3567

Book "I"

4—679

BOOK 3567

# FIELD NOTES

OF THE SURVEY OF THE

Part of the North boundary, and

Part of the Subdivision lines

of

TOWNSHIP 30 NORTH, RANGE 14 WEST.

*Of the* Gila and Salt River Base and *Meridian,*

*In the State of* Arizona.

EXECUTED BY

Thomas D. Daley, U. S. Surveyor,

and

William E. Hiester, U.S. Transitman,

*In the capacity of U. S. Surveyors, under Special Instructions dated* February 27, *1920 issued by the United States Surveyor General to govern surveys included in Group No.* 110, Arizona, *which were approved by the Commissioner of the General Land Office,* March 10, *1920, and Assignment Instructions dated* June 27, *1921.*

*Survey commenced* August 1, *1921.*

*Survey completed* August 3, *1921.*

6—18

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(1A)

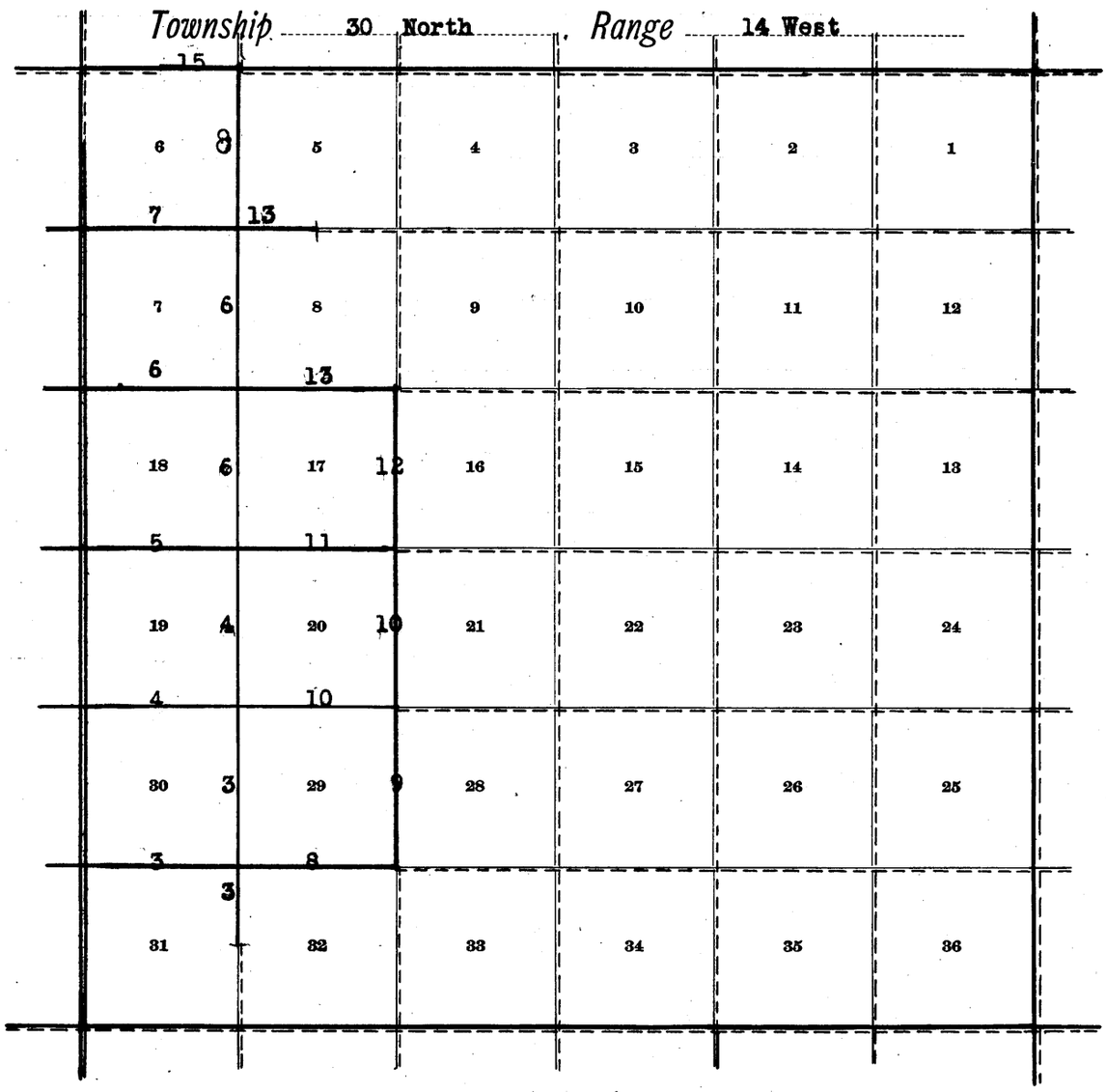
3567

Book "I"

Group 110 - Arizona.

BOOK 3567

# INDEX DIAGRAM.




Lines surveyed under this group.

Unsurveyed.

DATE DIAGRAM

Book "I"

Group 110 - Arizona,

Township 30 North, Range 14 West,

For dates of survey of this line, see Book "H" of this Group.

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

Red lines indicate surveys executed by Thos. D. Daley, U. S. Surveyor, on dates shown thereon

Green lines indicate surveys executed by William E. Niester, U. S. Transitman, on dates shown thereon.

Black lines indicate unsurveyed portions.

Surveys hereinafter described executed by Thomas D. Daley, U. S. Surveyor and William E. Hiester, U. S. Transitman, on datesshown on diagram on page 1 hereof, using respectively Buff solar transit No. 9977 and Young and Sons light mountain transit No. 8429. For description of instruments and certificate of approval, see Book "C".

We examine the adjustments of the transits and correct all errors; then, to test the solar apparatus, by comparing their indications, resulting from solar observations made during a. m. and p. m. hours, with a meridian determined by observations on Polaris at elongation, we proceed as follows:

July 31, 1921: at our camp near the cor. of secs. 23, 24, 25 and 26, T. 29 N., R. 15 W., G. and S. R. B. and M., lat. 35° 53' N., long. 113° 51½' W., at 9 hrs. 0 m., a. m., l. m. t., using the meridian determined as described in Book "G", we set off 35° 53' N. on the lat. arcs; 18° 18½' N., on the decl. arcs; and determine a meridian with each solar, which agrees with the true meridian.

At apparent noon, with the lat. arcs unchanged, we observe the sun on the meridian with each solar; the resulting decl. in each case is 18° 16½' N., which is computed decl. of the sun.

At 3 hrs. 0 m., p. m., l. m. t., with the lat. arcs unchanged, we set off 18° 15' N. on the decl. arcs; and determine a meridian with each solar which agrees with the true meridian

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

Unless otherwise specified, all measurements are made with a Lufkin steel tape, 5 chs. in length, compared with a Chesterman standard steel tape and found correct. The measurements are made on the slope, the vertical angles determined and the slope measurements properly reduced to true horizontal distances.

(3)

BOOK 3662

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| | From the cor. of secs. 25, 30, 31 and 36, on the W. bdy. of T. 30 N., R. 14 W., described in Book "H", |
| | East on a true line, bet. secs. 30 and 31. |
| | Over level land, through scattering undergrowth. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap<br>¼ S 30<br>¼ S 31<br>1921 |
| | And raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. |
| 53.00 | Enter scattering timber. |
| 80.00 | Set an iron post, 3 ft. long, 2 ins. diam., 8 ins. in the ground, with marked (X) stone, for cor. of secs. 29, 30, 31 and 32; and raise a mound of stone around post, with brass cap marked<br>T 30 N R 14 W<br>S 30 \| S 29<br>S 31 \| S 32<br>1921 |
| | Land, level. |
| | Soil, 3rd rate. |
| | Timber, juniper, |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

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| | |
|---|---|
| | S. 0° 1' W., on a true line, bet. secs. 31 and 32. |
| | Over mountainous land, through scattering undergrowth. |
| | Asc. 40 ft. |
| 10.00 | Ridge, brs. NE. and SW. Desc. 305 ft. |
| 30.00 | Ravine, 8 lks. wide, 30 ft. deep, course SE. Continue descent. |
| 37.00 | Head of break in rim rock, brs. N. 80° E., and S. 80° E. Asc. 65 ft. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 8 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>¼<br>S 31 \| S 32<br>1921 |
| | Continue ascent. |
| 40.20 | Spur, slopes NE. Desc. 175 ft. |
| 51.90 | Asc. 125 ft. |
| 63.16 | Rim of canyon, 1000 ft. deep, brs. NE. and SW. Impossible to survey beyond this point. |
| | Land, mountainous. |
| | Soil, mostly rock. |
| | Timber, none. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

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| | |
|---|---|
| | From the cor. of secs. 29, 30, 31 and 32. |
| | N. 0° 1' E., bet. secs. 29 and 30. |
| | Over broken land, through scattering undergrowth. |
| | Desc. 60 ft. |
| 3.00 | Gulch, course NW. Continue descent. |
| 12.20 | Wash, 10 lks. wide, course NE. Asc. 15 ft. |
| 26.00 | Spur, slopes E. Desc. 40 ft. |

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 12 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>¼<br>S 30 \| S 29<br>1921 |
| | Continue descent. |
| 50.50 | Ravine, 10 lks. wide, course S. 30° E. Asc. 110 ft. |
| 69.00 | Thence over level land. |
| 80.00 | Set an iron post, 3 ft. long, 2 ins. diam., 24 ins. in the ground, for cor. of secs. 19, 20, 29 and 30, marked on brass cap<br>T 30 N \| R 14 W<br>S 19 \| S 20<br>S 30 \| S 29<br>1921<br>And raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. |
| | Land, level and broken. |
| | Soil, 3rd rate. |
| | No timber. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |
| | Cor. falls in draw, course NW. |

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| | |
|---|---|
| | West, on a random line, bet. secs. 19 and 30. |
| 40.00 | Set temp. ¼ sec. cor. |
| 80.02 | Intersect the cor. of secs. 19, 24, 25 and 30, on the W. bdy. of Tp., described in Book "H". |
| | Thence |
| | East, on a true line, bet. secs. 19 and 30. |
| | Over rolling and nearly level land, through scattering undergrowth and timber. Desc. 20 ft. |
| 4.49 | Thence over nearly level land. |
| 18.99 | Draw, course NE. |
| 39.00 | Draw, course N. |
| 40.01 | Set an iron post, 3 ft. long, 1 in. diam., 27 ins. in the ground, for ¼ sec. cor., marked on brass cap<br>¼ S 19<br>S 30<br>1921<br>From which<br>A juniper, 10 ins. diam., brs. N. 77¾° E., 145 lks. dist., marked ¼ S 19 B T.<br>A juniper, 8 ins. diam., brs. S. 56¾° E., 102 lks. dist., marked ¼ S 30 B T. |
| | Asc. 35 ft. |
| 44.47 | Thence over nearly level land. |
| 56.97 | Draw, course NW. |
| 80.02 | The cor. of secs. 19, 20, 29 and 30. |
| | Land, rolling and nearly level. |
| | Soil, 1st, 2nd and 3rd rates. |
| | Timber, juniper. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

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| | |
|---|---|
| | N. 0° 1' E., bet. secs. 19 and 20. |
| | Over level land, through scattering undergrowth and timber. |

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 8 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>¼<br>S 19 \| S 20<br>1921 |
| 80.00 | Set an iron post, 3 ft. long, 2 ins. diam., 14 ins. in the ground, in a mound of stone, with marked (X) stone for cor. of secs. 17, 18, 19 and 20, marked on brass cap.<br>T 30 N R 14 W<br>S 18 \| S 17<br>S 19 \| S 20<br>1921<br>From which<br>A juniper, 8 ins. diam., brs. S. 40° W., 207 lks. dist., marked T 30 N R 14 W S 19 B T. |
| | No other trees within limits<br>Land, level.<br>Soil, 2nd rate.<br>Timber, scattering juniper<br>Undergrowth, black brush, sagebrush and cactus.<br>Fair grazing. |
| | West, on a random line, bet. secs. 18 and 19. |
| 40.00 | Set temp. ¼ sec. cor. |
| 80.04 | Intersect the cor. of secs. 13, 18, 19 and 24, on the W. bdy. of Tp., described in Book "H". |
| | Thence<br>East, on a true line, bet. secs. 18 and 19.<br>Over rolling land, through scattering timber and undergrowth. Desc. 45 ft. |
| 8.95 | Thence over level land. |
| 17.97 | Draw, course N. |
| 24.67 | Wash, 20 lks. wide, 2 ft. deep, course NW. Asc. 25 ft. |
| 27.00 | Thence along N. slope. |
| 35.95 | Desc. 20 ft. |
| 40.02 | Set an iron post, 3 ft. long, 1 in. diam., 6 ins. in the ground, in a mound of stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>¼ S 18<br>S 19<br>1921<br>From which<br>A juniper, 10 ins. diam., brs. N. 50½° W., 38 lks. dist., marked ¼ S 18 B T.<br>A juniper, 12 ins. diam., brs. S. 67° W., 68 lks. dist., marked ¼ S 19 B T. |
| 40.20 | Draw, course NW. Asc. 105 ft. |
| 65.23 | Ridge, brs. N. and S. Desc. |
| 69.75 | Thence along level N. slope. |
| 80.04 | The cor. of secs. 17, 18, 19 and 20. |
| | Land, rolling and level.<br>Soil, 2nd, 3rd and 4th rates.<br>Timber, juniper.<br>Undergrowth, black brush, sagebrush and cactus.<br>Fair grazing. |

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| | N. 0° 1' E., bet. secs. 17 and 18. |
| | Over level land, through scattering timber and undergrowth. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 24 ins. in the ground, for ¼ sec. cor., marked on brass cap<br>¼ S 18 \| S 17<br>1921 |
| | Dig pits, 18 x 18 x 12 ins., N. and S. of post, 3 ft. dist. |
| 80.00 | Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground, in a mound of stone, with marked (X) stone for cor. of secs. 7, 8, 17 and 18, marked on brass cap<br>T 30 N R 14 W<br>S 7 \| S 8<br>S 18 \| S 17<br>1921 |
| | From which<br>A juniper, 12 ins. diam., brs. N. 14½° W., 403 lks. dist., marked T 30 N R 14 W S 7 B T. |
| | No other trees within limits. |
| | Land, level. |
| | Soil, 2nd rate. |
| | Timber, juniper. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

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| | |
|---|---|
| | West, on a random line, bet. secs. 7 and 18. |
| 40.00 | Set temp. ¼ sec. cor. |
| 80.02 | Fall 2 lks. S. of the cor. of secs. 7, 12, 13 and 18, on the W. Bdy. of Tp., described in Book "H". |
| | Thence, |
| | S. 89° 59' E., on a true line, bet. secs. 7 and 18. |
| | Over level land, through scattering timber and undergrowth. |
| 10.10 | Desc. 55 ft. |
| 15.10 | Thence over level land. |
| 38.50 | Wash, 75 lks. wide, course N. |
| 40.01 | Set an iron post, 3 ft. long, 1 in diam., 10 ins. in the ground, in a mound of stone, for ½ sec. cor., marked on brass cap<br>¼ S 7<br>S 18<br>1921 |
| | From which<br>A juniper, 10 ins. diam., brs. N. 71½° E., 87 lks. dist., marked ¼ S 7 B T.<br>A juniper, 6 ins. diam., brs. S. 34° W., 46 lks. dist., marked ¼ S 18 B T. |
| | Asc. 95 ft. |
| 51.75 | Desc. 35 ft. |
| 58.25 | Asc. 30 ft. |
| 62.10 | Thence over level land. |
| 80.02 | The cor. of secs. 7, 8, 17 and 18. |
| | Land, level and rolling. |
| | Soil, 2nd rate. |
| | Timber, juniper. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

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N. 0° 1' E., bet. secs. 7 and 8.

BOOK 3567

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| | Over rolling land, through scattering timber and undergrowth. Asc. gradually. |
| 12.00 | Low rolling ridge, brs. E. and W. Desc. gradual N. slope. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 18 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>¼<br>S 7 \| S 8<br>1921<br><br>Dig pits, 18 x 18 x 12 ins., N. and S. of post, 3 ft. dist. |
| 80.00 | Set an iron post, 3 rt. long, 2 ins. diam., 8 ins. in the ground, in a mound of stone, for cor. of secs. 5, 6, 7 and 8, marked on brass cap<br>T 30 N R 14 W<br>S 6 \| S 5<br>S 7 \| S 8<br>1921<br><br>From which<br>A juniper, 10 ins. diam., brs. N. 61½° E., 229 lks. dist., marked T 30 N R 14 W S 5 B T.<br>A juniper, 10 ins. diam., brs. S. 62½° E., 85 lks. dist., marked T 30 N R 14 W S 8 B T.<br>A juniper, 12 ins. diam., brs. S. 50° W., 116 lks. dist., marked T 30 N R 14 W S 7 B T.<br>A juniper, 14 ins. diam., brs. N. 42° W., 219 lks. dist., marked T 30 N R 14 W S 6 B T.<br>Land, rolling and level.<br>Soil, 2nd rate.<br>Timber, juniper.<br>Undergrowth, black brush, sagebrush and cactus.<br>Fair grazing. |

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| | |
|---|---|
| | N. 89° 59' W., on a random line, bet. secs. 6 and 7. |
| 40.00 | Set temp. ¼ sec. cor. |
| 80.06 | Fall 2 lks. N. of the cor. of secs. 1, 6, 7, and 12, on the W. bdy. of Tp., described in Book "H". |
| | Thence, |
| | East, on a true line, bet. secs. 6 and 7. |
| | Over mountainous land, through scattering undergrowth. |
| | Desc. 30 ft. |
| 3.50 | Wash, 10 lks. wide, course SW. Asc. 110 ft. |
| 21.00 | Ridge, brs. N. and S. Desc. 130 ft. |
| 29.20 | Wash, 12 lks. wide, course SW. Asc. 130 ft. |
| 33.50 | Thence over level land. |
| 40.03 | Set an iron post, 3 ft. long, 1 in. diam., 10 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>¼ S 6<br>S 7<br>1921 |
| 80.06 | The cor. of secs. 5, 6, 7 and 8.<br>Land, mountainous and level.<br>Soil, rocky, 4th rate.<br>No timber.<br>Undergrowth, black brush, sagebrush and cactus.<br>Fair grazing. |

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Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| | N. 0° 1' E., on a true line, bet. secs. 5 and 6. |
| | Over rolling hills, through scattering timber and undergrowth. Desc. |
| 6.00 | Wash, 8 lks. wide, course W. Asc. 30 ft. |
| 17.08 | Desc. 30 ft. |
| 27.06 | Asc. 85 ft. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., on bed rock, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked |

¼
S 6 | S 5
1921

| | |
|---|---|
| | Continue ascent. |
| 41.70 | Ridge, brs. E. and W. Desc. 415 ft. |
| 70.34 | Set an iron post, 3 ft. long, 2 ins. diam., on bed rock with marked (X) stone, for witness cor. to cor. of secs. 5, 6, 31 and 32; and raise a mound of stone around post, with brass cap marked |

W C
T 31 N R 14 W
S 31 | S 32
S 6 | S 5
T 30 N
1921

| | |
|---|---|
| | Cor. stands on edge of rim rock, brs. NE. and SW. |
| 79.39 | The theoretical true point for cor. of secs. 5, 6, 31 and 32, (inaccessible). |
| | Land, rolling hills and mountainous. |
| | Soil, 4th rate. |
| | Timber, juniper. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

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| | |
|---|---|
| | From the cor. of secs. 29, 30, 31 and 32. |
| | East, on a true line, bet. secs. 29 and 32. |
| | Over rolling hills, through scattering undergrowth. Desc. |
| 3.00 | Ravine, course NW. Asc. 70 ft. |
| 22.00 | Ridge, brs. N. and S. Desc. 160 ft. |
| 35.00 | Ravine, 6 lks. wide, course S. 80° E. Asc. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., 6 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked |

¼ S 29
S 32
1921

| | |
|---|---|
| | Asc. |
| 45.00 | Spur, slopes SE. Desc. 30 ft. |
| 50.00 | Ravine, 8 lks. wide, course S. Asc. |
| 55.45 | Desc. 140 ft. |
| 67.50 | Gulch, 20 lks. wide, 40 ft. deep, course N. 85° E. Asc. |
| 77.45 | Desc. 40 ft. |
| 80.00 | Set an iron post, 3 ft. long, 2 ins. diam., 6 ins. in the ground, with marked (X) stone, for cor. of secs. 28, 29, 32 and 33; and raise a mound of stone around post, with brass cap marked |

T 30 N R 14 W
S 29 | S 28
S 32 | S 33.
1921

Chains

Land, rolling hills.
Soil, rocky, 4th rate.
No timber.
Undergrowth, black brush, sagebrush and cactus.
Fair grazing.

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The sec. line bet. secs. 32 and 33 is rendered unsurveyable by rim of canyon, 1000 ft. deep, at 13.80 chs. South of the cor. of secs. 28, 29, 32 and 33. Rim brs. NE. and SW.

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The sec. line bet. secs. 28 and 33 is rendered unsurveyable by rim of canyon, 1000 ft. deep, bearing N. and S., at 18.00 chs.

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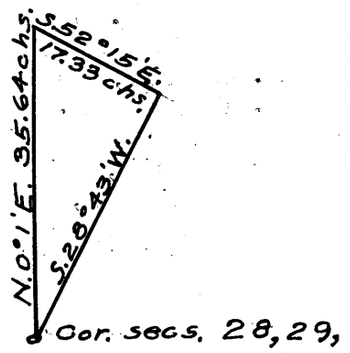
From the cor. of secs. 28, 29, 32 and 33.
N. 0° 1' E., bet. secs. 28 and 29.
Over mountainous land, through scattering undergrowth.
Impracticable to chain from this cor. Set a flag ahead on line, from which I measure a base S. 52° 15' E., 17.33 chs. From E. end of base, cor. of secs. 28, 29, 32 and 33 brs. S. 28° 43' W.

The three angles of the triangle are therefore 52° 16', 99° 2' and 28° 42', the sum of which is 180°. The distance triangulated is given by the sine proportion:

$$\frac{X}{17.33} = \frac{\sin. 99° 2'}{\sin. 28° 42'}$$

log. 17.33 = 1.238799
log. sin. 99° 2' = 9.994580
1.233379
log. sin. 28° 42' = 9.681443
log. X = 1.551936
X = 35.64




chs. The approximate topography is as follows:

3.20 Gulch, 60 ft. deep, course N. 80° E. Asc.
15.00 Spur, slopes SE.
28.00 Wash, course SE. Asc.
35.64 Triangulation point. Thence by chaining.
36.50 Ridge, 200 ft. above wash, brs. NW. and SE. Desc.
40.00 Set an iron post, 3 ft. long, 1 in. diam., 14 ins. in the ground, with marked (X) stone, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked

$$\frac{S\ 29 \mid S\ 28}{1921}$$

Continue descent, 140 ft.
42.70 Gulch, 30 lks. wide, 20 ft. deep, course S. 70° E. Asc. 125 ft.
60.14 Thence over nearly level land.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground, with marked (X) stone, for cor. of secs. 20, 21, 28 and 29; and raise a mound of stone around post, with brass cap marked

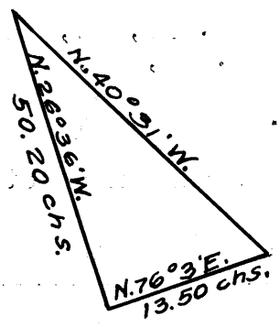
Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| | T 30 N R 14 W<br>S 20 \| S 21<br>S 29 \| S 28<br>1921 |
| | Land, mountainous.<br>Soil, 3rd rate.<br>No timber.<br>Undergrowth, black brush, sagebrush, and cactus.<br>Fair grazing. |
| | West, on a random line, bet. secs. 20 and 29. |
| 40.00 | Set temp. ¼ sec. cor. |
| 80.06 | Intersect the cor. of secs. 19, 20, 29 and 30. |
| | Thence<br>East, on a true line, bet. secs. 20 and 29.<br>Over rolling land, through scattering undergrowth. |
| | Asc. 20 ft. |
| 8.99 | Desc. 25 ft. |
| 13.47 | Thence over level land. |
| 23.47 | Draw, course SW. |
| 31.45 | Desc. 40 ft. |
| 40.03 | Set an iron post, 3 ft. long, 1 in. diam., 27 ins. in the ground, for ¼ sec. cor., marked on brass cap<br>¼ S 20<br>S 29<br>1921<br>And raise a mound of stone, 2½ ft. base, 2 ft. high, N. of cor. |
| | Thence over level land. |
| 58.00 | Draw, course SE. |
| 80.06 | The cor. of secs. 20, 21, 28 and 29. |
| | Land, rolling and level.<br>Soil, 1st and 2nd rates.<br>Timber, none.<br>Undergrowth, black brush, sagebrush and cactus.<br>Fair grazing. |
| | Note: It is not deemed advisable to survey the line between secs. 21 and 28, since no surveyed areas would result thereby, since no cors. can be established on line bet. secs. 21 and 22, bet. secs. 22 and 27, or bet. secs. 27 and 28. |
| | N. 0° 1' E., bet. secs. 20 and 21. |
| | Over level land, through scattering timber and undergrowth. |
| 6.60 | Draw, course SE. |
| 35.08 | Rim of canyon, 800 ft. deep, brs. NE. and SW. Set an iron post, 3 ft. long, 1 in. diam., on ledge rock, with cross (X) at exact cor. point, for witness cor. to ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br>W C<br>¼<br>S 20 \| S 21<br>1921 |
| 40.00 | The true point for ¼ sec. cor. is inaccessible.<br>From the witness cor., set a flag ahead on a bearing. |

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

Chains

N. 26° 36' W. From the witness cor., measure a base N. 76° 3' E., 13.50 chs., from the E. end of which flag brs. N. 40° 31' W. The three angles of the triangle are therefore 13° 55', 63° 26' and 102° 39', the sum of which is 180°. The distance triangulated is given by the sine proportion:




$$\frac{X}{13.50} = \frac{\sin. 63° 26'}{\sin 13° 55'}$$

| | |
|---|---|
| log. 13.50 | = 1.130334 |
| log. sin. 63° 26' | = 9.951539 |
| | 1.081873 |
| log. sin. 13° 55' | = 9.381134 |
| log. X | = 1.700739 |
| X | = 50.20 chs. |

The latitude and departure of the line triangulated N. 26° 36' W. 50.20 chs. are 44.89 and 22.48 chs. respectively, which makes this point 0.03 chs. South and 22.49 chs. west of the true point for cor. of secs. 16, 17, 20 and 21.

Thence North 0.03 chs. and
East 12.56 chs., to a point on rim of a canyon, 900 ft. deep, brs. NE., and SW., 9.93 chs. West of the true point for cor. of secs. 16, 17, 20 and 21, where I.

Set an iron post, 3 ft. long, 2 ins. diam., 6 ins. in the ground, with marked (X) stone, for witness cor. to cor. of secs. 16, 17, 20 and 21; and raise a mound of stone around post, with brass cap marked

T 30 N. R 14 W
S 17 | S 16
S 20 | S 21
1921

Land, level and mountainous.
Soil, 2nd, 3rd and 4th rates.
Timber, juniper.
Undergrowth, black brush, sagebrush and cactus.
Fair grazing.

---

From the witness cor. to cor. of secs. 16, 17, 20 and 21, 9.93 chs. West of the true point for cor. of secs. 16, 17, 20 and 21,

West, on a random line, bet. secs. 17 and 20, continuing measurement.

40.00 Set temp. ¼ sec. cor.

80.00 Intersect the cor. of secs. 17, 18, 19 and 20.

Thence

East, on a true line, bet. secs. 17 and 20.

Over level land, through scattering timber and undergrowth.

81.50 Draw, course N.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 20 ins. in the ground, in a mound of stone, for ¼ sec. cor., marked on brass cap

¼ S 17
S 20
1921

From which

A juniper, 20 ins. diam., brs. N. 69½° W., 315 lks. dist., marked ¼ S 17 B T.

A juniper, 12 ins. diam., brs. S. 66½° E., 282 lks. dist., marked ¼ S 20 B T.

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

| Chains | |
|---|---|
| 44.50 | Asc. 20 ft. |
| 49.00 | Desc. 235 ft. |
| 57.46 | Top of cliff, 200 ft. high, brs. NE. and SW. Continue descent. |
| 70.07 | The witness cor. to cor. of secs. 16, 17, 20 and 21. |
| 80.00 | The true point for cor. of secs. 16, 17, 20 and 21. |
| | Land, level and mountainous. |
| | Soil, 2nd, 3rd and 4th rates. |
| | Timber, juniper. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |

N. 0° 1' E., bet. secs. 16 and 17.
As the line bet. secs. 16 and 17 is unsurveyable, I begin at the ¼ sec. cor. bet. secs. 17 and 20 and run offset line through sec. 17 as follows:
N. 0° 1' E., through sec. 17.
Over level land, through scattering undergrowth.

| | |
|---|---|
| 40.00 | From this point, run East through sec. 17. |
| | Over level land, through scattering undergrowth. |
| 10.50 | Desc. 35 ft. |
| 14.97 | Asc. 35 ft. |
| 19.01 | Desc. 25 ft. |
| 23.49 | Asc. 25 ft. |
| 25.40 | Top of cliffs, br. N. and S. Desc. 630 ft. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., on ledge rock, with cross (X) at exact cor. point, for ¼ sec. cor. of secs. 16 and 17; and raise a mound of stone around post, with brass cap marked |

¼
S 17 | S 16
1921

This cor. stands on rim, bearing N. and S., 800 ft. above bottom of canyon, course NE.
I return to offset line, 40.00 chs. N. 0° 1' E. of the ¼ sec. cor. of secs. 17 and 20, and continue N. 0° 1' E. on offset line through sec. 17.
Over level land, through scattering undergrowth.

| | |
|---|---|
| 80.00 | From this point, run East. Desc. 65 ft. |
| 7.94 | Asc. 85 ft. |
| 25.01 | Edge of cliffs, 400 ft. high, bearing N. and S. Set flag ahead on a bearing East. From 25.01 ch. point measure a base S. 8° 55' E. 4.00 chs. - impracticable to secure longer base - from S. end of which flag brs. N. 62° 16' E. The three angles of the triangle are therefore 81° 5', 27° 44' and 71° 11', the sum of which is 180°. The distance triangulated is given by the sine proportion: |

East 8.14 chs.
S. 8° 55' E.
4.00 chs.
N. 62° 16' E.

$$\frac{X}{4.00} = \frac{\sin. 71° 11'}{\sin. 27° 44'}$$

log. 4.00 = 0.602060
log. sin. 71° 11' = 9.976146
0.578206
log. sin. 27° 44' = 9.667786
log. X = 0.910420
X = 8.14 chs.,
which added to 25.01 chs. gives 33.15 chs., or 6.85 chs. West

| Chains | |
|---|---|
| | of the true point for cor. of secs. 8, 9, 16 and 17, where I |
| | Set an iron post, 3 ft. long, 2 ins. diam., 12 ins. in the ground, with marked (X) stone, for witness cor. to cor. of secs. 8, 9, 16 and 17; and raise a mound of stone around post, with brass cap marked<br>T 30 N \| R 14 W<br>S 8 \| S 9<br>S 17 \| S 16 W C<br>1921 |
| 80.00 | The true point for cor. of secs. 8, 9, 16 and 17, is inaccessible. |
| | Land, level, rolling and mountainous. |
| | Soil, 2nd, 3rd and 4th rates. |
| | No timber. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |
| | From the witness cor. to cor. of secs. 8, 9, 16 and 17, 6.85 chs. West of the true point for cor. of secs. 8, 9, 16 and 17. |
| | West, on a random line, bet. secs. 8 and 17, continuing measurement, distance as hereinbefore described. |
| 40.00 | Set temp. ¼ sec. cor. |
| 80.00 | Intersect the cor. of secs. 7, 8, 17 and 18. |
| | Thence |
| | East, on a true line, bet. secs. 8 and 17. |
| | Over level land, through scattering timber and undergrowth. |
| 32.20 | Draw, 10 lks. wide, 2 ft. deep, course NE. |
| 38.20 | Desc. 35 ft. |
| 40.00 | Set an iron post, 3 ft. long, 1 in. diam., on ledge rock, in a mound of stone, for ¼ sec. cor., marked on brass cap<br>¼ S 8<br>S 17<br>1921 |
| | From which<br>A pinyon, 12 ins. diam., brs. N. 10½° E., 122 lks. dist., marked ¼ S 8 B T.<br>A pinyon, 12 ins. diam., brs. S. 20½° E., 74 lks. dist., marked ¼ S 17 B T. |
| | Continue descent, 65 ft. |
| 47.94 | Draw, 15 lks. wide, 2 ft. deep, course NE. Asc. |
| 50.93 | Desc. |
| 52.93 | Wash, 50 ft. deep, course N. Asc. 85 ft. |
| 65.01 | Rim of canyon, 400 ft. deep, bearing N. and S. Thence by triangulation, as hereinbefore described. |
| 73.15 | The witness cor. to cor. of secs. 8, 9, 16 and 17. |
| 80.00 | The true point for cor. of secs. 8, 9, 16 and 17 (inaccessible). |
| | Land, level, rolling and mountainous. |
| | Soil, 2nd, 3rd and 4th rates. |
| | Timber, pinyon and juniper. |
| | Undergrowth, black brush, sagebrush and cactus. |
| | Fair grazing. |
| | From the cor. of secs. 5, 6, 7 and 8. |
| | East, on a true line, bet. secs. 5 and 8. |
| | Over rolling land, through scattering timber and undergrowth. |
| 9.00 | Asc. 60 ft. |
| 23.45 | Thence along N. slope. |
| 35.70 | Rim of canyon, 1000 ft. deep, brs. N. and S. Set an iron |

Survey of Part of the Subdivision of
T. 30 N., R. 14 W.

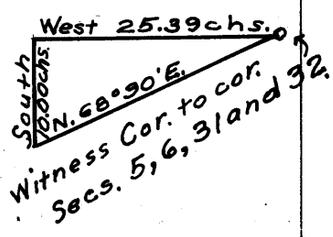
| Chains | |
|---|---|
| | post, 3 ft. long, 1 in. diam., on ledge rock, with cross (X) at exact cor. point, for witness cor. to ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked<br><br>¼ S 5<br>S 8<br>1921 |
| 40.00 | The true point for ¼ sec. cor. is inaccessible.<br>It is impossible to continue this line farther.<br>Land, rolling and mountainous.<br>Soil, 2nd, 3rd and 4th raves.<br>Timber, juniper and pinyon.<br>Undergrowth, black brush, sagebrush and cactus.<br>Fair grazing. |

Survey of Part of the North Boundary of
T. 30 N., R. 14 W.

Chains

In order to establish the ¼ cor. bet. secs. 6 and 31, on the N. bdy. of Tp. 30 N., R. 14 W., I proceed as follows:

From the witness cor. to cor. of secs. 5, 6, 31 and 32, established 70.34 chs. N. 0° 1' E. of the cor. of secs. 5, 6, 7 and 8, set a flag due West, from which I measure a base South 10.00 chs., from S. end of which, flag at the witness cor. brs. N. 68° 30' E. The three angles of the triangle are therefore 68° 30', 90° and 21° 30', the sum of which is 180° The distance triangulated is given by tan. 68° 30' X 2.53865 X 10 = 25.39 chs.




25.39 Continue West, distance by chaining. Asc.

27.40 Top of high cliff, brs. N. and S. Thence over rolling land.

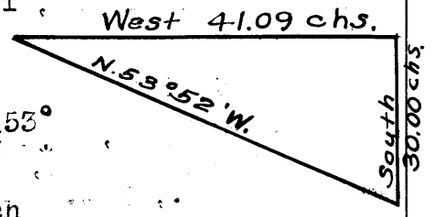
40.00 From this point, N. 0° 1' E. 9.05 chs., to a point on the N. bdy. of Tp.; due East of a flag on the N. bdy. of T. 30 N., R. 15 W., set 58.80 chs. East of the cor. of secs. 1, 2, 35 and 36, T. 30 N., R. 15 W.

At this point, set an iron post, 3 ft. long, 1 in. diam., on bed rock, with cross (X) at exact cor. point, for ¼ sec. cor.; and raise a mound of stone around post, with brass cap marked

¼ S 31 / S 6

1921

60.00 East rim of canyon, several hundred feet deep, brs. N. and S. Impossible to measure farther. Measure a base south 30.00 chs., from S. end of which, flag at the 58.80 ch. point east of the cor. of secs. 1, 2, 35 and 36, on the N. bdy. of T. 30 N., R. 15 W. bears N. 53° 52' W. The three angles of the triangle are therefore 53° 52', 36° 8' and 90°, the sum of which is 180°. The distance triangulated is given by tan. 53° 52' X 30.00 = 41.09 chs.; the distance to the cor. of secs. 1, 2, 35 and 36, on the N. bdy. of T. 30 N., R. 15 W., from the true point for cor. of secs. 5, 6, 31 and 32 on the N. bdy. of T. 30 N., R. 14 W., is therefore 60.00 + 41.09 + 58.80 = 159.89 chs.




Land, rolling and mountainous.
Soil, rocky, 4th rate.
Timber, none.
Undergrowth, black brush, sagebrush and cactus.
Fair grazing.

Boundaries of Part of T. 30 N., R. 14 W.

Surveyed Under this Group.

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Latitudes, Departures and Closing Errors.

| Line designated. | True bearing. | Dist. | Latitudes. | | Departures. | |
|---|---|---|---|---|---|---|
| | | | N. | S. | E. | W. |
| West Boundary | North | 320.00 | 320.00 | | | |
| Subdivisional Boundary | East | 80.06 | | | 80.06 | |
| | S. 0° 1' W. | 320.00 | | 320.00 | | 0.09 |
| | East | 80.00 | | | 80.00 | |
| | West | 160.00 | | | | 160.00 |
| Convergency | | | | | .10 | |
| Totals | | | 320.00 | 320.00 | 160.16 | 160.09 |
| Error in latitude, | | | | 320.00 | 160.09 | |
| Error in departure, | | | | 0.00 | .07 | |
| | | | | | .07 | |

Final Test of Adjustments of Field Instruments.

August 4, 1921: at our camp near the cor. of secs. 23, 24, 25 and 26, T. 29 N., R. 15 W., G. and S. R. B. and M., lat. 35° 53' N., long. 113° 51½' W., at 4 hrs. 0 m., p. m.; l. m. t., using the meridian determined as described in Book "G", we set off 35° 53' N., on the lat. arcs; 17° 12½' N. on the decl. arcs; and determine a meridian with each solar, which agrees with the true meridian.

August 5, 1921: at 8 hrs. 0 m., a. m., l. m. t., we set off 35° 50' N. on the lat. arcs; 17° 2' N. on the decl. arcs; and determine a meridian with each solar, which agrees with the true meridian.

As all of the solar observations during the usual hours of solar work come within 1' 30" of the true meridian, we conclude that the adjustments of the solars during the progress of this survey have been satisfactory.

GENERAL DESCRIPTION

The portion of T. 30 N., R. 14 W., surveyed under this Group is level and rolling land, bounded on the north, east and south by impassable cliffs, extending down to the Colorado River or its tributaries. The soil varies from 2nd to 4th rate, and supports a scattering growth of juniper and pinyon timber and black brush, sagebrush and cactus undergrowth. No water is found in the surveyed portion of this township.

4—680

## FIELD ASSISTANTS.

William E. Hiester, U. S. Transitman.

| NAMES. | CAPACITY. |
|---|---|
| Robert A. Johnson, | 1st chainman, |
| Irving A. Jennings, | 2nd chainman, |
| Walter Thomasson, | flagman, |
| T. J. Damron, Jr., | cornerman. |
| James Chamberlain, | cornerman. |
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6—2784

18

# CERTIFICATE OF UNITED STATES ~~TRANSITMAN~~.

BOOK 3567

I, William E. Hiester, U.S. Transitman, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 110, Arizona, bearing date of the 27th day of February, 19 20, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the Subdivision lines of

TOWNSHIP 30 NORTH, RANGE 14 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 110, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

and by diagram on page 1 hereof

Place Wolf Hole Arizona

Date June 21 1923

William E. Hiester
U.S. Transitman.

~~APPROVAL.~~

~~OFFICE OF THE UNITED STATES SURVEYOR GENERAL,~~

~~, 19~~

~~The foregoing field notes of the survey of~~

~~executed by~~

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

~~U. S. Surveyor General.~~

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

~~U. S. Surveyor General.~~

6—2784

BOOK 3567

4—680

## FIELD ASSISTANTS.

to

Thomas D. Daley, U. S. Surveyor,

| NAMES. | CAPACITY. |
|---|---|
| A. L. Bailey | 1st Chainman |
| Lorenzo Jennings | 2nd Chainman |
| Stewart Carpenter | Flagman |
| H. M. O'Connor | Cornerman. |
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6—2764

20

# CERTIFICATE OF UNITED STATES SURVEYOR.

BOOK 3567

I, Thomas D. Daley, U. S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 110, Arizona, bearing date of the 27th day of February, 1920, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the North boundary, and Subdivision lines of

TOWNSHIP 30 NORTH, RANGE 14 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 110, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

and by diagram on page 1 hereof

Place Santa Fe, N.M. Thomas D. Daley
U. S. Surveyor.

Date June 1, 1923

## APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, JUN 30, 1923.

The foregoing field notes of the survey of Part of the North boundary, and Part of the Subdivision lines of TOWNSHIP 30 NORTH, RANGE 14 WEST, of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by Thomas D. Daley, U.S. Surveyor, and William E. Hiester, U.S. Transitman under ~~his~~ special instructions dated Feb. 27, 1920, for Gr. 110, Arizona, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank P. Frost
U. S. Surveyor General.

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

~~U. S. Surveyor General.~~

6—2764