 6 ft. deep; surface shows indications of abundant water, under the surface.
- Undergrowth mesquite and shellac brush, 6 to 10 ft. high.
- Timber, cottonwood.
-

10th Standard Parallel North, through Range 15 West. 9.

Chains.	
14.00	S. $89^{\circ}57\frac{1}{2}'$ W. from pt. for stand. cor. to secs. 32 and 33, on tangent S. of sec. 32, over dry bed of Beaver Dam Creek. Right bank of Beaver Dam Creek 12 ft. high, course S. $70^{\circ}$ E.
17.80	Thence over level creek bottom, through thick shellac brush, 10 to 12 ft. high. Wagon road, brs. N. $45^{\circ}$ W. and S. $45^{\circ}$ E.
26.00	Leave bottom; ascend sandy E. slope, 300 ft.
40.00	N. 15 lks. from the tangent. Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for standard. $\frac{1}{4}$ sec. cor., with a brass cap, marked
41.00	$\frac{1}{4}$ S 32 in N. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Top of ascent, thence over level bench land, through shellac brush 1 to 2 ft. high, with scattering yucca trees.
80.00	N. 19 lks. from the tangent. Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for stand. cor. of secs. 31 and 32, with a brass cap, marked
	T 41 N R 15 W in N. half; S 31 in NW., and S 32 in NE. quad.; dig pits 24x18x12 ins. crosswise on each line E. and W., 3 ft., and N. 7 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, N. of cor.
	E. 14 chains, rich sandy loam, 1st rate, fine texture, 10 to 12 ft. deep.
	14 chains to 41 chains steep sandy hillside; soil, very sandy $\frac{1}{2}$ to 3 ft. thick, coarse texture.
	41 chains to 80 chains, level bench land; loose sandy soil, 1 to 2 ft. deep laying on soft limestone.
	Nov. 26, 1912.
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	Nov. 27, 1912.
40.00	S. $89^{\circ}57'$ W., on tangent S. of sec. 31. Over level sandy ground, through shellac brush, 1 to 3 ft. high, and scattering yucca trees. N. 23 lks. from the tangent.
	Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for stand. $\frac{1}{4}$ sec. cor., with a brass cap, marked
45.50	$\frac{1}{4}$ S 31 in N. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Wagon road from Littlefield, Arizona to Carp, Nevada, brs. N. $20^{\circ}$ W., and S. $20^{\circ}$ E.
47.32	N. 24 lks. from the tangent. Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for closing cor. of T. 40 N., Rs. 15 and 16 W., with a brass cap, marked
	C C S of center, T 41 N R 16 W, S 36, R 15 W S 31 in N. half, and T 40 N in S. half, S 6 R 15 W in SE., and S 1 R 16 W in SW. quadrants; dig pits 30x24x12 ins. crosswise on each line, E. and W. 4 ft. distant, and S. of post 8 ft. distant, and raise a mound of earth 5 ft. base, $2\frac{1}{2}$ ft. high, S. of cor.
80.00	N. 27 lks. from the tangent. Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for stand. cor. of T. 41 N., Rs. 15 and 16 W., with a brass cap, marked
	T 41 N in N., and R 16 W, S 36 in NW., and R 15 W, S 31 in NE. quadrants; dig pits 30x24x12 ins. crosswise on each line, E. and W. 4 ft.

10. East Boundary of Township 40 North, Range 16 West.  
Chains.

distant, and N. of post, 8 ft. dist., and raise a mound of earth 5 ft. base, 2 1/2 ft. high, N. of cor. Land, level; loose, sandy soil, coarse texture 1 to 2 ft. deep laying on soft limestone. Undergrowth, scattering yucca trees and shellac brush, 1 to 3 ft. high.

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East Boundary of Township 40 North, Range 16 West.  
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At the closing cor. of T. 40 N., Rs. 15 and 16 W., hereinbefore described, I set off 21° 9 1/2' S. on the decl. arc, and at 11h. 47m. 40s., a.m., l.m.t., observe the sun on the meridian, and obtain on the lat. arc the reading 36° 53' N., which agrees within one minute of other data. At 1h. 30m. p.m., l.m.t., I set off 36° 54' N. on the latitude arc; 21° 10' S. on the declination arc, and determine a meridian with the solar at the closing cor. of T. 40 N., Rs. 15 and 16 W., hereinbefore described.

Thence I run, South, on range line, between secs. 1 and 6. Over level, sandy land, through scattering yucca trees and shellac brush, 2 to 3 ft. high.

40.00

Set iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked 1/4 S 1 in W., and S 6 in E. half; dig pits 18x18x12 ins.

N. and S. of cor. 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high, W. of cor.

49.50

Wagon road, brs. N. 10° E. and S. 10° W. from Littlefield, Ariz. to Mesquite, Nev.

58.00

Wagon road, bears N. 45° W., and S. 45° E.

80.00

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

T 40 N in N. half;  
R 16 W, S 1 in NW.,  
R 15 W, S 6 in NE.,  
S 7 in SE., and

S 12 in SW. quadrants; dig pits 18x18x12 ins. in each sec. 5 1/2 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.

Land, level and sandy, coarse texture, 1 to 2 ft. deep, laying on soft limestone.

Undergrowth scattering yucca trees and shellac brush, 1 to 3 ft. high.

-----  
South, bet. secs. 7 and 12.

Over level, sandy land, through shellac brush, 2 to 3 ft. high.

21.00

Wagon road, brs. N. 60° W. and S. 60° E.

40.00

Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked 1/4 S 12 in W., and S 7 in E. half; dig pits 18x18x12 ins. N. and

S. of cor. 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high, W. of post.

50.00

Dry wash, 15 lks. wide, course S. 10° W.; thence descend gentle south slope, over sandy land.

80.00

Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 7, 12, 13 and 18, with a brass cap, marked

T 40 N in N. half;  
R 16 W, S 12 in NW.,  
R 15 W S 7 in NE.,  
S 18 in SE., and

S 13 in SW. quadrants; dig pits 18x18x12 ins. in each sec. 5 1/2 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.

East Boundary of Township 40 North, Range 16 West. 11.

Chains.

N.50 chs. level. S.30 chs. slightly sloping to river; loose, sandy soil, coarse texture, 1 to 2 ft. deep laying on soft limestone. Undergrowth, shellac brush, 1 to 3 ft. high.

South, bet. secs.13 and 18. Descending gentle south slope, over very sandy land, through shellac brush 2 to 3 ft. high.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec.cor., with a brass cap, marked 1/4 S 13 in W., and S 18 in E.half; dig pits 18x18x12 ins.N. and S.of corner 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high,W.of post.

80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor.of secs.13,18, 19 and 24, with a brass cap, marked T 40 N in N.half, R 16 W S 13 in NW., R 15 W, S 18 in NE., S 19 in SE., and S 24 in SW. quadrants; dig pits 18x18x12 ins. in each section 5 1/2 ft. dist., and raise a mound of earth 4 ft.base, 2 ft. high,W.of cor. Land, slightly sloping to south. Soil, very sandy of medium texture, 1 to 2 ft. deep,laying on soft limestone. Undergrowth, shellac brush, 2 to 3 ft. high.

South, bet. secs.19 and 24. Over slightly rolling bench land, through shellac brush, 2 to 3 ft. high.

1.20 Telephone line from Mesquite,Nevada to Littlefield,Ariz., bears S.40°W. and N.40°E.

36.80 Wagon road from Mesquite, Nevada to Littlefield,Arizona, bears N.80°W.,and S.80°E.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec.cor., with a brass cap, marked 1/4 S 24 in W., and S 19 in E.half; dig pits 18x18x12 ins.N. and S.of cor. 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high,W.of cor.

56.10 Dry wash, 10 lks.wide, course S.45° E.

64.00 Edge of bluff, along Virgin River, bears N.45°E. and S.45° W.; descend 250 ft.

70.00 Right bank of Virgin River, NE. and SW.; thence over sand bar.

73.00 Edge of shallow channel of river, water 1 to 2 ft. deep, course W.

75.00 Leave water, thence over low sand bar.

78.00 Leave sand bar; enter main channel of river, course S.45° W.; water 2 to 3 ft. deep.

80.00 Point for cor.of secs. 19,24, 25 and 30 ralls in stream. N.64 chs. slightly rolling south slope; soil,medium texture,sandy, 1 to 2 ft. deep, laying on soft limestone. Undergrowth, shellac brush, 2 to 3 ft.high.

64 chs. to 73 chs. mountainous.

73 chs. to 80 chs. sandy river bed.

Scattering mesquite along river banks.

Nov. 27, 1912.

Nov. 29, 1912.

At 9h.0m.a.m., 1.m.t., I set off 36° 50 1/2' N. on the lat. arc; 21°28' S.on the decl.arc, and determine a meridian with the solar at the point for cor. of secs. 19,24, 25 and 30, described above.

12 East boundary of Township 40 North, Range 16 West.  
Chains.

- Thence I run,  
South, bet. secs. 25 and 30.
- 0.50 Left edge of water, thence over sand bar.
  - 8.75 Leave sand bar, ascend 10 ft. to narrow shelf, in vertical bluff along bank of river, brs. NE. and SW.
  - 8.85 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for witness cor. to secs. 19, 24, 25 and 30, with a brass cap, marked  
 W C S of center,  
 T 40 N in N. half,  
 R. 16 W S 24 in NW.,  
 R 15 W S 19 in NE.,  
 S 30 in SE., and  
 S 25 in SW. quadrants; raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.; ascend steep rocky slope 50 ft.
  - 9.50 Top of spur, slopes W.; descend 40 ft. into ravine.
  - 12.00 Dry wash, 10 lks. wide, course N. 45° W.; ascend NW. slope 50 ft.
  - 16.00 Top of ridge, bears N. 45° W., and S. 45° E.; descend 40 ft. into ravine.
  - 20.00 Dry wash, 7 lks. wide, course N. 45° W.; ascend steep slope, 60 ft.
  - 25.00 Top of steep ascent, brs. NW. and SE.; thence ascend gentle N. slope over rocky land, through shellac brush 2 to 4 ft. high.
  - 39.00 Dry wash, 10 lks. wide, course N. 45° W.
  - 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  $\frac{1}{4}$  S 25 in W., and S 30 in E. half; raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.
  - 43.00 Dry wash, 15 lks. wide, course N. 45° W.
  - 54.00 Dry wash, 50 lks. wide, course N. 45° W.
  - 60.00 Dry wash, 40 lks. wide, course N. 10° W.
  - 63.70 Dry wash, 50 lks. wide, course west.
  - 67.00 Dry wash, 20 lks. wide, course W.
  - 79.00 Dry wash, 20 lks. wide, course N. 45° W.
  - 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, with a brass cap, marked  
 T 40 N in N. half;  
 R 16 W S 25 in NW.,  
 R 15 W S 30 in NE.,  
 S 31 in SE., and S 36 in SW. quadrants; raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.
- Rolling, rocky land. Soil, sandy, coarse texture, 2 to 3 ft. deep.  
 Undergrowth, shellac brush, 2 to 4 ft. high.
- 
- South, bet. secs. 31 and 36.  
 Ascending gentle NW. slope, over very rocky land.
- 8.40 Dry wash, 5 lks. wide, course N. 45° W.
  - 13.00 Wagon road, brs. N. 45° W. and S. 45° E.
  - 15.30 Dry wash, 40 lks. wide, course W.
  - 17.80 Dry wash, 3 lks. wide, course N. 10° W.
  - 19.80 Dry wash, 5 lks. wide, course N. 30° W.
  - 26.30 Dry wash, 3 lks. wide, course W.
  - 32.20 Dry wash, 40 lks. wide, course N. 30° W.
  - 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  $\frac{1}{4}$  S 36 in W., and  
 S 31 in E. half; raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.
  - 41.30 Dry wash, 10 lks. wide, course W.
  - 46.30 Dry wash 20 lks. wide, course N. 45° W.
  - 54.00 Dry wash, 10 lks. wide, course W.
  - 61.00 Dry wash, 20 lks. wide, course W.
  - 63.00 Dry wash, 40 lks. wide, course N. 80° W.
  - 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of Tecs. 39 and 40 N., Rs. 15 and 16 W.,

East Boundary of Township 40 North, Range 16 West. 13.

Chains.

with a brass cap, marked  
 T 40 N in N.,  
 R 15 W in E.,  
 T 39 in S, and  
 R 16 W in W. halves ,  
 S 36 in NW.,  
 S 31 in NE.,  
 S 6 in SE., and  
 S 7 in SW. quadrants; raise a mound of  
 stone 3 ft. base, 3 ft. high, north of cor.  
 Land, rolling, very rocky.  
 Soil, sandy, coarse texture, 2 to 3 ft. thick.  
 Undergrowth shellac brush, with scattering cactus, 4 to  
 5 ft. high.  
 Nov. 29, 1912.

Portion of South Boundary of Township 40 North, Range 15 W.

Dec. 2, 1912.  
 From the cor. of secs. 4, 5, 32 and 33, heretofore described,  
 in Book "B," I run  
 West on a random line, along the south bdy. of T. 40 N., R.  
 15 W., setting temp.  $\frac{1}{4}$  sec. and sec. cors. at intervals  
 of 40 chs., and at 158.32 chs. intersect the cor. of Ts.  
 39 and 40 N., Rs. 15 and 16 W., set by me, Nov. 29, 1912,  
 and hereinbefore described.

Thence I run,  
 East, bet. secs. 6 and 31, on a true line, ascending rocky-  
 land, through shellac brush, 2 to 4 ft. high, and  
 scattering cactus, 4 to 5 ft. high.

1.00	Dry wash, 10 lks. wide, course N. 45° W.
9.80	Dry wash, 15 lks. wide, course N. 45° W.
31.00	Dry wash, 10 lks. wide, course N. 30° W.
35.00	Dry wash, 5 lks. wide, course N. 45° W.
38.32	Set an iron post 3 ft. long, 1 in. in diam., .26 ins. in the ground for $\frac{1}{4}$ sec. cor., with a brass cap, marked $\frac{1}{4}$ S. 31 in N., and S 6 in S. half; raise mound of stone 3 ft. base, 3 ft. high, N. of cor.
47.80	Dry wash, 10 lks. wide, course N. 30° W.
53.00	Dry wash, 15 lks. wide, course N. 10° W.
55.00	Dry wash, 10 lks. wide, course N. 10° W.
63.00	Dry wash, 70 lks. wide, course N. 45° W.
65.00	Dry wash, 50 lks. wide, course N. 45° W.
71.00	Dry wash, 20 lks. wide, course N. 60° W.
72.50	Wagon road, brs. N. 30° W., and S. 30° E.
78.32	Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 5, 6, 31 and 32, with a brass cap, marked T 40 N in N., T 39 N in S., and R 15 W in W. halves, S 31 in NW., S 32 in NE., S 5 in SE., and S 6 in SW. quadrants; raise mound of stone 3 ft. base, 3 ft. high, N. of cor.

Land, slightly rolling. NW. slope very rocky.  
 Soil, sandy, coarse texture, 2 to 3 ft. deep.  
 Undergrowth, shellac brush and cactus, 3 to 5 ft. high.

East, on true line, between secs. 5 and 32.  
 Ascending NW. slope, over very rocky land, through shellac  
 brush and cactus, 3 to 5 ft. high.

2.00	Dry wash, 20 lks. wide, course N. 30° W.
8.00	Dry wash 40 lks. wide, course N. 20° W.
11.80	Dry wash 30 lks. wide, course N. 45° W.



14. Portion of South Boundary of Township 40 North, Range 15 W. Chains.

- 19.00 Dry wash, 20 lks.wide, course N.45°W.
- 21.80 Dry wash, 10 lks.wide, course N.20°W.
- 29.70 Dry wash, 20 lks.wide, course N.
- 33.50 Dry wash, 30 lks.wide, course N.60°W.
- 38.00 Dry wash, 5 lks.wide, course N.60°W.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec.cor., with a brass cap, marked  $\frac{1}{4}$  S 32 in N., and S 5 in S. half; raise a mound of stone 3 ft.base, 3 ft. high,N.of cor.
- 53.30 Dry wash 40 lks.wide, course N.70°W.
- 61.80 Dry wash, 5 lks.wide, course N.80°W.
- 67.50 Dry wash, 5 lks.wide, course N. 45°W.
- 69.80 Dry wash, 10 lks.wide, course N.20°W.
- 73.00 Dry wash, 10 lks.wide, course N.45°W.
- 79.00 Dry wash, 20 lks.wide, course N.45°W.
- 80.00 The cor.of secs.4,5,32 and 33, described in Book "B." Land, slightly rolling;NW.slope very rocky. Soil,sandy, of coarse texture, 2 to 3 ft. deep. Undergrowth, cactus and shellac brush, 3 to 5 ft. high. Dec. 2, 1912.

Boundaries of Township 40 North, Range 15 West. Latitudes, departures, and closing errors.

Line designated.	True bearing.	Dist.	Latitude.		Departure.	
			N.	S.	E.	W.
10th.St.Par.N.	West,	397.80				397.80
West bdy.	South,	480.00		480.00		
South "	East,	158.32			158.32	
Sec.line bet. 28&29,32&33.	N.0°03'W.	160.00	160.00			0.14
Sec.line bet. 21&28.	East,	80.00			80.00	
" "21&22	N.0°02'W.	80.00	80.00			0.05
" "15&22	East,	80.00			80.00	
" "14&15;10&11	N.0°01'W.	160.00	160.00			0.04
" " 2 and 11	East,	80.00			80.00	
" " 1 and 2,	N.0°01'W.	80.00	80.00			0.02
Convergency,						0.30
Totals,			480.00	480.00	398.32	398.35
			480.00			398.32
Error in lat.-----			0.00			
Error in dep.-----						0.03

Portion of West Boundary of Township 41 North, Range 15 W.

Dec. 14, 1912. At 9h.0m. a.m.,l.m.t., I set off 36°54'N. on the lat.arc; 23°11 $\frac{1}{2}$ 'S. on the decl.arc, and determine a meridian with the solar at the standard cor.of T.41 N., Rs.15 and 16 W. set Nov.27, 1912, and hereinbefore described.

Thence I run, North, on range line bet. secs.31 and 36; ascend over very sandy SW. slope, through low shellac brush, with scattering yucca trees.

- 12.30 Leave sandy slope, enter shellac brush 2 to 3 ft. high, bears E. and W.; thence over level land.
- 33.00 Wagon road from Littlefield, Arizona to Carp, Nevada, brs. N.50°W. and S.50°E.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec.cor., with a brass cap, marked,

Portion of West Boundary of Township 41 North, Range 15 West, 15

Chains.

80.00  $\frac{1}{4}$  S 36 in W., and  
 S 31 in E. half; dig pits 18x18x12 ins.  
 N. and S. of cor. 3 ft. distant, and raise a mound of  
 earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of secs. 25, 30, 31 and 36, with a  
 brass cap, marked  
 T 41 N in N.,  
 R 15 W in E., and  
 R 16 W in W. halves,  
 S 25 in NW.,  
 S 30 in NE.,  
 S 31 in SE., and  
 S 36 in SW. quadrants; dig pits 18x18x12  
 ins. in each sec.  $5\frac{1}{2}$  ft. dist., and raise a mound of  
 earth 4 ft. base, 2 ft. high, W. of cor.  
 S. 12 chs. sandy, sloping to the SW.; soil, coarse texture,  
 2 to 3 ft. deep. No. 60 chains, level, rich sandy loam;  
 soil, fine texture, 2 to 3 ft. deep.  
 Undergrowth, shellac brush 2 to 3 ft. high.

40.00 North, bet. secs. 25 and 30.  
 Over level land, through shellac brush, 2 to 3 ft. high.  
 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  
 $\frac{1}{4}$  S 25 in W., and

80.00 S 30 in E. half; dig pits 18x18x12 ins.  
 N. and S. of corner 3 ft. distant, and raise a mound of  
 earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of secs. 19, 24, 25 and 30, with a  
 brass cap, marked  
 T 41 N in N.,  
 R 15 W in E., and  
 R 16 W in W. halves,  
 S 24 in NW.,  
 S 19 in NE.,  
 S 30 in SE., and  
 S 25 in SW. quadrants; dig pits 18x18x12  
 ins. in each sec.  $5\frac{1}{2}$  ft. distant, and raise mound of  
 earth 4 ft. base, 2 ft. high, W. of cor.  
 Land, level.  
 Soil, rich sandy loam, fine texture 2 to 3 ft. deep lay-  
 ing on soft sandstone.  
 Undergrowth, shellac brush, 2 to 3 ft. high.

Boundaries of Township 41 North, Range 15 West.  
 Latitudes, departures, and closing errors.

Line design- ated.	True bearing.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
10th St. Par. N.	West,	480.00				480.00
West bdy.	North,	160.00	160.00			
Bet. secs. 19 & 30,	East,	79.86			79.86	
" " 20 & 29,	"	80.00			80.00	
" " 21 & 28,	N. 89° 59' E.	80.08	0.02		80.08	
" " 22 & 27,	N. 89° 58' E.	80.00	0.05		80.00	
" " 23 & 26,	East,	80.00			80.00	
" " 24 & 25,	S. 89° 58' E.	80.14		0.05	80.14	
East bdy.	South,	160.00		160.00		
Convergency,					0.18	
Totals,			160.07	160.05	480.26	480.00
			160.05		480.00	
Error in lat.,			0.02			
Error in dep.,					0.26	

## 16. North Boundary of Township 39 North, Range 16 West.

Chains.

	Survey commenced Dec. 19, 1912, and executed by Thomas B. Matthews, U.S. Surveyor, with a Young and Sons' Light Mountain Transit No. 8480, hereinbefore described.
	At 9h.30m. a.m., l.m.t., I set off $36^{\circ} 49'$ N. on the lat. arc; $23^{\circ} 23\frac{1}{2}'$ S. on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 39 and 40 N., Rs. 15 and 16 W. set by me Nov. 29th, 1912, and hereinbefore described.
	Thence I run, west, bet. secs. 1 and 36, descending gentle NW. slope, over very rocky land, through shellac brush and cactus 3 to 5 ft. high.
0.50	Dry wash, 30 lks. wide, course N. $30^{\circ}$ W.
14.00	Dry wash, 70 lks. wide, course N. $40^{\circ}$ W.
17.30	Dry wash, 50 lks. wide, course N. $20^{\circ}$ W.
33.80	Dry wash, 35 lks. wide, course N. $45^{\circ}$ W.
36.00	Dry wash, 10 lks. wide, course N. $10^{\circ}$ W.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., with a brass cap, marked $\frac{1}{4}$ S 36 in N., and S 1 in S. half; raise mound of stone 3 ft. base, 3 ft. high, N. of cor.
59.30	Dry wash 20 lks. wide, course N. $45^{\circ}$ W.
75.00	Dry wash, 30 lks. wide, course N. $10^{\circ}$ W.
80.00	Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 1, 2, 35 and 36, with a brass cap, marked T 40 N in N., T 39 N in S., and R 16 W in W. halves, S 35 in NW., S 36 in NE., S 1 in SE., and S 2 in SW. quadrants; raise mound of stone 3 ft. base, 3 ft. high, W. of cor. Land, gentle NW. slope. Soil, very rocky and sandy, coarse texture 2 to 3 ft. deep. Undergrowth, shellac brush and cactus, 3 to 5 ft. high.
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	west, bet. secs. 2 and 35. Over gently rolling land, through shellac brush, 2 to 3 ft. high. Soil, sandy with scattering cactus.
7.70	Wagon road from Littlefield, Arizona to Mesquite, Nevada, bears N. $30^{\circ}$ E. and S. $30^{\circ}$ W.
9.70	Descend SW. slope, 20 ft. to
15.50	Bottom of descent; ascend NE. slope, 20 ft.
20.00	Top of ascent; thence over rolling land.
26.20	Dry wash, 15 lks. wide, course N. $50^{\circ}$ W.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., with a brass cap, marked $\frac{1}{4}$ S 35 in N., and S 2 in S. half, and raise mound of stone 2 ft. base, 2 ft. high, N. of cor.
46.60	Descend steep NW. slope, 300 ft. to river.
51.70	Left edge of Virgin River, thence through river channel, water 2 to 3 ft. deep, course SW.
53.50	Leave water, thence over sand bar in river channel.
60.80	Right bank of river, 3 ft. high, thence over level bottom land, through shellac and mesquite brush 4 to 8 ft. high; soil very sandy.
65.60	Ascend steep SE. slope of bluff, 300 ft.
70.50	Top of bluff, thence over gentle sloping bench land.
72.00	Dry ravine, 10 lks. wide, course south.
80.00	Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 2, 3, 34 and 35, with a brass cap, marked T 40 N in N., T 39 N in S., and R 16 W in W. halves, S 34 in NW., S 35 in NE., S 2 in SE., and

North boundary of Township 39 North, Range 16 West. 17.

Chains.

S 3 in SW. quadrants; raise a mound of stone 3 ft. base, 3 ft. high, W. of cor. East 46 chains slightly rolling loose sandy soil, 2 to 3 ft. deep, with some rock. Undergrowth, shellac brush, 2 to 3 ft. high. West, 34 chains, broken and mountainous. Thin soil.

At the above described cor., I set off 23°24'S. on the decl. arc, and at 11h.51m.39s. a.m., l.m.t., I observe the sun on the meridian, and obtain on the lat. arc, the reading 36° 49'N., which agrees with the other data.

- West, bet. secs. 3 and 34.
- Over rolling bench land, through shellac brush, 1 to 3 ft. high, with scattering cactus, 2 to 3 ft. high.
- 2.10 Ravine 50 ft. deep, 15 lks. wide, course S. 10°W.
- 15.50 Descend sandy SW. slope 40 ft.
- 18.00 Foot of descent, bears N. and S.; thence over level bench land of loose sandy soil.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked 1/4 S 34 in N. and S 3 in S. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. distant, and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high, N. of cor.
- 61.00 Leave level bench land, bears N. 45°E., and S. 45°W.; thence along south side of bluff.
- 68.80 Sylvester's house bears S. 7°E.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, with a brass cap, marked

- T 40 N in N.,
- T 39 N in S., and
- R 16 W in W. halves,
- S 33 in NW.,
- S 34 in NE.,
- S 3 in SE., and
- S 4 in SW. quadrants; and raise a mound of

stone 4 ft. base, 2 ft. high, W. of cor. East, 60 chs. loose, sandy soil; fine texture 2 to 3 ft. deep. Undergrowth, shellac brush, 2 to 3 ft. high. West 20 chs. along side of bluff; soil, thin and gravelly. No vegetation.

- West, bet. secs. 4 and 33; ascending SE. slope of bluff over gravelly land; no vegetation.
- 7.50 Top of bluff, thence over slightly rolling bench land; very sandy soil, through shellac brush, 2 to 3 ft. high.
- 17.50 Leave rolling land, bears N. and S., thence over level bench land.
- 25.50 Dry wash, 5 lks. wide, course S. 10°E.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for 1/4 sec. cor., with a brass cap, marked 1/4 S 33 in N., and S 4 in S. half; dig pits 18x18x12 ins. E. and W. of cor. 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high, N. of cor.
- 46.80 Wagon road, brs. N. 50°E.
- 48.12 Telephone line from mesquite, Nevada, to Littlefield, Ariz., bears N. 45°E. and S. 45°W.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 4, 5, 32 and 33, with a brass cap, marked

- T 40 N in N.,
- T 39 N in S., and
- R 16 W in W. halves,
- S 32 in NW.,
- S 33 in NE.;

18. North boundary of Township 39 North, Range 16 West.

Chains.

S 4 in SE., and  
S 5 in SW. quadrants; dig pits 18x18x12 ins. in each sec. 5½ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.  
East, 20 chs. rolling.  
West, 60 chs. level; soil, throughout loose, sandy, medium texture, 2 to 3 ft. deep.  
Undergrowth, shellac brush and scattering cactus, 3 to 4 ft. high.

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West, bet. secs. 5 and 32.  
Over level, sandy land, through shellac brush and cactus 3 to 4 ft. high.  
17.50 Dry wash, 40 lks. wide, course south.  
40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., with a brass cap, marked  
¼ S 32 in N., and  
S 5 in S. half; raise a mound of stone 3 ft. base, 3 ft. high, N. of cor.  
Thence over rolling sandy land.  
47.00 Dry wash, 30 lks. wide, course S. 20° E.  
59.88 Intersect the Nevada-Arizona State Bdy., 12.50 chs. N. 0° 03' E. of 313 mile cor. At the above described point of intersection, I set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for closing cor. of secs. 5 and 32, with a brass cap, marked  
T 40 N in N.,  
R. 16 W in E., and  
T 39 N in S. halves,  
S 32 in NE., and  
S 5 in SE. quadrants; dig pits 30x24x12 ins. crosswise on each line N. and S 3 ft. distant, and E 7 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, E. of cor.  
The above cor. was not set until after mile 313 Nevada Arizona State Bdy. had been resurveyed by me, Dec. 25, 1912, notes in Book "D."  
East, 40 chs. level. West, 19.88 chs., rolling, soil, loose, sandy, medium texture, 2 to 3 ft. deep.  
Undergrowth, cactus and shellac brush, 2 to 4 ft. high.  
Dec. 19, 1912.

Boundaries of Township 40 North, Range 16 West.  
Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
South bdy.	West,	379.88				379.88
Nev. Ariz. Bdy.						
Mile 313,	N. 0° 3' E.	67.48	67.48		0.06	
" 312,	N. 0° 40' W.	79.73	79.73			0.93
" 311,	N. 0° 40' W.	13.09	13.09			0.15
Bet. secs. 20 & 29,	East,	60.84			60.84	
" " 21 & 28,	S. 89° 51' E.	80.02		0.22	80.02	
" " 22 & 27,	East,	80.00			80.00	
" " 23 & 26,	East,	80.00			80.00	
" " 24 & 25,	N. 89° 55' E.	80.09	0.12		80.09	
East Bdy.,	South,	160.00		160.00		
Convergency,					0.14	
Totals,			160.42	160.22	381.15	380.96
			160.22		380.96	
Error in lat.,			0.20			0.09
Error in dep.,					0.19	

East boundary of Township 39 North, Range 16 West, 19.

Chains.

Dec. 20, 1912. At 9h. 30m.a.m., l.m.t., I set off 36° 49' N. on the lat.arc; 23° 24½' S. on the decl.arc, and determine a meridian with the solar at the cor. of Ts. 39 and 40 N., Rs. 15 and 16 W., set by me Nov. 29, 1912, and hereinbefore described.

Thence I run, South, on range line, bet. secs. 1 and 6, ascending NW. slope, over very rocky land, through cactus and shellac brush, 3 to 4 ft. high.

- 1.20 Dry wash, 3 lks. wide, course W.
- 2.70 Dry wash, 20 lks. wide, course N. 60° W.
- 7.50 Dry wash, course W.
- 16.50 Dry wash, 60 lks. wide, course N. 70° W.
- 31.70 Dry wash, 40 lks. wide, course N. 45° W.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., with a brass cap, marked ¼ S 1 in. W., and S 6 in E. half; raise mound of stone 3 ft. base, 2 ft. high, W. of cor.
- 51.70 Dry wash, 15 lks. wide, course N. 70° W.
- 61.00 Dry wash, 5 lks. wide, course N. 30° W.
- 65.20 Dry wash, 40 lks. wide, course N. 70° W.; thence along west slope.
- 79.80 Dry wash, 5 lks. wide, course N. 60° W.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 1, 6, 7 and 12, with a brass cap, marked

T 39 N in N. half,  
 R 16 W S 1 in NW.,  
 R 15 W S 6 in NE.,  
 S 7 in SE., and  
 S 12 in SW quadrants; and raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.

Land, rolling, very rocky. Soil, sandy, coarse texture, 2 to 3 ft. deep. Undergrowth, cactus and shellac brush.

South, bet. secs. 7 and 12. Along west slope, over very rocky land, through cactus and shellac brush, 2 to 4 ft. high.

- 1.20 Dry wash, 5 lks. wide, course W.
- 5.50 Dry wash, 20 lks. wide, course W.
- 9.20 Dry wash, 15 lks. wide, course N. 70° W.
- 10.80 Dry wash, 20 lks. wide, course W.
- 11.30 Dry wash, 30 lks. wide, course N. 45° W.
- 20.30 Dry wash, 10 lks. wide, course W.
- 22.80 Dry wash, 15 lks. wide, course S. 20° W.
- 34.50 Dry wash, 10 lks. wide, course S. 20° W.
- 35.80 Dry wash, 15 lks. wide, course S. 30° W.
- 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., with a brass cap, marked ¼ S 12 in W., and S 7 in E. half; and raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.
- 47.00 Dry wash, 20 lks. wide, course W.
- 60.10 Dry wash, 5 lks. wide, course S. 70° W.
- 65.30 Dry wash, 20 lks. wide, course N. 10° W.
- 71.50 Dry wash, 10 lks. wide, course N. 10° W.
- 74.20 Dry wash, 5 lks. wide, course W.
- 80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 7, 12, 13 and 18, with a brass cap, marked

T 39 N in N. half;  
 R 16 W S 12 in NW.,  
 R 15 W S 7 in NE.,  
 S 18 in SE., and  
 S 13 in SW quadrants, and raise a mound of stone 3 ft. base, 3 ft. high, W. of cor.

Land, rolling W. slope. Soil, very rocky and sandy, coarse texture, 2 to 3 ft. deep.

20. East boundary of Township 39 North, Range 16 West.

Chains.

Undergrowth, cactus and shellac brush, 2 to 3 ft. high.

At the above cor., I set off 23°25'S. on the decl. arc, and at 11h. 50m. 9s. a.m., 1.m.t., I observe the sun on the meridian; the resulting lat. is 36° 47'N.

Thence I run,

South, bet. secs. 13 and 18.

Along gentle west slope, over rocky land, through cactus and shellac brush, 2 to 4 ft. high.

7.50 Dry wash, 20 lks. wide, course N. 30°W.

30.20 Dry wash, 5 lks. wide, course N. 20°W.

35.50 Dry wash, 15 lks. wide, course N. 30°W.

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

$\frac{1}{4}$  S 13 in W., and

S 18 in E. half, and raise a mound of stone

3 ft. base, 3 ft. high, W. of cor.

45.30 Dry wash, 5 lks. wide, course N. 70°W.

50.70 Dry wash, 10 lks. wide, course N. 30°W.

52.60 Dry wash 20 lks. wide, course N. 45°W.

60.00 Wagon road, brs. N. 45°W., and S. 45°E.

60.40 Dry wash, 5 lks. wide, course N. 20°W.

63.50 Dry wash, 20 lks. wide, course N. 45°W.

76.80 Dry wash, 5 lks. wide, course N. 30°W.

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

T 39 N in N. half;

R 16 W S 13 in NW.,

R 15 W, S 18 in NE.,

S 19 in SE., and

S 24 in SW. quadrants, and raise a mound of

stone 3 ft. base, 3 ft. high, W. of cor.

Land, slightly rolling W. slope.

Soil, very rocky and sandy, coarse texture, 2 to 3 ft. deep.

Undergrowth, cactus and shellac brush.

South, bet. secs. 19 and 24.

Along gentle W slope, over very rocky land, through cactus and shellac brush, 3 to 4 ft. high.

12.50 Dry wash, 20 lks. wide, course W.

15.40 Dry wash, 15 lks. wide, course N. 40°W.

20.00 Dry wash, 10 lks. wide, course N. 45°W.

26.50 Dry wash, 15 lks. wide, course W.

29.20 Dry wash, 10 lks. wide, course S. 10°W.

35.50 Dry wash, 25 lks. wide, course W.

36.90 Dry wash, 10 lks. wide, course N. 30°W.

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

$\frac{1}{4}$  S 24 in W., and

S 19 in E. half; and raise a mound of stone

3 ft. base, 3 ft. high, W. of cor.

40.80 Dry wash, 15 lks. wide, course N. 40°W.

45.00 Dry wash, 10 lks. wide, course W.

48.50 Dry wash, 20 lks. wide, course N. 30°W.

55.00 Dry wash, 40 lks. wide, course N. 45°W.

59.00 Dry wash, 10 lks. wide, course N. 60°W.

64.60 Dry wash, 15 lks. wide, course W.

68.50 Dry wash, 40 lks. wide, course N. 40°W.

78.50 Dry wash, 10 lks. wide, course N. 30°W.

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

T 39 N in N. half;

R 16 W S 24 in NW.,

R 15 W S 19 in NE.;

S 30 in SE., and

S 25 in SW. quadrant; and raise a mound of

East boundary of Township 39 North, Range 16 West. 21.

Chains.

stone 3 ft. base, 3 ft. high, W. of cor.  
 Land, rolling.  
 Soil, very rocky and sandy, coarse texture 3 to 4 ft.  
 deep.  
 Undergrowth, cactus and shellac brush, 3 to 4 ft. high.  
 Dec. 20, 1912.

Dec. 21, 1912.

At 10h.0m. a.m., l.m.t., at the above cor., I set off  $36^{\circ}$   
 $45\frac{1}{2}'$  N. on the lat. arc;  $23^{\circ}25'$  S. on the decl. arc, and  
 determine a meridian with the solar.

Thence I run,

South, bet. secs. 25 and 30.

Along gentle west slope, over very rocky land, through  
 shellac brush and cactus, 3 to 4 ft. high.

- 1.20 Dry wash, 20 lks. wide, course W.  
 17.50 Dry wash, 15 lks. wide, course  $N.60^{\circ}W.$   
 23.00 Leave rocky land, bears E. and W.; thence along gentle  
 W. slope, over less sandy land.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  
 $\frac{1}{4}$  S 25 in W. and  
 S 30 in E. half; and raise a mound of stone  
 2 ft. base, 2 ft. high, W. of cor.  
 48.10 Dry wash, 40 lks. wide, course  $N.20^{\circ}W.$ , thence ascending  
 along NW. slope, over very rocky land.  
 52.50 Dry wash, 40 lks. wide, course  $N.10^{\circ}W.$   
 55.60 Dry wash, 40 lks. wide, course  $N.10^{\circ}W.$ ; thence ascending  
 N. slope, over rocky washy land.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of secs. 25, 30, 31 and 36, with  
 brass cap, marked  
 T 39 in N. half;  
 R 16 W S 25 in NW.,  
 R 15 W, S 30 in NE.,  
 S 31 in SE., and  
 S 36 in SW. quadrant, and raise a mound of  
 stone 3 ft. base, 3 ft. high, W. of cor.  
 N. 23 chs. rolling, rocky land.  
 Soil, sandy, coarse texture, 2 to 3 ft. deep.  
 23 to 48 chs., slightly sloping; good sandy loam, medium  
 texture, 2 to 3 ft. deep.  
 South, 32 chs., washy, very rocky.  
 Soil, sandy, coarse texture, 1 to 2 ft. deep.  
 Undergrowth, shellac and cactus brush.

South, bet. secs. 31 and 36.

Ascending N. slope, over rocky washy land, through cactus  
 and shellac brush, 2 to 3 ft. high.

- 17.50 Dry wash, 15 lks. wide, course  $N.30^{\circ}W.$   
 28.70 Dry wash, 30 lks. wide, course W.  
 31.50 Wagon road, brs. E. and W.  
 38.30 Ascend steep N. slope of Virgin Mountains to cor.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  
 $\frac{1}{4}$  S 36 in W., and  
 S 31 in E. half; and raise a mound of stone  
 3 ft. base, 3 ft. high, W. of cor.  
 Ascend steep rocky slope of Virgin Mountains, 600 ft.  
 60.00 Top of rocky spur, slopes W.; descend 200 ft. into canyon.  
 65.00 Bottom of canyon, dry wash 20 lks. wide, course  $N.20^{\circ}W.$ ;  
 thence ascend 600 ft. along steep NE. slope.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of Tps. 38 and 39 N., Rs. 15 and  
 16 W., with a brass cap, marked  
 T 39 N in N.,  
 R 15 W in E.,  
 T 38 N in S., and  
 R 16 W in W. halves; and raise a mound of



22. East boundary of Township 39 North, Range 16 West.

Chains.

stone 4 ft. base, 3 ft. high, S. of cor.  
N. 38 chs. gentle rocky N. slope.  
Soil, sandy, coarse texture, 2 to 3 ft. deep.  
S 42 chs., rough and mountainous; soil, sandy and very  
rocky; coarse texture 1 to 2 ft. deep.  
Undergrowth, cactus and shellac brush.

Dec. 21, 1912.

South Boundary of Township 39 North, Range 16 West.

Dec. 23, 1912. At 10h. 0m. a.m., l.m.t., at the above  
cor., I set off  $36^{\circ}43\frac{1}{2}'$  N. on the lat. arc;  $23^{\circ}24\frac{1}{2}'$  S.  
on the decl. arc, and determine a meridian with the  
solar.

Thence I run,

West, bet. secs. 1 and 36.

Descending NW. slope of Virgin Mountains, 1000 ft.

34.70

Dry wash, 40 lks. wide, course N.  $70^{\circ}$  W.

40.00

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

$\frac{1}{4}$  S 36 in N., and  
S 1 in S. half; and raise a mound of stone

2 ft. base, 2 ft. high, N. of cor.

46.80

Foot of Virgin Mountains, bears N.  $45^{\circ}$  E., and S.  $45^{\circ}$  W. Dry  
wash 75 lks. wide, course N.  $45^{\circ}$  W. Thence along gentle  
N. slope, through cactus and shellac brush, 3 to 4 ft.  
high.

76.50

Dry wash, 50 lks. wide, course N.  $30^{\circ}$  W.

80.00

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

T 39 N in N.,  
T 38 N in S., and  
R 16 W in W. halves,  
S 35 in NW.,  
S 36 in NE.,  
S 1 in SE., and  
S 2 in SW. quadrants, and raise a mound of

stone 3 ft. base, 3 ft. high, W. of cor.

E. 46 chs. rough and mountainous.

Soil, very rocky and sandy, coarse texture,  $\frac{1}{2}$  to 2 ft.  
deep.

W. 34 chs. gentle N. slope; soil, sandy and rocky, 2 to 3 ft.  
deep.

Undergrowth, cactus and shellac brush.

West, bet. secs. 2 and 35.

Along gentle N. slope, over rolling, rocky land, through  
scattering yucca trees, cactus and shellac brush, 3 to  
4 ft. high.

25.30

Dry wash, 15 lks. wide, course N.  $30^{\circ}$  W.

40.00

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

$\frac{1}{4}$  S 35 in N., and  
S 2 in S. half, and raise a mound of stone

2 ft. base, 2 ft. high, N. of cor.

53.90

Dry wash, 20 lks. wide, course N.

54.30

Wagon road, brs. N.  $10^{\circ}$  W., and S.  $10^{\circ}$  E.

60.00

Leave yucca trees, thence over good sandy land.

64.20

Dry wash, 60 lks. wide, course N.  $20^{\circ}$  W.

79.50

Dry wash, 70 lks. wide, course N.

80.00

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

T 39 N in N.,  
T 38 N in S., and  
R 16 W in W. half,  
S 34 in NW.,

South Boundary of Township 39 North, Range 16 West. 23.

Chains.

S 35 in NE.,  
S 2 in SE., and  
S 3 in SW. quadrants;  
raise a mound of stone 3 ft. base, 3 ft. high, W or corner.

Land, slightly rolling north slope.  
Soil, rocky and sandy; coarse texture, 2 to 3 ft. deep.  
Undergrowth, cactus and shellac brush, with scattering yucca trees.

West, between secs. 3 and 34.  
Along gentle north slope, through cactus and shellac brush, 2 to 4 ft. high.

- 5.60 Dry wash, 20 lks. wide, course N.20°W.
- 13.90 Dry wash, 30 lks. wide, course N.30°W.
- 17.50 Dry wash, 15 lks. wide, course N.
- 23.90 Dry wash, 20 lks. wide, course N.10°W.
- 25.00 Dry wash, 10 lks. wide, course N.10°W.
- 33.00 Dry wash, 20 lks. wide, course N.20°W.
- 38.80 Dry wash, 20 lks. wide, course N.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  $\frac{1}{4}$  S 34 in N., and S 3 in S. half; and raise a mound of stone 3 ft. base, 3 ft. high, N of cor.

- 50.50 Dry wash, 15 lks. wide, course N.30°W.
- 59.00 Dry wash, 50 lks. wide, course N.20°E.
- 66.00 Dry wash, 10 lks. wide, course N.
- 73.80 Dry wash, 30 lks. wide, course N.
- 79.50 Dry wash, 10 lks. wide, course N.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, with a brass cap, marked

T 39 N in N.,  
T 38 N in S., and  
R 16 W in W. halves,  
S 33 in NW.,  
S 34 in NE.,  
S 3 in SE., and  
S 4 in SW. quadrants; and raise a mound

of stone 3 ft. base, 3 ft. high, W. of cor.

Land, rolling.  
Soil, rocky and sandy, coarse texture, 2 to 3 ft. deep.  
Undergrowth, cactus and shellac brush, with scattering yucca trees.

At the above described cor., I set off 23°25'S. on the decl. arc, and at 11h. 59m. 9s. a.m., 1.m.t., I observe the sun on the meridian, and obtain on the lat. arc, the reading 36° 44' N., with agrees with other data; thence I run,

West, bet. secs. 4 and 33.  
Along gentle north slope, over rolling rocky land, through cactus and shellac brush, 2 to 4 ft. high, with scattering yucca trees.

- 6.00 Dry wash, 40 lks. wide, course N.20°E.
- 11.20 Dry wash, 5 lks. wide, course N.30°E.
- 14.80 Dry wash, 30 lks. wide, course N.
- 26.00 Dry wash, 40 lks. wide, course N.10°E.
- 31.20 Dry wash, 5 lks. wide, course N.20°W.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins.

## Chains.

in the ground for  $\frac{1}{4}$  sec. cor., with a brass cap, marked  
 $\frac{1}{4}$  S 33 in N., and  
 S 4 in S. half, and raise a mound of  
 stone 3 ft. base, 3 ft. high, W. of corner.

49.00 Dry wash, 35 lks. wide, course N.  
 60.00 Dry wash, 20 lks. wide, course N. 30° E.  
 62.50 Dry wash, 15 lks. wide, course N. 20° E.  
 69.90 Dry wash, 10 lks. wide, course N. 10° W.  
 76.30 Dry wash, 15 lks. wide, course N. 10° E.  
 79.20 Dry wash, 5 lks. wide, course N.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins.  
 in the ground for cor. of secs. 4, 5, 32 and 33, with  
 a brass cap, marked  
 T 39 N in N.,  
 T 38 N in S., and  
 R 16 W in W. halves,  
 S 32 in NW.,  
 S 33 in NE.,  
 S 4 in SE., and  
 S 5 in SW. quadrants, and raise a mound  
 of stone 3 ft. base, 3 ft. high, W. of cor.  
 Land, rolling.  
 Soil, rocky and sandy; coarse texture, 2 to 3 ft. deep.  
 Undergrowth, cactus and shellac brush, with scattering  
 yucca trees.

West, bet. secs. 5 and 32.  
 Ascending gentle NE. slope, over rocky land, through  
 cactus and shellac brush, 2 to 4 ft. high, with  
 scattering yucca trees, 10 to 13 ft. high.

1.50 Dry wash, 30 lks. wide, course N.  
 9.90 Wagon road, brs. N. 30° W., and S. 30° E.  
 12.40 Dry wash, 15 lks. wide, course N.  
 14.00 Dry wash, 15 lks. wide, course N. 20° E.  
 20.10 Dry wash, 10 lks. wide, course N. 45° W.  
 26.00 Old wagon road, brs. N. 10° W., and S. 10° E.  
 27.50 Dry wash, 30 lks. wide, course N.  
 39.90 Dry wash, 10 lks. wide, course N.

Boundary  
SOUTH Bdy. T. 39 N. R. 16 W.

40.00 Set an iron post 3 ft. long 1 ins. in diam. 26 ins in the ground for  $\frac{1}{4}$  sec. cor. with a brass cap marked  $\frac{1}{4}$  S 32 in N. & S 5 in S. half, & raise a mound of stone 3 ft. base 2 ft. high N. of cor.

55.00 Dry wash 15 lks. wide, course N.

63.32 I intersect the Nevada-Arizona <sup>State</sup> bdy. 9.46 chs. N.  $0^{\circ} 52'$  E. of mile cor. 319. At the above point of intersection I set an iron post 3 ft. long 3 ins. in diam. 24 ins in the ground for closing cor. of Tps. 38 & 39 N. R. 16 W., with a brass cap marked CC in W., & R 16 W in E. halves T 39 N. S 32 in N.E., & T 38 N. S 5 in S.E. quadrants, & raise a mound of stone 3 ft. base 3 ft. high E. of cor.

The above described closing cor. was not set until after mile 319 of the Nevada, Arizona <sup>State</sup> Bdy. had been resurveyed, Dec. 24, 1912. and described in Book "D".

Land slightly rolling.  
Soil rocky & sandy, course texture 2 to 3 ft. deep.  
Undergrowth cactus & shellac brush with scattering Yucca trees.

Dec. 23, 1912.

BOUNDARIES of T. 39 N. R. 16 W. LATITUDES, DEPARTURES AND CLOSING ERRORS.

Line designated	True bearing	Distance	Latitude		Departure	
			N.	S.	E.	W.
South Boundary	East	383.32			383.32	
East Boundary	North	480.00	480.00			
North Boundary	West	379.88				379.88
Mile 313 Nev. Ariz. bdy	$50^{\circ} 03' W$	12.50		12.50		0.01
" 314 " " "	$50^{\circ} 28' E$	77.43		77.43	0.63	
" 315 " " "	$50^{\circ} 28' E$	77.43		77.43	0.63	
" 316 " " "	$50^{\circ} 31' W$	80.50		80.50		0.73
" 317 " " "	$50^{\circ} 31' W$	80.55		80.55		0.73
" 318 " " "	$50^{\circ} 56' W$	80.53		80.53		1.31
" 319 " " "	$50^{\circ} 52' W$	76.10		76.09		1.08
Convergency						0.44
Totals			480.00	480.03	384.58	384.18
Error in lat.				0.03	384.18	
Error in dep.					0.40	

Thomas B. Matthews  
U.S. Surveyor

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability,

Thomas B. Matthews, U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of East Boundary Tp. 42 N., R. 15 W., East Bdy. Tp. 41 N., R. 15 W., 10th. Stand. Par. N., thro R. 15 W.; portion W. bdy. Tp. 41 N., R. 15 W., West bdy. Tp. 40 N. - R. 15 W., portion South bdy. Tp. 40 N. - R. 15 W.; South bdy. Tp. 40 N. - R. 16 W., South Bdy. Tp. 39 N. - R. 16 W., East bdy. Tp. 39 N. - R. 16 W.

of the China & Salt River Base Meridian, in the State of Arizona which are represented in the foregoing field notes as having been executed by him, and under his direction; and that said survey has been, in all respects, to the best of our knowledge and belief, well and faithfully executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
<u>J. C. Shoresen</u>	<u>November 25 1912</u>	<u>Dec 9 1912</u>	<u>Flagman</u>
<u>J. C. Shoresen</u>	<u>Dec 29 1912</u>	<u>Mar 25 1913</u>	<u>Chairman</u>
<u>Henry Friemer</u>	<u>Dec 2 1912</u>	<u>Dec 10 1912</u>	<u>Chairman</u>
<u>W. C. Calderwood</u>	<u>Dec 17 1912</u>	<u>Dec 31 1912</u>	<u>Chairman</u>
<u>Stephen R. Lings</u>	<u>Jan 1 1913</u>	<u>Jan 10 1913</u>	<u>Chairman</u>
<u>John B. Pave</u>	<u>Mar 19 1912</u>	<u>Jan 10 1913</u>	<u>Chairman</u>
<u>Robert Reber</u>	<u>Dec 19 1912</u>	<u>Jan 10 1913</u>	<u>Flagman</u>
<u>Harold Reber</u>	<u>Mar 19 1912</u>	<u>Jan 10 1913</u>	<u>Chairman</u>
<u>Alfred Friemer</u>	<u>Dec 10 1912</u>	<u>Dec 15 1912</u>	<u>Flagman</u>

Subscribed and certified to before me on the dates of the final service as shown above.

Thomas B. Matthews  
U. S. Surveyor.

FINAL OATH OF UNITED STATES SURVEYOR.

BOOK 2445

I, Thomas B. Matthews, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Arizona bearing date of the 6th day of June, 1912, 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 East bdy. Tp. 42 N., R. 15 W.; East Bdy. Tp. 41 N., R. 15 W.; 10th Stand. Par. N. through R. 15 W.; portion W. bdy. Tp. 41 N., R. 15 W.; West bdy. Tp. 40 N., R. 15 W.; portion S. bdy. Tp. 40 N., R. 15 W.; South bdy. Tp. 40 N., R. 16 W.; South bdy. Tp. 39 N., R. 16 W.; East bdy. Tp. 39 N., R. 16 W.

of the Meridian of the Meridian River Base Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Arizona and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Thomas B. Matthews  
U. S. Surveyor.

Subscribed by said Thomas B. Matthews, and sworn to before me }  
this 15th day of February, 1913

Frank Ingalls  
SURVEYOR-GENERAL OF ARIZONA

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Ariz., May 1, 1913

The foregoing field notes of the survey of East Bdy. Township 42 North, Range 15 West; East bdy. Tp. 41 North, Range 15 West, 10th Standard Parallel North, through Range 15 West; portion West Bdy. Township 41 North, Range 15 West, West Bdy. Township 40 North, Range 15 West, portion of South Bdy. Township 40 North, Range 15 West, South Bdy. Township 40 North, Range 16 West, South Bdy. Township 39 North, Range 16 West, and East Bdy. Township 39 North, Range 16 West, executed by Thomas B. Matthews, under his special instructions dated June 6, 1912, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank Ingalls  
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.