

Book D.  
2320 BOOK 2320  
FIELD NOTES

FEB. 2 1912

22

2320

NE  
OF THE SURVEY OF THE

| Boundaries of |   |   |   | T. 18 N. R. 13 W. |    |  |    |
|---------------|---|---|---|-------------------|----|--|----|
| ✓             | N | E | W |                   |    |  |    |
| ✓             | N | E | W |                   | 19 |  | 13 |
| ✓             |   |   | W |                   | 20 |  | 13 |
| ✓             | N | E | W |                   | 21 |  | 15 |
| ✓             |   | N | E |                   | 22 |  | 16 |
| ✓             |   | N | W |                   | 23 |  | 15 |
| ✓             |   |   |   |                   | 23 |  | 16 |

2320

Of the T. 18 N. R. 13 W. Meridian,

In the State of Territory of Arizona

EXECUTED BY

N. O. Pecar

In the capacity of U. S. <sup>Assistant</sup> Surveyor, under instructions dated September 16, 1910, issued by the United States Surveyor General to govern surveys included in Group No. 10, which were approved by the Commissioner of the General Land Office, September 28, 1910, pursuant to authority contained in the Act of Congress dated June 25, 1910 <sup>and March 4, 1911</sup>

2320

Survey commenced February 9, 1911

Survey completed April 20, 1911

6-151

2320

0282

# INDEX DIAGRAM.

*Township* \_\_\_\_\_, *Range* \_\_\_\_\_

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 6  | 5  | 4  | 3  | 2  | 1  |
| 7  | 8  | 9  | 10 | 11 | 12 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

JUL 21 1911

# INDEX DIAGRAM.

Township \_\_\_\_\_, Range \_\_\_\_\_

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 6  | 5  | 4  | 3  | 2  | 1  |
| 7  | 8  | 9  | 10 | 11 | 12 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

Meanders Page \_\_\_\_\_

6-151

2320

1A  
23

BOOK 2320

PRELIMINARY OATHS OF ASSISTANTS.

WE, Theodore Alden and Norman Cook and Sidney Waite

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of

Re-survey of exterior lines embraced under Group 10

Theodore Alden, Chainman.  
Norman Cook, Chainman.  
Sidney Waite, Chainman.

Subscribed and sworn to before me this 17th day of January, 1911

W. J. Cor. Transitman



WE, Chas. J. Schwartz and Theodore Alden

do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of

Re-survey of exterior lines embraced under Group 10

C. J. Schwartz, Moundman.  
Theodore Alden, Moundman.

Subscribed and sworn to before me this 17th day of January, 1911

W. J. Cor. Transitman



WE, Murrie Carrow and Norman Cook and Gus Kuetig

do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given us, to the best of our skill and ability, in the survey of

Re-survey of exterior lines embraced under Group 10.

Murrie Carrow, Axman.  
Gus Kuetig, Axman.  
Norman Cook, Axman.

Subscribed and sworn to before me this 17th day of January, 1911

W. J. Cor. Transitman



I, Elmer Welch and Paul Dial, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the

Re-survey of exterior lines embraced under Group 10.

Elmer Welch, Flagman.  
Paul Dial, Flagman.

Subscribed and sworn to before me this 17th day of January, 1911

W. J. Cor. H. S. Transitman



# INDEX

BOOK 2320

15  
24

Book No. 2320

16W

15W

14W

13W

6th. St. Par. N.

24N

23N

22N

21N

|  |       |       |  |
|--|-------|-------|--|
|  |       |       |  |
|  | 45-47 | 48-50 |  |
|  | 39-41 | 36-38 |  |
|  | 33-35 | 30-32 |  |

5th. St. Par. N.

20N

19N

18N

Explanation

|       |                     |
|-------|---------------------|
| _____ | See Book A, Group 9 |
| _____ | " " A " 10          |
| _____ | " " C " 10          |
| _____ | " " B " 10          |
| _____ | This book           |

26-28

18-20

11-13

|       |     |
|-------|-----|
|       |     |
| 22-24 |     |
| 15-17 | 1-3 |
| 7-9   | 4-6 |

Resurvey West bdy. Township 19 North. Range 12 West.

1.

Chains.

For description and test of instrument see East bdy. of T.21 N., R.15 W., in this book.

Feb. 9: At 3:00 a.m., l.m.t., I set off 35°04'N. on the lat. arc; 14°51'S. on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 19 and 20 N., Rs. 12 and 13 W., described in Book A.

Thence I run, S., bet. secs. 1 and 6.

Descend over mountainous land.

- 7.40 Gulch, 50 lks. wide, course SW.; ascend.
  - 18.00 Top of spur, bears SW.
  - 28.00 Wild Bee Canyon, 250 lks. wide, course W.
  - 33.30 Gulch, 30 lks. wide, course NW.; ascend.
  - 40.00 Set a granite rock 24x10x6 ins., 18 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on W. face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.
  - 45.00 Ascend precipitously.
  - 56.00 Top of high rocky spur, bears E, and W.
  - 58.15 Descend over rough broken land.
  - 76.40 Gulch, 50 lks. wide, course W.; ascend.
  - 80.00 Top of spur, brs. W. and E.
- Set a granite rock 30x8x6 ins., 24 ins. in the ground for cor. of secs. 1, 6, 7 and 12, marked with 1 notch on N. and 5 notches on S. edges, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.
- Land, mountainous.  
Soil, rocky, 4th rate.  
No timber.

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South, bet. secs. 7 and 12.

Descend over mountainous land.

- 16.40 Gulch, 150 lks. wide, course W. Ascend through scrub oak.
  - 25.00 Top of spur, brs. NW.; descend.
  - 27.00 Gulch, 50 lks. wide, course NW.; ascend.
  - 40.00 Set a granite rock 30x12x10 ins., 24 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on W. face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.
  - 40.45 Short rocky spur brs. NW.; descend.
  - 54.00 Gulch, 50 lks. wide, course NW.; ascend abruptly.
  - 66.40 Top of high ridge, brs. NW. and SE.; low saddle, 4 chs. W. Sharp peak on same 15 chs. to SE. Descend precipitous SE. slope.
  - 78.50 Gulch, 50 lks. wide, course W., near head. Ascend abruptly.
  - 80.00 Cor, point comes on quartz ledge 3x4x2 ft. above ground. I mark a cross at exact cor. point, with 2 notches to N. and 4 notches to S. of cross, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.
- Land, mountainous. Soil, very rocky, 4th rate.  
Dense scrub oak; no timber.

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It was inconvenient to observe for latitude today.

South, bet. secs. 13 and 18.

Over very rough W, slope of mountains; ascend.

- 4.80 Top of sharp spur, bears SW. and NE.; descend.
- 14.60 Canyon, 80 lks. wide, course W.; ascend.
- 19.46 Top of rocky spur, brs. W.; descend.
- 35.00 Gulch, 50 lks. wide, course NW. Ascend abruptly.
- 40.00 Set a sandstone 20x10x10 ins., 15 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on W. face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.
- 46.00 Top of divide; proceed along E. slope, descend.
- 52.00 Descend abruptly.
- 63.00 Gulch, 50 lks. wide, course NW. Ascend precipitously.

## 2. Resurvey West Boundary Township 19 North, Range 12 West.

Chains

- 71.60 Point on line. Top of high spur, brs, SE.; descend.  
 80.00 Set a sandstone 24x12x8 ins. in a mound of stone for cor. of secs. 13, 18, 19 and 24, marked with 3 notches on N., and 3 notches on S. edges, and raised a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, very rocky, 4th rate.  
 Dense scrub oak. No timber.

February 9, 1911.

Feb. 10: At 8:00 a.m., l.m.t., I set off 35°02'N. on the lat. arc; 14°31'30" S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 13, 18, 19 and 24.

- Thence I run,  
 South, bet. secs. 19 and 24.  
 Descend steep, rocky S. slope of mountain.  
 36.80 Gulch, 50 lks. wide, course SE. Ascend.  
 40.00 Set a granite rock 30x16x8 ins. on bedrock in a mound of stone for ¼ sec. cor., marked ¼ on W. face and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.  
 55.00 Gulch, 50 lks. wide, course E.; ascend.  
 64.00 On saddle, brs. E. and W. Peak 10 chs. to SE.  
 Proceed along W. slope. Head of gulch, 4 chs. W. and flows S.  
 80.00 Set a granite rock 24x12x12 ins., in a mound of stone for cor. of secs. 19, 24, 25 and 30, marked with 4 notches on N. and 2 notches on S. edges, and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, very rocky, 4th rate.  
 Dense scrub oak; no timber.

South, bet. secs. 25 and 30.

Descend rough SW. slope of mountain.

- 8.23 On turn of canyon from NW. to S., 30°W.  
 25.35 Same canyon, course SE.; ascend NE. slope.  
 39.30 Spur, brs. E.  
 40.00 Granite rock 20x10x10 ins. in a mound of stone for ¼ sec. cor., marked ¼ on W. face, and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.  
 52.00 Gulch, 40 lks. wide, 150 ft. deep, S. 75° E. Ascend.  
 58.50 Top of spur, brs. E. Descend.  
 63.00 Canyon, 60 lks. wide, course E. Ascend sharp high peak on dividing ridge about 40 chs. W.  
 76.00 Spur, brs. SE.; descend.  
 80.00 Set a granite rock 30x15x10 ins. in a mound of stone for cor. of secs. 25, 30, 31 and 36, marked with 5 notches on N. and 1 notch on S. edges, and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.  
 Land, rough and mountainous.  
 Soil, thin and rocky. No timber.

South, bet. secs. 31 and 36.

Over mountainous land, through scattering scrub oak brush and pinons.

- 5.00 Draw, head of gulch, course SE.; thence along broken E. slope.  
 21.00 Saddle in spur, brs. SE. and NW. Descend steep SW. slope.  
 40.00 Cor. point in canyon 200 ft. deep, course SE.  
 Ascend precipitously.

Resurvey of West bdy. of Township 19 North Range 12 West 3.

Chains.

42.80 Set a granite rock 36x17x10 ins. in a mound of stone for witness cor. to  $\frac{1}{4}$  sec.cor.; marked W C  $\frac{1}{4}$  on W.face, and raise a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high, W.of cor. Ascend.

51.85 Top of granite spur, brs. SE. Descend.

80.00 Set a granite rock 28x15x10 ins. in a mound of stone for cor. of Tps. 18 and 19 N., Rs. 12 and 13 W., marked with 6 notches on N., S., E. and W.edges, and raise a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high, S.of cor. Pits impracticable.

Land, rough and mountainous.

Soil, thin and rocky.

Timber, scattering pinons and scrub oak.

February 10, 1911.

GENERAL DESCRIPTION.

This line extends along the west slope of a high granite mountain range near the summit, and passes over a succession of sharp, high ridges and deep, rocky gulches usually covered with a dense growth of scrub oak and palo negros, where there is sufficient soil for their support.

There is no water along the line. The country along and adjacent to the line is decidedly mineral in character, and is entirely unfit for any other purpose.

Impracticable to set iron posts.



## 4. Resurvey of East bdy. Township 18 North Range 13 West.

Chains.

- February 11, 1911: At 8:00 a.m., l.m.t., I set off  $34^{\circ}59'$  N. on the lat.arc;  $14^{\circ}12'S.$  on the decl.arc, and determine a meridian with the solar at the cor.of Tps.18 and 19 N., Rs.12 and 13 W., just described.
- Thence I run,  
South, bet. secs.1 and 6.  
Descend steep slope of mountain, along W.side of gulch.
- 38.00 Foot of slope, enter Trout Creek Canon,  
38.50 Center Trout Creek Canyon; water 60 lks.wide, course SW.  
40.00 Point for  $\frac{1}{4}$  sec.cor. comes in insecure place in bottom of canyon.
- 40.50 Foot of bluff, S.side of canyon, brs.NE.and SW.; ascend.  
44.00 Top of granite reef; set a granite rock  $32 \times 16 \times 12$  ins. in a mound of stone for witness cor.to  $\frac{1}{4}$  sec.cor., marked W.C. $\frac{1}{4}$  on W.face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits impracticable. Ascend abruptly over rocky points huge granite boulders.
- 79.50 Top of point of ridge, brs.E. and W. Descend abruptly.  
80.00 Set a granite  $18 \times 16 \times 12$  ins., in a mound of stone for cor. of secs. 1, 6, 7 and 12, marked with 1 notch on N. and 5 notches on S.edges, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits impracticable.
- Land, rough and mountainous.  
Soil, rocky, 4th rate; no timber.  
Impracticable to set iron post.
- 
- South, bet. secs.7 and 12.  
Descend steep E.slope of mountain.
- 35.00 Bottom of rocky gulch 600 ft. deep, course  $N.50^{\circ}W.$   
Ascend precipitous NE.slope.
- 40.00 Set a granite  $26 \times 21 \times 12$  ins. on bedrock, in a mound of stone for  $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on W.face, and raise a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high, W.of cor.
- February 11: At this cor. I set off  $14^{\circ}10'S.$  on the decl.arc; and at 12h.14m.p.m., l.m.t., observe the sun on the meridian; the resulting lat.is  $34^{\circ}58'N.$
- 55.00 Top of steep ascent; continue to ascend.  
57.67 Point on line on top of high peak; descend abruptly.  
58.30 GULCH, COURSE NW. ASCEND STEEP SLOPE.  
80.00 Set a granite  $16 \times 14 \times 6$  ins. in a mound of stone for cor.of secs.7, 12, 13 and 18, marked with 2 notches on N. and 4 notches on S.edges, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits impracticable.
- Land, rough and mountainous.  
Soil, rocky, 4th rate. No timber.  
Impracticable to set iron post.
- 
- South, bet. secs.13 and 18.  
Ascend steep N.slope of mountain.
- 7.26 Top of high ridge, brs.E.and W. Descend.  
24.00 Bottom of gulch, near head, course SE.; ascend.  
29.60 Top of sharp ridge, brs.E.and W.; descend steep slope.  
40.00 Set a granite  $16 \times 10 \times 6$  ins., in a mound of stone for  $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on W.face, and raise a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits impracticable.
- 55.00 Gulch, course NW.; ascend.  
57.00 Ascend steep slope.  
62.25 Top of ascent; descend steep slope.  
80.00 Set a granite  $36 \times 20 \times 8$  ins. in a mound of stone for cor.of secs. 13, 18, 19 and 24, marked with 3 notches on N. and 3 notches on S.edges, and raise a mound of stone 2.ft. base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits impracticable.
- Land, rough, mountainous. Soil, rocky, 4th rate.  
No timber.  
Impracticable to set iron post.

February 11, 1911.

## Resurvey of East bdy. of Township 18 North, Range 13 West.

5.

Chains.

February 13, 1911. At 8:00 a.m., l.m.t., I set off  $34^{\circ}57'$  N. on the lat. arc;  $13^{\circ}33'$  S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 18, 19 and 24; thence I run, South, between secs. 19 and 24. Descend over mountainous land, through palo verde, cactus, and other brush.

15.00 Gulch, brs. S.  $70^{\circ}$  W.; ascend.

27.00 Top of point of slope; top of mountain 5 chs. E. Descend steep slope of mountain.

40.00 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 24 on W., and  $\frac{1}{4}$  S 19 on E. half; raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

49.50 Edge of bluff, brs. E. and W. Descend abruptly.

51.00 Foot of bluff.

54.00 Wash, course S.  $70^{\circ}$  W.

59.00 Foot of bluff, S. side of wash; ascend.

60.00 Top of bluff, brs. E. and W. Proceed over heavily rolling land, through dense brush and cactus.

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, marked on brass cap,  
 T 18 N in N. half;  
 R 13 W, S 24 in NW.,  
 R 12 W, S 19 in NE.,  
 S 30 in SE., and  
 S 25 in SW. quadrants, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Land, mountainous, 60.00 chs.; rolling, 20.00 chs.  
 Soil, rocky, 4th rate; timber, palo verde, with cactus and other brush.

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South bet. secs. 25 and 30.  
 Over mountainous land, descend.

0.40 Edge of bluff, brs. E. and W.; descend.

3.50 Foot of bluff.

10.00 Wash, course SW.; ascend.

20.25 Top of ascent; descend.

30.00 Draw, course W.; ascend.

32.20 Old road, brs. E. and 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., marked on brass cap,  $\frac{1}{4}$  S 25 in W., and  $\frac{1}{4}$  S 30 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

44.75 Top of ridge, bears E. and W.; descend.

48.50 Gulch, course W.; ascend.

52.45 Top of ridge, bears SW. and NE.; descend.

73.00 Bottom of draw, course W.; ascend.

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, marked on brass cap,  
 T 18 N in N. half;  
 R 13 W, S 25 in NW.,  
 R 12 W, S 30 in NE.,  
 S 31 in SE., and  
 S 36 in SW. quadrant, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, rocky, 4th rate.  
 Timber, palo verde with scrub oak brush.

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## 6. Resurvey of East bdy. of Township 18 North Range 13 West.

Chains.

- February 13, 1911: At the cor. of secs. 25, 30, 31 and 36, I set off  $13^{\circ}30\frac{1}{2}'$  S. on the decl. arc, and at 12h.14m.p. m., l.m.t., observe the sun on the meridian; the resulting lat. is  $34^{\circ}55'$  N.
- South, bet. secs. 31 and 36.
- Over mountainous land, through dense palo negro and scrub oak; ascend.
- 2.50 Top of ridge, brs. N.  $60^{\circ}$  E. and S.  $60^{\circ}$  W.; thence over sharp ridges along W. slope of mountain.
- 40.00 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 36 in W., and  $\frac{1}{4}$  S 31 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- 41.30 Top of ridge, brs. SE. and NW. Descend abruptly.
- 42.00 Foot of bluff.
- 51.00 Wash, 20 lks. wide, course SW.
- 57.00 Ascend steep slope.
- 65.70 Top of steep slope; point on line.
- 73.17 Top of ridge, brs. NE. and SW.; descend.
- 79.60 Top of bluff of cemented gravel 30 ft. high; descend.
- 80.00 Foot of bluff. Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of Tps. 17 and 18 N., Rs. 12 and 13 W., marked on brass cap,  
 T 18 N in N.,  
 R 12 E in E.,  
 T 17 N in S., and  
 R 13 W in W. half;  
 S 36 in NW.,  
 S 31 in NE.,  
 S 6 in SE., and  
 S 1 in SW. quadrant; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, S. of cor. Pits impracticable.
- Land, mountainous.  
 Soil rocky, 4th rate.  
 Timber, palo negro and scrub oak.

GENERAL DESCRIPTION.

This line passes along the very rugged west slope of a high granite mountain range. The east boundary of sec. 1 crosses Trout Creek, a beautiful stream of pure cold water, about 18 ins. deep, and 1 chain wide. Bunch grass grows among the rocks where there is sufficient soil; and a few cattle were seen grazing, but the land along the line and adjacent thereto, is chiefly valuable for its mineral, as it is of a mineral character, and mining claims are quite numerous. The land has no value for agricultural purposes, and there is no water along the line, except in Trout Creek.

Resurvey South boundary of Township 18 North, Range 13 West. 7.

Chains.

From the cor. of Tps.17 and 18 N.,Rs. 12 and 13 W., just described, I run, West, on the S.bdy.of the T.18 N.,R. 13 W. West, bet. secs.1 and 36.

- 8.00 Descend along S.slope of ridge.
- 14.14 Foot of descent; ascend abruptly.
- Point on line; top of high ridge, bears NE.and S.80°W. Descend steep mountain slope; through scattering brush and palo negro.
- 40.00 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 S 36 on N., and S 1 on S.half; and raised a mound of stone 2 ft. base, 1 1/2 ft. high, N.of cor. Pits impracticable.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor.ofsecs. 1,2,35 and 36, marked on brass cap, T 18 N, R 13 W in N.; T 17 N in S., S 35 in NW.; S 36 in NE., S 1 in SE., and S 2 in SW. quadrant, and raise a mound of stone 2 ft.base, 1 1/2 ft. high,W.of cor. Pits impracticable. Land, mountainous. Soil, rocky, 4th rate. Timber,palo negro with scrub oak.

February 13, 1911.

February 15: At 8:00 a.m., 1.m.t., I set off 34°54'N. on the lat.arc; 12°52'S. on the decl.arc, and determine a meridian with the solar at the cor.of secs. 1,2,35 and 36 on the S.bdy.

- Thence I run, West, bet. secs.2 and 35. Descend steep SW.slope of mountain, through dense palo negro and oak brush.
- 19.00 Edge of bluff of Big Sandy, bears N.20°E. and S.20°W. Descend abruptly.
- 21.25 Foot of bluff, enter grove of cottonwoods.
- 38.30 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for witness cor. to 1/2 sec.cor., marked on brass cap, W C 1/4 S 35 in N.,and S 2 in S.half; dig pits 18x18x12 ins., E.and W.of post 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high,N.of cor.
- 39.00 Enter land, subject to overflow.
- 40.00 Point for 1/4 sec.cor. in wash.
- 47.30 East bank of Big Sandy River, bears NE.and SW.
- 55.25 West bank of Big Sandy River, bears NE.and SW. Enter dense mesquite, catclaw and other brush.
- 75.60 Kingman road, bears N.and S.; foot of low ridge; ascend.
- 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, marked on brass cap, T 18 N, R 13 W in N., T 17 N in S., S 34 in NW., S 35 in NE., S 2 in SE., and S 3 in SW. quadrants and raise a mound of stone 2 ft.base, 1 1/2 ft. high,W.of cor. Pits impracticable. Land, mountainous, 21.25 chs.; leavel, 58.75 chs. Soil, rocky, 4th rate,22 chs.; loose sandy loam,60 chs. Timber,palo negro, mesquite with oak brush.

8. Resurvey South bdy. of Township 18 North Range 13 West.  
Chains.

- West, bet. secs. 3 and 34.  
Ascend low ridge, leave timber and brush.
- 0.60 Top of low ridge, bears NW. and SE. Descend.
- 5.00 Foot of ridge.
- 5.50 Wash, 50 lks. wide, course S. 70° E. Proceed through narrow valley; ascend through dense grease brush.
- 40.00 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 34 in N., and S 3 in S. 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.
- February 15: I was unable to take observation for lat.
- 59.25 Kingman-Signal road, bears NW. and SE. Ascend from valley over low hills.
- 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, marked on brass cap,  
T 18 N R 13 W in N., and  
T 17 N in S. half;  
S 33 in NW.,  
S 34 in NE.,  
S 3 in SE., and  
S 4 in SW. quadrant; 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.
- Land, rolling.  
Soil, a sandy gravel.  
Dense grease brush and good bunch grass.

- 
- West, bet. secs. 4 and 33.  
Ascend over low rolling hills.
- 40.00 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 33 in N., and S 4 in S. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.
- 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, marked on brass cap,  
T 18 N R 13 W in N., and  
T 17 N in S.,  
S 32 in NW.,  
S 33 in NE.,  
S 4 in SE., and  
S 5 in SW. quadrant, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- Land, rolling hills.  
Soil, a heavy gravel.  
No timber.  
Good bunch grass and dense grease brush.  
February 15, 1911.

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- February 16: At 8:00 a.m., 1 m. to, I set off 34° 54' N. on the lat. arc; 12° 32' S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 4, 5, 32 and 33.
- Thence I run,  
West, bet. secs. 5 and 32.  
Ascend over rolling hills of granite gravel, through dense grease brush.
- 31.50 Gulch, course NE.; ascend.
- 36.00 Top of low ridge, bears NE. and SW. Descend.
- 39.60 Gulch, course NE. Ascend.

Resurvey South bdy of Township 18 North Range 13 West. 9.  
Chains.

- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec.cor., marked on brass cap,  $\frac{1}{4}$  S 32 in N., and S 5 in S.half, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, N.of cor. Pits impracticable.
- 59.75 Top of ridge, bears N. $10^{\circ}$ E. and S. $10^{\circ}$ W.; descend. A high round butte bears N.about 12 chs.
- 74.00 Gulch, course NE.; ascend.
- 80.00 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, marked on brass cap,  
T 18 N R 13 W in N., and  
T 17 N in S.half;  
S 31 in NW.,  
S 32 in NE.,  
S 5 in SE., and  
S 6 in SW. quadrants; raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W.of cor. Pits impracticable.
- Land, rolling hills.  
Soil, disintegrated granite, sand and gravel. Dense grease-brush and bunch grass.  
February 16. At this cor. at 12h.14m.p.m., 1.m.t., I set off  $12^{\circ}29\frac{1}{2}'$  N.on the decl.arc, and observe the sun on the meridian; the resulting lat.is  $34^{\circ}54'$  N.

- West, bet. secs. 6 and 31.  
Ascend over rough, rolling hills, through scattering grease brush.
- 0.09 Point on line; top of ridge, bears N. $15^{\circ}$ E. and west.
- 40.00 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 31 in N., and S 6 in S.half; raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, N.of cor. Pits impracticable.
- Along N.slope of high ridge.
- 57.25 Top of ascent; descend.
- 63.50 Gulch, course NE.; ascend.
- 67.75 Top of point, bears SW.; descend.
- 74.50 Gulch, 200 ft. deep, course N. $75^{\circ}$ E.; ascend.
- 79.50 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor.of Tps.. 17 and 18 N., Rs.13 and 14 W., marked on brass cap,  
T 18 N in N.,  
R 13 W in E.,  
T 17 N in S.,  
R 14 W in W.half,  
S 36 in NW.,  
S 31 in NE.,  
S 6 in SE., and  
S 1 in SW. quadrant; raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, S.of cor. Pits impracticable.
- Land, heavily rolling hills; soil, heavy granite sand. Scattering grease-brush and a good growth of bunch grass.  
February 16, 1911.

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GENERAL DESCRIPTION.

This line extends from the foot of the Hualpai Mts. on the west, over rugged foothills, across the valley of the Big Sandy, high up the west slope of a steep range of granite mountain.

The country along the south boundary of sec.36 is mountainous in the extreme, and the only value it can have is for the mineral it may contain.

## 10. Resurvey of South bdy. of Township 18 North, Range 13 West.

The Big Sandy River, which takes its water from Trout Creek, crosses the line near the center of the South boundary of sec. 35.

West of the Big Sandy, the country rises over rough hills of disintegrated granite, gravel and boulders, on which is a sparse growth of bunchgrass with palo negros and greasewood.

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Resurvey of West bdy. Township 18 North. Range 13 West. 11.

Chains.

February 17: At 8:00 a.m., l.m.t., I set off  $34^{\circ}54'N.$  on the lat.arc;  $12^{\circ}11'S.$  on the decl.arc; and determine a meridian at the cor.of Tps.17 and 18 N., Rs.13 and 14 W., just described.

Thence I run,  
North, bet. secs. 31 and 36.  
Over mountainous land; ascend abruptly.

1.75 Top of high ridge, bears NE.and SW.; thence over rough east slope of foot-hills of mountains.

29.70 Edge of bluff, bears NW.and SE.; descend abruptly.

34.75 Foot of bluff.

38.00 Wash, 150 lks.wide, course SE.

40.00 Set an iron post 3 ft. long, 1 in. in diam., for  $\frac{1}{4}$  sec.cor., marked on brass cap,  
 $\frac{1}{4}$  S 36 in W., and  
S 31 in E.half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.

40.50 Foot of steep slope; ascend steep slope.

46.58 Point on line; top of ridge, brs. SE.and NW.; descend.

62.00 Head of gulch, course SE.; ascend.

69.25 Ridge, bears SE, and SW.; descend.

73.00 Gulch, course N. $70^{\circ}$ E.; ascend.

77.10 Sharp ridge, brs.N. $70^{\circ}$ E., and S. $70^{\circ}$ W.; descend.

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, marked on brass cap,  
T 18 N in N.half;  
R 14 W S 25 in NW.,  
R 13 W S 30 in NE.,  
S 31 in SE., and  
S 36 in SW. quadrant; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.

Land, rough and hilly.  
Soil, disintegrated granite gravel and sand; scattering greasebrush.

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North, bet. secs.25 and 30.  
Over rough E.slope of mountains, through scattering grease-brush. Descend abruptly.

6.00 Gulch, course NE.; ascend.

10.80 Top of bluff, bears NE.and SW.

26.00 Edge of bluff, bears E.and W.; descend.

37.00 Gulch, course E.; ascend.

40.00 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 25 on W., and  
S 30 on E., and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.

79.25 Draw, course E.

80.00 Set an iron post 3 ft. long, 3 in. in diam., 24 ins. in the ground for cor.of secs.19,24,25 and 30, marked on brass cap,  
T 18 N in N.half;  
R 14 W S 24 in NW.,  
R 13 W S 19 in NE.,  
S 30 in SE., and  
S 25 in SW. quadrant, and raise a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.

Land, rough and hilly.  
Soil, stony, 3rd rate.  
Scattering grease brush and fair grazing.

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February 17. At the cor.of secs. 19,24,25 and 30, I set off  $12^{\circ}08\frac{1}{2}'S.$  on the decl.arc; and at 12h.14m.p.m.,



## 12. Resurvey of West bdy of Township 18 North, Range 13 West.

Chains.

- 1.m.t., I observe the sun on the meridian; the resulting lat. is  $34^{\circ} 56' N.$   
 North, bet. secs. 19 and 24.  
 Over mountainous land, across frequent high, sharp ridges and deep gulches; descend.
- 12.00 Gulch, 200 ft. deep, course E. Ascend steep slope.  
 22.50 Point on line; top of high ridge, bears NE. and SW.; descend.  
 37.00 Gulch, 200 ft. deep, course NE.; ascend.  
 40.00 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 24 on W., and  
 S 19 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- 45.00 Top of point, bears SW. Descend steep slope.  
 50.00 Gulch, 150 ft. deep, course  $N.60^{\circ}E.$ ; ascend steep slope.  
 54.25 Top of ascent.  
 54.65 Descend.  
 75.75 Edge of bluff of Kane Springs Wash, bears SW. and NE.  
 At 5 chs. E. turns SE.; descend.
- 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, marked on brass cap,  
 T 18 N on N. half;  
 R 14 W, S 13 in NW.,  
 R 13 W, S 18 in NE.,  
 S 19 in SE., and  
 S 24 in SW. quadrant, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- Land, mountainous.  
 Soil, rocky, 4th rate.  
 No timber; fair grazing.

February 17, 1911.

- February 18: At 8:00 a.m., 1.m.t., I set off  $34^{\circ}56'N.$  on the lat. arc;  $11^{\circ}50'S.$  on the decl. arc, and determine a meridian at the cor. of secs. 13, 18, 19 and 24; thence I run,  
 North, bet. secs. 13 and 18.  
 Over mountainous land, across rough, high ridges; descend.
- 2.00 Foot of bluff.  
 5.00 Wash, 2 chs. wide, course NE.  
 15.00 Kane Spring Wash, 3 chs. wide, course  $S.60^{\circ}E.$   
 20.00 Ascend over rough hills.  
 40.00 Top of ridge, bears  $N.20^{\circ}W.$ , and  $S.20^{\circ}E.$   
 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 13 in W., and  
 S 18 in E. half; and raised amount of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Descend.
- 47.00 Wash, course SE.; ascend.  
 69.65 Top of ridge, brs. NW. and SE.; descend.  
 80.00 Set a granite, 18x18x12 ins. in a mound of stone for cor. to secs. 7, 12, 13 and 18, marked with 2 notches on N., and 4 notches on S. edges, and raised a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Land, mountainous. Soil, rocky, 3rd rate.  
 No timber, scattering brush; fair grazing.

- North, bet. secs. 7 and 12.  
 Over mountainous land, across rough ridges and gulches; descend.
- 10.00 Gulch, course SE.; ascend.  
 26.00 Top of ridge, brs. SE. and NW.; descend.

Chains.

- 40.00 Set a granite 18x12x7 ins. 12 ins. in the ground for  $\frac{1}{4}$  sec.cor., marked with  $\frac{1}{4}$  on W. face, and raised a mound of stone 2 ft. base, 1 $\frac{1}{2}$  ft. high, W.of cor. Pits impracticable.
  - 46.00 Wash, 100 lks.wide, course SE.
  - 62.00 Gulch, 300 ft. deep, course SE.; ascend abruptly.
  - 76.28 Point on line; top of ridge, brs.SE. and NW.; descend.
  - 80.00 Set a granite stone 18x12x6 ins. in a mound of stone for cor.of secs. 1,6,7 and 12, marked with 1 notch on N., and 5 notches on S.edges, and raised a mound of stone 2 ft. base, 1 $\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.
- Land, mountainous.  
Soil, rocky, 4th rate.  
No timber.

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- North, bet, secs.1 and 6.  
Over mountainous land, descend.
- 9.50 Gulch, course SE.; ascend.
  - 19.50 Top of ridge, brs.SE. and NW.; descend.
  - 28.00 Gulch, course SE.; ascend.
  - 31.50 Top of ridge, brs.SE. and NW. descend.
  - 38.00 Gulch, course E.; ascend.
  - 40.00 Set a granite 20x10x8 ins., 15 ins. in the ground for  $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on W.face, and raised a mound of stone 2 ft.base, 1 $\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.
  - 42.60 Top of ridge, brs.N.60°E. and S.60°W.; descend.
  - 51.00 Gulch, course N.60°E.; ascend.
  - 60.80 Top of ridge, brs. N.70°E., and S.70°W.; descend.
  - 76.50 Gulch, course S. 60°E.; ascend.
  - 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor.of Tps. 18 and 19 N.,Rs.13 and 14 W., marked on brass cap,
    - T 19 N in N.,
    - R 13 W in E.,
    - T 18 N. in S., and
    - R 14 W. in W.half;
    - S 36 in NW.,
    - S 31 in NE., and
    - S 6 in SE., and
    - S 1 in SW.quadrant; and raise a mound of stone 2 ft. base, 1 $\frac{1}{2}$  ft. high,S.of cor. Pits impracticable.
- Land, mountainous.  
Soil, rocky, 4th rate.  
No timber.

February 18, 1911.

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GENERAL DESCRIPTION.

This line passes over the high foot-hills of the E.slope of the Hualpai Mountains, across saw-points known locally as the Devil's Wash-board.  
The points are frequent and high, with slopes from 15° to 30° incline.  
There is no water on the line, and the land has value only for grazing purposes, there being a fair growth of bunch grass.  
The soil is a heavy disintegrated granite sand and gravel.

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Latitudes, departures, and closing errors.

| Line designated. | True bearing.      | Distance.<br>chs. | Latitudes. |            | Departures. |            |
|------------------|--------------------|-------------------|------------|------------|-------------|------------|
|                  |                    |                   | N.<br>chs. | S.<br>chs. | E.<br>chs.  | W.<br>chs. |
| North Bdy.       | S.89°57'E.         | 479.05            |            | 0.42       | 479.05      |            |
| East Bdy.        | South,             | 480.00            |            | 480.00     |             |            |
| South Bdy.       | West,              | 479.50            |            |            |             | 479.50     |
| West "           | North,             | 480.00            | 480.00     |            |             |            |
| Convergency,     |                    |                   |            |            | 0.51        |            |
|                  | Totals, -----      |                   | 480.00     | 480.42     | 479.56      | 479.50     |
|                  |                    |                   |            | 480.00     | 479.50      |            |
|                  | Error in lat.----- |                   |            | 0.42       | 0.06        |            |
|                  | Error in dep.----- |                   |            |            |             |            |

Chains.

February 19: At 8:00 a.m., l.m.t., I set off 34° 59' N. on the lat. arc; 11° 29' S. on the decl. arc, and determine a meridian at the cor. of Tps. 18 and 19 N., Rs. 12 and 13 W. just described,

Thence I run, West on a random line along the N. bdy. of Tp. 18 N., R. 13 W., setting temporary 1/4 sec. and sec. cors. at intervals of 40.00 and 80.00 chs., and at 479.05 chs. intersect W. bdy. Tp. 42 lks. S. of cor. to Tps. 18 and 19 N., Rs. 13 and 14 W.; therefore I run, S. 89° 57' E., bet. secs. 6 and 31.

2.10 Descending diagonally over rough, high ridges and gulches. Old township cor., a lin. x lin. stake, marks indistinct, in a mound of stone.

3.25 Descend abruptly.  
10.00 Foot of steep descent. Proceed over rough ridges, drainage SE.

39.05 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 S 31 in N., and S 6 in S. half; and raised a mound of stone 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

Ascend steep slope.  
60.20 Top of ridge, brs. NW. and SE.; descend.  
67.00 Gulch, course S. 75° E.; ascend.

79.05 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, marked on brass cap,  
T 19 N in N.,  
T 18 N in S., and  
R 13 W in W. half;  
S 31 in NW.,  
S 32 in NE.,  
S 5 in SE., and  
S 6 in SW. quadrant; and raise a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

Land, rough and hilly.  
Soil, a heavy disintegrated granite sand and gravel.  
No timber; fair grazing.

S. 89° 57' E., bet. secs. 5 and 32.  
Over rough hilly land; ascend.

13.93 Point on line; top of ridge, bears NW. and SE.; descend.  
40.00 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 S 32 in N., and S 5 in S. half; and raise a mound of stone 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

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, marked on brass cap,  
T 19 N in N.,  
T 18 N in S.,  
R 13 W in W. half;  
S 32 in NW.,  
S 33 in NE.,  
S 4 in SE., and  
S 5 in SW. quadrant; 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, rough and hilly.  
Soil, a heavy granite sand.  
No timber.  
Fair grazing.

Sky overcast at noon.

16. Resurvey North bdy. of Township 18 North, Range 13 West.

Chains.

S.89°57'E., bet. secs.4 and 33.  
 Descend over rolling land.

9.73 Foot of descent. Road, Kingman to Signal, bears N.and S.  
 Ascend.

12.00 Ascend abruptly.

28.00 Top of ridge, brs.NE.and SW.; descend.

30.80 Draw, course NE.; ascend.

40.00 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 33 in N.; and  
 S 4 in S.half; and raise a mound of stone 2 ft. base,  
 1 $\frac{1}{2}$  ft. high,N.of cor. Pits impracticable.

48.28 Top of ridge, brs.NE.and SW.

48.40 Descend steep SE. slope.

64.25 Foot of steep slope.

64.40 Hackberry road, brs.N.and S.

65.00 Enter valley of Big Sandy.

69.15 West edge of wash, course S.

76.40 East edge of wash, course S.

80.00 Old corner to secs. 3,4,33 and 34, which I destroy, bears  
 N.59°05'E. dist., 4.70 chs.  
 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, marked on  
 brass cap,  
 T 19 N in N.,  
 T 18 N in S., and  
 R 13 W in W.half,  
 S 33 in NW.,  
 S 34 in NE.,  
 S 3 in SE., and  
 S 4 in SW. quadrants, and raise a mound of stone 2  
 ft.base, 1 $\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.  
 Land, heavily rolling.  
 Soil, a heavy granite sand and gravel; fair grazing.  
 February 19,1911.

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February 20: At 8:00 a.m., l.m.t., I set off 11°08'S.on  
 the decl.arc; 34°59'N. on the lat.arc, and determine  
 a meridian with the solar at the cor.of secs.3,4,33  
 and 34; thence I run,  
 S.89°57'E., bet. secs. 3 and 34.  
 Ascend from valley of the Sandy, over mountainous land,  
 through palo verde and dense brush.

25.80 Top of spur, bears NW.; descend.

35.00 Gulch, course NW. at head; ascend.

40.00 Set a granite 20x14x10 ins., 15 ins. in the ground for  
 $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on N.face, and raised a mound of  
 stone 2 ft. base, 1 $\frac{1}{2}$  ft. high,N.of cor. Pits imprac-  
 ticable.

51.50 Top of spur, bears NW. and SE.; descend.

55.60 Gulch, 15 lks.wide, course NW.; ascend.

62.00 High butte on ridge is 15 chs. S.

72.50 Rocky spur brs.NW.; descend.

80.00 Set a granite 36x16x12 ins. on bed-rock, in a mound of  
 stone for cor.of secs. 2,3,34 and 35, marked with 2  
 notches on E. and 4 notches on W.edges, and raised a  
 mound of stone 2 ft.base, 1 $\frac{1}{2}$  ft. high,W.of cor. Pits  
 impracticable.  
 Land, mountainous and covered with dense oak and other  
 brush.  
 Soil, thin and rocky.

February 20: At this cor. I set off 11°05'S.on the decl.  
 arc; and at 12h.14m.p.m., l.m.t., I observe the sun  
 on the meridian; the resulting lat. is 34°59'N.

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Chains

- S.89°57'E. bet. secs. 2 and 35.  
Over mountainous land, through dense palo negro and brush.
- 0.20 Gulch 20 lks.wide, near head, course N.; ascend.  
4.20 Spur, brs. NW.; descend.  
7.60 Gulch, 80 lks.wide, course NW.; ascend.  
14.00 Spur, bears NW.; descend.  
26.00 Head of gulch, course NW.; main gulch about 10 chs.N.  
40.00 Top of ridge, bears NE.and SW. Set a granite 36x15x12 ins. on bed-rock, in a mound of stone, for  $\frac{1}{4}$  sec.cor., marked  $\frac{1}{4}$  on N.face, and raised a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high,N.of cor. Pits impracticable.  
46.00 Head of gulch, course SW.  
53.00 Spur, bears SW.; descend.  
59.00 Gulch, course SW.; ascend.  
65.00 Spur, bears SW.; descend.  
69.60 Gulch, course SW.; ascend.  
77.80 Top of mountain range, bears N.and S.; apex 2 chs.S.; elevation, 4350 ft.; descend.  
80.00 Set a granite 30x14x8 ins. on bed-rock, in a mound of stone for cor.of secs. 1,2,35 and 36, marked with 1 notch on E. and 5 notches on W.edges, and raised a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.
- Land, mountainous.  
No soil; dense palo negro with oak and other brush.

- S.89°57'E., bet. secs.1 and 36.  
Descend steep E.slope of mountain, through dense brush.
- 35.00 West rim of canon, bears N.15°W. and S.15°E.  
Descend precipitously.  
40.00 Cor. point comes in canyon,200 ft. deep, 6 chs.wide, course S.  
46.00 Set a granite, 30x10x8 ins. in a mound of stone for witness cor. to  $\frac{1}{4}$ sec.cor., marked W C  $\frac{1}{4}$  on N.face, and raised a mound of stone 2 ft.base,  $1\frac{1}{2}$  ft. high,N.of cor. Pits impracticable.  
51.00 Top of high rocky ridge, brs.SE.and NW.; descend.  
64.00 Canyon, 50 lks.wide, course SE.; ascend.  
71.60 Point on spur, bears N.and S.  
80.00 The cor.of Tps. 18 and 19 N., Rs.12 and 13 W., heretofore described.
- Land, mountainous; soil, thin, 4th rate.  
Dense oak and other brush.

February 20, 1911.

GENERAL DESCRIPTION.

The easterly three miles of this line are very rough and mountainous, extending down the west slope of a high mountain range, over frequent high points and deep gulches diagonally, and through dense palo negro and scrub oak.

It crosses the narrow valley of the Big Sandy near the east line of sec.4; then rises to the west, over rough, rolling foothills toward the Hualapai Mountains, on which grows the palo negro and greaseweed, with a fair growth of bunch grass.

There is no water on the line, the Big Sandy being a dry sandy wash.

The easterly three miles is of a mineral character, and has no other value. Iron posts impracticable to set on account of bed-rock.

The westerly three miles is fit only for grazing.

February 21: At 8:00 a.m., l.m.t., I set off  $10^{\circ}46'S$ . on the decl. arc;  $34^{\circ}59'N$ . on the lat. arc, and determine a meridian at the cor. of Tps. 18 and 19 N., Rs. 13 and 14 W. heretofore described.

Thence I run,  
North, bet. secs. 31 and 36.  
Over rough, hilly land, through scattering palo negro; ascend.

1.29 Point on line, top of ridge, bears NW. and SE., through dense brush.

40.00 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 36 in E., and S 31 in W. half; and raised a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

40.08 A granite rock  $20 \times 12 \times 8$  ins., in a mound of stone, marked  $\frac{1}{4}$  on N., bears E. 12 lks. dist.

61.00 Edge of bluff of valley, bears E. and W.; descend abruptly.

63.00 Foot of bluff; proceed over level land.

65.00 Wash, course  $S. 80^{\circ} E.$

79.25 Wash, 50 lks. wide, course SE.

80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, marked on brass cap,  
T 19 N in N. half,  
R 14 W, S 25 in NW.,  
R 13 W, S 30 in NE.,  
S 31 in SE., and  
S 36 in SW. quadrant; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Land, rough and hilly, 61 chs.; level, 19 chs.  
Soil, a heavy disintegrated granite sand and gravel.  
Timber, scattering palo negros.

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North, bet. secs. 25 and 30.  
Over rough broken saw points and deep gulches, through scattering palo negros.

1.00 Foot of bluff of ridge; ascend abruptly 25 ft.

4.40 Top of ridge, brs. NW. and SE.; descend.

13.00 Gulch, course SE.

20.00 Wash, course SE.

31.00 Wash, course SE.

40.00 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 25 in W., and S 30 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Ascend.

69.25 Point on line.

75.00 Head of wash, course SE.

80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in ground for cor. of secs. 19, 24, 25 and 30, marked on brass cap,  
T 19 N in N. half;  
R 14 W, S 24 in NW.,  
R 13 W S 19 in NE.,  
S 30 in SE., and  
S 25 in SW. quadrant, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Land, rough and hilly.  
Soil, heavy disintegrated granite sand and gravel.  
Timber, scattering palo negro.

At this cor. I set off  $10^{\circ}44'S$ . on the decl. arc; and at 12h. 14m. p.m., l.m.t., observe the sun on the meridian; the resulting lat. is  $35^{\circ}01' N$ .

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## Resurvey of West Bdy. of Township 19 North, Range 13 West. .19.

Chains.

- North, bet. secs. 19 and 24.  
Over rough hilly land, through dense brush, catclaw and cactus; ascend.
- 9.60 Top of ridge, brs. SE. and NW.; descend.
- 26.00 Draw, course E.; ascend.
- 40.00 Top of ridge, bears N. 80° E. and S. 80° W. 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 24 in W., and S 19 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Descend.
- 44.00 Gulch, course N. 75° E.; ascend.
- 46.00 Ascend steep slope.
- 54.00 Top of ridge, bears E. and W.; descend.
- 56.00 Foot of steep descent; ascend.
- 65.30 Top of sharp hog-back, 100 ft. high, bears S. 75° E. and N. 75° W.; descend abruptly.
- 67.20 Foot of descent.
- 75.00 Wash, course S. 75° E.
- 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, marked on brass cap,  
T 19 N in N. half;  
R 14 W S 13 in NW.,  
R 13 W, S 18 in NE.,  
S 19 in SE., and  
S 24 in SW. quadrants, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, rough and hilly.  
Soil, a heavy granite sand, covered with dense brush, catclaws and cactus, with fair grazing.  
February 21, 1911.

February 23: At 8:00 a.m., l.m.t., I set off 35° 02' N. on the lat. arc; 10° 03' S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 13, 18, 19 and 24; thence I run,

North, bet. secs. 13 and 18.

Over rolling ridges, through scattering brush and palo negros.

- 1.00 Foot of ridge; ascend steep slope, 34°.
- 2.50 Top of sharp hog-back, 200 ft. high, bears W. and S. 75° E. Descend abruptly.
- 5.00 Foot of steep descent.
- 24.00 Draw, 3 chs. wide, course SE.; ascend.
- 40.00 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 13 in W., and S 18 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- 49.00 Top of high ridge, brs. NW. and SE.; descend.
- 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, marked on brass cap,  
T 19 N in N. half;  
R 14 W, S 12 in NW.,  
R 13 W, S 7 in NE.,  
S 18 in SE.,  
S 13 in SW. quadrant, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, rough and hilly.  
Soil, a heavy disintegrated granite sand.  
Timber, scattering palo negro and brush; fair grazing.



## 20. Resurvey West bdy. of Township 19 North Range 13 West.

Chains.

- North, bet. secs. 7 and 12.  
Over broken, heavily rolling land, through scattering palo negro and cedars.
- 10.00 Enter draw.  
13.00 Wash, 100 lks. wide, course SE.  
15.00 Leave draw.  
40.00 Set an iron post 3 ft. long, 1 in. diam., 26 ins. in the ground, for  $\frac{1}{4}$  sec. cor., marked on brass cap,  
 $\frac{1}{4}$  S 12 in W. half; and  
S 7 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
41.00 Gulch, course NE.  
78.00 Gulch, 300 lks. wide, course NE.  
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, marked on brass cap,  
T 19 N in N. half;  
R 14 W, S 1 in NW.,  
R 13 W, S 6 in NE.,  
S 7 in SE., and  
S 12 in SW. quadrant; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, heavily rolling.  
Timber, scattering palo negro and cedars.  
Soil, a granite sand with a loam sub-soil; fair grazing.

- North, bet. secs. 1 and 6.  
Over broken, heavily rolling land, through scattering palo negros and cactus.
- 3.00 Top of ridge, bears N. 75° E. and S. 75° W.  
10.00 Descend.  
13.70 Foot of descent; ascend.  
40.00 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 1 in W.; and  
S 6 in E. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
43.00 Wash, 100 lks. wide, course SE.; ascend.  
55.00 Top of spur, NW. and SE.; descend.  
60.00 Descend abruptly.  
72.00 Draw, course SE.; ascend.  
80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of Tps. 19 and 20 N., Rs. 13 and 14 W., marked on brass cap,  
T 20 N in N.,  
R 13 W in E.,  
T 19 N in S., and  
R 14 W in W. half;  
S 36 in NW.,  
S 31 in NE.,  
S 6 in SE.; and  
S 1 in SW. quadrant; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, S. of cor. Pits impracticable.  
Land, rough and broken.  
Soil, granite sand, with a heavy loam sub-soil.  
Timber, scattering palo negro; fair grazing.  
February 23, 1911.

GENERAL DESCRIPTION.

This line passes over the broken foot-hills of the east slope of the Hualpai Mountains, across frequent saw-

points and gulches.

The soil is a heavy, disintegrated sand and gravel, on which grows scattering cedars, palo negro, and greaseweed, with a fair growth of bunch grass.

There is no water on the line, and the land is of value only for grazing.

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22. Resurvey of North bdy. Township 19 North, Range 13 West.

Chains.

February 24: At 8:00 a.m., l.m.t., I set off 9° 41'S. on the decl. arc; 35° 04' N. on the lat. arc, and determine a meridian with the solar at the corner of Tps. 19 and 20 N., Rs. 12 and 13 W., described in Book A.

Thence I run, West, on a random line, along the N. bdy. of Tps. 19 N., R. 13 W., setting temporary 1/4 sec. and sec. cors. at intervals of 40.00 and 80.00 chs.; and at 478.50 chs. intersect W. bdy. of Tp. 20 lks. S. of cor. to Tps. 19 and 20 N., Rs. 13 and 14 W., heretofore described.

Therefore, I run, S. 89° 55' E., bet. secs. 6 and 31. Ascend steep slope of hill.

0.75 Top of hill. Descend steep slope diagonally through palo negro, and brush.

16.20 Gulch, course SE.; ascend steep slope.

28.20 Top of ridge, bears NW. and SE.; descend.

38.50 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 S 31 in N., and S 6 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high, N. of cor.

71.50 Wash, 50 lks. wide in draw, 4 chs. wide, course SE.

78.50 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, marked on brass cap,

- T 20 in N.,
- T 19 in S.,
- R 13 W in W. half,
- S 31 in NW.,
- S 32 in NE.,
- S 5 in SE., and

S 6 in SW. quadrant; and raise a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

Land heavily rolling.

Soil, a granite sand, mixed with loam; timber, palo negro and brush.

February 24: At this cor. I set off 9° 38' S. on the decl. arc; and at 12h. 14m. p.m., l.m.t., observe the sun on the meridian; the resulting lat. is 35° 04' N.

S. 89° 55' E., bet. secs. 5 and 32.

Over rough saw-points through scattering cedars and palo negros.

40.00 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 S 32 in N., and S 5 in S. half; and raise a mound of stone 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

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, marked on brass cap,

- T 20 N in N.,
- T 19 N in S. and,
- R 13 W in W. half,
- S 32 in NW.,
- S 33 in NE.,
- S 4 in SE., and

S 5 in SW. quadrant; and raise a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

Land, rough and hilly.

Timber, scattering cedars and palo negro; fair grazing.

Chains

S.89°55'E., bet. secs. 4 and 33.  
 Over rough hilly land; descend.  
 20.30 Wash, 200 lks.wide, course SE.; ascend.  
 37.30 Top of ridge, brs.NW. and SE.; 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., marked on brass cap,  
 $\frac{1}{4}$  S 33 in N., and  
 S 4 in S. half; and raise a mound of stone 2 ft. high,  
 $1\frac{1}{2}$  ft. base,N.of cor. Pits impracticable.  
 66.20 Wash, course S.20°E.; ascend.  
 75.60 Top of ridge, brs.NW. and SE.; descend.  
 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, marked on  
 brass cap,  
 T 20 N in N.,  
 T 19 N in S.,  
 R 13 W in W.half,  
 S 33 in NW.,  
 S 34 in NE.,  
 S 3 in SE., and  
 S 4 in SW. quadrant; and raise a mound of stone 2  
 ft.base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.  
 Land, rough and hilly.  
 Timber, scattering palo negros.  
 Soil, granite, mixed with loam; fair grazing.  
 February 24, 1911.

February 25: At 8:00 a.m., l.m.t., I set off 35°04'N. on  
 the lat.arc; 9°18 $\frac{1}{2}$ 'S. on the decl.arc; and determine  
 a meridian with the solar at the cor.of secs.3,4,33  
 and 34.

Thence I run,  
 S.89°55'E., bet. secs.3 and 34.  
 Over hilly land; descend.  
 1.00 Foot of descent.  
 1.25 Kingman road, brs. NW.and SE.  
 7.00 Ascend.  
 8.55 Top of ridge, brs.NE.and SW.; descend abruptly.  
 11.00 Foot of steep slope; enter valley of Big Sandy.  
 21.10 Hackberry road, bears NE.and SW.  
 39.25 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for witness cor. to  $\frac{1}{4}$  sec.cor., marked on  
 brass cap,  
 W C  $\frac{1}{4}$  in E.half;  
 S 34 in NW., and  
 S 3 in SW. quadrant; dig pits 18x18x12 ins.E.and W.  
 of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft.  
 base,  $1\frac{1}{2}$  ft. high,N.of cor.  
 39.90 East edge of sandy wash, course from N.to SW.  
 49.00 East bank of Big Sandy Wash, 5 chs. S. of mouth of Wild  
 Bee Canyon; ascend.  
 49,50 Top of point, brs.S.; descend.  
 52.30 Foot of descent... Ascend diagonally across Wild Bee Canyon.  
 67.00 Center of Wild Bee Canyon 200 lks.wide, course N.70°W.  
 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for cor. of secs. 2,3,34 and 35, marked on  
 brass cap,  
 T 20 N in N.,  
 T 19 N in S., and  
 R 13 W in W.half;  
 S 34 in NW.,  
 S 35 in NE.,  
 S 2 in SE., and  
 S 3 in SW. quadrant; and raise a mound of stone 2 ft.  
 base,  $1\frac{1}{2}$  ft. high,W.of cor. Pits impracticable.  
 Land, rolling.  
 Soil, sandy loam; no timber; fair grazing.

24. Resurvey North Bdy. of Township 19 North, Range 13 West.

Chains.

- S. 89° 55' E., bet. secs. 2 and 35.
  - 4.00 Ascend abruptly from canyon.
  - 6.90 Top of point; ascend steep rocky S. slope of high ridge on N. side of Wild Bee Canyon, through palo negros and brush.
  - 40.00 Set a granite stone 18x16x5 ins. on bed-rock, in a mound of stone for  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on N. face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.
  - 80.00 Set a granite stone 30x16x8 ins., on bed-rock, in a mound of stone for cor. of secs. 1, 2, 35 and 36, marked with 1 notch on E. and 5 notches on W. edges, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.
- Land, mountainous.  
Soil, thin and rocky.  
Timber, palo negro and dense brush.

- 
- S. 89° 55' East, bet. secs. 1 and 36.
  - Over mountainous land; ascend steep SW. slope, over boulders and saw-points, through dense brush, palo negros and cactus.
  - 40.00 Set a granite stone 14x12x12 ins. on bed-rock, in a mound of stone for  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on N. face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, N. of cor. Pits impracticable.
  - 80.00 The cor. to Tps. 19 and 20 N., Rs. 12 and 13 W.  
Land, rough and mountainous; soil, thin and rocky.  
Timber, palo negro; with dense brush and cactus.
- February 25, 1911.

GENERAL DESCRIPTION.

The easterly two miles of this line is rough and mountainous, extending down the steep west slope of a high mountain range. Iron posts impracticable. This land has no value except for the mineral it may contain.

The Big Sandy crosses the line near the center of sec. 3. This valley is narrow, and contains no water in this township.

East of the Big Sandy, the line runs over the rolling, broken foot-hills of the west slope of the Hualpai Mountains. The soil is a heavy granite sand and gravel on which grows scattering cedars, palo negro and greasewood, with a fair growth of bunch grass, and is chiefly valuable for grazing.

There is no water in the vicinity of the line.

Chains.

Latitudes, departures, and closing errors.

| Line designated. | True bearing. | Distance. | Latitudes. |               | Departures. |               |
|------------------|---------------|-----------|------------|---------------|-------------|---------------|
|                  |               |           | N.         | S.            | E.          | W.            |
|                  |               | chs.      | chs.       | chs.          | chs.        | chs.          |
| N.bdy.           | S.89° 55'E.   | 478.50    |            | 0.70          | 478.50      |               |
| E.bdy.           | South,        | 480.00    |            | 480.00        |             |               |
| S.bdy.           | N.89°57' W.   | 479.05    | 0.42       |               |             | 479.04        |
| W. bdy.          | North,        | 480.00    | 480.00     |               |             |               |
| Convergency,     |               |           |            |               | 0.51        |               |
| Totals,          |               |           | 480.42     | 480.70        | 479.01      | 479.04        |
|                  |               |           |            | <u>480.42</u> |             | <u>479.01</u> |
| Error in lat.,   |               |           |            | 0.28          |             |               |
| Error in Dep.,   |               |           |            |               |             | 0.03          |

## 26. Resurvey West bdy. of Township 20 North, Range 13 West.

Chains.

February 27: At 8:00 a.m., l.m.t., I set off  $35^{\circ}04'N$ . on the lat. arc;  $8^{\circ}34'S$ . on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 19 and 20 N., Rs. 13 and 14 W. heretofore described.

Thence I run,  
 North, bet. secs. 31 and 36.  
 Over mountainous land; ascend.

1.50 Top of point of slope.  
 13.00 Top of narrow ridge, brs. NW. and SE.; drains to SE. and SW.; at 3 chs. E. turns S.; descend.  
 18.00 Head of gulch, course  $S.60^{\circ}E$ .; ascend.  
 23.40 Top of ridge, brs.  $N.60^{\circ}W$ ., and  $S.60^{\circ}E$ .; descend.  
 29.75 Gulch, course  $S.70^{\circ}E$ .; ascend.  
 40.00 Set a granite stone  $20 \times 14 \times 8$  ins., in a mound of stone for  $\frac{1}{4}$  sec. cor., marked  $\frac{1}{4}$  on W. face, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

40.50 Top of ridge, brs. E. and W.; descend.  
 51.00 Gulch, course E.; ascend.  
 56.80 Top of high ridge, bears E. and W.; descend.  
 68.50 Gulch, course E.; ascend.  
 75.00 Top of ridge, brs. E. and W.; descend abruptly.  
 79.00 Gulch, course E.; ascend.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, marked on brass cap,  
 T 20 N in N. half;  
 R 14 W S 25 in NW.,  
 R 13 W, S 30 in NE.,  
 S 31 in SE., and  
 S 36 in SW. quadrant; and raise a mound of stone 3 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Land, mountainous.  
 Soil, heavy granite sand and gravel.  
 No timber.

---

North, bet. secs. 25 and 30.  
 Over mountainous land; ascend.

6.00 Top of high ridge, bears E. and W.; descend.  
 14.00 Center of draw, course E.; ascend.  
 21.00 Top of ridge, brs. E. and W.; proceed over narrow ridges; descend through brush and palo negro.  
 40.00 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 on E., and  
 S 25 on W. half; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

54.00 Ridge, brs. E. and W.  
 72.00 Enter wash, course  $S.70^{\circ}E$ .  
 79.00 Leave wash; foot of steep slope.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in ground, for cor. of secs. 19, 24, 25 and 30, marked on brass cap,  
 T 20 in N. half;  
 R 14 W, S 24 in NW.,  
 R 13 W, S 19 in NE.,  
 S 30 in SE., and  
 S 25 in SW. quadrant; and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.

Land, mountainous.  
 Soil, heavy granite, sand and gravel.  
 Timber, palo negro, with cat-claw and other brush; fair grazing.

February 27: At this cor. I set off  $8^{\circ}31'S$ . on the decl. arc, and at 12h. 13m. p.m., l.m.t., I observe the sun on the meridian; the resulting lat. is  $35^{\circ}06'N$ .

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## Resurvey of West bdy Township 20 North, Range 13 West. 27.

Chains

- North, bet. secs. 19 and 24.  
Over heavily rolling land, through scattering cedars, pinons and scrub oak. Ascend.
- 10.00 Sharp ridge brs.E.and W.; descend.  
13.40 Wash, 40 lks.wide, course E.; ascend.  
18.00 Spur, brs.E.and W.; descend.  
21.10 Wash, 30 lks.wide, course SE.; ascend.  
28.00 Ridge, brs.E.and W.; descend.  
31.50 Wash, 60 lks.wide, course E.; ascend.  
35.00 Top of ridge, brs.E.and W.; descend.  
38.10 Wash, 60 lks.wide, course E.; ascend.  
40.00 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 24 in W., and  
S 19 in E.half; from which,  
A cedar, 12 ins.diam., bears S.49°W., 164 lks.dist., marked  $\frac{1}{4}$  S 24 B T.  
A cedar 10 ins.diam., bears S.52°E., 294 lks.dist., marked  $\frac{1}{4}$  S 19 B T.
- 55.44 Wash, 50 lks.wide, course SE.  
74.75 Wash, 50 lks.wide, course SE.  
80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor.of secs. 13,18,19 and 24, marked on brass cap,  
T 20 N in N.half;  
R 14 W, S 13 in NW.,  
R 13 W, S 18 in NE.,  
S 19 in SE., and  
S 24 in SW. quadrant; from which,  
A cedar, 15 ins. in diam., bears S.23°W., 253 lks. dist., marked T 20 N, R 14 W S 24 B T. ; 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.  
Land, heavily rolling.  
Soil, heavy granite sand.  
Timber, scattering cedars, pinons, and scrub oak; fair grazing.

February 27, 1911.

- February 28: At 8:00 a.m., l.m.t., I set off 8°11'S on the decl.arc; 35°07'N. on the lat.arc, and determine a meridian with the solar at the cor.of secs. 13,18,19 and 24.  
Thence I run,  
North, bet. secs. 13 and 18.  
Over heavily rolling land, through scattering cedars and scrub oak.
- 11.65 Wash, 20 lks.wide, course SE.  
20.55 Wash, 20 lks.wide, course SE.  
39.50 Wash, 30 lks.wide, course 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., marked on brass cap,  
 $\frac{1}{4}$  S 13 in W., and  
S 18 in E.half; dig pits 18x18x12 ins. N.and S.of post 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$  ft. base, 1 $\frac{1}{2}$  ft. high,W.of cor.
- 51.00 Wash, 20 lks.wide, course E.  
60.00 Wash, 60 lks.wide, course S,60°E.  
62.20 Kingman road brs.NW. and SE.  
80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor.of secs. 7,12, 13 and 18, marked on brass cap,  
T 20 N. in N.half,  
R 14 W, S 12 in NW.,  
R 13 W, S 7 in NE.,  
S 18 in SE., and  
S 13 in SW. quadrant; and raise a mound of stone



## 28. Resurvey of West bdy. of Township 20 North, Range 13 West.

Chains.

2 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
Land, heavily rolling.  
Soil, heavy granite sand.  
Timber, scattering cedar and scrub oak.

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

Over very broken, choppy land, and numerous small, deep  
arroyos, drainage east, through dense cedars and pinons.

- 2.50 Wash, 200 lks. wide, course E.  
33.50 Wash, 200 lks. wide, course 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., marked on brass cap,  
 $\frac{1}{4}$  S 12 on W., and  
S 7 in E. half; from which  
A cedar 5 ins. diam., brs. S.  $18^{\circ}50'E.$ , 200 lks. dist.,  
marked  $\frac{1}{4}$  S 7 B T.  
A cedar 5 ins. diam., brs. N.  $23^{\circ}E.$ , 58 lks. dist.,  
marked  $\frac{1}{4}$  S 7 B T.  
46.60 Arroyo, 60 lks. wide, 50 ft. deep, course E.  
55.00 Gulch, course S.  $70^{\circ}E.$   
60.00 Gulch, course S.  $60^{\circ}E.$   
68.00 Gulch, course N.  $60^{\circ}E.$   
73.00 Gulch, course E.  
80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in  
the ground for cor. of secs. 1, 6, 7 and 12, marked on  
brass cap,  
T 20 N in N. half;  
R 14 W, S 1 in NW.,  
R 13 W, S 6 in NE.,  
S 7 in SE., and  
S 12 in SW. quadrants; from which,  
A cedar, 6 ins. diam., bears S.  $38^{\circ}E.$ , 79 lks. dist.,  
marked T 20 N, R 13 W S 7 B T.  
A cedar, 12 ins. diam., bears N.  $65^{\circ}50'E.$ , 107 lks.  
dist., marked T 20 N R 13 W S 6 B T.  
A cedar 6 ins. diam., bears S.  $2^{\circ}W.$ , 82 lks. dist.,  
marked T 20 N, R 14 W S 12 B T.  
A cedar, 10 ins. diam., bears N.  $9^{\circ}45'W.$ , 53 lks. dist.,  
marked T 20 N, R 14 W., S 1 B T.

Land, very broken.

Soil, heavy, granite sand.

Timber, dense cedars and pinons; fair grazing.

February 28: At this cor., at 12h. 13m. 1.m.t., I set off  
 $8^{\circ}08\frac{1}{2}'$  S. on the decl. arc, and observe the sun on  
the meridian; the resulting lat. is  $35^{\circ}09'N.$

-----  
North bet. secs. 1 and 6.

Over very broken, rolling land, through dense cedars & pinons.

- 4.50 Wash, 80 lks. wide, course S.  $80^{\circ}E.$ . Ascend.  
10.00 Top of ascent; descend.  
15.00 Gulch, course S.  $80^{\circ}E.$   
18.00 Gulch, course S.  $80^{\circ}E.$ ; ascend.  
22.00 Top of ascent; descend.  
25.00 Gulch, course E.  
30.00 Gulch, course S.  $60^{\circ}E.$   
33.00 Head of gulch, course S.  $70^{\circ}E.$   
35.00 Gulch, course S.  $75^{\circ}E.$ ; ascend.  
40.00 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 1 on W., and  
S 6 in E. half; from which,  
A cedar 12 ins. in diam. brs. N.  $4^{\circ}E.$ , 60 lks. dist.,  
marked  $\frac{1}{4}$  S 1 B T.  
A cedar 8 ins. diam., bears S.  $38^{\circ}W.$ , 70 lks. dist.,  
marked  $\frac{1}{4}$  S 6 B T.  
42.00 Top of ridge, brs. E. and W.; descend.

Resurvey of West bdy. of Township 20 North, Range 13 West. 29.

Chains.

50.00 Gulch, course E.; ascend.  
 57.00 Ridge bears S. 70°E., and N.70°W.; descend.  
 62.00 Gulch, course S.60° E.; ascend.  
 70.00 Top of ascent.  
 78.30 Intersect the 5th Standard Parallel North, 26.75 chs E. of standard cor. of Tps. 20 N., Rs.13 and 14 W., described in Book C.  
 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for closing cor. to Tps.20 N., Rs.13 and 14 W., marked on brass cap,  
 CC, S.of center,  
 T 21 N, R 14 W, S 36 R 13 W, S 31 in N., and  
 T 20 N. in S.half;  
 S 6, R 13 W in SE., and  
 S 1 R 14 W in SW. quadrant; from which,  
 A cedar 20 ins.diam., bears S.12°30'E., 167 lks.dist., marked T 20 N, R 13 W S 6 B T.  
 A cedar 12 ins.diam., bears S.23°W., 271 lks.dist., marked T 20 N, R 14 W S 1 B T.  
 Land, rough and hilly.  
 Soil, heavy granite sand.  
 Timber, dense cedars and pinons; fair grazing.  
 February 28, 1911.

GENERAL DESCRIPTION.

This line passes across the rugged ridges and gulches of the foot-hills of the eastern slope of the Hualpai Mountains. The soil is composed of a heavy, disintegrated granite sand and gravel, which produces a fair growth of bunch grass, though there is no water in the vicinity of the line.

Boundaries of Township 20 North, Range 13 West.

Latitudes, departures and closing errors.

| Line designated.          | True bearing. | Distance. | Latitudes. |        | Departures. |        |        |        |
|---------------------------|---------------|-----------|------------|--------|-------------|--------|--------|--------|
|                           |               |           | N.         | S.     | E.          | W.     |        |        |
|                           |               | chs.      | chs.       | chs.   | chs.        | chs.   |        |        |
| 5th.Std.Par.N.            | East,         | 477.49    |            |        | 477.49      |        |        |        |
| E. Bdy.                   | South,        | 480.00    |            | 480.00 |             |        |        |        |
| S. Bdy.                   | N.89°55'W.    | 478.50    | 0.70       |        |             | 478.48 |        |        |
| W. Bdy.                   | North,        | 478.30    | 478.30     |        |             |        |        |        |
| Convergency,              |               |           |            |        | 0.51        |        |        |        |
| Totals,                   |               |           |            |        | 479.00      | 480.00 | 479.00 | 478.48 |
|                           |               |           |            |        | 479.00      |        | 478.00 |        |
| Error in latitude, -----  |               |           |            |        | -1.00       |        |        |        |
| Error in departure, ----- |               |           |            |        |             |        | .48    |        |

30. Resurvey of East bdy. of Township 21 North, Range 15 West. Chains.

Survey commenced March 19, 1911, and executed with a Buff & Burger engineer's transit, No. 672, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other, reading to 30" of arc. I examine the adjustments of the transit and solar apparatus, and find them to be correct; then, to test the solar apparatus by comparing its indications, resulting from solar observations made during a.m. and p.m. hours, with a meridian determined by observations on Polaris, I proceed as follows:

At the Std. cor. to Ts. 21 N., Rs. 14 and 15 W., described in Book C., at 7h.38m.p.m., l.m.t., I observe Polaris at western elongation, in accordance with the Manual of Instructions, and mark a point in the line thus determined, on a stake set in the ground about 5 chs. N. of my station,

March 19, 1911.

March 20: At 7:30 a.m., l.m.t., I lay off the azimuth of Polaris 1°26' to the east, and mark the meridian thus determined, by a tack set in a stake about 5 chs. N. of my station.

At 8:00 a.m., l.m.t., I set off 35°10' N. on the lat. arc; 0°25' S. on the decl. arc; and determine a meridian with the solar; this point falls 0.3 ins. east of the point established by the Polaris observation.

At 12h.08m.p.m., l.m.t., I set off 0°21' S. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 35° 10' N.

At 3h.0m.p.m., l.m.t., I set off 35°10' N. on the lat. arc; 0°18' S. on the decl. arc, and determine a meridian with the solar; this point falls 0.4 ins. east of the point established by the Polaris observation; I therefore conclude that the adjustments of my instrument are satisfactory.

The magnetic bearing of the meridian is 14°36' W.; the angle thus determined gives the magnetic declination as 14°36' E.; thence I run,

North, bet. secs. 31 and 36.

Over rough, rolling, foot-hills, through dense palo negro and oak brush; descend.

32.00 Gulch, course NE.

37.25 Road, brs. NW. and SE.

40.00 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 S 36 in W., and S 31 in E. half; dig pits 18x18x12 ins. N. and S. of post 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high, W. of cor.

71.40 Gulch, course N. 60° E.; ascend steep slope.

80.00 Top of hill, 300 ft. above gulch, Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, marked on brass cap,

T 21 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. quadrant; and raise a mound of stone 4 ft. base. 2 ft. high, W. of cor.

Leave dense brush.

Land, mountainous.

Soil, rocky and sandy, 3rd rate.

Timber, palo negro and dense oak brush.

## Resurvey of East bdy. of Township 21 North, Range 15 West. 21.

Chains.

North, bet. secs. 25 and 30; descend.  
Over rough rolling land.

10.60 Foot of descent; ascend.

17.00 Top of ridge, brs. NE. and SW.; descend.

23.25 Foot of descent.

30.60 Wash, course NE.

40.00 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 25 on W., and S 30 in E. half; and raise a mound of stone 4 ft. base, 2 ft. high, W. of cor.

47.25 Gulch, course NE.

80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 19, 24, 25 and 30, marked on brass cap,  
T 21 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. quadrant; 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.

Land, rough and rolling.  
Soil, heavy granite sand with gravel.  
No timber.  
Fair grazing.

North, bet. secs. 19 and 24.  
Over rolling ground; descend.

12.00 Center of draw, course NW.

40.00 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 24 in W., and S 19 in E. half; dig pits 18x18x12 ins. N. and S. of post, 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

79.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for witness cor. to secs. 13, 18, 19 and 24, marked on brass cap,  
W C. S. of center,  
T 21 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; dig pits 18x18x12 ins. NW., NE., SE., and SW. of post  $5\frac{1}{2}$  ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.

80.00 Point for sec. cor. in wash, course NE., 50 lks. wide.  
Land, rolling.  
Soil, a sandy loam, mixed with gravel; good growth of bunch grass.

North, bet. secs. 13 and 18.  
Descend over rolling ground.

39.00 Wash, 40 lks. wide, course NE.

40.00 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 13 in W., and S 18 in E. half; dig pits 18x18x12 ins. N. and S. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

80.00 Set an iron post 3 ft. long, 3 ins. in diam. 24 ins. in the ground for cor. of secs. 7, 12, 13 and 18, marked on brass cap,  
T 21 N in N. half;  
R 15 W, S 12 in NW.,

32. Resurvey of East bdy. of Township 21 North, Range 15 West.

Chains

R 14 W, S 7 in NE.;  
 S 18 in SE., and  
 S 13 in SW. quadrant; 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.  
 Land, rolling.  
 Soil, sandy gravel, 3rd rate.

North, bet. secs. 7 and 12; descend.  
 Over rolling land.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for ¼ sec. cor., marked on brass cap,  
 ¼ S 12 in W., and  
 S 7 in E. half; dig pits 18x18x12 ins. N. and S. of  
 post 3 ft. dist., and raise a mound of earth 3½ ft. base,  
 1½ ft. high, W. of cor.

69.00 Wash, 150 lks. wide, course NW.

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, marked on  
 brass cap,  
 T 21 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. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel, with good growth of  
 bunch grass.

North, bet. secs. 1 and 6.  
 Over rolling ground.

19.00 Wash, 40 lks. wide, course NW.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for ¼ sec. cor., marked on brass cap,  
 ¼ S 1 in W., and  
 S 6 in E. half; dig pits 18x18x12 ins., N. and S. of  
 post, 3 ft. dist., and raise a mound of earth 3½ ft.  
 base, 1½ ft. high, W. of cor.

80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the  
 ground for cor. of Tps. 21 and 22 N., Rs. 14 and 15 W.,  
 marked on brass cap,  
 T 22 N in N., R 14 W in E., T 21 N in S., and  
 R 15 W in W. half;  
 S 36 in NW.,  
 S 31 in NE.,  
 S 6 in SE., and  
 S 1 in SW. quadrant; dig pits 24x24x12 ins. on each  
 line, N., E. and W. 4 ft., and S. of post 8 ft. dist., and  
 raise a mound of earth 5 ft. base, 2½ ft. high, S. of  
 cor.

Land, rolling.  
 Soil, sandy loam, mixed with gravel; fair growth of bunch  
 grass.

GENERAL DESCRIPTION.

This line running north from the base of the Hualpai  
 Mountains is mountainous between secs. 31 and 36, heav-  
 ily rolling between secs. 25 and 30, and gently rolling  
 through the north four miles.

The soil is a sandy loam, mixed with fine gravel, which  
 affords a good growth of bunch grass.

There is no water near the line.

March 20, 1911.

Resurvey West bdy. of Township 21 North, Range 15 West.

Chains.

March 21, 1911: At 8:00 a.m., l.m.t., I set off 35°09' 30" N. on the lat.arc; 0°01'S. on the decl.arc, and determine a meridian with the solar at the Standard cor.to Ts. 21 N., Rs.15 and 16 W., described in Book C.

Thence I run,  
North, bet. secs.31 and 36.  
Over mountainous land, through dense pinons, cedars and oak brush; descend.

20.00 Gulch, course SW.; ascend.  
38.00 Top of point of slope; descend.  
40.00 Set a granite stone 30x16x6 ins., in a mound of stone for ¼ sec.cor., marked ¼ on West face, and raise a mound of stone 4 ft.base, 2 ft. high, W.of cor.  
43.00 Gulch, course W., at 10 chs.turns NW.; ascend steep, rocky slope.  
55.00 Top of high peak, bears 1 chain east; descend abruptly.  
80.00 Set a granite stone 36x18x10 ins., in a mound of stone for cor. of secs. 25, 30, 31 and 36, marked with 1 notch on S., and 5 notches on N.edges, and raise a mound of stone 4 ft. base, 2 ft. high, W.of cor.

Land, rough and mountainous.  
Timber, dense pinons and cedars, with oak brush.  
Soil, thin and rocky, 4th rate.

North, bet. secs.25 and 30.  
Over mountainous land; descend.

18.00 Head of canyon, course NE.; ascend.  
22.50 Top of point of high ridge, bears NE.and SW.; descend.  
40.00 Set a granite stone 18x12x10 ins., in a mound of stone for ¼ sec.cor., marked ¼ on W.face, and raise a mound of stone 4 ft base, 2 ft. high, W.of cor. Pits impracticable.  
40.50 Bottom of canyon, course W.; ascend.  
48.30 Top of ridge, brs.N.10°E., and S.10°W.; descend across ragged spurs with drainage to NW.  
77.00 Top of spur; top of peak, 1 chain west; descend.  
80.00 Set a granite 36x12x8 ins., in a mound of stone for cor. of secs. 19, 24, 25 and 30, marked with 2 notches on S., and 4 notches on N.edges, and raise a mound of stone 4 ft.base, 2 ft. high, W.of cor. Pits impracticable.

Impracticable to set iron posts.  
Land, rough and mountainous.  
Soil, rocky, 4th rate.  
Timber, scattering pinons, cedars, palo negro and oak brush.

March 21, 1911.

March 22, 1911: At 8:00 a.m., l.m.t., I set off 35°11'N. on the lat.arc; 0°23'N.on the decl.arc, and determine a meridian with the solar at the cor.of secs. 19, 24, 25 and 30.

Thence I run,  
North, bet. secs.19 and 24.  
Over mountainous land; descend NE.slope, through scattering palo negro.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec.cor., marked on brass cap, ¼ S 24 in W., and ¼ S 19 in E.half; dig pits 18x18x12 ins.N.and S.of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, W.of cor.  
50.00 Gulch, course NE.; ascend.  
56.00 Top of east slope; descend.

## 34. Resurvey of West bdy. of Township 21 North, Range 15 West.

Chains.

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 13, 18, 19 and 24, marked on brass cap,  
 T 21 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 sec. 5½ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.  
 Land, mountainous.  
 Soil, rocky, 4th rate, scattering palo negro.

North, bet. secs. 13 and 18.  
 Descend over heavily rolling ground.  
 6.50 Wash, 50 lks. wide, course W.; at 5 chs. turns NW.  
 15.50 Kingman road, brs. E. and W.  
 36.50 Wash, 150 lks. wide, course NW.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,  
 ¼ S 13 in W., and  
 S 18 in E. half; dig pits 18x18x12 ins. N. and S. of stone 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, W. of cor.  
 55.00 Wash, 30 lks. wide, course NW.  
 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, marked on brass cap,  
 T 21 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. quadrant; 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.  
 Land, heavily rolling.  
 Soil, a heavy granite sand and gravel.  
 Timber, scattering palo negro.  
 March 22, 1911: At 12h. 7m. p.m., 1 m. t., I set off 0° 26' N. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 35° 13' N.

North, bet. secs. 7 and 12.  
 Over rolling land; descend.  
 29.00 Wash, 40 lks. wide, course NW.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,  
 ¼ S 12 in W., and  
 S 7 in E. half; dig pits 18x18x12 ins. N. and S. of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, W. of cor.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 1, 6, 7 and 12, marked on brass cap,  
 T 21 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. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 No timber; fair grazing.

Chains.

- North, bet. secs. 1 and 6.  
Over rolling land; 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., marked on brass cap,  $\frac{1}{4}$  S 1 in W., and S 6 in E, half; dig pits 18x18x12 ins. N. and S. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of corner.
- 40.50 Wash, 60 lks. wide, course NW.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of Tps. 21 and 22 N., Rs. 15 and 16 W., marked on brass cap,  
T 22 N in N.,  
R 15 W in E.,  
T 21 N in S., and  
R 16 W in W. half;  
S 36 in NW.,  
S 31 in NE.,  
S 6 in SE., and  
S 1 in SW. quadrant; dig pits 24x24x12 ins. on each line, N., E. and W. 4 ft., and S. of post 8 ft. dist., and raise a mound of earth, 5 ft. base,  $2\frac{1}{2}$  ft. high, S. of cor.
- Land, rolling.  
Soil, a sandy loam, mixed with gravel.  
No timber; fair grazing.

March 22, 1911.



## 36. Resurvey North bdy. of Township 21 North, Range 15 West.

Chains.

- March 23, 1911: At 8:00 a.m., l.m.t., I set off  $35^{\circ}15'N$ . on the lat. arc;  $0^{\circ}46\frac{1}{2}'N$ . on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 21 and 22 N., Rs. 14 and 15 W. heretofore described.
- Thence I run,  
West, on a random line along the N. bdy. of Tp. 21 N., setting temporary  $\frac{1}{4}$  sec. and sec. cors. at intervals of 40 and 80 chs., and at 479.35 chs., I intersect the west line of township at the corner of Tps. 21 and 22 N., Rs. 15 and 16 W. heretofore described.
- Thence I run,  
East, on a true line, bet. secs. 6 and 31.  
Over rolling ground.
- 39.35 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 31 in N., and  
S 6 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.
- 40.85 Wash, 25 lks. wide, course N.
- 55.35 Wash, 25 lks. wide, course NW.
- 79.35 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, marked on brass cap,  
T 22 N in N.,  
T 21 N in S., and  
R 15 W in W. half;  
S 31 in NW.,  
S 32 in NE.,  
S 5 in SE., and  
S 6 in SW. quadrant; 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.
- Land, rolling.  
Soil, a sandy loam, mixed with gravel; fair grazing.
- March 23, 1911: At this cor. at 12h.07m.p.m., l.m.t., I set off  $0^{\circ}50'N$ . on the decl. arc, and observe the sun on the meridian; the resulting lat. is  $35^{\circ}15'N$ .
- 
- East, bet. secs. 5 and 32.  
Over rolling land.
- 40.00 Frie's wash, course N.; cannot set  $\frac{1}{4}$  cor.
- 40.50 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in ground for witness cor. to  $\frac{1}{4}$  sec. cor., marked on brass cap:  
W C  $\frac{1}{4}$  in N. half;  
S 32 in NW., and  
S 5 in SW. quadrant; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.
- 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, marked on brass cap,  
T 22 N in N.,  
T 21 N in S., and  
R 15 W in W. half;  
S 32 in NW.,  
S 33 in NE.,  
S 4 in SE., and  
S 5 in SW. quadrant; 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.
- Land, rolling.  
Soil, a sandy loam, mixed with gravel; fair grazing.
-

Chains.

East, bet. secs. 4 and 33.  
Over rolling 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., marked on brass cap,  $\frac{1}{4}$  S 33 in N., and S 4 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.

51.00 Wash, 40 lks. wide, course N.

78.00 Wash, 50 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, marked on brass cap,  
T 22 N in N.,  
T 21 N in S., and  
R 15 W in W. half;  
S 33 in NW.,  
S 34 in NE.,  
S 3 in SE., and  
S 4 in SW. quadrant; 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.

Land, rolling.  
Soil, a sandy loam, mixed with gravel; fair grazing.

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East, bet. secs. 3 and 34.  
Over rolling land.

40.00 Foot of slope of low mountain range.  
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 34 in N., and S 3 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.

Ascend over mountainous land.

61.60 Top of ridge, 400 ft. above base, bears N. and SE.; descend abruptly.

75.00 Foot of abrupt descent.

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, marked on brass cap,  
T 22 N in N.,  
T 21 N in S., and  
R 15 W in W. half;  
S 34 in NW.,  
S 35 in NE.,  
S 2 in SE, and  
S 3 in SW. quadrant; and raise a mound of stone 4 ft. base, 2 ft. high, W. of cor. Pits impracticable.

Land, rolling, 40 chs.; mountainous, 40 chs.  
Soil, a sandy loam, mixed with gravel for 40 chs.; thin and rocky 40 chs.

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East, bet. secs. 2 and 35.  
Over rolling land; ascend.

25.50 Wash, 50 lks. wide, course NW.

40.00 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 35 in N., and S 2 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.

75.50 Wash, 30 lks. wide, course NW.

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, marked on

38. Resurvey of North bdy. of Township 21 North, Range 15 West.  
Chains.

brass cap,  
T 22 N in N.,  
T 21 N in S.,  
R 15 W in W. half,  
S 35 in NW.,  
S 36 in NE.,  
S 1 in SE., and  
S 2 in SW. quadrant; 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, rolling.

Soil, a sandy loam; fair grazing.

East, bet. secs. 1 and 36.

Over rolling land; ascend.

40.00 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 S 36 in N., and

S 1 in S. half; dig pits 18x18x12 ins. E. and W. of post  
3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2  
ft. high, N. of cor.

80.00 The cor. of Tps. 21 and 22 N., Rs. 14 and 15 W.

Land, rolling.

Soil, a sandy loam, mixed with gravel.

Fair grazing.

March 23, 1911.

GENERAL DESCRIPTION.

This line passes over a rolling prairie its entire length  
with the exception of the east half mile of north bdy.  
of sec. 3, which passes over a low mountain range of  
granite.

The soil is a sandy loam mixed with gravel, and produces  
a good growth of bunch grass. There is no timber nor  
water along the line.

Boundaries of Township 21 North, Range 15 West.  
Latitudes, departures, and closing errors.

| Line designated.                        | True bearing. | Distance. | Latitudes. |        | Departures.         |        |
|---|---------------|-----------|------------|--------|---------------------|--------|
|   |               |           | N.         | S.     | E.                  | W.     |
| West bdy.                               | North,        | 480.00    | 480.00     |        |                     |        |
| North Bdy.                              | East,         | 479.35    |            |        | 479.35              |        |
| East Bdy.                               | South,        | 480.00    |            | 480.00 |                     |        |
| 5th. Std. Par. N. West,<br>Convergency, | West,         | 480.00    |            |        |                     | 480.00 |
| Totals,                                 |               |           | 480.00     | 480.00 | 479.86              | 480.00 |
|   |               |           |            |        |                     | 479.86 |
|   |               |           |            |        | Error in departure, | 0.14   |

Chains.

March 24, 1911: At 8:00 a.m., l.m.t., I set off 35°15' N. on the lat. arc; 1°10' N. on the decl. arc, and determine a meridian with the solar at the cor. of Ts. 21 and 22 N., Rs. 15 and 16 W. heretofore described.

Thence I run, West, on a true line, along the north bdy. of T. 21 N., R. 16 West, bet. secs. 1 and 36.

Over rolling ground; descend.

18.00 Wash, 30 lks. wide, course NW.

40.00 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 36 in N., and

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

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

T 22 N in N.,  
T 21 N in S., and  
R 16 W in W. half;  
S 35 in NW.,  
S 36 in NE.,  
S 1 in SE., and

S 2 in SW. quadrant; 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.

Land, rolling.

Soil, a sandy loam, mixed with gravel.

Fair grazing.

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West, bet. secs. 2 and 35.

Over rolling land; 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., marked on brass cap,  $\frac{1}{4}$  S 35 in N., and

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

At this cor. I set off 1°13' N. on the decl. arc; and at 12h. 07m. p.m., l.m.t., observe the sun on the meridian; the resulting lat. is 35° 15' N.

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

T 22 N in N.,  
T 21 N in S.,  
R 16 W in W. half;  
S 34 in NW.,  
S 35 in NE.,  
S 2 in SE., and

S 3 in SW. quadrant; 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.

Land, rolling.

Soil, a sandy loam, mixed with gravel; fair grazing.

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West, bet. secs. 3 and 34.

Over rolling land; 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., marked on brass cap,  $\frac{1}{4}$  S 34 in N., and

S 3 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth 3 $\frac{1}{2}$  ft.

40. Resurvey of North hwy. Township 21 North. Range 16 West.

Chains.

base, 1½ ft. high, N. of cor.  
 79.00 Road to Berry Station, bears NW. and SE.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, marked on brass cap,  
     T 22 N in N.,  
     T 21 N in S., and  
     R 16 W in W. half,  
     S 33 in NW.,  
     S 34 in NE.,  
     S 3 in SE., and  
     S 4 in SW. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel; fair grazing.  
 On this day I discharged Murrie Carrow, and employed Gus Weitig.  
 March 24, 1911.

March 25, 1911: At 8:00 a.m., l.m.t., I set off 35°15' N. on the lat. arc; 1°34' N. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34.

Thence I run,  
 West, bet. secs. 4 and 33.  
 Over rolling ground.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,  
     ¼ S 33 in N., and  
     S 4 in S. half; dig pits 18x18x12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.  
 44.26 Intersect the Santa Fe R.R. and telegraph lines, 19.47 chs. S. 38° 16' W. of W. end of brisge.  
 46.00 Kingman-Hackberry road, bears N. 38° 16' E. and S. 38° 16' 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, marked on brass cap,  
     T 22 N in N.,  
     T 21 N in S., and  
     R 16 W in W. half;  
     S 32 in NW.,  
     S 33 in NE.,  
     S 4 in SE., and  
     S 5 in SW. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel; fair grazing.

West, bet. secs. 5 and 32.  
 Over rolling land.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,  
     ¼ S 32 in N., and  
     S 5 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, N. of cor.  
 80.00 Set an iron post 3 ft. long, 3 in. in diam., 24 ins. in the ground for cor. of secs. 5, 6, 31 and 32, marked on brass cap,

Chains

T 22 N in N.,  
 T 21 N in S.,  
 R 16 W in W. half;  
 S 31 in NW.,  
 S 32 in NE.,  
 S 5 in SE., and  
 S 6 in SW. quadrant; 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.

Land, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

West, bet. secs. 6 and 31.  
 Over rolling ground.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for ¼ sec. cor., marked on brass:  
 ¼ S 31 in N.; and  
 S 6 in S. half; and raise a mound of stone 4 ft. base,  
 2 ft. high, N. of cor. Pits impracticable.

46.00 Wash, 25 lks. wide, course NE.

53.00 Wash, 10 lks. wide, course NE.; ascend gradual slope.

121.00 Wash, 50 lks. wide, course SE.

129.95 Intersect E. line of sec. 1, T. 21 N., R. 17 W., 26.52 chs.  
 S. 1° 32' W. of cor. of Ts. 21 and 22 N., Rs. 16 and 17  
 W., marked and witnessed as described by the Surveyor  
 General, the markings of which I change to refer to  
 Range 17 only.

Note: This old cor. rebuilt and described in Book A.  
 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in  
 the ground for closing cor. of Tps. 21 and 22 N., R. 16  
 W., marked on brass cap,

C C, W. of center,  
 R 16 W in E., and  
 T 22 N, R 36, S 1, T 21 N, R 17 W. in W. half  
 R 16 W in E. half;  
 T 22 N, R 31 in NE., and

T 21 N, S 6 in SE. quadrant; dig pits 30x24x12 ins.,  
 on each line N. and S., 4 ft. and E. of post 8 ft. dist.,  
 and raise a mound of earth, 5 ft. base, 2½ ft. high, E.  
 of cor.

Land, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

March 25, 1911.

GENERAL DESCRIPTION.

This line passes over a gently rolling prairie with no  
 timber, and but little brush, but with a good growth  
 of bunch gras. It crosses the Santa Fe R.R. near the  
 center of the N. line of sec. 4.  
 There is no water in the vicinity of the line.

## 42. Resurvey West bdy. of Township 22 North Range 15 West.

Chains.

April 3, 1911: At 8:00 a.m., l.m.t., I set off  $35^{\circ}15'N.$  on the lat.arc;  $5'04'N.$  on the decl.arc; and determine a meridian with the solar at the cor. of Tps. 21 and 22 N., Rs. 15 and 16 W. heretofore described.

Thence I run,  
 North, bet. secs. 31 and 36.  
 Over rolling land; 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., marked on brass cap,  
 $\frac{1}{4}$  S 36 in W. and  
 S 31 in E. half; dig pits  $18 \times 18 \times 12$  ins. N. and S. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, marked on brass cap,  
 T 22 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. quadrant; dig pits  $18 \times 18 \times 12$  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.

Land, rolling.  
 Soil, sandy loam, mixed with gravel.  
 Fair grazing.

North, bet. secs. 25 and 30.  
 Over rolling land.

38.50 Frie's Wash, 100 lks. wide, course NW.

40.00 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 25 in W., and  
 S 30 in E. half; dig pits  $18 \times 18 \times 12$  ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 19, 24, 25 and 30, marked on brass cap,  
 T 22 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; dig pits  $18 \times 18 \times 12$  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.

Land, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

North, bet. secs. 19 and 24.  
 Over rolling land, sloping NW.

40.00 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 24 in W., and  
 S 19 in E. half; dig pits  $18 \times 18 \times 12$  ins., N. and S. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.

80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 13, 18, 19 and 24, marked on brass cap,  
 T 22 N in N. half,  
 R 16 W, S 13 in NW.,  
 R 15 W, S 18 in NE.,  
 S 19 in SE., and

Chains.

S 24 in SW. quadrant; 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.

Land, rolling.

Soil, a sandy loam, mixed with gravel.

April 3, 1911: I set off 5° 07' N. on the decl. arc; and at 12h. 04m. p.m., 1 m. t., observe the sun on the meridian; the resulting lat. is 35° 17' N.

North, bet. secs. 13 and 18.

Over rolling land; descend.

26.00 Wash, 100 lks. wide, course NW.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap, ¼ S 13 in W., and

S 18 in E. half; dig pits 18x18x12 ins. N. and S. of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, W. of cor.

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

T 22 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. quadrant; 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.

Land, rolling.

Soil, a sandy loam, mixed with gravel.

Fair grazing.

North, bet. secs. 7 and 12.

Over rolling land; descend.

39.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for W C to ¼ sec. cor., marked on brass cap, W C ¼ in N. half;

S 12 in SW., and

S 7 in SE. quadrant; dig pits 18x18x12 ins. N. and S. of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, W. of cor.

40.00 Foot of bank of railroad, and point for ¼ sec. cor.

40.33 Intersect center line of Santa Fe Railroad 3.27 chs. N. 38° 16' E. of mile post No. 505. R.R. bears N. 38° 16' E., and S. 38° 16' W. Telegraph line parallel to R.R.

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

T 22 N in N.,

R 16 W, S 1 in NW.,

R 15 W, S 6 in NE.;

S 7 in SE., and

S 12 in SW. quadrant; 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.

Land, rolling.

Soil, a sandy loam mixed with gravel.

Fair grazing.



44. Resurvey West bdy. of Township 22 North Range 15 West.  
Chains.

- North, bet. secs. 1 and 6.  
Over rolling land; 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., marked on brass cap,  $\frac{1}{4}$  S 1 in W., and S 6 in E.half; dig pits 18x18x12 ins. N.and S.of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high,W.of cor.
- 80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for cor,of Tps.22 and 23 N.,Rs.15 and 16 W., marked on brass cap,  
T 23 N in N.;  
R 15 W in E.,  
T 22 N in S., and  
R 16 W in W.half;  
S 36 in NW.,  
S 31 in NE.,  
S 6 in SE., and  
S 1 in SW. quadrant; dig pits, 24x24x12 ins.on each line,N.,E.and W., 4 ft. and S.of post 8 ft. dist. and raise a mound of earth 5 ft. base,  $2\frac{1}{2}$  ft. high,S. of cor.
- Land; rolling.  
Soil, a sandy loam, mixed with gravel.  
Fair grazing.

April 3, 1911.

GENERAL DESCRIPTION.

This line passes over a rolling prairie with drainage to the north and west.  
The soil is a sandy loam mixed with gravel and sustains a good growth of bunch grass, which would afford good grazing if water were accessible.  
The Santa Fe Railroad crosses near the center of the west line of sec.7.  
There is no water in the vicinity of the line.

Chains.

April 4, 1911: At 8:00 a.m., l.m.t., I set off  $35^{\circ}20'$  N. on the lat. arc;  $5^{\circ}27'$  N. on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 22 and 23 N., Rs. 15 and 16 W. heretofore described.

Thence I run,  
West, on a true line, bet. secs. 1 and 36.

Over rolling land; 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., marked on brass cap,  $\frac{1}{4}$  S 36 in N., and S 1 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.

70.00 Foot of gradual descent; thence across level land, drainage to N.; but no well defined water way.

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

T 23 N in N.,

T 22 N in S., and

R 16 W in W. half,

S 35 in NW.,

S 36 in NE.,

S 1 in SE., and

S 2 in SW. quadrant; 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.

Land, rolling.

Soil, a sandy loam; good grazing.

West, bet. secs. 2 and 35.

Over level land.

5.00 Begin to ascend gentle slope.

8.00 Arroyo, 3 ft. wide, course NE.

40.00 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 35 in N., and

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

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

T 23 N in N.,

T 22 N in S., and

R 16 W in W. half,

S 34 in NW.,

S 35 in NE.,

S 2 in SE., and

S 3 in SW. quadrant; dig pits 18x18x12 ins. in each sec.  $5\frac{1}{2}$  ft. dist., and raised a mound of earth 4 ft. base, 2 ft. high, W. of cor.

Land, gently rolling.

Soil, a sandy loam.

Fair grazing.

West, bet. secs. 3 and 34.

Over rolling land; ascend gentle slope.

40.00 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 34 in N., and

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

46. Resurvey of North bdy. of Township 22 North, Range 16 West.

Chains.

80.00 Set an iron post 43 ft. long, 3 ins. in diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, marked on brass cap,  
 T 23 N in N.,  
 T 22 N in S.,  
 R 16 W in W. half;  
 S 33 in NW.,  
 S 34 in NE.,  
 S 3 in SE., and  
 S 4 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.  
 Land, rolling.  
 Soil, a sandy loam mixed with gravel.

April 4, 1911: I set off 5°30'N. on the decl. arc; and, at 12h.03m., p.m., 1.m.t., observe the sun on the meridian; the resulting lat. is 35°20'N.  
 West, bet. secs. 4 and 33.  
 Over rolling land; ascend.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,  
 ¼ S 33 in N., and  
 S 4 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, N. of cor.

60.50 Road, brs. NE. and SW.

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, marked on brass cap,  
 T 23 N in N.,  
 T 22 N in S., and  
 R 16 W. in W. half;  
 S 32 in NW.,  
 S 33 in NE.,  
 S 4 in SE., and  
 S 5 in SW. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel.

West, bet. secs. 5 and 32.  
 Over rolling land; ascend.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for ¼ sec. cor., marked on brass cap,  
 ¼ S 32 in N., and  
 S 5 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high, N. of cor.

80.00 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, marked on brass cap,  
 T 23 N in N.,  
 T 22 N in S., and  
 R 16 W in W. half,  
 S 31 in NW.,  
 S 32 in NE.,  
 S 5 in SE., and  
 S 6 in SW. quadrant; 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.  
 Land, rolling. Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

Chains

- West, bet. secs. 6 and 31.  
Ascend over rolling land, through scattering greasebrush.
- 40.00 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 31 in N, and S 6 in S. half; dig pits 18x18x12 ins. E. and W. of post, 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.
- 128.00 Intersect E. bdy. of T. 22 N., R. 17 W., 14.93 chs. N.  $0^{\circ}02'E$ . of  $\frac{1}{4}$  sec. cor. on E. bdy. of sec. 1, T. 22 N., R. 17 W., the markings of which I change to refer to R. 17 only, as described in Book A.
- Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for closing cor. to Tps. 22 and 23 N., R. 16 W., marked on brass cap,  
C C W. of center,  
R 16 W in E.,  
T 23 N, S 36, S 1 T 22 N.; R 17 W in W. half,  
T 23 N, S 31 in NE., and  
T 22 N, S 6 in SE. quadrant; dig pits 30x24x12 ins. on each line, N. and S., 4 ft., and E. of post 8 ft. dist., and raise a mound of earth 5 ft. base,  $2\frac{1}{2}$  ft. high, E. of cor.
- Land, heavily rolling.  
Soil, sandy loam, mixed with gravel; fair grazing.  
April 4, 1911.

GENERAL DESCRIPTION.

This line crosses the western portion of the Hualpai Valley, over land that is very nearly level. The drainage of the valley is to the west of north; the lowest portion of which is near the northeastern part of sec. 2. There is no water in the vicinity of the line. There has been an attempt at dry farming, but it seems not to have been a success, as the land has been abandoned. There is a fair growth of bunch grass throughout the valley, and along this line, which would afford fair grazing were water accessible.

48. Resurvey of North bdy. of Township 22 North, Range 15 West.  
Chains.

- April 10, 1911: At 8:00 a.m., l.m.t., I set off  $35^{\circ}20'N.$  on the lat. arc;  $7^{\circ}42'N.$  on the decl. arc, and determine a meridian with the solar at the corner to Ts. 22 and 23 N., Rs. 14 and 15 W., described in Book A. Thence I run, West, on a random line, along North bdy. of T. 22 N., R. 15 W., setting temp.  $\frac{1}{4}$  sec. and sec. cors. at each 40 and 80 chs., and at 478.32 chs. intersect the W. bdy. 14 lks. north of cor. to Ts. 22 and 23 N., Rs. 15 and 16 W. heretofore described. Thence I run,  $N.89^{\circ}59'E.$  on a true line, bet. secs. 6 and 31. Over rolling land, through dense high cactus.
- 38.32 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 31 in N., and S 6 in S. half; dig pits 18x18x12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.
- 78.32 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 5, 6, 31 and 32, marked on brass cap, T 23 N in N., T 22 N in S., and R 15 W in W. half; S 31 in NW., S 32 in NE., S 5 in SE., and S 6 in SW. quadrant; 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.
- Land, rolling.  
Soil, a sandy loam, mixed with gravel.  
Dense cactus from 4 to 10 ft. high.
- 
- $N.89^{\circ}59'E.$ , bet. secs. 5 and 32.  
Over rolling land, through dense cactus.
- 7.00 Leave cactus.
- 14.80 Road, Kingman to Hackberry, bears  $N.38^{\circ}E.$  and  $S.38^{\circ}W.$
- 16.30 Intersect the center line of Santa Fe R.R. 1.88 chs.  $S.38^{\circ}24'W.$  of mile post 503. Railroad bears  $S.38^{\circ}24'W.$  and  $N.38^{\circ}24'E.$
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap,  $\frac{1}{4}$  S 32 in N., and S 5 in S. half; dig pits 18x18x12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high, N. of cor.
- 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, marked on brass cap, T 23 N in N., T 22 N in S., and R 15 W in W. half, S 32 in NW., S 33 in NE., S 4 in SE., and S 5 in SW. quadrant; 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.
- Land, rolling.  
Soil, sandy loam, mixed with gravel; fair grazing.
- 
- $N.89^{\circ}59'E.$ , bet. secs. 4 and 33.  
Over rolling land; ascend.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in

## Resurvey of North bdy. of Township 22 North, Range 15 West. 49.

Chains.

the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap,  
 $\frac{1}{4}$  S 33 in N., and  
 S 4 in S. half; dig pits 18x18x12 ins. E. and W. of  
 post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft.  
 base,  $1\frac{1}{2}$  ft. high, N. of cor.  
 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, marked on  
 brass cap,  
 T 23 N in N.,  
 T 22 N in S., and  
 R 15 W in W. half;  
 S 33 in NW.,  
 S 34 in NE.,  
 S 3 in SE., and  
 S 4 in SW. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

-----  
 April 10, 1911: At this cor., I set off  $7^{\circ}46'N.$  on the  
 decl. arc; and at 12h. 2m. p.m., l.m.t., observe the sun  
 on the meridian; the resulting lat. is  $35^{\circ}20'N.$   
 -----

N.  $89^{\circ}59'E.$ , bet. secs. 3 and 34.  
 Over rolling land; ascend.  
 40.00 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 34 in N., and  
 S 3 in S. half; dig pits 18x18x12 ins. E. and W. of post,  
 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  
 $1\frac{1}{2}$  ft. high, N. of cor.  
 52.50 Wash, 30 lks. wide, course N.  $25^{\circ}W.$ ,  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the  
 ground for cor. to secs. 2, 3, 34 and 35, marked on brass  
 cap,  
 T 23 N in N.,  
 T 22 N in S., and  
 R 15 W in W. half;  
 S 34 in NW.,  
 S 35 in NE.,  
 S 2 in SE., and  
 S 3 in SW. quadrant; 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.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

-----  
 N.  $89^{\circ}59'E.$ , bet. secs. 2 and 35.  
 Over rolling land; ascend.  
 40.00 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 35 in N., and  
 S 2 in S. half; dig pits 18x18x12 ins. E. and W. of  
 post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft.  
 base,  $1\frac{1}{2}$  ft. high, N. of cor.  
 43.50 Wash, 100 lks. wide, course NW.  
 70.00 Wash, 70 lks. wide, course SW.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the  
 ground for cor. of secs. 1, 2, 35 and 36, marked on brass  
 cap,  
 T 23 N in N.,

50. Resurvey of North bdy. of Township 22 North Range 15 West.

Chains.

T 22 N in S., and  
 R 15 W in W.half;  
 S 35 in NW.,  
 S 36 in NE.,  
 S 1 in SE., and  
 S 2 in SW. quadrant; 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, rolling.  
 Soil, a sandy loam, mixed with gravel.  
 Fair grazing.

N. 89° 59' E., bet. secs. 1 and 36.  
 Over rolling land; ascend.  
 39.80 Wash, 10 lks. wide, course SW.  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for 1/4 sec. cor., marked on brass cap,  
 1/4 S 36 in N., and  
 S 1 in S. half; dig pits 18x18x12 ins. E. and W. of  
 post 3 ft. dist., and raise a mound of earth 3 1/2 ft.  
 base, 1 1/2 ft. high, N. of cor.  
 41.00 Ascend NW. slope.  
 63.00 Top of N. slope; descend NE. slope.  
 80.00 The cor. of Ts. 22 and 23 N., Rs. 14 and 15 W., as described  
 in Book A.  
 Land, rolling.  
 Soil, a sandy loam, mixed with gravel.; fair grazing.  
 April 10, 1911.

GENERAL DESCRIPTION.

This line passes across the eastern portion of the Hualpai  
 Valley; over land that slopes gently towards the N. and  
 W. There is no water in the vicinity of the line,  
 though the soil produces a fair growth of bunch grass.  
 The Santa Fe Railroad crosses this line in the NW. part of  
 sec. 5.

Boundaries of Township 22 North, Range 15 West.  
 Latitudes, departures, and closing errors.

| Line<br>designated. | True<br>bearing. | Distance. | Latitudes. |        | Departures. |               |        |        |
|---------------------|------------------|-----------|------------|--------|-------------|---------------|--------|--------|
|                     |                  |           | N.         | S.     | E.          | W.            |        |        |
| S. bdy.             | West,            | 479.35    |            |        |             | 479.35        |        |        |
| W. Bdy.             | North,           | 480.00    | 480.00     |        |             |               |        |        |
| N. Bdy.             | N. 89° 59' E.    | 478.32    | 0.14       |        | 478.32      |               |        |        |
| E. Bdy.             | South,           | 480.00    |            | 480.00 |             |               |        |        |
| Convergency,        |                  |           |            |        | 0.51        |               |        |        |
| Totals,             |                  |           |            |        | 480.14      | 480.00        | 478.83 | 479.35 |
|                     |                  |           |            |        | 480.00      |               | 478.83 |        |
| Error in lat.       |                  |           |            |        | 0.14        |               | 0.52   |        |
|                     |                  |           |            |        |             | Error in dep. |        |        |

Chains.

- April 19, 1911: At 8:00 a.m., l.m.t., I set off  $35^{\circ} 20' N.$  on the lat.arc;  $10^{\circ} 57' N.$  on the decl.arc, and determine a meridian with the solar at the cor.of of Ts. 22 and 23 N., Rs.15 and 16 W., heretofore described.
- Thence I run,  
North, bet. secs.31 and 36.  
Over rolling land; 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., marked on brass cap,  $\frac{1}{4}$  S 36 in W., and S 31 in E.half; dig pits 18x18x12 ins. N.and S.of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high,W.of cor.
- 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor.of secs. 25,30, 31 and 36, marked on brass cap,  
T 23 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. quadrant; 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.
- Land, gently rolling.  
Soil, light sandy loam; fair grazing.

- North, bet. secs. 25 and 30.  
Descend over smooth 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., marked on brass cap,  $\frac{1}{4}$  S 25 in W., and S 30 in E.half; dig pits 18x18x12 ins., N.and S.of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high,W.of cor.
- Proceed over level land, on which water stands in wet weather.
- 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor.of secs. 19,24,25 and 30, marked on brass cap,  
T 23 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; 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.
- Land, level.  
Soil, rather heavy clay; short sage brush.

- North, bet. secs.19 and 24.  
Over level 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., marked on brass cap,  $\frac{1}{4}$  S 24 in W., and S 19 in E.half; dig pits 18x18x12 ins. N.and S.of post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft. base,  $1\frac{1}{2}$  ft. high,W.of cor.
- 74.00 Leave level land; ascend SE. slope of low mountain range.
- 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor.of secs. 13,18,19 and 24, marked on brass cap,  
T 23 N in N.half;  
R 16 W, S 13 in NW.,  
R 15 W S 18 in NE.,



Chains.

S 19 in SE., and  
 S 24 in SW. quadrant; 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.  
 Land, level, S. 74 chs.; heavily rolling, N. 6 chs.  
 Soil, heavy clay, S. 74 chs. Sandy loam with gravel N. 6  
 chs.

April 19, 1911: I set off  $11^{\circ}00'$  N. on the decl. arc; at  
 11h. 59m. a.m., 1.m.t., observe the sun on the meridian;  
 the resulting lat. is  $35^{\circ}23'N$ .  
 North, bet. secs. 13 and 18.  
 Ascend SE. slope.  
 14.20 Road, Hackberry to Kingman, bears  $N.60^{\circ}E$ . and  $S.60^{\circ}W$ .  
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in  
 the ground for  $\frac{1}{4}$  sec. cor., marked on brass cap,  
 $\frac{1}{4}$  S 13 in W., and  
 S 18 in E. half; dig pits 18x18x12 ins., N. and S. of  
 post 3 ft. dist., and raise a mound of earth  $3\frac{1}{2}$  ft.  
 base,  $1\frac{1}{2}$  ft. high, W. of cor.  
 43.00 Foot of steep ascent; SE. slope of granite mountain,  
 59.60 Top of point of E. slope of spur, bears NE. and SW.; descend  
 abruptly.  
 70.00 Foot of NW. slope of mountain; proceed over rough ridges  
 and washes, draining E.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the  
 ground for cor. of secs. 7, 12, 13 and 18, marked on brass  
 cap,  
 T 23 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. quadrant; and raise a mound of stone 2  
 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor.  
 Land, heavily rolling south 43 chs.; mountainous, north 37  
 chs.  
 Soil, heavy granite sand and gravel; fair grazing.  
 April 19, 1911.

April 20, 1911: At 8:00 a.m., 1.m.t., I set off  $35^{\circ}23'N$ .  
 on the lat. arc;  $11^{\circ}17'N$ . on the decl. arc, and deter-  
 mine a meridian with the solar at the cor. of secs. 7,  
 12, 13 and 18.  
 Thence I run,  
 North, bet. secs. 7 and 12.  
 Over rough east slope of mountain.  
 40.00 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 12 in W., and  
 S 7 in E. half; and raise a mound of stone 2 ft.  
 base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 56.00 Wash, 100 lks. wide, course E.  
 67.00 Wash, 30 lks. wide, course NE.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the  
 ground for cor. of secs. 1, 6, 7 and 12, marked on brass  
 cap,  
 T 23 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. quadrant; and raise a mound of stone 2  
 ft. base,  $1\frac{1}{2}$  ft. high, W. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, heavy disintegrated granite sand and gravel; fair  
 grazing.

Resurvey of East bdy. of Township 23 North, Range 16 West, 53.

Chains.

North, bet. secs. 1 and 6.  
 Over rough, east slope of mountain; descend.  
 14.50 Gulch, 30 lks. wide, course S. 75°E.; ascend abruptly.  
 20.00 Top of SW. point of ridge, bears NE.; descend abruptly.  
 22.00 Foot of descent; proceed across draw.  
 34.75 Leave draw; ascend steep slope.  
 40.00 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 1 in W., and S 6 in E. half, and raise a mound of stone 2 ft. base,  $1\frac{1}{2}$  high, W. of cor. Ascend steep SE. slope of spur.  
 70.65 Top of high spur, bears NE. and SW.; descend abruptly.  
 80.00 Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of Ts. 23 and 24 N., Rs. 15 and 16 W., marked on brass cap,  
 T 24 N. in N.,  
 R 15 W. in E.,  
 T 23 N. in S., and  
 R 16 W. in W. half;  
 S 36 in NW.,  
 S 31 in NE.,  
 S 6 in SE., and  
 S 1 in SW. quadrant; and raise a mound of stone 4 ft. base, 4 ft. high, S. of cor. Pits impracticable.  
 Land, mountainous.  
 Soil, rocky, thin, 4th rate.  
 Fair grazing.

April 20, 1911.

GENERAL DESCRIPTION.

The south  $3\frac{1}{2}$  miles of this line passes over level and gently rolling prairie, with soil of a light sandy loam with clay subsoil; the north  $2\frac{1}{2}$  miles passes over the eastern slope of a high granite mountain range. There is no water in the vicinity of the line. A fair growth of bunch grass is produced on which were seen a few cattle and horses grazing.

Boundaries of Township 23 North, Range 16 West.  
 Latitudes, departures and closing errors.

| Line designated.    | True bearing. | Distance. | Latitudes. |        | Departures. |        |
|---------------------|---------------|-----------|------------|--------|-------------|--------|
|                     |               |           | N.         | S.     | E.          | W.     |
| South bdy.          | West,         | 528.00    |            |        |             | 528.00 |
| West, "             | North,        | 479.85    | 479.85     |        |             |        |
| North, "            | East,         | 527.35    |            |        | 527.35      |        |
| East,               | South,        | 480.00    |            | 480.00 |             |        |
| Convergency,        |               |           |            |        | .56         |        |
| Totals,             |               |           | 479.85     | 480.00 | 527.91      | 528.00 |
|                     |               |           |            | 479.85 |             | 527.91 |
| Error in latitude,  |               |           |            | .15    |             | .09    |
| Error in departure, |               |           |            |        |             |        |

Boundaries of Township 23 North, Range 15 West.

Latitudes, departures, and closing errors.

| Line designated. | True bearing.       | Distance. | Latitudes. |        | Departures. |        |
|------------------|---------------------|-----------|------------|--------|-------------|--------|
|                  |                     |           | N.         | S.     | E.          | W.     |
| South bdy.       | S.89°59'W.          | 478.32    |            | .14    |             | 478.32 |
| West, "          | North,              | 480.00    | 480.00     |        |             |        |
| North, "         | S.89°57'E.          | 477.52    |            | .42    | 477.52      |        |
| East, "          | South,              | 480.00    |            | 480.00 |             |        |
| Convergency,     |                     |           |            |        | .51         |        |
| Totals,          |                     |           | 480.00     | 480.56 | 478.03      | 478.32 |
|                  |                     |           |            | 480.00 |             | 478.63 |
|                  | Error in latitude,  |           |            | .56    |             |        |
|                  | Error in departure, |           |            |        |             | .29    |

Boundaries of Township 22 North, Range 16 West.  
Latitudes, departures, and closing errors.

| Line designated. | True bearing.       | Distance. | Latitudes. |        | Departures. |        |
|------------------|---------------------|-----------|------------|--------|-------------|--------|
|                  |                     |           | N.         | S.     | E.          | W.     |
| South Bdy.       | West,               | 529.95    |            |        |             | 529.95 |
| West "           | N.1°32'E.           | 26.52     | 26.51      |        | .71         |        |
| " "              | North,              | 238.13    | 238.13     |        |             |        |
|                  | N.0°42'E.           | 79.96     | 79.96      |        | .98         |        |
|                  | N.0°9'E.            | 80.00     | 80.00      |        | .21         |        |
|                  | N.0°2'E.            | 54.93     | 54.93      |        | .04         |        |
| North "          | East,               | 528.00    |            |        | 528.00      |        |
| East "           | South,              | 480.00    |            | 480.00 |             |        |
| Convergency,     |                     |           |            |        | .56         |        |
| Totals,          |                     |           | 479.53     | 480.00 | 530.50      | 529.95 |
|                  |                     |           |            | 479.53 | 529.95      |        |
|                  | Error in latitude,  |           |            | .47    | .55         |        |
|                  | Error in departure, |           |            |        |             |        |

*W. J. Factor*  
U. S. Transitman.

*Transitman*

FINAL OATHS OF ~~DEPUTY~~ SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by *W.O. Secor*  
*Transitman*, United States ~~Deputy~~ Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of  
Resurvey of exterior lines surveyed under Group 10,

- Theodore Alden*, *Norman Coote*, Chainman.
- Sidney Waite*, Chainman.
- Chas. J. Schwartz*, Moundman.
- Theodore Alden*, Moundman.
- Morris Carrow*, *Norman Coote*, Axman.
- Gus Muetzig*, Axman.
- Elmer Welch* and *Paul Dial*, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted *W.O. Secor*  
*Transitman*, United States ~~Deputy~~ Surveyor, in surveying all those parts or portions of the  
Re-survey of exterior lines surveyed under Group 10,

of the *Gila and Salt River Base & meridian*, *Ter.* of *Arizona*, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for *Arizona*.

- Norman Coote*, Chainman.
- Sidney Waite*, Chainman.
- C. J. Schwartz*, Moundman.
- Theodore Alden*, Moundman.
- Gus Muetzig*, Axman.
- Elmer Welch* and *Paul Dial*, Flagman.

Subscribed and sworn to before me this *18<sup>th</sup>* day of *May*, 1911

*W. O. Secor*  
U.S. Transitman



FINAL OATH OF UNITED STATES ~~DEPUTY~~ SURVEYOR.

I, W. O. Secor

Transitman  
United States Deputy Surveyor, do

solemnly swear that, in pursuance of ~~a contract~~ <sup>instructions</sup> received from Frank O. Ingalls  
United States Surveyor General for Arizona bearing date of the  
16th day of September, 1910, I have well, faithfully, and truly, in my own  
proper person, and in strict conformity with the instructions furnished by the United States Surveyor  
General for Arizona, the Manual of Surveying Instructions, and the laws of the  
United States, surveyed all those parts or portions of Recovery of Evident Lines  
embraced under Group 10 - Arizona

\_\_\_\_\_ of the G. & S. R.  
\_\_\_\_\_ meridian, in the County of Arizona, which are represented in the  
foregoing field notes as having been surveyed by me, and under my direction; and I do further solemnly  
swear that all the corners of said survey have been established and perpetuated in strict accordance with  
the Manual of Surveying Instructions, and the special written instructions of the United States Surveyor  
General for Arizona and in the specific manner described in the field notes, and that  
the foregoing are the original field notes of such survey.

E. H. Owen, Clerk, U. S. District Court,  
Southern District of California.

W. O. Secor  
United States Deputy Surveyor.

Subscribed by said W. O. Secor and sworn to before me }  
this 28th day of July, 1911

E. H. Owen, Clerk, U. S. District Court,  
Southern District of California,

By W. O. Scott Deputy



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Transitman March 25, 1912

The foregoing field notes of the survey of the N. P. E. & W. Boundaries T 18 N  
R 13 W; N. E. & W. Boundaries T 19 N R 13 W; W. Boundary T 20 N  
R 13 W; N. E. & W. Boundaries T 21 N R 15 W; S. & E. Boundaries  
T 22 N R 16 W; S. & W. Boundaries T 23 N R 15 W; N. & P. Boundary  
T 23 N R 16 W

executed by W. O. Secor, Transitman  
under his ~~contract~~ <sup>group</sup> No. 10, dated September 16, 1910, having been  
critically examined, and the necessary corrections and explanations made, the said field notes, and the  
surveys they describe, are hereby approved.

Frank O. Ingalls  
United States Surveyor General.

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

United States Surveyor General.