

2912

AUG. 20. 1916

FEB. 13. 1917

4-679

Book "A"

(Exteriors)

BOOK 2912

FIELD NOTES

OF THE SURVEY OF THE

WEST & NORTH BDRS. Ts. 13 N., Rs. 13, 14, & 15 W.

NORTH BDY. T. 13 N., R. 16 W.

EAST & NORTH BDRS. Ts. 14 N., Rs. 14, 15 & 16 W.

NORTH BDY. T. 14 N., R. 13 W.

EAST & NORTH BDRS. Ts. 15 N., Rs. 14, 15 & 16 W.

COMPLETION OF NORTH BDY. T. 15 N., R. 13 W.

EAST & NORTH BDRS. Ts. 16 N., Rs. 14, 15 & 16 W.

COMPLETION OF NORTH BDY. T. 16 N., R. 13 W.

EAST BDY. FRACTIONAL T. 16 1/2 N., R. 16 W.

and the

WEST & EAST BDRS. FRACTIONAL T. 16 1/2 N., R. 14 W.

Of the Gila and Salt River Base and Meridian,

In the State of ARIZONA

EXECUTED BY:

IRVING W. STODDARD & ALBERT SMITH Jr., U.S. Surveyors
and

R.D. ARMSTRONG, HANS D. VOIGT, CARL DYSON, H.M. BRADSTREET

and THOMAS A. HAYDEN U.S. Transitmen

~~In the capacity of U.S. Surveyor~~, under instructions dated December 28, 1914,

issued by the United States Surveyor General to govern surveys included in

Group No. 41, which were approved by the Commissioner of the General Land

Office, January 22, 1915, pursuant to authority contained in the Act of

Congress dated _____, 191

Survey commenced FEBRUARY 13, 1915

Survey completed DECEMBER 24, 1915

and executed under Assignment Instructions dated Jan'y 28, Apr. 1, Apr. 10, Apr. 26
and Nov. 29 - 1915

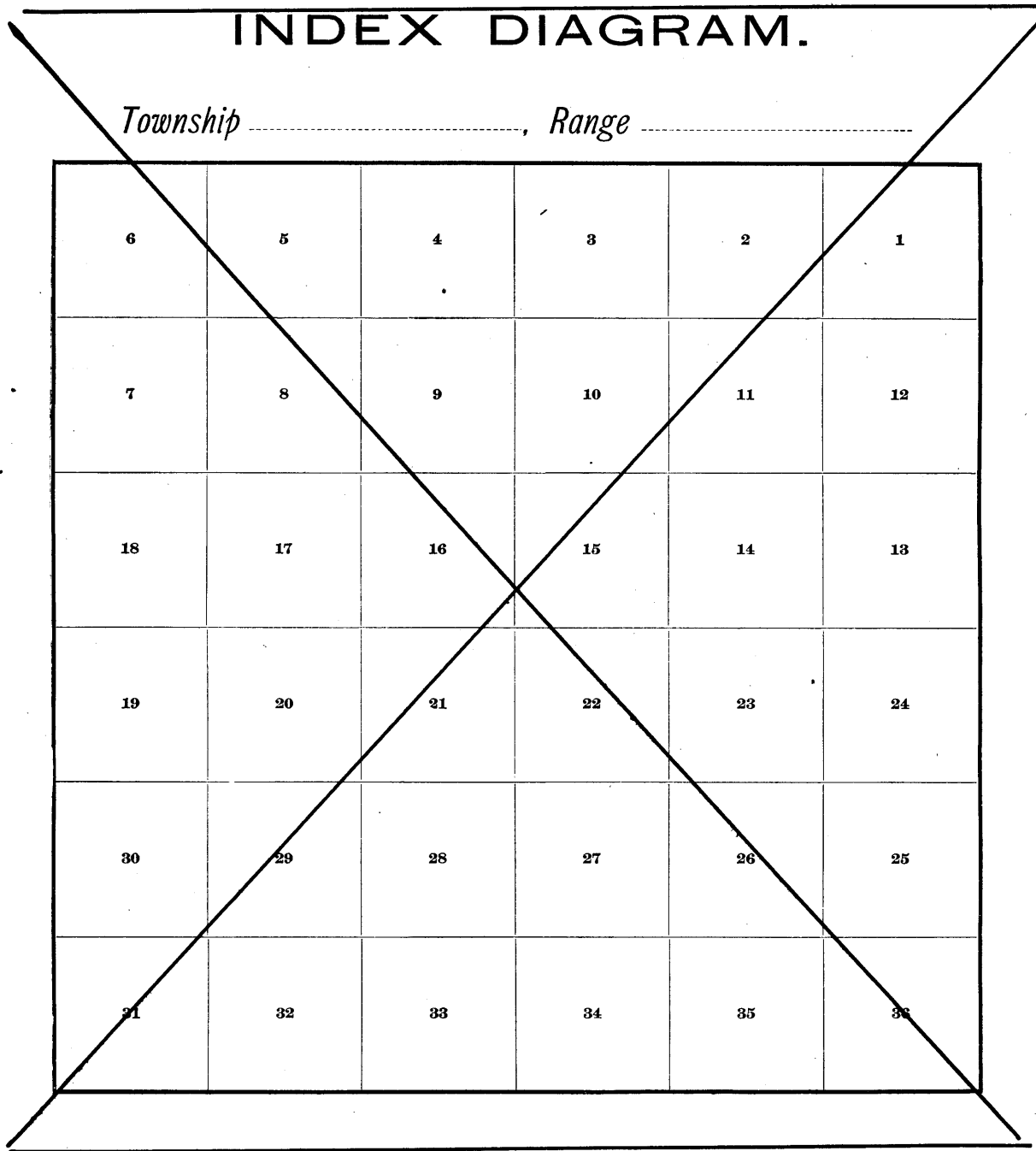
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BOOK "A"
(EXTERIORS)

SEE SPECIAL INDEX DIAGRAM

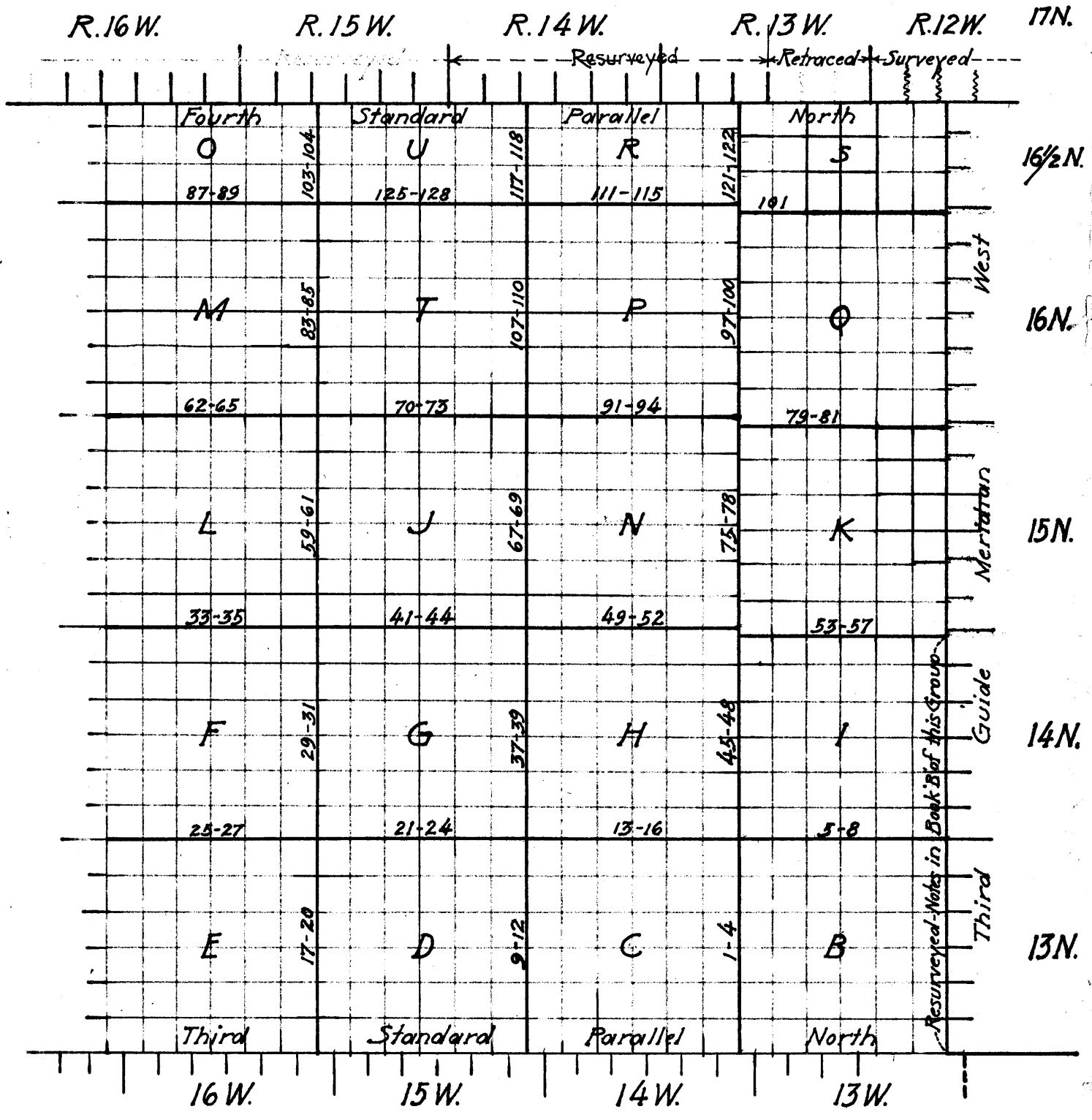


Book "A" 2912

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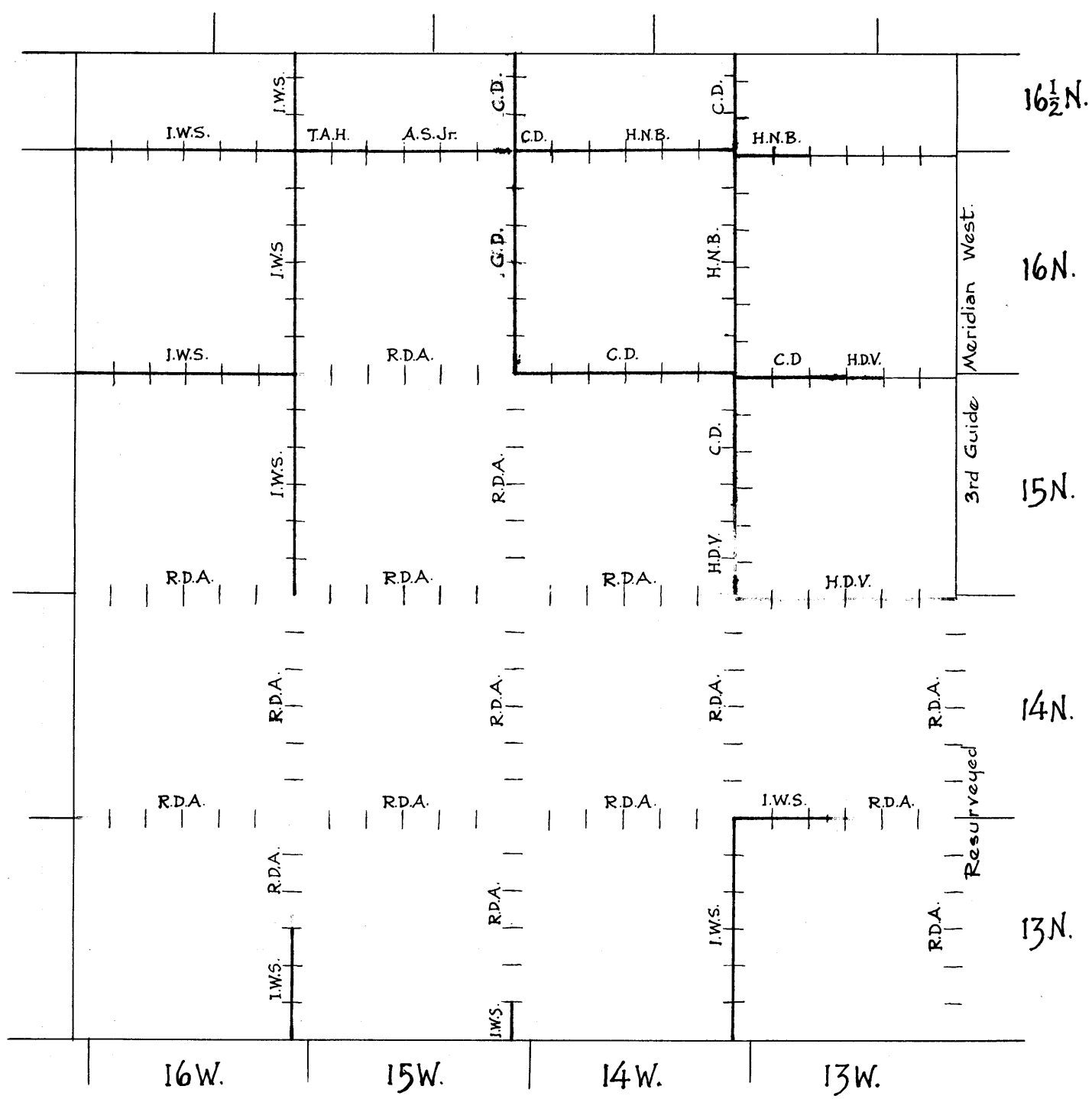
Group 41

BOOK 2912



- Notes in Book "A" (this book) 2912
- Surveyed under Group 46.
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~DIAGRAM~ SHOWING THE RESPECTIVE SURVEYS OF TOWNSHIP EXTERIOR LINES EXECUTED BY EACH SURVEYOR AND TRANSITMAN UNDER INSTRUCTIONS FOR Group 41, Arizona.



Irving W. Stoddard, U.S. Surveyor
(Carmine)

H.N. Bradstreet, U.S. Transitman
(Blue)

R.D. Armstrong, U.S. Transitman
(Green)

Carl Dyson, U.S. Transitman
(Brick Red)

Thomas A. Hayden, U.S. Transitman
(Brown)

Hans D. Voigt, U.S. Transitman
(Yellow)

Albert Smith Jr., U.S. Surveyor
(Orange)

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FINAL CERTIFICATE OF U. S. SURVEYORS AND TRANSITMEN.

We, the undersigned, hereby certify on honor that, in pursuance of special instructions received from the U. S. Surveyor General for Arizona, bearing date of December 28, 1914, we have well, faithfully, and truly, in our own proper persons, 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

GROUP 41,

which are represented on the diagram on the reverse hereof as having severally been executed by us, and under our direction; and we do further certify on honor that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Arizona, and in the specific manner described in our respective field notes.

Robert Smith Jr.
U. S. Surveyor.

James W. Todd
U. S. Surveyor.

U. S. Transitman.

Ray D. Armstrong
U. S. Transitman.

U. S. Transitman.

Hans L. Wright
U. S. Transitman.

U. S. Transitman.

Carl Dyson
U. S. Transitman.

Herbert de Trech
U. S. Transitman.

Thomas A. Hayden
U. S. Transitman.

1D

West Boundary of T. 13 N., R. 13 W.

Chains.

Survey commenced Feb. 13, 1915, and executed jointly by Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transits, Nos. 8485 and 8531, with Smith Solar Attachments. The horizontal limbs of the instruments are provided with two double verniers, placed opposite to each other, and reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

These instruments were approved Jan. 28, 1915, by the Assistant Supervisor of Surveys for Arizona and California, subject to satisfactory field performance.

In the following field notes, the initials I. W. S. and R. D. A. refer to Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, respectively.

Knowing from recent and repeated tests of these instruments on a meridian established by observations on Polaris at elongation, that they are in adjustment, we proceeded to the survey of the W. bdy. of T. 13 N., R. 13 W.

I. W. S.

From the standard cor. of Tps. 13 N., Rs. 13 and 14 W., which is an iron post, marked and witnessed as described by the Surveyor-General, I run

North, bet. secs. 31 and 36.

Over mountainous land, through scattering undergrowth.

5.00 Top of knoll, brs. E. and W. Desc. NE. slope, 335 ft. to Gulch, course E. Thence over broken land.

20.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap
1915 on S. rim;
1/4 S36 in W. and
S31 in E. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

45.00 Gulch, course NW. Asc. SW. slope, 90 ft. to

55.20 Top of knoll, brs. NW. and SE. Desc. N. slope, 220 ft. to

67.85 Gulch, course NW. Asc. SW. slope, 140 ft. to

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

1915 on S. rim;
T13N in N. half;
R14W S25 in NW.,
R13W S30 in NE.,
S31 in SE. and
S36 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, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, palo verde and cacti.

North, bet. secs. 25 and 30.

Over rolling land, through scattering undergrowth.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap
1915 on S. rim;
1/4 S25 in W. and
S30 in E. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

52.90 Top of knoll. Desc. NW. slope, 150 ft. to

65.00 Gulch, course W. Asc. SW. slope, 110 ft. to

80.00 Ridge, brs. E. and W. Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 19, 24,

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West Boundary of T. 13 N., R. 13 W.

Chains.

25 and 30, marked on brass cap

1915 on S. rim;
 T13N in N. half;
 R14W S24 in NW.,
 R13W S19 in NE.,
 S30 in SE. and
 S25 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 and mountainous.

Soil, sandy and rocky, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, palo verde, ocetilla, yucca and cacti.

North, bet. secs. 19 and 24.

Over mountainous land, through scattering undergrowth.

Desc. N. slope to

- 3.00 Gulch, course SW. Asc. SW. slope, 70 ft. to
 15.00 Ridge, brs. E. and W. Desc. NE. slope, 490 ft.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S24 in W. and
 S19 in E. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.
 55.00 Thence over rolling land.
 80.00 Gulch, course NE. 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
 1915 on S. rim;
 T13N in N. half;
 R14W S13 in NW.,
 R13W S18 in NE.,
 S19 in SE. and
 S24 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 and mountainous.
 Soil, rocky on slopes, sandy in washes, 4th rate.
 No timber.
 Undergrowth, cat claw, palo verde, and cacti.

Feb. 13, 1915.

Feb. 14, 1915: At 8 hrs. 10 m., a.m., l.m.t., I set off
 $34^{\circ} 28' N$ on the lat. arc; $13^{\circ} 12' S$ 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 land, through scattering undergrowth.

Asc. SE. slope, 30 ft. to

- 4.45 Spur, brs. NE.
 30.00 Wash, course NE. Thence over level land.
 39.04 Road, brs. NE. to Signal, and SW. to Alamo, Castaneta
 Well and Mc Cracken Mine.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S13 in W. and
 S18 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 Road, brs. E. to Signal, and W. to Castaneta Well.
 55.00 Wash, course 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

West Boundary of T. 13 N., R. 13 W. 3.

Chains.

1915 on S. rim;
T13N in N. half;
R14W S12 in NW.,
R13W S7 in NE.,
S18 in SE. and
S13 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor. Pits impracticable.

Land, rolling.

Soil, rocky on slopes, sandy in washes; 4th rate.

No timber.

Undergrowth, cat claw, palo verde and cacti.

North, bet. secs. 7 and 12.

Over gently rolling land, through scattering undergrowth.

25.53 Old road, brs. NW. and SE.

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

1915 on S. rim;
1/4 S12 in W. and
S7 in E. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor. Pits impracticable.

64.20 Road, brs. NW. to Yucca, and SE. to Signal.

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

1915 on S. rim;
T13N in N. half;
R14W S1 in NW.,
R13W S6 in NE.,
S7 in SE. and
S12 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor. Pits impracticable.

Land, gently rolling.

Soil, sandy, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, palo verde, cat claw and cacti.

Feb. 14, 1915: At this cor., I set off 13° 9 1/2' S on the
decl. arc; and at apparent noon, I observe the sun on
the meridian; the resulting lat. is 34° 29 1/2' N.

North, bet. secs. 1 and 6.

Over level land, through scattering undergrowth.

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

1915 on S. rim;
1/4 S1 in W. and
S6 in E. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor. Pits impracticable.

41.00 Desc. NE. slope, 85 ft. to

46.80 Enter wash, course SE.

57.20 Leave wash; asc. SW. slope, 35 ft. to

65.00 Low spur, brs. SE. Desc. NE. slope, 30 ft. to

70.00 Wash, course SE. Asc. SW. slope, 60 ft. to

73.55 Thence over rolling land.

80.00 Gulch, course SE. Set an iron post, 3 ft. long, 3 ins.
diam., 24 ins. in the ground, for cor. of Tps. 13 and
14 N., Rs. 13 and 14 W., marked on brass cap

1915 on S. rim;
T14N in N.,
R13W in E.,
T13N in S. and
R14W in W. half;

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West Boundary of T. 13 N., R. 13 W.

Chains.

S36 in NW.,
S31 in NE.,
S67 in SE. and
S12 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
S. of cor. Pits impracticable.

Land, level and rolling.

Soil, sandy, 4th rate.

No timber.

Undergrowth, greasewood, palo verde, mesquite, cat claw,
yucca and cacti.

I. W. S.

Feb. 14, 1915.

North Boundary of T. 13 N., R. 13 W.

Chains.

Feb. 14, 1915: I. W. S.
 From the cor. of Tps. 13 and 14 N., Rs. 13 and 14 W.,
 which is an iron post, hereinbefore described, I run
 East, on a random line, along the N. bdy. of Tp. 13 N.,
 R. 13 W., setting a temp. $\frac{1}{4}$ sec. cor. for secs. 6 and 31
 at 39.00 chs. and sec. and $\frac{1}{4}$ sec. cors. at intervals
 of 40.00 chs. thereafter to the $\frac{1}{4}$ sec. cor. bet. secs.
 4 and 33, where I leave a temp. cor.
 I. W. S. Feb. 14, 1915

April 6, 1915: R. D. A.
 At 8 hrs. a.m., l.m.t., I set off $34^{\circ} 30\frac{1}{2}'$ N. on the lat.
 arc; $6^{\circ} 13\frac{1}{2}'$ N. on the decl. arc; and determine a mer-
 idian with the solar at the cor. of Tps. 13 and 14 N.,
 Rs. 12 and 13 W., described in Book "B".

Thence I run
 West, on a random line, along the N. bdy. of T. 13 N.,
 R. 13 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at inter-
 vals of 40.00; and at 280.06 chs., intersect the temp.
 $\frac{1}{4}$ sec. cor. of secs. 4 and 33, as set by I. W. S.
 The length of the N. bdy. of T. 13 N., R. 13 W. is
 therefore 479.06 chs., and the true bearing is East.
 R. D. A.
 Apr. 6, 1915.

Feb. 14, 1915: I. W. S.
 From the cor. of Tps. 13 and 14 N., Rs. 13 and 14 W.,
 which is an iron post, hereinbefore described, I run
 East, on a true line, bet. secs. 6 and 31.
 Over level land, through scattering undergrowth.
 39.06 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
 1915 on S. rim;
 $\frac{1}{4}$ S31 in N. and
 S6 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.

60.00 Wash, course SE.

79.06 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
 1915 on S. rim;
 T14N in N.,
 T13N in S., and
 R13W in W. half;
 S31 in NW.,
 S32 in NE.,
 S5 in SE. and
 S6 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.

Land, level.
 Soil, sandy and rocky, some clay; 3rd rate.
 No timber.
 Undergrowth, yucca, palo verde, greasewood; and cacti.

6.00 East, on a true line, bet. secs. 5 and 32.
 40.00 Over level land, through scattering undergrowth.
 Wash, course SE.
 Set an iron post, 3 ft. long, 1 in. diam., 15 ins. in the
 ground, on bed rock, supported by a mound of stone,
 for $\frac{1}{4}$ sec. cor., marked on brass cap
 1915 on S. rim;
 $\frac{1}{4}$ S32 in N. and
 S5 in S. half;

6. North Boundary of T. 13 N., R. 13 W.

Chains.	
	and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
60.00	Desc. NE. slope, 70 ft. to
64.50	Wash, course SE.
73.00	Main channel of wash, course SE.
78.50	Leave wash, course SE. Asc. SW. slope, 30 ft. to
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap
	1915 on S. rim; T14N in N., T13N in S. and R13W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant;
	and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, level and rolling.
	Soil, sandy and rocky, some clay; 3rd rate.
	No timber.
	Undergrowth, greasewood, palo verde, cat claw, yucca and cacti.

	East, on a true line, bet. secs. 4 and 33.
	Over rolling land, through scattering undergrowth.
5.00	Old road, brs. NW. and SE.
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
	1915 on S. rim; $\frac{1}{4}$ S33 in N. and S4 in S. half;
	and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
	I. W. S. Feb. 14, 1915.
	Apr. 6, 1915: R. D. A.
	From the $\frac{1}{4}$ sec. cor. bet. secs. 4 and 33, I run East, on a true line, bet. secs. 4 and 33.
	Over level land.
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
	1915 on S. rim; T14N in N., T13N in S. and R13W in W. half; S33 in NW., S34 in NE., S3 in SE. and S4 in SW. quadrant;
	and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, level and rolling.
	Soil, 3rd and 4th rate.
	No timber.
	Undergrowth, greasewood, palo verde, yucca and cacti.
	Apr. 6, 1915: At this cor., I set off $6^{\circ} 16\frac{1}{2}'$ N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 30\frac{1}{2}'$ N.

North Boundary of T. 13 N., R. 13 W. 7.

Chains.

East, on a true line, bet. secs. 3 and 34.
 Over level land, through scattering undergrowth.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
 ground, for $\frac{1}{2}$ sec. cor., marked on brass cap
 1915 on S. rim;
 $\frac{1}{2}$ S34 in N. and
 S3 in S. half;
 dig pits, 18 X 18 X 12 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.
 50.00 Desc. bluff, 30 ft. high, brs. N. and S. Thence over
 bottom land.
 51.70 Road, brs. N. to Kingman and S. to Signal,
 55.80 Fence, brs. N. and S. Enter field.
 60.00 House, 15 X 20 ft., brs. N. 2 chs. dist.
 65.60 Fence, brs. N. and S. Leave field. Thence over level land.
 70.00 W. bank of Big Sandy River, brs. NE. and SW.
 80.00 Point for sec. cor. falls in River.
 Land, level.
 Soil, sandy, 3rd and 4th rate.
 Timber, cottonwood.
 Undergrowth, yucca, arrow weed and cacti.

 East, on a true line, bet. secs. 2 and 35.
 Across Big Sandy River.
 3.00 Enter stream of water, 6 ins. deep, course SW.
 4.00 Leave stream of water, course SW. Asc. NW. slope, 240 ft.
 through scattering undergrowth.
 4.50 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the
 ground, for witness cor. to cor. of secs. 2, 3, 34 and
 35, marked on brass cap
 1915 on S. rim;
 WC N. of center;
 T14N in N.,
 T13N in S. and
 R13W in W. half;
 S34 in NW.,
 S35 in NE.,
 S2 in SE. and
 S3 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 E. of cor. Pits impracticable.
 16.00 Box canyon, 2 chs. wide, course NW. Continue asc.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
 ground, for $\frac{1}{2}$ sec. cor., marked on brass cap
 1915 on S. rim;
 $\frac{1}{2}$ S35 in N. and
 S2 in S. half;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 55.00 Wash, 25 lks. wide, course NW. Thence over broken NW.
 slope.
 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
 1915 on S. rim;
 T14N in N.,
 T13N in S. and
 R13W in W. half;
 S35 in NW.,
 S36 in NE.,
 S1 in SE. and
 S2 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.
 Land, level and hilly.
 Soil, sandy and rocky, 4th rate.
 Timber, cottonwood.
 Undergrowth, mesquite, arrow weed, palo verde, yucca and
 cacti.

8.

North Boundary of T. 13 N., R. 13 W.

Chains. East, on a true line, bet. secs. 1 and 36.
 Over mountainous land, through scattering undergrowth.
 Asc. NW. slope, 355 ft.
 7.00 Wash, 50 lks. wide, course NW.
 12.00 Wash, 20 lks. wide, course NW.
 37.50 Wash, 10 lks. wide, course NW. Ascend.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S36 in N. and
 S1 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 57.00 Spur, brs. NW. Desc. NE. slope, 75 ft. to
 80.00 The cor. of Tps. 13 and 14 N., Rs. 12 and 13 W., described
 Land, mountainous. (in Book "B")
 Soil, 4th rate.
 No timber.
 Undergrowth, cacti.

Apr. 6, 1915.
 R. D. A.

Boundaries of T. 13 N., R. 13 W.
 Latitudes, departures and closing errors.

Line designated.	True bearing.	Distance	Latitudes		Departures.	
			N.	S.	E.	W.
South bdy. (3rd Stand. Par. N.)	West	480.00				480.00
West bdy.,	North	480.00	480.00			
North bdy.,	East	479.06			479.06	
East bdy., (3rd Guide Mer. W.)	South	480.00		480.00		
Convergency,					.50	
Totals.			480.00	480.00	479.56	480.00
			480.00			479.56
Error in lat.			00	Error in dep.		.44

West Boundary of T. 13 N., R. 14 W.

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Chains.

Survey commenced Feb. 17, 1915, and executed jointly by Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transits, Nos. 8485 and 8531, with Smith Solar Attachments. For description of instruments and certificate of approval, see W. bdy. of T. 13 N., R. 13 W.

In the following field notes, the initials I. W. S. and R. D. A. refer to Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, respectively. Knowing from recent and repeated tests of these instruments on a meridian established by observations on Polaris at elongation, that they are in adjustment, we proceed to the survey of the W. bdy. of T. 13 N., R. 14 W.

I. W. S. and R. D. A.

I. W. S.

From the standard cor. of Tps. 13 N., Rs. 14 and 15 W., which is an iron post, marked and witnessed as described by the Surveyor-General; I run

North, bet. secs. 31 and 36.

Over mountainous land, through scattering undergrowth. Asc. SE. slope to

4.00 Spur, brs. W. Desc. NW. slope, 90 ft. to
17.90 Gulch, 60 lks. wide, course SW. Road in gulch, brs. NE. to Signal, and SW. to S. side of Mc Cracken Mt.

30.25 Enter road, brs. N. and SW. to S. side of Mc Cracken Mt;

39.55 Leave road, brs. NW. and S.

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

1915 on S. rim;

$\frac{1}{4}$ S36 in W. and

S31 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

50.00 Gulch, 40 lks. wide, course SW. Asc. SW. slope, 150 ft. to

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

1915 on S. rim;

T13N in N. half;

R15W S25 in NW.,

R14W S30 in NE.,

S31 in SE. and

S36 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. and rolling.

Soil, sandy, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, yucca and cacti.

I. W. S.

Feb. 17, 1915.

Feb. 20, 1915. R. D. A.

North, bet. secs. 25 and 30.

Over mountainous land, through scattering undergrowth.

3.80 Wash, 15 lks. wide, course SW. Asc. SE. slope, 365 ft.

32.60 Spur, brs. SW. Asc. SW. slope.

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

1915 on S. rim;

$\frac{1}{4}$ S25 in W. and

S30 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Feb. 20, 1915.

10

West Boundary of T. 13 N., R. 14 W.

Chains.	
	Feb. 19, 1915.
	From the $\frac{1}{4}$ sec. cor. bet. secs. 25 and 30, I run North, bet. secs. 25 and 30.
40.95	Spur, brs. SE. Desc. NE. slope, 40 ft. to
42.45	Wash, 10 lks. wide, course SE. Asc. SW. slope, 130 ft.
48.75	Tunnel road, brs. NW. and SE.
50.45	Spur, brs. W. Asc. S. slope, 405 ft.
51.95	Old mining road to tunnel, forming a circle.
53.45	Same old mining road, another part of circle.
68.43	Enter Beaver Mining Claim, brs. N. $46^{\circ} 40'$ W., and S. $46^{\circ} 40'$ E. Corner No. 1 of Beaver Mining Claim, which is a post, 4 ins. square, set in a mound of stone, marked B-1-2533 on E. face, brs. N. $46^{\circ} 40'$ W., 13.18 chs. dist.
72.10	Leave Beaver Mining Claim, enter Atlanta Mining Claim, brs. N. $79^{\circ} 7'$ E., and S. $79^{\circ} 7'$ W. Corner No. 2 of Atlanta Mining Claim, which is a pine post, 4 ins. square, set in a mound of stone, marked A-2-2534 on NW. face, brs. N. $79^{\circ} 7'$ E., 0.64 chs. dist.
73.50	Spur, brs. SE. Desc. NE. slope, 140 ft.
75.49	Leave Atlanta Mining Claim, brs. N. $10^{\circ} 53'$ W., and S. $10^{\circ} 53'$ E., Corner No. 2 of Atlanta Mining Claim brs. S. $10^{\circ} 53'$ E., 3.33 chs. dist. Thence across Beaver Mining Claim.
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 1915 on S. rim; T13N in N. half; R15W S24 in NW., R14W S19 in NE., S30 in SE. and S25 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, 4th rate. No timber. Undergrowth, palo verde and cacti.

	North, bet. secs. 19 and 24.
	Over mountainous land, through scattering undergrowth. Asc. SE. slope, 30 ft., across Beaver Mining Claim.
0.93	Leave Beaver Mining Claim, brs. N. $46^{\circ} 40'$ W., and S. $46^{\circ} 40'$ E. Corner No. 4 of Beaver Mining Claim, which is a pine post, 4 ins. square, set in a mound of stone, marked B-4-2533 on S. face, brs. N. $46^{\circ} 40'$ W., 4.60 chs. dist.
9.14	Spur, brs. NE. Desc. NW. slope, 435 ft.
20.45	Enter Grey Eagle Mining Claim, brs. N. $77^{\circ} 55'$ E., and S. $77^{\circ} 55'$ W. Corner No. 2 of Grey Eagle Mining Claim which is a pine post, 4 ins. square, set in a mound of stone, marked GE-2-2526 on NW. face, brs. N. $77^{\circ} 55'$ E., 2.51 chs. dist.
24.08	Frame building, 25 ft. X 35 ft., brs. W. 2.15 chs. dist.
26.74	Mine tunnel road, brs. NNE. and SSW.
32.44	Leave Grey Eagle Mining Claim, brs. N. $12^{\circ} 5'$ W., and S. $12^{\circ} 5'$ E. Corner No. 2 of Grey Eagle Mining Claim brs. S. $12^{\circ} 5'$ E., 11.72 chs. dist.
32.54	Frame building, 20 ft. X 20 ft., brs. N. 79° W., 9 chs. dist. Mine dump, brs. S. 80° W., 12 chs. dist.
33.44	Frame building, 16 ft. X 16 ft., brs. E. 250 lks. dist. Mc Cracken mine tunnel road brs. E. and W.
34.34	Mc Cracken mine tunnel road, brs. E. and W.
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 1915 on S. rim; $\frac{1}{4}$ S24 in W. and S19 in E. half;

Chains.	
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
43.00	Wash, course SE. Asc. SE. slope, 190 ft.
43.20	Mine location brs. E. 50 lks. dist.
59.95	Spur, brs. E. Desc. N. slope, 155 ft. to
66.50	Wash, course NE. Thence along E. slope.
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 1915 on S. rim; T13N in N. half; R15W S13 in NW., R14W S18 in NE., S19 in SE. and S24 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
	Land, mountainous. Soil, 4th rate. No timber. Undergrowth, palo verde and cacti.

	North, bet. secs. 13 and 18. Over mountainous land, through scattering undergrowth. Along E. slope.
2.15	Spur, brs. E. Desc. NE. slope, 80 ft.
25.55	The SE. cor. of Western Bull Mining Claim brs. W. 1.20 chs. dist.
38.95	Mineral mound on line.
39.75	Wash, 5 lks. wide, course SE.
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 1915 on S. rim; S13 in W. and S18 in E. half; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
40.75	Spur, brs. E. and W. Thence along E. slope.
46.95	Road, brs. NW. and SE.
60.45	Spur, brs. E. and W. Mineral mound brs. W. 120 lks. dist.
62.55	Road, brs. E. and W. Asc. SE. slope, 195 ft.
63.46	Wash, 5 lks. wide, course E.
63.55	Mineral mound, brs. E. 50 lks. dist.
74.45	Spur, brs. E. Desc. NE. slope, 60 ft. to
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 1915 on S. rim; T13N in N. half; R15W S12 in NW., R14W S7 in NE., S18 in SE. and S13 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
	Land, mountainous. Soil, 4th rate. No timber. Undergrowth, palo verde and cacti.

	North, bet. secs. 7 and 12. Over mountainous land, through scattering undergrowth. Desc. NW. slope, 135 ft.
11.65	Old road, brs. NW. and SE.
12.25	Wash, 10 lks. wide, course NW. Asc. SW. slope, 110 ft. to
37.95	Spur, brs. NW. Desc. NE. slope, 80 ft.

Chains.	
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 1915 on S. rim; $\frac{1}{4}$ S12 in W. and S7 in E. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Feb. 19, 1915: At this cor., I set off $11^{\circ} 25\frac{1}{2}'$ S. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 29'$ N.
47.65	Wash, 10 lks. wide, course NW. Asc. S. slope, 170 ft.
48.95	Trail, brs. E. and W.
61.75	Spur, brs. W. Desc. NW. slope, 100 ft. to
69.95	Ravine, course W. Asc. S. slope, 170 ft. to
75.45	Spur, brs. W. Desc. N. slope, 120 ft. to
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 1915 on S. rim; T13N in N. half; R15W S1 in NW., R14W S6 in NE., S7 in SE. and S12 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, 4th rate. No timber. Undergrowth, cacti.

	North, bet. secs. 1 and 6. Over mountainous land, through scattering undergrowth.
0.50	Ravine, course W. Asc. S. slope, 450 ft. to
21.45	Ridge, brs. NE. and SW. Desc. N. slope, 355 ft.
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 1915 on S. rim; $\frac{1}{4}$ S1 in W. and S6 in E. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Thence along W. slope.
48.95	Spur, brs. NW. Desc. N. slope, 220 ft. to
63.95	Wash, 5 lks. wide, course W. Asc. S. slope, 25 ft. to
67.95	Spur, brs. W. Desc. NW. slope, 90 ft. to
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 13 and 14 N., Rs. 14 and 15 W., marked on brass cap 1915 on S. rim; T14N in N., R14W in E., T13N in S. and R15W in W. half; S36 in NW., S31 in NE., S6 in SE. and S1 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. Undergrowth, palo verde, and cacti.
R. D. A.	

Book 1912

North Boundary of T. 13 N., R. 14 W. 13

Chains.

Feb. 18, 1915: R. D. A.
At 8 hrs. 6 m., a.m., l.m.t., I set off 34° 30½' N. on the lat. arc; 11° 49' S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 13 and 14 N., Rs. 13 and 14 W., which is an iron post, hereinbefore described.

Thence I run West, on a random line, along the N. bdy of T. 13 N., R. 14 W., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs. to the temp. cor. of secs. 5, 6, 31 and 32.

Feb. 18, 1915.

Feb. 19, 1915: At 8 hrs. 10 m., a.m., l.m.t., I set off 34° 30½' N. on the lat. arc; 11° 28' S. on the decl. arc; and determine a meridian with the solar at the temp. cor. of secs. 5, 6, 31 and 32.

Thence I run West, on a random line, bet. secs. 6 and 31, and at 79.40 fall 98 lks. N. of the cor. of Tps. 13 and 14 N., Rs. 14 and 15 W., which is an iron post, hereinbefore described. The falling answers to a correction of 0° 7', or 16 lks. S. per mile, counting from the NE. cor. of the Tp.; therefore I run

N. 89° 53' E., on a true line, bet. secs. 6 and 31. Over rolling land, through scattering undergrowth.

- 0.20 Wash, 10 lks. wide, course NW.
- 9.00 Wash, 10 lks. wide, course SW.
- 10.00 Same wash, 10 lks. wide, course NW.
- 22.50 Same wash, 10 lks. wide, course SW. Asc. NW. slope, 115 ft. to
- 38.00 Spur, brs. SW. Desc. SE. slope, 45 ft.
- 39.40 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap

1915 on S. rim;
S31 in N. and
S6 in S. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

- 45.00 Asc. NW. slope, 90 ft. to
- 55.50 Main ridge, brs. N. and S. Desc. SE. slope, 245 ft. to
- 75.00 Asc. SW. slope, 30 ft. to
- 79.40 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

1915 on S. rim;
T14N in N.,
T13N in S., and
R14W in W. half;
S31 in NW.,
S32 in NE.,
S5 in SE. and
S6 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, rolling and mountainous.

Soil, 4th rate.

No timber.

Undergrowth, greasewood, palo verde, and cacti.

Feb. 19, 1915.

Feb. 19, 1915.
N. 89° 53' E., on a true line, bet. secs. 5 and 32.

Over mountainous land, through scattering undergrowth. Desc. NE. slope, 205 ft. to

- 25.00 Foot of mountains, brs. N. and S. Thence over level land.
- 37.00 Wash, 100 lks. wide, course SE.

14.

North Boundary of T. 13 N., R. 14 W.

Chains.	
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 1915 on S. rim; $\frac{1}{2}$ S32 in N. and S5 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. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap 1915 on S. rim; T14N in N. , T13N in S. and R14W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Land, level and mountainous. Soil, 4th rate. No timber. Undergrowth, greasewood, palo verde, mesquite and cacti.
	N.89° 53' E., on a true line, bet. secs. 4 and 33. Over level land, through scattering undergrowth. Old road, brs. N. to Yucca and S. to Signal.
12.60	Old road, brs. N. to Yucca and S. to Signal.
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 1915 on S. rim; $\frac{1}{2}$ S33 in N. and S4 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. diam., 24 ins. in the ground, for cor. of secs. 3, 4, 33 and 34, marked on brass cap 1915 on S. rim; T14N in N. , T13N in S. and R14W in W. half; S33 in NW., S34 in NE., S3 in SE. and S4 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Land, level. Soil, 4th rate. No timber. Undergrowth, greasewood, palo verde, mesquite and cacti.
	N.89° 53' E., on a true line, bet. secs. 3 and 34. Over level land, through scattering undergrowth.
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 1915 on S. rim; $\frac{1}{2}$ S34 in N. and S3 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable. Feb. 18, 1915: At this cor., I set off 11° 47' S. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 30 $\frac{1}{2}$ ' N.

Chains.	
45.00	Leave mesa, brs. NW. and SE. Asc. SW. slope, 80 ft. to
62.00	Spur, brs. N. and S. Desc. SE. slope, 115 ft. to
75.00	Foot of hills, brs. NE. and SE. Thence over level land:
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
	1915 on S. rim; T14N in N., T13N in S. and R14W in W. half; S34 in NW., S35 in NE., S2 in SE. and S3 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, level and hilly. Soil, 4th rate. No timber. Undergrowth, greasewood, palo verde, mesquite and cacti.

	N.89° 53' E., on a true line, bet. secs. 2 and 35. Over level land, through scattering undergrowth.
24.00	Main traveled road brs. NW. to Yucca, and SE. to Signal.
40.00	Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{2}$ sec. cor., marked on brass cap
	1915 on S. rim; $\frac{1}{2}$ S35 in N. and S2 in S. half; dig pits, 18 X 18 X 12 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.
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
	1915 on S. rim: T14N in N., T13N in S. and R14W in W. half; S35 in NW., S36 in NE., S1 in SE. and S2 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, level. Soil, 3rd and 4th rate. No timber. Undergrowth, greasewood, palo verde, mesquite and cacti.

	N.89° 53' E., on a true line, bet. secs. 1 and 36. Through scattering undergrowth. Desc. NE. slope, 65 ft. to
10.00	Thence along bottom of wash, course ESE.
21.70	Leave wash, 50 lks. wide, course ESE.
34.00	Leave bottom land, brs. ESE. Asc. SW. slope, 15 ft. to
38.00	Spur, brs. S. Desc. SE. slope, 55 ft. to
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
	1915 on S. rim; $\frac{1}{4}$ S36 in N. and S1 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

16.

North Boundary of T. 13 N., R. 14 W.

Chains.
 45.70 Asc. SW. slope, 55 ft.
 45.70 Desc. SE. slope, 60 ft. to
 50.70 Wash, 100 lks. wide, course SE. Asc. SW. slope, 25 ft. to
 57.70 Spur, brs. SE. Desc. NE. slope, 20 ft. to
 62.70 Wash, course SE. Asc. SW. slope, 25 ft. to
 66.70 Spur, brs. SE. Desc. NE. slope, 45 ft. to
 69.70 Wash, 4 chs. wide, course SE.
 76.20 Asc. SW. slope, 35 ft. to
 80.00 The cor. of Tps. 13 and 14 N., Rs. 13 and 14 W.
 Land, level and hilly.
 Soil, sandy, 4th rate.
 No timber.
 Undergrowth, greasewood, mesquite, palo verde and cacti.
 R.D.A.
 Feb. 19, 1915.

Boundaries of T. 13 N., R. 14 W.

Latitudes, departures and closing errors.

Line designated.	True Bearing.	Distance	Latitudes		Departures	
			N.	S.	E.	W.
South boundary, (3rd Standard Par. N.)	West	480.00				480.00
West boundary,	North	480.00	480.00			
North boundary,	N. 89° 53' E	479.40	.98		479.40	
East boundary,	South	480.00		480.00		
Convergency					.50	
Totals.			480.98	480.00	479.90	480.00
Error in latitude.			480.00			479.90
			.98	Error in dep.		.10

West Boundary of T. 13 N., R. 15 W. 17

Chains.

Survey commenced Mar. 1, 1915, and executed jointly by Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, with Young and Sons' Light mountain transits Nos. 8485 and 8531, with Smith Solar Attachments. For description of instruments and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., page 1 of this book

In the following field notes, the initials I. W. S. and R. D. A. refer to Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, respectively. Knowing from recent and repeated tests of these instruments on a meridian established by observations on Polaris at elongation, that they are in adjustment, we proceed to the survey of the W. bdy. of T. 13 N., R. 15 W.

I. W. S.

From the standard cor. of Tps. 13 N., R. 15 and 16 W., which is a lava stone, 6 X 14 X 10 ins. above ground, firmly set, marked and witnessed as described by the Surveyor-General, I run

North, bet. secs. 31 and 36.

Over rolling land, through scattering undergrowth.

19.50 Wash, 70 lks. wide, course SW.

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

1915 on S. rim;
 $\frac{1}{4}$ S36 in W. and
 S31 in E. half;

raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

53.50 Spur, brs. SW. Desc. NW. slope, 65 ft. to

60.90 Gulch, course SW. Asc. S. slope, 40 ft. to

74.00 Spur, brs. W.

77.80 Gulch, course SW.

80.00 Set a lava stone, 12 X 12 X 6 ins., 8 ins. in the ground, for cor. of secs. 25, 30, 31 and 36, marked with 5 notches on N. and 1 notch on S. edge; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Land, rolling.

Soil, sandy and rocky, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, cocotillo, cat claw and cacti.

Mar. 1, 1915.

Mar. 2, 1915. Cloudy. Morning observation impossible.
 Run back and foresight line.

North, bet. secs. 25 and 30.

Over rolling land, through scattering undergrowth.

Asc. SE. slope, 25 ft. to

2.65 Spur, brs. SW.

30.00 Wash, 100 lks. wide, course W.

37.50 Road, brs. E. to Signal, and W. to Castaneta Well.

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

1915 on S. rim;
 $\frac{1}{4}$ S25 in W. and
 S30 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

68.30 Wash, 30 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. 19, 24, 25 and 30, marked on brass cap

18.

West Boundary of T. 13 N., R. 15 W.

Chains.

1915 on S. rim;
T13N in N. half;
R16W S24 in NW.,
R15W S19 in NE.,
S30 in SE. and
S25 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, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, yucca and cacti.

At this point, rain prevented any further work for the
day.

Mar. 2, 1915.

Mar. 3, 1915: At 8 hrs. a.m., l.m.t., I set off $34^{\circ} 27' N$
on the lat. arc; $7^{\circ} 02' S$ 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 rolling land, through scattering undergrowth.

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

1915 on S. rim;
 $\frac{1}{4}$ S24 in W. and
S19 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 Old road, brs. NE. and SW.

65.00 Wash, 40 lks. wide, course SW.

77.00 Wash, 20 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. 13, 18, 19 and 24, marked on
brass cap

1915 on S. rim;
T13N in N. half;
R16W S13 in NW.,
R15W S18 in NE.,
S19 in SE. and
S24 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, 3rd rate.

No timber.

Undergrowth, greasewood, ocotillo, and cacti.

I. W. S.

Mar. 3, 1915.

Mar. 4, 1915: R. D. A.

North, bet. secs. 13 and 18.

Over level land, through scattering undergrowth.

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

1915 on S. rim;
 $\frac{1}{4}$ S13 in W. and
S18 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 Road, brs. NE. and SW. to Castaneta Well.

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

E. 100 2812

West Boundary of T. 13 N., R. 15 W.

19.

Chains.

1915 on S. rim;
T13N in N. half;
R16W S12 in NW.,
R15W S7 in NE.,
S18 in SE. and
S13 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

Land, level.

Soil, 3rd rate.

No timber.

Undergrowth, yucca, greasewood, palo verde and cacti.

Mar. 4, 1915.

Mar. 5, 1915.

North, bet. secs. 7 and 12.

Over level land, through scattering undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S12 in W. and

S7 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

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

1915 on S. rim;

T13N in N. half;

R16W S1 in NW.,

R15W S6 in NE.,

S7 in SE. and

S12 in SW. quadrant;

dig pits, 18 X 18 X 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, level.

Soil, 3rd rate.

No timber.

Undergrowth, palo verde, greasewood, yucca and cacti.

Mar. 5, 1915.

Mar. 8, 1915: At 8 hrs. a.m., l.m.t., I set off $34^{\circ} 29\frac{1}{2}'$
N. on the lat. arc; $5^{\circ} 6\frac{1}{2}'$ S. on the decl. arc; and
determine a meridian with the solar at the cor. of secs.
1, 6, 7 and 12.

Thence I run

North, bet. secs. 1 and 6.

Over level land, through scattering undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S1 in W. and

S6 in E. half;

dig pits, 18 X 18 X 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 Tps. 13 and 14 N., Rs. 15 and 16 W.,
marked on brass cap

20. West Boundary of T. 13 N., R. 15 W.

Chains.

1915 on S. rim;
 T14N in N.,
 R15W in E.,
 T13N in S. and
 R16W in W. half;
 S36 in NW.,
 S31 in NE.,
 S6 in SE. and
 S1 in SW. quadrant;

dig pits, 24 X 24 X 12 ins., on each line, N., E., and
 W., 4 ft. dist. and S. of cor., 8 ft. dist.; and raise
 a mound of earth, 5 ft. base, $2\frac{1}{2}$ ft. high, S. of cor.

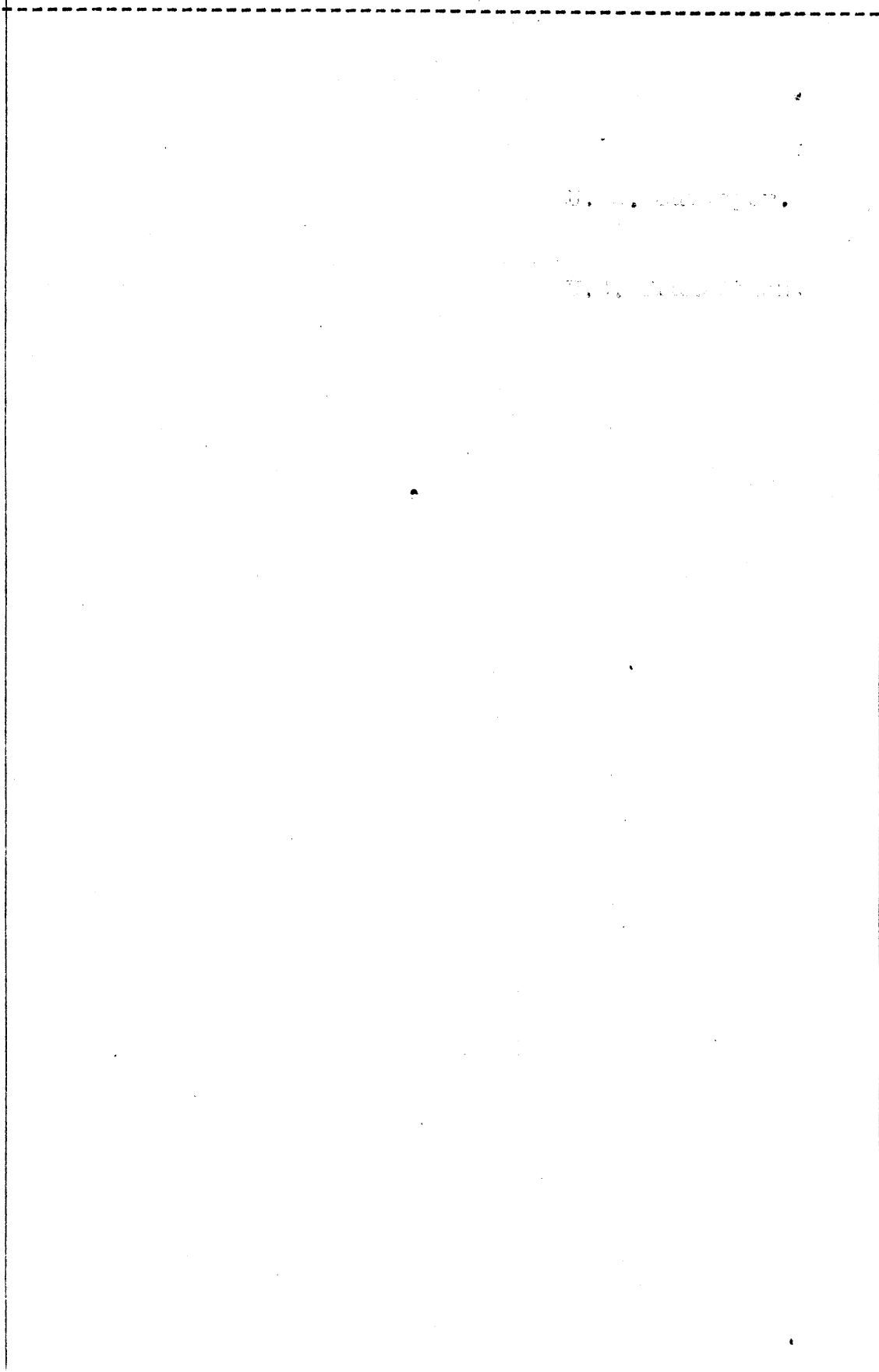
Land, level.

Soil, 3rd rate.

No timber.

Undergrowth, yucca, greasewood, and cacti.

R. D. A.
 Mar. 8, 1915.



North Boundary of T. 13 N., R. 15 W. 21.

R.D.A.

Chains. Mar. 3, 1915: At 3 hrs. 5 m., p. m., l.m.t., I set off $34^{\circ} 30\frac{1}{2}'$ N. on the lat. arc; $6^{\circ} 56'$ S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 13 and 14 N., Rs. 14 and 15 W., which is an iron post, hereinbefore described.

Thence I run West, on a random line, along the N. bdy. of Tp. 13 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs., to the temp. cor. of secs. 2, 3, 34 and 35.

Mar. 3, 1915.

Mar. 5, 1915: At 2 hrs. 3 m. p.m., l.m.t., I set off $34^{\circ} 30\frac{1}{2}'$ N. on the lat. arc; $6^{\circ} 11\frac{1}{2}'$ S. on the decl. arc; and determine a meridian with the solar at the temp. cor. of secs. 2, 3, 34 and 35.

Thence I run West, on a random line, along the N. bdy. of Tp. 13 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs. to the temp. cor. of secs. 5, 6, 31 and 32.

Mar. 5, 1915.

Mar. 8, 1915: From the temp. cor. of secs. 5, 6, 31 and 32, I run West, on a random line, along the N. bdy. of T. 13 N., R. 15 W., bet. secs. 6 and 31, and at 79.50 chs., fall 84 lks. N. of the cor. of Tps. 13 and 14 N., R. s. 15 and 16 W., which is an iron post, hereinbefore described. The length of the N. bdy. of T. 13 N., R. 15 W., is therefore 479.50 chs. The falling answers to a correction of $0^{\circ} 6'$, or 14 lks. S. per mile, counting from the NE. cor of the Tp.; therefore I run

N. $89^{\circ} 54'$ E., on a true line, bet. secs. 6 and 31.
Over level land, through scattering undergrowth.

39.50 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

1915 on S. rim;
 $\frac{1}{4}$ S31 in N. and
S6 in S. half;

dig pits, 18 X 18 X 12 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.

77.60 Road, brs. N. and S. to Castaneta Well.

79.50 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

1915 on S. rim;
T14N in N.,
T13N in S. and
R15W in W. half;
S31 in NW.,
S32 in NE.,
S5 in SE. and
S6 in SW. quadrant;

dig pits, 18 X 18 X 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, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, yucca and cacti.

Mar. 8, 1915.

Mar. 5, 1915.
N. $89^{\circ} 54'$ E., on a true line, bet. secs. 5 and 32.
Over level land, through scattering undergrowth.

40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the

Chains.	
	<p>ground, for $\frac{1}{4}$ sec. cor., marked on brass cap 1915 on S. rim; $\frac{1}{4}$S32 in N. and S5 in S. half; dig pits, 18 X 18 X 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, N. of cor.</p>
80.00	<p>Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap</p>
	<p>1915 on S. rim; T14N in N., T13N in S. and R15W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p>
	<p>Land, level. Soil, 3rd rate. No timber. Undergrowth, greasewood, yucca and cacti.</p>
40.00	<p>N. 89° 54' E., on a true line, bet. secs. 4 and 33. Over level land, through scattering undergrowth. 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</p>
80.00	<p>1915 on S. rim; $\frac{1}{4}$S33 in N. and S4 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable. 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</p>
	<p>1915 on S. rim; T14N in N., T13N in S. and R15W in W. half; S33 in NW., S34 in NE., S3 in SE. and S4 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p>
	<p>Land, level. Soil, 3 rd rate. No timber. Undergrowth, greasewood, yucca and cacti.</p>
38.30	<p>N. 89° 54' E., on a true line, bet. secs. 3 and 34. Over level land, through scattering undergrowth. Road, brs. NE. and SW.</p>
40.00	<p>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 1915 on S. rim; $\frac{1}{4}$S34 in N. and S3 in S. half;</p>
46.60	<p>and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable. Road, brs. N. and S.</p>
80.00	<p>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</p>

North, Boundary of T. 13 N., R. 15 W.

Chains.

1915 on S. rim;
T14N in N.,
T13N in S. and
R15W in W. half;
S34 in NW.,
S35 in NE.,
S2 in SE. and
S3 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor. Pits impracticable.

Land, level.

Soil, 3rd rate.

No timber.

Undergrowth, greasewood, yucca and cacti.

Mar. 5, 1915: At this cor., I set off 6° 13 1/2' S on the
decl. arc; and at apparent noon, I observe the sun on
the meridian; the resulting lat. is 34° 30 1/2' N.
Mar. 5, 1915.

Mar. 3, 1915.

N. 89° 54' E., on a true line, bet. secs. 2 and 35.
Over broken land, through scattering undergrowth.

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

1915 on S. rim;
1/4 S35 in N. and
S2 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. diam., 24 ins. in the
ground, for cor. of secs. 1, 2, 35 and 36, marked on
brass cap

1915 on S. rim;
T14N in N.,
T13N in S. and
R15W in W. half;
S35 in NW.,
S36 in NE.,
S1 in SE. and
S2 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
W. of cor. Pits impracticable.

Land, broken.

Soil, 4th rate.

No timber.

Undergrowth, yucca, greasewood and cacti.

N. 89° 54' E., on a true line, bet. secs. 1 and 36.
Over broken land, through scattering undergrowth.

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

1915 on S. rim;
1/4 S36 in N. and
S1 in S. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
N. of cor. Pits impracticable.

75.00 Wash, 20 lks. wide, course SW.

80.00 The cor. of Tps. 13 and 14 N., Rs. 14 and 15 W.

Land, broken.

Soil, 4th rate

No timber.

Undergrowth, yucca, cacti and greasewood.

R. D. A.
Mar. 3, 1915.

Boundaries of T. 13 N., R. 15 W.
 Latitudes, departures and closing errors.

Line designated.	True bearing.	Distance.	Latitudes.		Departures.	
			N.	S.	E.	W.
South boundary, (3rd Stand, Par. N)	West.	chs. 480.00				480.00
West boundary,	North	480.00	480.00			
North boundary,	N. 89° 54' E	479.50	.84		479.50	
East boundary,	South	480.00		480.00		
Convergency					.50	
<u>Totals</u>			480.84	480.00	480.00	480.00
			480.00			480.00
Error in lat.			.84	Error in dep.		.00

Chains.

Survey commenced Mar. 8, 1915, and executed by R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transit No. 8531, with Smith Solar Attachment. For description of instrument and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this book.

Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the N. bdy. of T. 13 N., R. 16 W.

From the cor. of Tps. 13 and 14 N., Rs. 15 and 16 W., which is an iron post, hereinbefore described, I run West, on a random line, along the N. bdy. of T. 13 N., R. 16 W., setting temp. 1/4 sec. and sec. cors. at intervals of 40.00 chs.; and at 480.38 chs., intersect the W. bdy. of T. 14 N., R. 16 W., 12 lks. N. of the cor. of Tps. 13 and 14 N., Rs. 16 and 17 W., which is an iron post, marked and witnessed as described by the Surveyor-General. The falling answers to a correction of 0° 1' or 2 lks. S. per mile, counting from the NE. cor. of the Tp.; therefore I run

N.89° 59' E., on a true line, bet. secs. 6 and 31. Over level land, through scattering undergrowth.

40.38 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap
1915 on S. rim;
1/4 S31 in N. and
S6 in S. half;
dig pits, 18 X 18 X 12 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.

80.38 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
1915 on S. rim;
T14N in N.
T13N in S. and
R16W in W. half;
S31 in NW.,
S32 in NE.,
S5 in SE and
S6 in SW quadrant;
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable,
Land, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, yucca, cat claw and cacti.

N.89° 59'E., on a true line, bet. secs. 5 and 32. Over rolling land, through scattering undergrowth.

6.50 Road, brs. N. and S,
40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap
1915 on S. rim;
1/4 S32 in N. and
S5 in S. half;
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

70.00 Leave mesa, brs. NW. and SE.; asc. SW. slope, 90 ft. to
80.00 Set a stone, 18 X 12 X 6 ins., 12 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked with 4 notches on E. and 2 notches on W. edge; and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.
Land, rolling.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

Chains.	<p>N.89° 59' E., on a true line, bet. secs. 4 and 33. Asc. SW. slope, 295 ft., over mountainous land, through scattering undergrowth, to</p>
23.30	Spur of butte, brs. NW. and SE. Desc. NE. slope, 305 ft.
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 1915 on S. rim; $\frac{1}{2}$ S33 in N. and S4 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
53.00	Wash, 50 lks. wide, course S. Thence over rolling land.
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 1915 on S. rim; T14N in N., T13N in S. and R16W in W. half; S33 in NW., S34 in NE., S3 in SE. and S4 in SW. quadrant; dig pits, 18 X 18 X 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 and mountainous. Soil, 4th rate. No timber. Undergrowth, greasewood, cat claw, yucca and cacti. Mar. 8, 1915: At this cor., I set off $5^{\circ} 3\frac{1}{2}'$ S. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 30\frac{1}{2}'$ N.
40.00	<p>N.89° 59' E., on a true line, bet. secs. 3 and 34. Over level land, through scattering undergrowth. 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 1915 on S. rim; $\frac{1}{2}$S34 in N. and S3 in S. half; dig pits, 18 X 18 X 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, N. of cor.</p>
78.40	Road, brs. N. to Yucca, and S. to Castaneta Well.
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 1915 on S. rim; T14N in N., T13N in S. and R16W in W. half; S34 in NW., S35 in NE., S2 in SE. and S3 in SW. quadrant; dig pits, 18 X 18 X 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, level. Soil, 3rd rate. No timber. Undergrowth, greasewood, yucca, cat claw and cacti.

North Boundary of T. 13 N., R. 16 W. 27.

Chains. N. 89° 59' E., on a true line, bet. secs. 2 and 35.
 Over level land, through scattering undergrowth.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S35 in N. and
 S2 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. diam., 24 ins. in the
 ground, for cor. of secs. 1, 2, 35 and 36, marked on
 brass cap
 1915 on S. rim;
 T14N in N.,
 T13N in S. and
 R16W in S. half;
 S35 in NW.,
 S36 in NE.,
 S1 in SE. and
 S2 in SW. quadrant;
 dig pits, 18 X 18 X 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. Pits impracticable.
 Land, level.
 Soil, 3rd rate.
 No timber.
 Undergrowth, greasewood, yucca, cat claw and cacti.

N. 89° 59' E., on a true line, bet. secs. 1 and 36.
 Over level land, through scattering undergrowth.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S36 in N. and
 S1 in S. half;
 dig pits, 18 X 18 X 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, N. of cor.
 80.00 The cor. of Tps. 13 and 14 N., Rs. 15 and 16 W.
 Land, level.
 Soil, 3rd rate.
 No timber.
 Undergrowth, greasewood, cat claw, yucca and cacti.
 R. D. A.
 Mar. 8, 1915.

Boundaries of T. 13 N., R. 16 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary, (3rd Stand. Par. N.)	West.	480.00				480.00
West boundary,	North.	480.00	480.00			
North boundary,	N89° 59' E.	480.38	.12		480.38	
East boundary,	South.	480.00		480.00		
Convergency					.50	
Totals			480.12	480.00	480.88	480.00
			480.00		480.00	
Error in lat.			.12		.88	Error in dep.

U. S. Surveyor.

U. S. Frontiersman.

East Boundary of T. 14 N., R. 16 W.

Chains.

Survey commenced Mar. 11, 1915, and executed by R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transit, No. 8531, with Smith Solar Attachment. For description of instrument, and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book.

In the following field notes, the initials R. D. A. refer to R. D. Armstrong, U. S. Transitman.

Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. and N. bdrs. of T. 14 N., R. 16 W.

At 8 hrs. a.m., l.m.t., I set off 34° 30½' N. on the lat. arc; 3° 56½' S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 13 and 14 N., Rs. 15 and 16 W., which is an iron post, established by me, as hereinbefore described.

Thence I run

North, bet. secs. 31 and 36.

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
1915 on S. rim;
¼S36 in W. and
S31 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

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

1915 on S. rim;
T14N in N. half;
R16W S25 in NW.,
R15W S30 in NE.,
S31 in SE. and
S36 in SW. quadrant;

dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.

Land, level.

Soil, 3rd rate.

No timber.

Undergrowth, greasewood, cat claw, yucca and cacti.

North, bet. secs. 25 and 30.

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
1915 on S. rim;
¼S25 in W. and
S30 in E. half;

dig pits, 18 X 18 X 12 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. 19, 24, 25 and 30, marked on brass cap

1915 on S. rim;
T14N in N. half;
R16W S24 in NW.,
R15W S19 in NE.,
S30 in SE. and
S25 in SW. quadrant;

dig pits, 18 X 18 X 12 ins., in each sec.;, 5½ ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.

Land, level.

Soil, 3rd rate.

No timber.

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East Boundary of T. 14 N., R. 16 W.

Chains.

Undergrowth, greasewood, cat claw, yucca and cacti.

40.00 North, bet. secs. 19 and 24.
Over level land, through scattering undergrowth.
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
1915 on S. rim;
 $\frac{1}{4}$ S24 in W. and
S19 in E. half;
dig pits, 18 X 18 X 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
1915 on S. rim;
T14N in N. half;
R16W S13 in NW.,
R15W S18 in NE.,
S19 in SE. and
S24 in SW. quadrant;
dig pits, 18 X 18 X 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, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

40.00 North, bet. secs. 13 and 18.
Over level land, through scattering undergrowth.
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
1915 on S. rim;
 $\frac{1}{4}$ S13 in W. and
S18 in E. half;
dig pits, 18 X 18 X 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. 7, 12, 13 and 18, marked on brass cap
1915 on S. rim;
T14N in N. half;
R16W S12 in NW.,
R15W S7 in NE.,
S18 in SE. and
S13 in SW. quadrant;
dig pits, 18 X 18 X 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. Pits impracticable.
Land, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

40.00 North, bet. secs. 7 and 12.
Over level land, through scattering undergrowth.
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
1915 on S. rim;
 $\frac{1}{4}$ S12 in W. and
S7 in E. half;

East Boundary of T. 14 N., R. 16 W.

Chains.	
80.00	<p>dig pits, 18 X 18 X 12 ins., N. and S. of post, 3 ft. dist.; and raise a mound of earth, 3½ ft. base, 1½ ft. high, W. of cor.</p> <p>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</p> <p>1915 on S. rim; T14N in N. half; R16W S1 in NW., R15W S6 in NE., S7 in SE. and S12 in SW. quadrant;</p> <p>dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.</p> <p>Land, level. Soil, 3rd rate. No timber. Undergrowth, greasewood, cat claw, yucca and cacti.</p>

40.00	<p>North, bet. secs. 1 and 6. Over level land, through scattering undergrowth.</p> <p>Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap</p> <p>1915 on S. rim; ¼S1 in W. and S6 in E. half;</p> <p>and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.</p>
80.00	<p>Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 14 and 15 N., Rs. 15 and 16 W., marked on brass cap</p> <p>1915 on S. rim; T15N in N., R15W in E., T14N in S. and R16W in W. half; S36 in NW., S31 in NE., S6 in SE. and S1 in SW. quadrant;</p> <p>dig pits, 24 X 24 X 12 ins., on each line, N., E., and W., 4 ft., and S. 8 ft. dist.; and raise a mound of earth, 5 ft. base, 2½ ft. high, S. of cor.</p> <p>Land, level. Soil, 3rd rate. No timber. Undergrowth, greasewood, cat claw, yucca and cacti.</p> <p>Mar. 11, 1915: At this cor., I set off 3° 53' S. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 35½' N.</p> <p style="text-align: right;">R. D. A.</p>

U. S. DEPARTMENT OF THE INTERIOR

North Boundary of T. 14 N., R. 16 W.

Chains. Mar. 11, 1915. R. D. A.
 From the cor. of Tps. 14, and 15 N., Rs. 15 and 16 W., which is an iron post, established by me, as hereinbefore described, I run West, on a random line, along the N. bdy. of Tp. 14 N., R. 16 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs.; and at 480.02 chs., intersect the W. bdy. of Tp. 15 N., R. 16 W., 14 lks. N. of the cor. of Tps. 14 and 15 N., Rs. 16 and 17 W., which is an iron post, marked and witnessed as described by the Surveyor-General. The falling answers to a correction of $0^{\circ} 1'$ or 2 lks. S. per mile, counting from the NE. cor. of the Tp.; therefore I run

40.02 N. $89^{\circ} 59'$ E., on a true line, bet. secs. 6 and 31. Over level land, through scattering undergrowth. 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
 1915 on S. rim;
 $\frac{1}{4}$ S31 in N. and
 S6 in S. half;
 dig pits, 18 X 18 X 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, N. of cor.

80.02 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
 1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R16W in W. half;
 S31 in NW.,
 S32 in NE.,
 S5 in SE. and
 S6 in SW. quadrant;
 dig pits, 18 X 18 X 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, level.
 Soil, 3rd rate.
 No timber.
 Undergrowth, greasewood, cat claw, yucca and cacti.

40.00 N. $89^{\circ} 59'$ E., on a true line, bet. secs. 5 and 32. Over level land, through scattering undergrowth. 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
 1915 on S. rim;
 $\frac{1}{4}$ S32 in N. and
 S5 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. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap
 1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R16W in W. half;
 S32 in NW.,
 S33 in NE.,
 S4 in SE. and
 S5 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

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North Boundary of T. 14 N., R. 16 W.

Chains.

Land, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

- 40.00 N.89° 59' E., on a true line, bet. secs. 4 and 33.
Over level land, through scattering undergrowth.
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
1915 on S. rim;
 $\frac{1}{4}$ S33 in N. and
S4 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. diam., 24 ins. in the ground, for cor. of secs. 3, 4, 33 and 34, marked on brass cap
1915 on S. rim;
T15N in N.,
T14N in S. and
R16W in W. half;
S33 in NW.,
S34 in NE.,
S3 in SE. and
S4 in SW. quadrant;
dig pits, 18 X 18 X 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, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

- 40.00 N.89° 59' E., on a true line, bet. secs. 3 and 34.
Over level land, through scattering undergrowth.
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
1915 on S. rim;
 $\frac{1}{4}$ S34 in N. and
S3 in S. half;
dig pits, 18 X 18 X 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, N. of cor.
- 58.00 Road, b'rs. N. to Yucca and S. to Planet.
- 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
1915 on S. rim;
T15N in N.,
T14N in S. and
R16W in W. half;
S34 in NW.,
S35 in NE.,
S2 in SE. and
S3 in SW. quadrant;
dig pits, 18 X 18 X 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, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

North Boundary of T. 14 N., R. 16 W.

Chains. N.89°59' E., on a true line, bet. secs. 2 and 35.
Over level land, through scattering undergrowth.
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
1915 on S. rim;
 $\frac{1}{4}$ S35 in N. and
S2 in S. half;
dig pits, 18 X 18 X 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, 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
1915 on S. rim;
T15N in N.,
T14N in S. and
R16W in W. half;
S35 in NW.,
S36 in NE.,
S1 in SE. and
S2 in SW. quadrant;
dig pits, 18 X 18 X 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, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

40.00 N.89° 59' E., on a true line, bet. secs. 1 and 36.
Over level land, through scattering undergrowth.
Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for $\frac{1}{2}$ sec. cor., marked on brass cap
1915 on S. rim;
 $\frac{1}{2}$ S36 in N. and
S1 in S. half;
dig pits, 18 X 18 X 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, N. of cor.
80.00 The cor. of Tps. 14 and 15 N., Rs. 15 and 16 W.
Land, level.
Soil, 3rd rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

R. D. A.
Mar. 11, 1915.

BOUNDARIES OF T. 14 N., R. 16 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary	S.89°59'W.	480.38		.14		480.38
West boundary	North	480.00	480.00			
North boundary	N.89°59'E.	480.02	.14		480.02	
East boundary	South	480.00		480.00		
Convergency.					.50	
Totals.			480.14	480.14	480.52	480.38
			480.14		480.38	
Error in lat.			00		.14	Error in dep.

Chains

Survey commenced Mar. 17, 1915, and executed by R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transit, No. 8531, with Smith Solar Attachment. For description of instrument, and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book.

In the following field notes, the initials R. D. A. refer to R. D. Armstrong, U. S. Transitman.

Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. and N. bdrs. of T. 14 N., R. 15 W.

At 8 hrs. 5 m., a.m., l.m.t., I set off $34^{\circ} 30\frac{1}{2}'$ N. on the lat. arc; $1^{\circ} 34\frac{1}{2}'$ S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 13 and 14 N., Rs. 14 and 15 W., which is an iron post, established by me, as hereinbefore described.

Thence I run:

North, bet. secs. 31 and 36.
Over rolling land, through scattering undergrowth.
.60 Wash, 5 lks. wide, course W.
4.00 Wash, 5 lks. wide, course SW. Asc. S. slope, 70 ft. to
14.00 Spur, brs. SW. Desc. NW. slope, 25 ft. to
20.00 Wash, 20 lks. wide, course SW. Asc. S. slope, in wash,
200 ft.
40.00 Set a granite stone, 24 X 10 X 4 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. Pits impracticable.
40.30 Same wash, 30 lks. wide, course SSE. Asc. S. slope, in
wash.
53.00 Leave wash, course SSW. Asc. SE. slope,
65.00 Spur, brs. E. Desc. NE. slope, 45 ft. to
75.00 Same wash, 15 lks. wide, course SE. Asc. S. slope in wash.
80.00 Set a granite stone, 18 X 12 X 6 ins., 12 ins. in the
ground, for cor. of secs. 25, 30, 31 and 36, marked
with 5 notches on N. and 1 notch on S. edge; and raise
a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
Pits impracticable.
Land, rolling and broken.
Soil, 4th rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

North, bet. secs. 25 and 30.
Over mountainous land, through scattering undergrowth.
1.00 Leave wash, course SE. Asc. SW. slope, 600 ft.
40.00 Set a granite stone, 18 X 14 X 8 ins., 12 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. Pits impracticable.
Mar. 17, 1915: At this cor., I set off $1^{\circ} 31\frac{1}{2}'$ S. on the
decl. arc; and at apparent noon, I observe the sun on
the meridian; the resulting lat. is $34^{\circ} 32'$ N.
43.50 Ridge, brs. NW. and SE. Desc. NE. slope, 190 ft. to
70.00 Wash, 5 lks. wide, course E. Asc. SW. slope, 115 ft. to
76.00 Spur, brs. E. Desc. N. slope, 110 ft. to
80.00 Set a granite stone, 24 X 14 X 8 ins., 18 ins. in the
ground, for cor. of secs. 19, 24, 25 and 30, marked
with 4 notches on N. and 2 notches on S. edge; and
raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W.
of cor. Pits impracticable.

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East Boundary of T. 14 N., R. 15 W.

Chains.

Land, mountainous.
Soil, 4th rate.
No timber.
Undergrowth, greasewood, cat claw, yucca and cacti.

North, bet. secs. 19 and 24.
Over mountainous land, through scattering undergrowth.
Desc. N. slope, 100 ft. to
10.00 Wash, 5 lks. wide, course E. Asc. SE. slope, 175 ft. to
28.00 Ridge, brs. NE. and SW. Desc. NW. slope, 370 ft.
40.00 Set a granite stone, 18 X 14 X 6 ins., 12 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.
Pits impracticable.
76.00 Wash, 50 lks. wide, course NE.
80.00 Set a granite stone, 20 X 14 X 12 ins., 14 ins. in the
ground, for cor. of secs. 13, 18, 19 and 24, marked
with 3 notches on N. and S. edges; and raise a mound
of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits
impracticable.
Land, mountainous.
Soil, 4th rate.
No timber.
Undergrowth, greasewood, cat claw, palo verde and cacti.

North, bet. secs. 13 and 18.
Desc. NW. slope, 50 ft., over broken mesa, through scatter-
ing undergrowth, to
17.00 Wash, 20 lks. wide, course NE.
40.00 Set a granite stone, 16 X 12 X 6 ins., 11 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.
Pits impracticable.
Desc. N. slope, 80 ft., over broken land.
71.00 Wood road, brs. E. and W.
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
1915 on S. rim;
T14N in N. half;
R15W S12 in NW.,
R14W S7 in NE.,
S18 in SE. and
S13 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 and mountainous.
Soil, 4th rate.
No timber.
Undergrowth, greasewood, cat claw, palo verde and cacti.

North, bet. secs. 7 and 12.
Over rolling mesa, through scattering undergrowth.
30.00 Road, brs. NW. to Yucca and SE. to Signal.
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
1915 on S. rim;
 $\frac{1}{4}$ S12 in W. and
S7 in E. half;
and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

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East Boundary of T. 14 N., R. 15 W. 39

Chains.
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

1915 on S. rim;
T14N in N. half;
R15W S1 in NW.,
R14W S6 in NE.,
S7 in SE. and
S12 in SW. quadrant;

dig pits, 18 X 18 X 12 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, 3rd rate.
Timber, juniper.
Undergrowth, greasewood, cat claw, palo verde and cacti.

40.00

North, bet. secs. 1 and 6.
Over rolling land, through scattering undergrowth.

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

1915 on S. rim;
¼S1 in W. and
S6 in E. half;

dig pits, 18 X 18 X 12 ins., N. and S. of post, 3 ft. dist.; and raise a mound of earth, 3½ ft. base, 1½ ft. high, W. of cor.

76.50
80.00

Road, brs. E. to Groom's Springs and W. to Yucca.

Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 14 and 15 N., Rs. 14 and 15 W., marked on brass cap

1915 on S. rim;
T15N in N.,
R14W in E.,
T14N in S. and
R15W in W. half;
S36 in NW.,
S31 in NE.,
S6 in SE. and
S1 in SW. quadrant;

dig pits, 24 X 24 X 12 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, 3rd rate.
Timber, juniper.
Undergrowth, greasewood, cat claw, yucca and cacti.

R. D. A.
Mar. 17, 1915.

North Boundary of T. 14 N., R. 15 W.

Chains.	
	<p>Mar. 16, 1915: R. D. A. At 8 hrs. 5 m., a.m., l.m.t., I set off $34^{\circ} 35\frac{1}{2}'$ N. on the lat. arc; $1^{\circ} 58\frac{1}{2}'$ S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 14 and 15 N., Rs. 14 and 15 W., which is an iron post, established by me, as hereinbefore described. Thence I run West on a random line, along the N. bdy. of Tp. 14 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs.; and at 479.44 chs., intersect the W. bdy. of T. 15 N., R. 15 W., 42 lks. N. of the cor. of Tps. 14 and 15 N., Rs. 15 and 16 W., which is an iron post, established by me, as hereinbefore described. The falling answers to a correction of $0^{\circ} 3'$ or 7 lks. S. per mile, counting from the NE. cor. of the Tp.; therefore I run $N.89^{\circ} 57'$ E., on a true line, bet. secs. 6 and 31. Over level land, through scattering undergrowth.</p>
30.00	Wash, 100 lks. wide, course SW.
39.44	<p>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 1915 on S. rim; $\frac{1}{4}$S31 in N. and S6 in S. half; dig pits, 18 X 18 X 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, N. of cor.</p>
79.44	<p>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 1915 on S. rim; T15N in N., T14N in S. and R15W in W. half; S31 in NW., S32 in NE., S5 in SE. and S6 in SW. quadrant; dig pits, 18 X 18 X 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, level. Soil, 3rd rate. No timber. Undergrowth, greasewood, cat claw, yucca and cacti.</p>

	<p>$N.89^{\circ} 57'$ E., on a true line, bet. secs. 5 and 32. Over level land, through scattering undergrowth.</p>
36.80	Pipe line road, brs. $N.21^{\circ} W.$, and $S. 21^{\circ} E.$
40.00	<p>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 1915 on S. rim; $\frac{1}{4}$S32 in N. and S5 in S. half; dig pits, 18 X 18 X 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, N. of cor.</p>
80.00	<p>Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap 1915 on S. rim; T15N in N., T14N in S. and R15W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant;</p>

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North Boundary of T. 14 N., R. 15 W.

Chains.

dig pits, 18 X 18 X 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, level.

Soil, 3rd rate.

Timber, juniper.

Undergrowth, greasewood, cat claw, yucca and cacti.

40.00

N. $89^{\circ} 57'$ E., on a true line, bet. secs. 4 and 33.
Over level land, through scattering undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S33 in N. and

S4 in S. half;

dig pits, 18 X 18 X 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, N. of cor.

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

1915 on S. rim;

T15N in N.,

T14N in S. and

R15W in W. half;

S33 in NW.,

S34 in NE.,

S3 in SE. and

S4 in SW. quadrant;

dig pits, 18 X 18 X 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, level.

Soil, 3rd rate.

Timber, juniper.

Undergrowth, greasewood, cat claw, yucca and cacti.

Mar. 16, 1915: At this cor., I set off $1^{\circ} 55'$ S. on the
decl. arc; and at apparent noon, I observe the sun on
the meridian; the resulting lat. is $34^{\circ} 35\frac{1}{2}'$ N.

40.00

N. $89^{\circ} 57'$ E., on a true line, bet. secs. 3 and 34.
Over level land, through scattering undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S34 in N. and

S3 in S. half;

dig pits, 18 X 18 X 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, N. of cor.

53.40

Road, brs. NE. to Stout's Well, and SW. to Castaneta Well.

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

1915 on S. rim;

T15N in N.,

T14N in S. and

R15W in W. half;

S34 in NW.,

S35 in NE.,

S2 in SE. and

S3 in SW. quadrant;

North Boundary of T. 14 N., R. 15 W.

Chains.

dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.;
 and raise a mound of earth, 4 ft. base, 2 ft. high,
 W. of cor.
 Land, level.
 Soil, 3rd rate.
 Timber, juniper.
 Undergrowth, greasewood, cat claw, yucca and cacti.

N.89° 57' E., on a true line, bet. secs. 2 and 35.
 Over rolling land, through scattering timber and under-
 growth.

16.00 Wash, 50 lks. wide, course SW.
 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
 1915 on S. rim;
 ¼S35 in N. and
 S2 in S. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor. Pits impracticable.
 Stout's house brs. N. 75° E.
 57.00 Fence, brs. N. and S.
 60.00 Stout's well brs. N. 7 chs. dist.
 62.00 Stout's house brs. N. 8 chs. dist.
 63.80 Fence, brs. NW. and SE.
 64.00 Road, brs. NW. to Yucca, and SE. to Signal.
 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

1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R15W in W. half;
 S35 in NW.,
 S36 in NE.,
 S1 in SE. and
 S2 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, rolling.
 Soil, 3rd and 4th rate.
 Timber, juniper.
 Undergrowth, greasewood, cat claw, yucca and cacti.

N.89° 57' E., on a true line, bet. secs. 1 and 36.
 Over level land, through scattering timber and 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
 1915 on S. rim;
 ¼S36 in N. and
 S1 in S. half;
 dig pits, 18 X 18 X 12 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 The cor. of Tps. 14 and 15 N., Rs. 14 and 15 W.
 Land, level.
 Soil, 3rd rate.
 Timber, juniper.
 Undergrowth, greasewood, cat claw, yucca and cacti.

R. D. A.
 Mar. 16, 1915.

BOUNDARIES OF T. 14 N., R. 15 W.
 Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South bdy.	S. 89° 54' W.	479.50		.84		479.50
West bdy.	North.	480.00	480.00			
North bdy.	N. 89° 57' E.	479.44	.42		479.44	
East bdy.	South.	480.00		480.00		
Convergency.					.50	
Totals.			480.42	480.84	479.94	479.50
				480.42	479.50	
Error in lat.				.42	.44	Error in dep.

U. S. Transition.

East Boundary of T. 14 N., R. 14 W.

Chains.

Survey commenced Mar. 25, 1915, and executed by R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transit, No. 8531, with Smith Solar Attachment. For description of instrument, and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book.

In the following field notes, the initials I. W. S. and R. D. A. refer to Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transtiman, respectively. Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. and N. bdrs. of T. 14 N., R. 14 W. At 8 hrs. a.m., l.m.t., I set off 34° 30½' N. on the lat. arc; 1° 34½' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 13 and 14 N., Rs. 13 and 14 W., which is an iron post, established by I. W. S., ad hereinbefore described.

Thence I run North, bet. secs. 31 and 36.

Over rolling land, through scattering undergrowth.

17.30
29.30
40.00

Road, brs. NW. and SE.
Road, brs. NW. and SE.
Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap
1915 on S. rim;
¼S36 in W. and
S31 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

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

1915 on S. rim;
T14N in N. half;
R14W S25 in NW.,
R13W S30 in NE.,
S31 in SE. and
S36 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, rolling.
Soil, 3rd rate.
No timber.
Undergrowth, yucca and cacti.

North, bet. secs. 25 and 30.
Over rolling land, through scattering undergrowth.

20.00
40.00

Wash, 7 chs. wide, course SE.
Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap
1915 on S. rim;
¼S25 in W. and
S30 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

80.00

Wood road, brs. W. and ESE.
Set an ironpost, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 19, 24, 25 and 30, marked on brass cap

1915 on S. rim;
T14N in N. half;
R14W S24 in NW.,
R13W S19 in NE.,
S30 in SE. and
S25 in SW. quadrant;

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East Boundary of T. 14 N., R. 14 W.

Chains.	<p>and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Land, rolling. Soil, 4th rate. No timber. Undergrowth, greasewood, cat claw, yucca and cacti.</p>
40.00	<p>North, bet. secs. 19 and 24. Over rolling land, through scattering undergrowth. Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap 1915 on S. rim; ¼S24 in W. and S19 in E. half; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. 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 1915 on S. rim; T14N in N. half; R14W S13 in NW., R13W S18 in NE., S19 in SE. and S24 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Land, rolling. Soil, 4th rate. No timber. Undergrowth, greasewood, cat claw, yucca and cacti. Mar. 25, 1915: At this cor., I set off 1° 38' N. on the lat. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 33' N.</p>
1.00 10.00 15.00 19.75 34.00 40.00 43.00 53.00 66.00 76.00 80.00	<p>North, bet. secs. 13 and 18. Over mountainous land, through scattering undergrowth. Asc. SW. slope. Spur, brs. SE. Desc. NE. slope, 90 ft. to Wash, 50 lks. wide, course SE. Asc. SW. slope, 65 ft. to Spur, brs. SE. Thence along broken E. slope. Asc. SE. slope, 165 ft. Gulch, course SSE. Asc. SW. slope. Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap 1915 on S. rim; ¼S13 in W. and S18 in E. half; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Low divide, brs. NW. and SE. Asc. SE. slope, 50 ft. to Spur, brs. E. Desc. NE. slope, 210 ft. to Wash, 60 lks. wide, course SE. Asc. SW. slope, 195 ft. to Ridge, brs. NW. and SE. 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 1915 on S. rim; T14N in N. half; R14W S12 in NW., R13W S7 in NE., S18 in SE. and S13 in SW. quadrant;</p>

Chains.

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, 4th rate.
 No timber.
 Undergrowth, cacti.

8.00 North, bet. secs. 7 and 12.
 21.00 Over mountainous land, through scattering undergrowth.
 40.00 Desc. NW. slope, 65 ft. to
 Gulch, 5 lks. wide, course SW. Asc. SE. slope, 135 ft. to
 Spur, brs. E. Desc. NE. slope, 70 ft. to
 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
 ground, for ¼ sec. cor., marked on brass cap
 1915 on S. rim;
 ¼S12 in W. and
 S7 in E. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Mar. 25, 1915.

Mar. 26, 1915: At 7 hrs. 55.m., a.m., 1.m.t., I set off
 34° 34½' N. on the lat. arc; 1° 58' N. on the decl. arc;
 and determine a meridian with the solar at the ¼ sec.
 cor. bet. secs. 7 and 12.
 Thence I run
 North, bet. secs. 7 and 12.
 Asc. SE. slope, 35 ft. to
 41.50 Spur, brs. E. Desc. NE. slope, 150 ft. to
 60.00 Draw, course SSE. Thence across bottom land.
 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
 1915 on S. rim;
 T14N in N. half;
 R14W S1 in NW.,
 R13W S6 in NE.,
 S7 in SE. and
 S12 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, level and mountainous.
 Soil, 4th rate.
 No timber.
 Undergrowth, cacti.

10.00 North, bet. secs. 1 and 6.
 17.00 Asc. SE. slope, 125 ft., over bottom land, through scatter-
 20.00 ing undergrowth.
 28.00 Thence along W. bank of wash.
 40.00 Leave west bank. Desc. NE. slope, 35 ft. to
 Wash, 50 lks. wide, course SSE.
 Wash, course SE.
 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
 ground, on E. bank of wash, for ¼ sec. cor., marked on
 brass cap
 1915 on S. rim;
 ¼S1 in W. and
 S6 in E. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Asc. SW. slope, 490 ft. to

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East Boundary of T. 14 N., R. 14 W.

Chains.

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 14 and 15 N., Rs. 13 and 14 W., marked on brass cap

1915 on S. rim;

T15N in N.,

R13W in E.,

T14N in S. and

R14W in W. half;

S36 in NW.,

S31 in NE.,

S6 in SE. and

S1 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, 4th rate.

No timber.

Undergrowth, cacti.

Mar. 26, 1915: At this cor., I set off $2^{\circ} 1\frac{1}{2}'$ N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 35\frac{1}{2}'$ N.

R. D. A.

Mar. 26, 1915.

U. S. Land Office.

North Boundary of T. 14 N., R. 14 W.

Chains.

Mar. 26, 1915: R. D. A.
 From the cor. of Tps. 14 and 15 N., Rs. 13 and 14 W.,
 which is an iron post, established by me, as described
 hereinbefore, I run
 West, on a random line, along the N. bdy. of Tp. 14 N.,
 R. 14 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at inter-
 vals of 40.00 chs., to the temp. cor of secs. 2, 3,
 34 and 35.
 Mar. 26, 1915.

Mar. 27, 1915: At 8 hrs. 5 m., a.m., l.m.t., I set off
 $34^{\circ} 35\frac{1}{2}'$ N. on the lat. arc; $2^{\circ} 22'$ N. on the decl.
 arc; and determine a meridian with the solar at the
 temp. cor. of secs. 2, 3, 34 and 35.
 Thence I run
 West on a random line, along the N. bdy. of Tp. 14 N.,
 R. 14 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at inter-
 vals of 40.00 chs.; and at 479.18 chs., intersect the
 W. bdy. of T. 15 N., R. 14 W., 120 lks. N. of the cor.
 of Tps. 14 and 15 N., Rs. 14 and 15 W., which is an
 iron post, established by me, as hereinbefore described.
 The falling answers to a correction of $0^{\circ} 9'$ or 20 lks.
 S. per mile, counting from the NE. cor. of the Tp.;
 therefore I run

N. $89^{\circ} 51'$ E., on a true line, bet. secs. 6 and 31.
 Over rolling land, through scattering undergrowth.
 14.20 Road, brs. ENE to Groom's Springs, and WSW. to Yucca.
 38.20 Same road, brs. ESE. and WNW.
 39.18 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
 1915 on S. rim;
 $\frac{1}{4}$ S31 in N. and
 S6 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.
 79.18 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
 1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R14W in W. half;
 S31 in NW.,
 S32 in NE.,
 S5 in SE. and
 S6 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, 3rd rate.
 Timber, juniper.
 Undergrowth, yucca and cacti.

N. $89^{\circ} 51'$ E., on a true line, bet. secs. 5 and 32.
 Over rolling land, through scattering timber and under-
 growth.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S32 in N. and
 S5 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 Thence over broken land.
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the
 ground, for cor. of secs. 4, 5, 33 and 32, marked on
 brass cap

50.

North Boundary of T. 14 N., R. 14 W.

Chains

	<p>1915 on S. rim; T15N in N., T14N in S. and R14W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Land, rolling and broken. Soil, 4th rate. Timber, juniper. Undergrowth, palo verde, greasewood, and cacti.</p>
	<p>N.89° 51' E., on a true line, bet. secs. 4 and 33. Over broken land, through scattering timber and under- growth.</p>
25.00	From this point, Groom Springs brs. S. 5 chs. dist.
26.00	Wash, 25 lks. wide, course S.
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 1915 on S. rim; ¼S33 in N. and S4 in S. half; and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
66.00	Wash, 15 lks. wide, course S. Asc. W. slope, 100 ft. to
72.00	Spur, brs. S. Desc. E. slope, 95 ft. to
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 1915 on S. rim; T15N in N., T14N in S. and R14W in W. half; S33 in NW., S34 in NE., S3 in SE. and S4 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Land, broken. Soil, 4th rate. Timber, juniper. Undergrowth, catclaw, palo verde and cacti. Mar. 27, 1915: The sky was overcast at noon, making an observation for lat. impossible.
	<p>N.89° 51' E., on a true line, bet. secs. 3 and 34. Over mountainous land, through scattering timber and undergrowth.</p>
.60	Gulch, 10 lks. wide, course S. Asc. W. slope, 90 ft. to
5.00	Spur, brs. S. Desc. E. slope, 75 ft. to
10.00	Gulch, 25 lks. wide, course S. Asc. W. slope, 25 ft. to
13.00	Spur, brs. S. Desc. E. slope, 70 ft. to
24.00	Wash, 15 lks. wide, course S. Asc. W. slope, 75 ft. to
31.50	Spur, brs. S. Desc. E. slope, 25 ft. to
35.00	Head of gulch, course S. Asc. W. slope, 20 ft. to
37.50	Spur, brs. S. Desc. E. slope, 40 ft. to
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 1915 on S. rim; ¼S34 in N. and S3 in S. half;

Chains.

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor. Pits impracticable.
 Desc. E. slope, 25 ft. to
 45.50 Wash, 10 lks. wide, course S. Asc. W. slope, 30 ft. to
 49.00 Spur, brs. S. Desc. NE. slope, 80 ft. to
 55.00 Wash, 10 lks. wide, course SE. Asc. SW. slope, 110 ft. to
 65.00 Spur, brs. SE. Desc. E. slope, 135 ft. to
 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

1915 on S. rim;
 T15N in N.,
 T14N in S., and
 R14W in W. half;
 S34 in NW.,
 S35 in NE.,
 S2 in SE. and
 S3 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, 4th rate.
 Timber, juniper.
 Undergrowth, cacti.

Mar. 27, 1915.

Mar. 26, 1915.
 N.89° 51' E., on a true line, bet. secs. 2 and 35.
 Over mountainous land, through scattering timber and
 undergrowth.

Desc. E. slope, 130 ft. to
 14.00 Wash, 25 lks. wide, course SE. Asc. SW. slope, 95 ft. to
 20.00 Spur, brs. SE. Desc. NE. slope, 70 ft. to
 30.00 Wash, 5 lks. wide, course SE. Asc. W. slope, 45 ft.
 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

1915 on S. rim;
 ¼S35 in N. and
 S2 in S. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor. Pits impracticable.
 42.50 Spur, brs. S. Desc. E. slope, 70 ft. to
 47.35 Asc. SW. slope, 105 ft. to
 55.00 Spur, brs. S. Desc. SE. slope, 100 ft. to
 60.00 Wash, course S. Asc. SW. slope, 125 ft. to
 75.00 Spur, brs. S. Desc. SE. slope, 75 ft. to
 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

1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R14W in W. half;
 S35 in NW.,
 S36 in NE.,
 S1 in SE. and
 S2 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, 4th rate.
 Timber, juniper.
 Undergrowth, cacti.

N.89° 51' E., on a true line bet. secs. 1 and 36.
 Over mountainous land, through scattering timber and

Chains.

undergrowth.
 1.00 Gulch, 5 lks. wide, course S. Asc. SW. slope, 290 ft. to
 20.00 Ridge, brs. NW. and SE. Desc. NE. slope, 310 ft. to
 37.00 Gulch, 10 lks. wide, course SE. Asc. SW. slope.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S36 in N. and
 S1 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 42.00 Spur, brs. S. Desc. SE. slope, 65 ft. to
 45.00 Wash, 15 lks. wide, course S. Asc. SW. slope, 70 ft. to
 55.00 Spur, brs. SE. Desc. E. slope, 145 ft. to
 65.00 Wash, 5 lks. wide, course SE. Asc. SW. slope, 210 ft. to
 80.00 The cor. of Tps. 14 and 15 N., Rs. 13 and 14 W.
 Land, mountainous.
 Soil, 4th rate.
 Timber, juniper.
 Undergrowth, cacti.

R. D. A.
 Mar. 26, 1915.

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

Latitudes, departures and Closing Errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	S.89°53'W	479.40		.98		479.40
West boundary,	North	480.00	480.00			
North boundary,	N.89°51'E.	479.18	1.20		479.18	
East boundary,	South	480.00		480.00		
Convergency.					.50	
Totals			481.20	480.98	479.68	479.40
			480.98		479.40	
Error in lat.			.22		.28	Error in dep.

U. S. Surveyor

U. S. Surveyor

Chains.

Survey commenced Apr. 12, 1915, and executed by Hans D. Voigt, U. S. Transitman, with Young and Sons' light mountain transit, No 8297, with Smith Solar Attachment. For description of instrument, certificate of approval and test of adjustments, see subdivision of T. 15 N., R. 13 W.

In the following field notes, the initials R. D. A. and H. D. V. refer to R. D. Armstrong, U. S. Transitman, and H. D. Voigt, U. S. Transitman, respectively.

Since the 3rd Guide Meridian West through Tps. 14 N. is only 476.64 chs. long, while the E. bdy. of T. 14 N., R. 14 W. is 480.00 chs. long, it is evident that it will be necessary to set a closing cor. to Tps. 14 and 15 N., R. 13 W. on the E. bdy. of T. 14 N., R. 14 W.; therefore I proceed as follows:-

At 2 hrs. p.m., l.m.t., I set off $34^{\circ} 35\frac{1}{2}'$ N. on the lat. arc; $8^{\circ} 32\frac{1}{2}'$ N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 14 and 15 N., Rs. 12 and 13 W., which is an iron post, properly set, marked and witnessed as described by the Surveyor-General.

Thence I run
West on a true line, bet. secs. 1 and 36.
Over mountainous land, through scattering undergrowth.

3.00 Spur, brs. SW. Desc. NW. slope to
6.15 Gulch, 30 lks. wide, course S. 80° W. Desc. in gulch.
12.74 Leave gulch, course S. 60° W. Asc. SE. slope, 120 ft. to
33.58 Spur, brs. S. Desc. SW. slope. to
35.56 Head of gulch, 20 lks. wide, course S. Asc. SE. slope.
37.58 Spur, brs. SW. Desc. SW. slope to
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
1915 on S. rim;
 $\frac{1}{4}$ S36 in N. and
S1 in S. half;
and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

43.10 Gulch, 20 lks. wide, course S. 10° W. Asc. SE. slope, 90 ft. to
52.92 Spur, brs. S. Desc. NW. slope to
55.51 Head of gulch, 6 lks. wide, course SW. Thence along S. slope.
60.41 Gulch, 15 lks. wide, course SW. Asc. SE. slope, 45 ft. to
67.37 Spur, brs. S. Desc. SW. slope, 250 ft. to
79.90 E. bank of Big Sandy River, brs. N. and S.
80.00 Point for sec. cor. falls in Big Sandy River.
79.60 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for witness cor. to cor. of secs. 1, 2, 35 and 36, marked on brass cap
1915 on S. rim;
WC N. of center;
T15N in N.,
T14N in S. and
R13W in W. half;
S35 in NW.,
S36 in NE.,
S1 in SE. and
S2 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, sandy and rocky, 3rd rate.
No timber.
Undergrowth, greasewood, ocatilla, palo verde and cacti.

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North Boundary of T. 14 N., R. 13 W.

Chains.	
	From the point for cor. of secs. 1, 2, 35 and 36, I run West, on a true line, bet. secs. 2 and 35. Across Big Sandy River.
3.80	West Bank of Big Sandy River. Water against W. bank, 40 lks. wide, 3 ins. deep, course S.
4.60	Road, brs. N. to Kingman, and S. to Signal. Asc. NE. slope, 400 ft.
22.50	Spur, brs. N. 30° E. Continue to asc. NE. slope to
32.00	Spur, brs. NW. Desc. SW. slope, 50 ft.
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 1915 on S. rim; $\frac{1}{4}$ S35 in N. and S2 in S. half; and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
44.09	Gulch, 20 lks. wide, course SE. Asc. NE. slope, 120 ft. to
51.24	Spur, brs. S. Thence along S. slope.
61.61	Head of gulch, course SE.
71.13	Spur, brs. S. Desc. SW. slope, 30 ft. to
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 18 ins. in the ground, on solid rock, supported by a mound of stone, for cor. of secs. 2, 3, 34 and 35, marked on brass cap 1915 on S. rim; T15N in N., T14N in S. and R13W in E. half; S34 in NW., S35 in NE., S2 in SE. and S3 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, sandy 3rd rate, and rocky 4th rate. No timber. Undergrowth, greasewood, ocotillo, palo verde and cacti. Apr. 12, 1915.
Apr. 13, 1915: At 8 hrs. 55 m., a.m., 1.m.t., I set off 34° 35 $\frac{1}{2}$ ' N. on the lat. arc; 8° 50 $\frac{1}{2}$ ' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 2, 3, 34 and 35. Thence I run West on a true line, bet. secs. 3 and 34. Over mountainous land, through scattering timber and undergrowth.	
6.06	Gulch, 20 lks. wide, course S. 10° E. Asc. SE. slope, 165 ft. to
17.36	Spur, brs. S. Desc. SW. slope, 45 ft. to
23.96	Gulch, 15 lks. wide, course SE. Asc. SE. slope, 170 ft. to
36.88	Spur, brs. SE. Desc. SW. slope, 70 ft.
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 1915 on S. rim; $\frac{1}{4}$ S34 in N. and S3 in S. half; and raise a mound of stone, 4 ft. base, 3 ft. high, N. of cor. Pits impracticable.
46.33	Gulch, 10 lks. wide, course S. 10° E. Asc. SE. slope, 25 ft. to
50.67	Spur, brs. SE. Desc. SW. slope, 100 ft. to
62.32	Gulch, 15 lks. wide, course SE. Asc. NE. slope, 165 ft. to
75.14	Spur, brs. S. 70° E. Desc. SW. slope, 50 ft. to

North Boundary of T. 14 N., R. 13 W.

Chains.
80.00

Set an iron post, 3 ft. long, 3 ins. diam., 20 ins. in the ground, on solid rock, supported by a mound of stone, for cor. of secs. 3, 4, 33 and 34, marked on brass cap
 1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R13W in W. half;
 S33 in NW.,
 S34 in NE.,
 S3 in SE. and
 S4 in SW. quadrant;
 and raise a mound of stone, 4 ft. base, 3 ft. high, W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky 4th rate.
 Timber, scattering cedar.
 Undergrowth, palo verde, greasewood and cacti.

West, on a true line, bet. secs. 4 and 33.
 Over mountainous land, through scattering timber and undergrowth.

- 4.32 Desc. SW. slope, 55 ft. to
- 14.29 Gulch, 20 lks. wide, course SE. Asc. NE. slope, 150 ft. to
- 17.79 Spur, brs. SE. Thence along S. slope.
- 26.22 Same spur, brs. S. Desc. SW. slope, 190 ft. to
- 28.34 Gulch, 20 lks. wide, course S. Asc. E. slope to
- 31.38 Spur, brs. S. 10° E. Desc. SW. slope, 40 ft. to
- 40.00 Gulch, 20 lks. wide, course S. 10° E. Asc. NE. slope, 160 ft.
- 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
 1915 on S. rim;
 $\frac{1}{4}$ S33 in N. and
 S4 in S. half;
 and raise a mound of stone, 4 ft. base, 3 ft. high, N. of cor. Pits impracticable.
 Apr. 14, 1915: At this cor., I set off 8° 52 $\frac{1}{2}$ ' N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 35 $\frac{1}{2}$ ' N.
- 40.97 Spur, brs. S. 10° E. Desc. W. slope, 65 ft. to
- 47.59 Gulch, 15 lks. wide, course SE. Asc. NE. slope, 95 ft. to
- 54.75 Spur, brs. S. 10° E. Desc. W. slope, 105 ft. to
- 60.00 Gulch, 10 lks. wide, course S. 20° E. Asc. NE. slope, 115 ft. to
- 69.34 Spur, brs. S. Desc. W. slope, 110 ft. to
- 77.35 Gulch, 10 lks. wide, course S. Asc. NE. slope.
- 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 18 ins. in the ground, on solid rock, supported by a mound of stone, for cor. of secs. 4, 5, 32 and 33, marked on brass cap

1915 on S. rim;
 T15N in N.,
 T14N in S. and
 R13W in W. half;
 S32 in NW.,
 S33 in NE.,
 S4 in SE. and
 S5 in SW. quadrant;
 and raise a mound of stone, 4 ft. base, 3 ft. high, W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky 4th rate.
 Timber, scattering cedar.
 Undergrowth, palo verde, greasewood, ocotillo and cacti.

56.

North Boundary of T. 14 N., R. 13 W.

78.

Chains	
	West on a true line, bet. secs. 5 and 32. Over mountainous land, through scattering timber and undergrowth. Asc. NE. slope, 95 ft. to
9.38	Spur, brs. N. Desc. NW. slope, 90 ft. to
17.25	Gulch, 20 lks. wide, course N. Asc. SE. slope, 50 ft. to
20.78	Spur, brs. N. Desc. W. slope to
24.47	Gulch, 30 lks. wide, course N. Asc. NE. slope, 85 ft. to
32.63	Ridge, brs. N. and S. Desc. SW. slope.
40.00	Set an iron post, 3 ft. long, 1 in. diam., 16 ins. in the ground, on solid rock, supported by a mound of stone, for $\frac{1}{4}$ sec. cor., marked on brass cap 1915 on S. rim; $\frac{1}{4}$ S32 in N. and S5 in S. half; and raise a mound of stone, 4 ft. base, 3 ft. high, N. of cor. Pits impracticable.
46.00	Head of gulch, 20 lks. wide, course S. 10° E. Asc. SE. slope 80 ft. to
52.90	Spur, brs. SE. Desc. SW. slope, 45 ft. to
56.22	Draw, course SE. Thence over flat.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 12 ins. in the ground, on solid rock, supported by a mound of stone, for cor. of secs. 5, 6, 31 and 32, marked on brass cap 1915 on S. rim; T15N in N., T14N in S. and R13W in W. half; S31 in NW., S32 in NE., S5 in SE. and S6 in SW. quadrant; and raise a mound of stone, 4 ft. base, 3 ft. high, W. of cor. Pits impracticable. Land, mountainous and level. Soil, rocky, 4th rate. Timber, scattering cedar. Undergrowth, greasewood, ocotillo, palo verde and cacti. Apr. 13, 1915.
Apr. 14, 1915: At 9 hrs. 58 m., a.m., l.m.t., I set off 34° 35 $\frac{1}{2}$ ' N. on the lat. arc; 9° 12 $\frac{1}{2}$ ' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 31 and 32. Thence I run	
	West, on a true line, bet. secs. 6 and 31. Overlevel land, through scattering timber and undergrowth.
3.90	Foot of mts., br. N. and S. Asc. 350 ft. to
12.08	Spur, brs. S. Desc. SW. slope, 240 ft.
26.37	Head of gulch, course S. Thence along S. slope.
31.52	Main gulch, 20 lks. wide, course S. 10° E. Asc. SE. slope, 230 ft.
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 1915 on S. rim; $\frac{1}{4}$ S31 in N. and S6 in S. half; and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
41.95	Spur, brs. S. Desc. SW. slope, 50 ft. to
44.69	Head of gulch, course SW. Asc. SE. slope, 75 ft. to
55.04	Spur, brs. S. Desc. SW. slope, 360 ft. to
67.83	Gulch, 30 lks. wide, course SW. Asc. SE. slope, 105 ft. to
72.61	Spur, brs. S. Desc. SW. slope, 90 ft. to

2007 2912

North Boundary of T. 14 N., R. 13 W.

57.

Chains.

78.45 Intersect the E. bdy. of T. 14 N., R. 14 W., 3.40 chs. S. of the cor. of Tps. 14 and 15 N., Rs. 13 and 14 W., which is an iron post, established by R. D. A., as described hereinbefore. I alter the markings on the brass cap of this cor., to refer to Tps. 14 and 15 N., R. 14 W. only.

At the point of intersection, I set an iron post, 3 ft. long, 3 ins. diam., 18 ins. in the ground, on solid rock, supported by a mound of stone, for closing cor. of Tps. 14 and 15 N., R. 13 W., marked on brass cap

- 1915 on S. rim;
- CC W. of center;
- R13W in E. and
- T15N, S36, S1, T14N, R14W in W. half;
- T15N S31 in NE., and
- T14N S6 in SE. quadrant;

and raise a mound of stone, 4 ft. base, 3 ft. high, E. of cor. Pits impracticable.

Land, mountainous.

Soil, rocky 4th rate.

Timber, scattering cedar.

Undergrowth, palo verde, greasewood, and cacti.

H. D. V.
Apr. 14, 1915.

Boundaries of T. 14 N., R. 13 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	West.	479.06				479.06
West boundary,	North.	476.60	476.60			
North boundary,	East.	478.45			478.45	
East boundary, (3rd Guide Mer.W.)	South.	476.64		476.64		
Convergency,					.50	
Totals.			476.60	476.64	478.95	479.06
				476.60		478.95
Error in lat.				.04	Error dep., .11	

H. D. V.

U. S. Geologist,

U. S. Geologist.

Chains.

Survey commenced Mar. 16, 1915, and executed by Irving W. Stoddard, U. S. Surveyor, with Young and Sons' light mountain transit, No 8485, with Smith Solar Attachment. For description of instrument, and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book.

In the following field notes, the initials R. D. A. and I. W. S. refer to R. D. Armstrong, U. S. Transitman, and Irving W. Stoddard, U. S. Surveyor, respectively.

Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. and N. bdrs. of T. 15 N., R. 16 W.

At 8 hrs. 5 m., a.m., l.m.t., I set off 34° 35½' N. on the lat. arc; 1° 58½' S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 14 and 15 N., Rs. 15 and 16 W., which is an iron post, established by R. D. A., hereinbefore described.

Thence I run

North, bet. secs. 31 and 36.

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
1915 on S. rim;
¼S36 in W. and
S31 in E. half;

dig pits, 18 X 18 X 12 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. 25, 30, 31 and 36, marked on brass cap

T15N in N. half;
R16W S25 in NW.,
R15W S30 in NE.,
S31 in SE. and
S36 in SW. quadrant;

dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.

Land, level.

Soil, loose sandy loam, 1st and 2nd rate.

No timber.

Undergrowth, greasewood, cat claw, and cacti.

North, bet. secs. 25 and 30.

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
1915 on S. rim;
¼S25 in W. and
S30 in E. half;

dig pits, 18 X 18 X 12 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. 19, 24, 25 and 30, marked on brass cap

1915 on S. rim;
T15N in N. half;
R16W S24 in NW.,
R15W S19 in E. half;
S30 in SE. and
S25 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, level.

Soil, loose sandy loam, 1st and 2nd rate.

No timber.

60 East Boundary of T. 15 N., R. 16 W.

Chains.	Undergrowth, greasewood, cat claw and cacti.
5.00	North, bet. secs. 19 and 24. Over level land, through scattering undergrowth. Wash, course SW.
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 1915 on S. rim; $\frac{1}{4}$ S24 in W. and S19 in E. half; dig pits, 18 X 18 X 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.
65.85	Old road, brs. NE. and SW.
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 1915 on S. rim; T15N in N. half; R16W S13 in NW. R15W S18 in NE., S19 in SE. and S24 in SW. quadrant; dig pits, 18 X 18 X 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, level. Soil, loose sandy loam, 1st and 2nd rate. No timber. Undergrowth, greasewood, cat claw and cacti. Mar. 16, 1915: At this cor., I set off $1^{\circ} 55'$ S. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 38\frac{1}{2}'$ N.
40.00	North, bet. secs. 13 and 18. Over level land, through scattering undergrowth. 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 1915 on S. rim; $\frac{1}{4}$ S13 in W. and S18 in E. half; dig pits, 18 X 18 X 12ins., 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.
63.50	Pipe line 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 1915 on S. rim; T15N in N. half; R16W S12 in NW., R15W S7 in NE., S18 in SE. and S13 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Land, level. Soil, loose sandy loam, 2nd rate. No timber. Undergrowth, yucca, greasewood and cacti.

East Boundary of T. 15 N., R. 16 W.

Chains.

North, bet. secs. 7 and 12.

Over level land, through scattering undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S12 in W. and

S7 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

52.70 Road, brs. NW. to Yucca and SE. to Signal.

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

1915 on S. rim;

T15N in N. half;

R16W S1 in NW.,

R15W S6 in NE.,

S7 in SE. and

S12 in SW. quadrant;

dig pits, 18 X 18 X 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, level.

Soil, loose gravelly loam, 1st and 2nd rate.

No timber.

Undergrowth, yucca, greasewood and cacti.

North, bet. secs. 1 and 6.

Over level land, through scattering timber and undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S1 in W. and

S6 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 15 and 16 N., Rs. 15 and 16 W., marked on brass cap

1915 on S. rim;

T16N in N.,

R15W in E.,

T15N in S. and

R16W in W. half;

S36 in NW.,

S31 in NE.,

S6 in SE. and

S1 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, S. of cor. Pits impracticable.

Land, level.

Soil, sandy, gravelly and rocky, 2nd and 3rd rate.

Timber, scattering juniper.

Undergrowth, yucca, palo christa and cacti.

I. W. S.
Mar. 16, 1915.

Chains.	
	<p>I. W. S. Apr. 29, 1915: At 7 hrs. 54 m., a.m., l.m.t., I set off $34^{\circ} 41'$ N. on the lat. arc; $14^{\circ} 16\frac{1}{2}'$ N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 15 and 16 N., Rs. 15 and 16 W., established by me as hereinbefore described. Thence I run, West on a random line, along the N. bdy. of T. 15 N., R. 16 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs.; and at 479.42 chs., intersect the W. bdy. of T. 15 N., R. 16 W., 69 lks. S. of the cor. of Tps. 15 and 16 N., Rs. 16 and 17 W., which is an iron post, properly set, marked and witnessed as described by the Surveyor-General. The falling answers to a correction of $0^{\circ} 5'$ or 11 lks. N. per mile, counting from the NE. cor. of the Tp.; therefore I run $S.89^{\circ} 55'$ E., on a true line, bet. secs. 6 and 31. Over level land, through scattering undergrowth. 39.42 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 1915 on S. rim; $\frac{1}{4}$S31 in N. and S6 in S. half; dig pits, 18 X 18 X 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, N. of cor. 79.42 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 1915 on S. rim; T16N in N., T15N in S. and R16W in W. half; S31 in NW., S32 in NE., S5 in SE. and S6 in SW. quadrant; dig pits, 18 X 18 X 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, level. Soil, loose sandy and gravelly loam, 1st and 2nd rate. No timber. Undergrowth, greasewood, yucca and cacti.</p>
40.00	<p>$S.89^{\circ} 55'$ E., on a true line, bet. secs. 5 and 32. Over level land, through scattering undergrowth. 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 1915 on S. rim; $\frac{1}{4}$S32 in N. and S5 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.</p>
80.00	<p>Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap 1915 on S. rim; T16N in N., T15N in S., and R16W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant;</p>

North Boundary of T. 15 N., R. 16 W.

Chains.

dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.;
 and raise a mound of earth, 4 ft. base, 2 ft. high,
 W. of cor.
 Land, level, drains to SW.
 Soil, loose gravelly loam, 1st and 2nd rate.
 No timber.
 Undergrowth, yucca, greasewood and cacti.

S.89° 55' E., on a true line, bet. secs. 4 and 33.
 Over slightly rolling land, through scattering timber and
 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
 1915 on S. rim;
 ¼S33 in N. and
 S4 in S. half;

dig pits, 18 X 18 X 12 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. diam., 24 ins. in the
 ground, for cor. of secs. 3, 4, 33 and 34, marked on
 brass cap

1915 on S. rim;
 T16N in N.,
 T15N in S. and
 R16W in W. half;
 S33 in NW.,
 S34 in NE.,
 S3 in SE. and
 S4 in SW. quadrant;

dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.;
 and raise a mound of earth, 4 ft. base, 2 ft. high,
 W. of cor.
 Land, gently rolling.
 Soil, loose gravelly loam, 1st and 2nd rate.
 Timber, scattering juniper.
 Undergrowth, yucca, greasewood, palo christa and cacti.
 Apr. 29, 1915: At this cor., I set off 14° 19' N. on the
 decl. arc; and at apparent noon, I observe the sun on
 the meridian; the resulting lat. is 34° 41' N.

S.89° 55' E., on a true line, bet. secs. 3 and 34.
 Over gently rolling land, through scattering timber and
 undergrowth.

26.50 Road, brs. N. to Yucca, and S. to Castaneta Well.
 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
 1915 on S. rim;
 ¼S34 in N. and
 S3 in S. half;

dig pits, 18 X 18 X 12 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. diam., 24 ins. in the
 ground, for cor. of secs. 2, 3, 34 and 35, marked on
 brass cap

1915 on S. rim;
 T16N in N.,
 T15N in S. and
 R16W in W. half;
 S34 in NW.,
 S35 in NE.,
 S2 in SE. and
 S3 in SW. quadrant;

Chains.

dig pits, 18 X 18 X 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, gently rolling.

Soil, loose gravelly loam, 1st and 2nd rate.

Timber, scattering juniper.

Undergrowth, yucca, greasewood, ocatilla and cacti.

S. $89^{\circ} 55'$ E., on a true line, bet. secs. 2 and 35.

Over slightly rolling land, through scattering timber and
undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S35 in N. and

S2 in S. half;

dig pits, 18 X 18 X 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, N. of cor.

55.45 Road, brs. NW. to Yucca, and SE. to Signal.

79.90 Pipe line road, brs. N. 25° W., and S. 25° E.

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

1915 on S. rim;

T16N in N.,

T15N in S. and

R16W in W. half;

S35 in NW.,

S36 in NE.,

S1 in SE. and

S2 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

Land, gently rolling.

Soil, loose gravelly loam, 1st and 2nd rate.

Timber, scattering juniper.

Undergrowth, yucca, greasewood and cacti.

S. $89^{\circ} 55'$ E., on a true line, bet. secs. 1 and 36.

Over slightly rolling land, drains SW., through scattering
timber and undergrowth.

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

1915 on S. rim;

$\frac{1}{4}$ S36 in N. and

S1 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 The cor. of Tps. 15 and 16 N., Rs. 15 and 16 W.

Land, gently rolling.

Soil, sandy and gravelly, 2nd rate.

Timber, juniper.

Undergrowth, yucca, palo christa, ocatilla and cacti.

I. W. S.

Apr. 29, 1915.

North Boundary of T. 15 N., R. 16 W.

Chains.

Boundaries of T. 15 N., R. 16 W.
 Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
North boundary.	S.89°59'W.	480.02		.14		480.02
West boundary.	North.	480.00	480.00			
North boundary.	S.89°55'E.	479.42		.69	479.42	
East boundary.	South.	480.00		480.00		
Convergency					.50	
Totals.			480.00	480.83	479.92	480.02
				480.00		479.92
Error in lat.				.83	Error dep.	.10

G. S. Surveyor.

J. L. Assistant.

East Boundary of T. 15 N., R. 15 W.

Chains

Survey commenced Apr. 23, 1915, and executed by R. D. Armstrong, U. S. Transitman, with Young and Sons' light mountain transit, No. 8531, with Smith Solar Attachment. For description of instrument, and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book. In the following field notes, the initials R. D. A. and I. W. S. refer to R. D. Armstrong, U. S. Transitman, and Irving W. Stoddard, U. S. Surveyor, respectively. Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. and N. bdrs. of T. 15 N., R. 15 W. At 7 hrs. 56 m., a.m., l.m.t., I set off $34^{\circ} 35\frac{1}{2}'$ N. on the lat. arc; $12^{\circ} 19\frac{1}{2}'$ N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 14 and 15 N., Rs. 14 and 15 W., which is an iron post, established by me, as hereinbefore described.

Thence I run

North, bet. secs. 31 and 36.

Over level land, through scattering timber and undergrowth.

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

- 1915 on S. rim;
- $\frac{1}{4}$ S36 in W. and
- S31 in E. half;

dig pits, 18 X 18 X 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. 25, 30, 31 and 36, marked on brass cap

- 1915 on S. rim;
- T15N in N. half;
- R15W S25 in NW.
- R14W S30 in NE.;
- S31 in SE. and
- S36 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Land, level.

Soil, 2nd and 3rd rate.

Timber, juniper.

Undergrowth, yucca and cacti.

North, bet. secs. 25 and 30.

Over level land, through scattering timber and undergrowth.

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

- 1915 on S. rim;
- $\frac{1}{4}$ S25 in W. and
- S30 in E. half;

dig pits, 18 X 18 X 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. 19, 24, 25 and 30, marked on brass cap

- 1915 on S. rim;
- T15N in N. half;
- R15W S24 in NW.,
- R14W S19 in NE.,
- S30 in SE. and
- S25 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Chains.	<p>Land, level. Soil, 2nd and 3rd rate. Timber, juniper. Undergrowth, greasewood, yucca and cacti.</p>
19.50	<p>North, bet. secs. 19 and 24. Over rolling land, through scattering timber and undergrowth. Road, brs. NE. to Chicken Springs, and SW. to Signal, or Yucca.</p>
40.00	<p>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 1915 on S. rim; $\frac{1}{4}$S24 in W. and S19 in E. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p>
74.50	<p>Road, brs. NE. to Chicken Springs, and SW. to Yucca.</p>
80.00	<p>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 1915 on S. rim; T15N in N. half; R15W S13 in NW., R14W S18 in NE., S19 in SE. and S24 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 and broken. Soil, 3rd rate. Timber, scattering juniper. Undergrowth, yucca and cacti.</p>
22.50	<p>North, bet. secs. 13 and 18. Asc. S. slope, 235 ft., over mountainous land, through scattering timber and undergrowth.</p>
40.00	<p>Top of butte; desc. N. slope, 155 ft. to 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 1915 on S. rim; $\frac{1}{4}$S13 in W. and S18 in E. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p>
80.00	<p>Thence over rolling land, 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 1915 on S. rim; T15N in N. half; R15W S12 in NW., R14W S7 in NE., S18 in SE. and S13 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Land, level and mountainous. Soil, 3rd and 4th rate. Timber, juniper. Undergrowth, greasewood, yucca and cacti. Apr. 23, 1915: At this cor., I set off $12^{\circ} 22\frac{1}{2}'$ N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 39'$ N.</p>

East Boundary of T. 15 N., R. 15 W.

<p>Chains.</p> <p>28.00</p> <p>40.00</p> <p>80.00</p>	<p>North, bet secs. 7 and 12. Over rolling land, through scattering timber and undergrowth.</p> <p>Wash, 50 lks. wide, course SW.</p> <p>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 1915 on S. rim; $\frac{1}{4}$S12 in W. and S7 in E. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p> <p>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 1915 on S. rim; T15N in N. half; R15W S1 in NW., R14W S6 in NE., S7 in SE. and S12 in SW. quadrant; dig pits, 18 X 18 X 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.</p> <p>Land, rolling. Soil, 3rd and 4th rate. Timber, juniper. Undergrowth, cat claw and cacti.</p>	
<p>40.00</p> <p>62.00</p> <p>80.00</p>	<p>North, bet. secs. 1 and 6. Over broken land, through scattering timber and undergrowth.</p> <p>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 1915 on S. rim; $\frac{1}{4}$S1 in W. and S6 in E. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p> <p>Road, brs. NW. to Walter's Ranch, and SE. to Chicken Springs.</p> <p>Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 15 and 16 N., Rs. 14 and 15 W., marked on brass cap 1915 on S. rim; T16N in N., R14W in E., T15N in S. and R15W in W. half; S36 in NW., S31 in NE., S6 in SE. and S1 in SW. quadrant; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, S. of cor. Pits impracticable.</p> <p>Land, broken. Soil, 3rd and 4th rate. Timber, juniper. Undergrowth, cat claw and cacti.</p>	<p>R.D.A. Apr. 23, 1915.</p>

Chains.	<p>R.D.A. Apr. 23, 1915. From the cor. of Tps. 15 and 16 N., Rs. 14 and 15 W., hereinbefore described, I run West on a random line, along the N. bdy. of T. 15 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs. to the temp. cor. of secs. 1, 2, 35 and 36.</p> <p style="text-align: right;">Apr. 23, 1915.</p> <p>Apr. 26, 1915: At 8 hrs. 5 m., a.m., l.m.t., I set off $34^{\circ} 41' N.$ on the lat. arc; $13^{\circ} 19' N.$ on the decl. arc; and determine a meridian with the solar at the temp. cor. of secs. 1, 2, 35 and 36.</p> <p>Thence I run West, on a random line, along the N. bdy. of T. 15 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs.; and at 478.22 chs., intersect the E. bdy. of T. 16 N., R. 16 W., 41 lks. N. of the cor. of Tps. 15 and 16 N., Rs. 15 and 16 W., which is an iron post, established by I. W. S., hereinbefore described. The falling answers to a correction of $0^{\circ} 3'$ or 7 lks. S. per mile, counting from the NE. cor. of the Tp.; therefore I run</p> <p>$N. 89^{\circ} 57' E.$, on a true line, bet. secs. 6 and 31. Over level land, through scattering timber and undergrowth.</p>
38.22	<p>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</p> <p style="text-align: center;">1915 on S. rim; $\frac{1}{4}$S31 in N. and S6 in S. half;</p> <p>and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.</p>
68.70	<p>Wash, course SW.</p>
78.22	<p>Set an iron post, 3 ft. long, 2 in. diam., 24 ins. in the ground, for cor. of secs. 5, 6, 31 and 32, marked on brass cap</p> <p style="text-align: center;">1915 on S. rim; T16N in N., T15N in S. and R15W in W. half; S31 in NW., S32 in NE., S5 in SE. and S6 in SW. quadrant;</p> <p>and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p> <p>Land, level. Soil, 1st to 4th rate. Timber, juniper. Undergrowth, palo verde, palo christa, greasewood, yucca and cacti.</p>
23.60	<p>$N. 89^{\circ} 57' E.$, on a true line, bet. secs. 5 and 32. Over level land, through scattering timber and undergrowth.</p>
32.00	<p>Road, brs. NE. and SW.</p>
40.00	<p>Draw, course S.</p> <p>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</p> <p style="text-align: center;">1915 on S. rim; $\frac{1}{4}$S32 in N. and S5 in S. half;</p> <p>and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.</p> <p>Asc. W. slope, 500 ft. to</p>

North Boundary of T. 15 N., R. 15 W.

Chains.

65.00 Ridge, brs. NE. and SW. Desc. E. slope, 345 ft. to
80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the
ground, for cor. of secs. 4, 5, 32 and 33, marked on
brass cap

1915 on S. rim;
T16N in N.,
T15N in S. and
R15W in W. half;
S32 in NW.,
S33 in NE.,
S4 in SE. and
S5 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

Land, level and mountainous.

Soil, 2nd and 4th rate.

Timber, juniper.

Undergrowth, palo verde, palo christa, yucca and cacti.

N. $89^{\circ} 57'$ E., on a true line, bet. secs. 4 and 33.
Over mountainous land, through scattering timber and
undergrowth.

Desc. E. slope, 70 ft. to

7.00 Gulch, course S. Asc. S. slope, 15 ft. to

21.00 Spur, brs. S. Desc. E. slope, 135 ft. to

25.00 Gulch, course S. Asc. W. slope, 135 ft.

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

1915 on S. rim;
 $\frac{1}{4}$ S33 in N. and
S4 in S. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
N. of cor. Pits impracticable.

44.50 Spur, brs. SW. Desc. SE. slope, 40 ft. to

55.00 Gulch, course S. Asc. SW. slope, 285 ft. to

72.00 Spur, brs. S. Desc. SE. slope, 75 ft. to

78.00 Gulch, course S. Asc. W. slope to

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

1915 on S. rim;
T16N in N.,
T15N in S. and
R15W in W. half;
S33 in NW.,
S34 in NE.,
S3 in SE. and
S4 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, 4th rate.

Timber, scattering juniper.

Undergrowth, palo verde and cacti.

Apr. 26, 1915: At this cor., I set off $13^{\circ} 22'$ N. on the
decl. arc; and at apparent noon, I observe the sun on
the meridian; the resulting lat. is $34^{\circ} 41'$ N.

N. $89^{\circ} 57'$ E., on a true line, bet. secs. 3 and 34.
Over mountainous land, through scattering timber and
undergrowth.

Asc. W. slope, 180 ft. to

5.00 Spur, brs. SW. Desc. E. slope, 125 ft. to

15.00 Gulch, course S. Asc. W. slope, 155 ft. to

28.00 Spur, brs. SW. Desc. SE. slope, 125 ft. to

Chains.	
36.00	Gulch, course SW. Asc. W. slope, 205 ft.
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 1915 on S. rim; $\frac{1}{4}$ S34 in N. and S3 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
42.00	Spur, brs. SW. Desc. SE. slope, 55 ft. to
47.00	Gulch, course SW. Asc. SW. slope, 170 ft. to
56.00	Ridge, brs. N. and S. Desc. SE. slope, 120 ft. to
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 1915 on S. rim; T16N in N., T15N in S. and R15W in W. half; S34 in NW., S35 in NE., S2 in SE. and S3 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, juniper. Undergrowth, palo verde, palo christe and cacti.
	N. $89^{\circ} 57'$ E., on a true line, bet. secs. 2 and 35. Over mountainous land, through scattering timber and undergrowth. Along N. slope.
8.00	Spur, brs. N. Desc. NE. slope, 165 ft. to
24.00	Gulch, course NE. Asc. NW. slope, 40 ft.
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 1915 on S. rim; $\frac{1}{4}$ S35 in N. and S2 in S. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
45.00	Spur, brs. N. Desc. NE. slope, 180 ft. to
54.00	Gulch, course NE. Asc. NW. slope, 80 ft. to
59.50	Spur, brs. NE. Desc. NE. slope, 145 ft. to
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 1915 on S. rim; T16N in N., T15N in S. and R15W in W. half; S35 in NW., S36 in NE., S1 in SE. and S2 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, juniper. Undergrowth, palo verde, palo christe, and cacti.
	Apr. 26, 1915.

North Boundary of T. 15 N., R. 15 W.

Chains. Apr. 23, 1915.
 N.89° 57' E., on a true line, bet. secs. 1 and 36.
 Over rolling land, through scattering timber and under-
 growth.
 23.50 Spur, brs. S.
 T. G. Walter's House brs. S.1° 30' W.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S36 in N. and
 S1 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 48.30 Road, brs. NE. to Chicken Springs, and SW. to Walter's
 Ranch.
 67.00 Same road, brs. NW. and SE.
 80.00 The cor. of Tps. 15 and 16 N., Rs. 14 and 15 W.
 Land, rolling.
 Soil, 3rd and 4th rate.
 Timber, juniper.
 Undergrowth, cat claw and cacti.

R. D. A.
 Apr. 23, 1915.

Boundaries of T. 15 N., R. 15 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	S.89°57'W.	479.44		.42		479.44
West boundary,	North	480.00	480.00			
North boundary,	N.89°57'E.	478.22	.41		478.22	
East boundary,	South	480.00		480.00		
Convergency						.50
Totals.			480.41	480.42	478.72	479.44
				480.41		478.72
Error in lat.				.01	Error dep..72	

W. A. Sawyer,

U. S. Transition,

Chains.

Survey commenced Apr. 14, 1915, and executed jointly by Hans D. Voigt, U. S. Transitman, and Carl Dyson, U. S. Transitman, with Young and Sons' light mountain transits Nos. 8297 and 8539, respectively, with Smith solar attachments. For description of instruments, certificate of approval, and tests of adjustments, see subdivision of T. 15 N., R. 13 W., book "K"

In the following field notes, the initials H. D. V., C. D., and R. D. A., refer to Hans D. Voigt, Carl Dyson, and R. D. Armstrong, U. S. Transitmen, respectively.

H. D. V. and C. D.

H. D. V.

At the cor. of Tps. 14 and 15 N., R. 14 W., which is an iron post, established by R. D. A., as hereinbefore described, I set off $9^{\circ} 14\frac{1}{2}' N$ on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 35\frac{1}{2}' N$.

Thence I run

North, along the E. bdy. of sec. 36.
Over mountainous land, through scattering undergrowth.

- Asc. 170 ft. to
- 7.60 Point of spur, brs. W. Desc. rocky NW. slope
- 12.60 Desc. 50 ft. to
- 15.70 Head of gulch, 10 lks. wide, course W. Asc. SW. slope, 180 ft. to
- 25.24 Point of spur, brs. W. Desc. NW. slope, 165 ft. to
- 32.31 Head of gulch, 10 lks. wide, course W. Asc. 10 ft. to
- 35.97 Spur, brs. W. Desc. NW. slope, to
- 37.97 Gulch, 10 lks. wide, course W. Asc. SW. slope to
- 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in a mound of stone, for $\frac{1}{4}$ sec. cor., marked on brass cap

1915 on S. rim;
S36 $\frac{1}{4}$ in W. half;
and raise a mound of stone, 4 ft. base, 2 ft. high, W. of cor. Pits impracticable.

Apr. 14, 1915.

Apr. 19, 1915.

North, along the E. bdy. of sec. 36.

- Asc. 55 ft. to
- 45.95 Desc. 40 ft. to
- 48.00 Head of gulch, 10 lks. wide, course SW. Asc. 85 ft. to
- 53.32 Point of spur, brs. SW. Desc. NW. slope, 55 ft. to
- 60.00 Gulch, 15 lks. wide, course SW. Asc. 190 ft. to
- 65.14 Top of asc., brs. NE. and SW. Desc. NW. slope, 100 ft. to
- 76.50 Asc. 90 ft. to
- 80.00 Set a granite stone, 16 X 14 X 10 ins., 11 ins. in the ground, for cor. of secs. 25 and 36, marked with 5 notches on N. and 1 notch on S. edge; and raise 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.

Undergrowth, scattering cedar, mesquite, palo verde and cacti.

Apr. 19, 1915.

Apr. 20, 1915 At 8 hrs. 30 m., a.m., l.m.t., I set off $34^{\circ} 36\frac{1}{2}' N$ on the lat. arc; $11^{\circ} 18\frac{1}{2}' N$ on the decl. arc; and determine a meridian with the solar at the cor. of secs. 25 and 36.

Thence I run

North along the E. bdy. of sec. 25.
Over mountainous land, through scattering undergrowth.

- Asc. 75 ft. to
- 3.28 Spur, slopes W. Desc. NW. slope, 40 ft. to

Chains.
 8.25 Asc. 50 ft. to
 10.60 Desc. 110 ft. to
 17.37 Gulch, course W. Asc. 455 ft. to
 32.29 Ridge, brs. E. and W. Desc. NW. slope, 105 ft.
 40.00 Set a granite stone, 20 X 16 X 6 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.
 Pits impracticable.
 44.01 Head of gulch, course SW. Asc. 320 ft. to
 65.21 Point of spur, brs. W. Enter dense undergrowth, brs. E.
 and W. Desc. NW. slope, 165 ft. to
 74.31 Head of gulch, course S. 70° W. Asc. SW. slope to
 78.42 Point of spur, brs. W. Desc. NW. slope, 125 ft. to
 80.00 Set a granite stone, 20 X 13 X 9 ins., 15 ins. in the
 ground, for cor. of secs. 24 and 25, marked with 4
 notches on N. and 2 notches on S. edge; 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.
 Undergrowth, greasewood, palo verde, cedar and cacti.
 Apr. 20, 1915: At this cor., I set off $11^\circ 21\frac{1}{2}'$ N. on the
 decl. arc; and at apparent noon, I observe the sun on
 the meridian; the resulting lat. is $34^\circ 37\frac{1}{2}'$ N. ✓

North, along the E. bdy. of sec. 24.
 Over mountainous land, through scattering undergrowth.
 Desc. 25 ft. to
 3.93 Head of Gulch, course SW. Asc. 110 ft. to
 12.85 Ridge, brs. NW. and SE. Desc. NE. slope, 240 ft. to
 25.23 Head of gulch, course NW. Asc. SW. slope to
 31.39 Desc. 65 ft. to
 40.00 Set a granite stone, 14 X 10 X 5 ins., 10 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. Pits impracticable.

H. D. V.
 Apr. 20, 1915.

Apr. 27, 1915: C. D.
 At 9 hrs. 5 m., a.m., l.m.t., I set off $34^\circ 38'$ N. on the
 lat. arc; $13^\circ 39'$ N. on the decl. arc; and determine
 a meridian with the solar at the $\frac{1}{4}$ sec. cor. of sec.
 24.
 Thence I run
 North along the E. bdy. of sec. 24.
 Desc. 150 ft. to
 51.25 Wash, 3 lks. wide, course NE. Asc. S. slope, 55 ft. to
 58.30 Low hill, brs. E. and W. Desc. N. slope, 110 ft. to
 62.00 Wash, 8 lks. wide, course E. Asc. 55 ft. to
 63.20 Desc. 290 ft. to
 80.00 Set a granite stone, 20 X 17 X 8 ins., 15 ins. in the
 ground, for cor. of secs. 13 and 24, marked with
 3 notches on N. and S. edges; and raise a mound of
 stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits
 impracticable.
 Land, mountainous.
 Soil, rocky, 3rd and 4th rate.
 No timber.
 Undergrowth, scrub cedar, scrub oak, ocetille and palo
 verde.

North, along the E. bdy. of sec. 13.
 Over mountainous land, through scattering undergrowth.
 Asc. 40 ft. to
 3.45 Desc. NE. slope, 175 ft. to
 13.75 Gulch, 50 lks. wide, course E. Asc. S. slope, 155 ft. to

East Boundary of T. 15 N., R. 14 W.

Chains.
 21.00 Spur, brs. E. Desc. NE. slope, 290 ft. to
 40.00 Foot of slope. 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
 1915 on S. rim;
 S13 $\frac{1}{4}$ in W. and
 S18 in E. half;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.
 Asc. 95 ft. to
 44.00 Spur, extends 18 chs. E. Desc. N. slope, 190 ft.
 50.00 Old mine, brs. E. 5.50 chs. dist.
 50.50 Gulch, 15 lks. wide, course E. Asc. SE. slope, 210 ft. to
 60.25 Desc. 55 ft. to
 63.65 Head of gulch, course SE. Asc. S. slope, 145 ft. to
 69.80 Spur, extends 8 chs. E. Desc. 180 ft. to
 80.00 Set a quartzite stone, 23 X 17 X 9 ins., 18 ins. in the
 ground, for cor. of secs. 12 and 13, marked with 2
 notches on N. and 4 notches on S. edge; and raise a
 mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 Pits impracticable.
 Land, hilly and mountainous.
 Soil, rocky, 3rd rate.
 No timber.
 Undergrowth, scrub oak, cedar, palo verde and cacti.
 Apr. 27, 1915: At this cor., I set off 13° 41' N. on the
 decl. arc; and at apparent noon, I observe the sun on
 the meridian; the resulting lat. is 34° 39' N.

North, along E. bdy. of sec. 12.
 Over mountainous land, through scattering undergrowth.
 Along broken E. slope of high ridge, descending 90 ft. to
 19.00 Asc. 130 ft. to
 29.00 Low saddle, brs. NE. and SW. Desc. 170 ft.
 35.40 Old road, brs. E. and W.
 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
 1915 on S. rim;
 S12 $\frac{1}{4}$ in W. and
 S7 in E. half;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable. Desc. 240 ft. to
 65.70 Wash, 8 lks. wide, in draw, course NW.
 80.00 Set a basalt stone, 20 X 18 X 10 ins., 15 ins. in the
 ground, for cor. of secs. 1 and 12, marked with 1
 notch on N. and 5 notches on S. edge; and raise a
 mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 Pits impracticable.
 Land, mountainous and hilly.
 Soil, rocky, 3rd and 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde, cedar and ocatilla.
 Apr. 27, 1915.

Apr. 28, 1915: At 8 hrs. 4 m., a.m., l.m.t., I set off 34°
 40' N. on the lat. arc; 13° 57 $\frac{1}{2}$ ' N. on the decl. arc;
 and determine a meridian with the solar at the cor.
 of secs. 1 and 12.
 Thence I run
 North, along the E. bdy. of sec. 1.
 Over rolling basin, through dense undergrowth.
 29.30 Stream, 3 lks. wide, course NE. Asc. 40 ft. to
 32.70 Desc. to
 37.80 Draw, course E.

78

80

East Boundary of T. 15 N., R. 14 W.

Chains.

40.00

Set an iron post, 3 ft. long, 1 in. diam., 5 ins. in the ground, supported by a mound of stone, 3 ft. base, for $\frac{1}{4}$ sec. cor., marked on brass cap
 1915 on S. rim;
 S1 $\frac{1}{4}$ in W. and
 S6 in E. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Desc. NE. slope, 400 ft.

75.00

Desc. abruptly to

80.00

Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 15 and 16 N., R. 14 W. only, marked on brass cap

1915 on S. rim;
 T16N in N.,
 T15N in S. and;
 R13W, S31, S6 in E. half;
 R14W S36 in NW. and
 S1 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, 3rd and 4th rate.

No timber.

Undergrowth, greasewood, palo verde, ocotillo and cacti.

Apr. 28, 1915: At this cor., I set off $14^{\circ} 00'$ N! on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 41'$ N.

C. D.

Apr. 28, 1915.

Completion of
North Boundary of T. 15 N., R. 13 W.

chains.

Apr. 24, 1915. H. D. V.
 From the witness cor. to cor. of secs. 2, 3, 34 and 35,
 on the N. bdy. of the Tp., which is an iron post,
 properly set, marked and witnessed as described by
 the Surveyor-General, I run
 N.0° 12' W., 2.00 chs., to the true point for cor. of
 secs. 2, 3, 34 and 35.
 Knowing that it will be necessary to set a closing cor.
 to Tps. 15 and 16 N., R. 13 W., against the E. bdy.
 of T. 15 N., R. 14 W., I run
 West on a true line, bet secs. 3 and 34.
 Asc. in wash, course E., through scattering undergrowth.
 7.69 Leave wash, course E. Comes from WNW. Asc. gradually,
 180 ft. to
 35.75 Top of asc.; desc. along N. slope of ridge 80 ft.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S34 in N. and
 S3 in S. half;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 59.89 Enter same wash, course N. 70° E. Thence along edge of
 wash to
 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
 1915 on S. rim;
 T16N in N.,
 T15N in S. and
 R13W in W. half;
 S33 in NW.,
 S34 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, mountainous.
 Soil, sandy and rocky, 3rd and 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde and cacti.
 H. D. V.
 Apr. 24, 1915.

Apr. 26, 1915: C. D.
 At 8 hrs. 5 m., a.m., l.m.t., I set off 34° 41' N. on the
 lat. arc; 13° 19' 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 on a true line, bet. secs. 4 and 33.
 Over mountainous land, through scattering undergrowth.
 Asc. in wash, course E. to
 10.00 Asc. SE. slope, 300 ft. to
 27.30 Desc. 95 ft. to
 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
 1915 on S. rim;
 $\frac{1}{4}$ S33 in N. and
 S4 in S. half;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 Asc. 20 ft. to
 41.50 Point of spur, extends S. 3 chs. Desc. 270 ft. to
 70.00 Foot of desc., brs. NW. and SE. Asc. 125 ft. to
 77.63 Point of spur, extends 6 chs. SW. Desc. NW. slope, 25 ft.
 to
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the

Completion of North Boundary of T. 15 N., R. 13 W.

Chains.

ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap

- 1915 on S. rim;
- T16N in N.,
- T15N in S. and
- R13W in W. half;
- S32 in NW.,
- S33 in NE.,
- S4 in SE. and
- S5 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.

No timber.

Undergrowth, greasewood, palo verde, ocatilla and cedar.

Apr. 26, 1915: At this cor., I set off 13° 22' N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 41' N.

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

Over mountainous land, through scattering undergrowth.

Desc. 95 ft. to

4.37 Enter draw, course ESE.

17.50 Leave draw; asc. 175 ft., along N. slope of rocky ridge, to

26.85 Desc. 155 ft.

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

- 1915 on S. rim;
- 1/4 S32 in N. and
- S5 in S. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor. Pits impracticable.

Asc. 75 ft. to

44.90 Desc. 100 ft. to

49.50 Small, rocky gulch, course N. Asc. slightly to

62.30 Asc. 295 ft. to

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 10 ins. in the ground, supported in a mound of stone, 3 ft. base, for cor. of secs. 5, 6, 31 and 32, marked on brass cap

- 1915 on S. rim;
- T16N in N.,
- T15N in S. and
- R13W in W. half;
- S31 in NW.,
- S32 in NE.,
- S5 in SE. and
- S6 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.

No timber.

Undergrowth, greasewood, palo verde, ocatilla and cedar.

Apr. 26, 1915.

Apr. 28, 1915.

West on a true line, bet. secs. 6 and 31.

Over mountainous land, through scattering undergrowth.

Asc. NE. slope, 105 ft. to

3.65 Spur ridge, extends 10 chs. NW. Desc. W. slope, 285 ft. to

23.60 Stream 3, lks. wide, in gulch, course NE. Asc. 335 ft.

Completion of North Boundary of T. 15 N., R. 13 W.

Chains.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S31 in N. and
 S6 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
 54.30 Point of spur, which extends 5 chs. S. Desc. SW. slope, 185 ft. to
 64.40 Stream in gulch, course SE. Asc. NE. slope, 105 ft. to
 77.80 Intersect E. bdy. of T. 15 N., R. 14 W., 3.44 chs. S. of the cor. of Tps. 15 and 16 N., R. 14 W., which is an iron post, established by me, as hereinbefore described.
 At the point of intersection, set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for closing cor. of Tps. 15 and 16 N., R. 13 W., marked on brass cap
 1915 on S. rim;
 CC W. of center;

 T16N in N.,
 T15N in S. and
 S36, S1. R. 14W in W. half;
 S31 in NE. and
 S6, R13W in SW. quadrant;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, E. of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky, 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde, ocotilla and cedar.
 Apr. 28, 1915.
 C. D.

Boundaries of T. 15 N., R. 13 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	West.	478.45				478.45
West boundary,	North.	479.96	479.96			
North boundary,	East.	477.80			477.80	
East boundary,	South.	480.00		480.00		
(3rd. Guide Mer. W.)					.50	
Convergency,						
Totals.			479.96	480.00	478.30	478.45
				479.96		478.30
Error in latitude.				.04		
Error in departure.						.15

U. S. Transition.

U. S. Transition.

Chains.

Survey commenced May 5, 1915, and executed by Irving W. Stoddard, U. S. Surveyor, with Young and Sons' light mounta in transit, No. 8485, with Smith Solar Attachment. For description of instrument and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book.

In the following field notes the initials I.W.S. and R. D. A. refer to Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, respectively.

Knowing from recent and repeated tests of my instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. and N. bdrs. of T. 16 N., R. 16 W.

At 7 hrs. 58 m., a.m., l.m.t., I set off 34° 41' N. on the lat. arc; 16° 4½' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 15 and 16 N., Rs. 15 and 16 W., which is an iron post, established by me, as hereinbefore described.

Thence I run

North, bet. secs. 31 and 36.

Over level land, through scattering timber and undergrowth.

25.65 Old road, brs. NE. and SW.

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
1915 on S. rim;
½S36 in W. and
S31 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

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

1915 on S. rim;
T16N in N. half;
R16W S25 in NW.,
R15W S30 in NE.,
S31 in SE. and
S36 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, level.

Soil, loose gravel and sand, 2nd and 3rd rate.

Timber, scattering juniper.

Undergrowth, palo christo, greasewood and cacti.

North, bet. secs. 25 and 30.

Over level land, through scattering timber and undergrowth.

27.00 Wash, course SW.

28.00 Leave level land, brs. NE. and SW. Asc. SE. slope, 140 ft. to

35.70 Spur, brs. E. Desc. NE. slope, 80 ft.

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
1915 on S. rim;
½S25 in W. and
S30 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

42.00 Foot of desc.; brs. NW. and SE. Thence over level land.

72.00 Leave level land, brs. NE and SW. Asc. SE. slope, 85 ft. to

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

Chains.

T16N in N. half;
R16W S24 in NW.,
R15W S19 in NE.,
S30 in SE. and
S25 in SW. quadrant;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

Land, level and hilly.

Soil, sandy and rocky, 2nd and 3rd rate.

Timber, juniper.

Undergrowth, palo christe and cat claw.

North, bet. secs. 19 and 24.

Along E. slope, through scattering timber and undergrowth.
Spur, brs. E.

.50

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

1915 on S. rim;

$\frac{1}{2}$ S24 in W. and

S19 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
W. of cor. Pits impracticable.

Thence over slightly rolling land.

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

1915 on S. rim;

T16N in N. half;

R16W S13 in NW.,

R15W S18 in NE.,

S19 in SE. and

S24 in SW. quadrant;

dig pits, 18 X 18 X 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, rocky 3rd rate.

Timber, juniper.

Undergrowth, cat claw and cacti.

May 5, 1915: At this cor., I set off $16^{\circ} 7'$ N. on the
decl. arc; and at apparent noon, I observe the sun on
the meridian; the resulting lat. is $34^{\circ} 43\frac{1}{2}'$ N. ✓

North, bet. secs. 13 and 18.

Over level land, through scattering timber and undergrowth.

10.60

Fence, brs. E. and W. Thence across Wm. Isham's pasture.

35.20

Old road, brs. E. and W.

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

1915 on S. rim;

$\frac{1}{2}$ S13 in W. and

S18 in E. half;

dig pits, 18 X 18 X 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.

46.15

Fence, brs. N. 77° E., and S. 77° W. Leave Pasture.

76.00

Wash, course SW. Trail brs. SW. to Seneca Ranch and Yucca.

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

1915 on S. rim;

T16N in N. half;

R16W S12 in NW.,

R15W S7 in NE.,

S18 in SE. and

Chains.

S13 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, level.
 Soil, gravelly loam, 2nd and 3rd rate.
 Timber, juniper.
 Undergrowth, greasewood and cacti.

North, bet. secs. 7 and 12.
 Over slightly rolling land, through scattering timber and
 undergrowth.

28.00 Leave rolling land, brs. NE. and SW. Asc. S. slope, 885 ft.

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
 1915 on S. rim;
 ¼S12 in W. and
 S7 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.

Asc. SW. slope to

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

1915 on S. rim;
 T16N in N. half;
 R16W S1 in NW.,
 R15W S6 in NE.,
 S7 in SE. and
 S12 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.

Land, rolling and mountainous.
 Soil, rocky, 4th rate.
 Timber, juniper.
 Undergrowth, scrub oak and cat claw.

North, bet. secs. 1 and 6.
 Over mountainous land, through scattering undergrowth.
 Asc. SW. slope, 550 ft. to

33.55 Spur, brs. W. Desc. NW. slope, 75 ft. to

37.40 Draw, course NW. Asc. SW. slope, 95 ft.

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

1915 on S. rim;
 ¼S1 in W. and
 S6 in E. half;

and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.

45.90 Spur, brs. W. Desc. NW. slope, 305 ft. to

58.20 Gulch, course SW. Continue to desc. NW. slope.

74.20 Gulch, course SW. Asc. SE. slope, 55 ft. to

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the
 ground, for cor. of Tps. 16 and 16½ N., Rs. 15 and 16
 W., marked on brass cap

1915 on S. rim;
 T16½N in N.,
 R15W in E.,
 T16N in S. and
 R16W in W. half;
 S36 in NW.,
 S31 in NE.,
 S6 in SE. and
 S1 in SW. quadrant;

Chains.

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.

Undergrowth, scrub oak and cat claw.

I. W. S.
May 5, 1915.

North Boundary of T. 16 N., R. 16 W.

Chains.

May 6, 1915: I. W. S.
 At 7 hrs. 30 m., a.m., l.m.t., I set off 34° 46' N. on the lat. arc; 16° 21½' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 16 and 16½ N., Rs. 15 and 16 W., hereinbefore described.
 Thence I run West, on a random line, along the N. bdy. of Tp. 16 N., R. 16 W., setting temp ¼ sec. and sec. cors. at intervals of 40.00 chs. to 185.65 chs., where I leave a temporary point.

May 6, 1915.

May 7, 1915: At 8 hrs. a.m., l.m.t., I set off 34° 46' N. on the lat. arc; 16° 38½' N. on the decl. arc; and determine a meridian with the solar at the temporary point set yesterday.

Thence I run West, on a random line, along the N. bdy. of T. 16 N., R. 16 W., setting temp. ¼ sec. and sec. cors.; and at 479.52 chs., intersect the W. bdy. of Tp. 16 N., R. 16 W., 84 lks. S. of the cor. of Tps. 16 and 16½ N., Rs. 16 and 17 W., which is an iron post, properly set, marked and witnessed as described by the Surveyor-General. The falling answers to a correction of 0° 6' or 14 lks. N. per mile, counting from the NE. cor. of the Tp.; therefore I run

S. 89° 54' E., on a true line, bet. secs. 31 and 6.
 Over level land, through scattering undergrowth.

- 35.50 Telephone line, brs. N. 50° W. to Yucca, and S. 50° E. to Seneca Ranch.
- 37 .60 Road, brs. N. 50° W. to Yucca, and S. 50° E. to Signal.
- 39.52 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap
 1915 on S. rim;
 ¼S31 in N. and
 S6 in S. half;
 dig pits, 18 X 18 X 12 ins., E. and W. of post, 3 ft. dist.; and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.
- 79.52 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
 1915 on S. rim;
 T16½N in N.,
 T16N in S. and
 R16W in W. half;
 S31 in NW.,
 S32 in NE.,
 S5 in SE. and
 S6 in SW. quadrant;
 dig pits, 18 X 18 X 12 ins., in each sec., 5½ ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.
 Land, level.
 Soil, sandy, 3rd rate.
 No timber.
 Undergrowth, yucca, cat claw and cacti.

- 40.00 S. 89° 54' E., on a true line, bet. secs. 5 and 32.
 Over level land, through scattering undergrowth.
 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap
 1915 on S. rim;
 ¼S32 in N. and
 S5 in S. half;

Chains.	<p>and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.</p> <p>80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap</p> <p style="padding-left: 40px;">1915 on S. rim; T16$\frac{1}{2}$N in N., T16N in S. and R16W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 in SW. quadrant;</p> <p>dig pits, 18 X 18 X 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.</p> <p>Land, level. Soil, sandy, 2nd rate. No timber. Undergrowth, yucca, cat claw and cacti. May 7, 1915: At this cor., I set off $16^{\circ} 41'$ N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 46'$ N.</p>
	<p>S. $89^{\circ} 54'$ E., on a true line, bet. secs. 4 and 33. Over level land, through scattering timber and undergrowth.</p> <p>30.00 Dim road, brs. N. and S.</p> <p>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</p> <p style="padding-left: 40px;">1915 on S. rim; $\frac{1}{2}$S33 in N. and S4 in S. half;</p> <p>dig pits, 18 X 18 X 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, N. of cor.</p> <p>74.00 Leave level land, brs. N. and S. Asc. W. slope, 170 ft. to</p> <p>80.00 Set an iron post, 3 ft. long, 3 ins. diam., 8 ins. in the ground, on solid rock, supported by a mound of stone, for cor. of secs. 3, 4, 33 and 34, marked on brass cap</p> <p style="padding-left: 40px;">1915 on S. rim; T16$\frac{1}{2}$N in N., T16N in S. and R16W in W. half; S33 in NW., S34 in NE., S3 in SE. and S4 in SW. quadrant;</p> <p>and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p> <p>Land, level and mountainous. Soil, sandy and rocky, 2nd and 3rd rate. Timber, juniper. Undergrowth, palo christo, yucca, greasewood, cat claw and cacti.</p>
	<p>S. $89^{\circ} 54'$ E., on a true line, bet. secs. 3 and 34. Over mountainous land, through scattering undergrowth.</p> <p>Asc. W. slope, 685 ft. to</p> <p>19.80 Spur, brs. S. Desc. SE. slope, 210 ft. to</p> <p>28.00 Draw, course S. Asc. SW. slope, 390 ft.</p> <p>40.00 Set an iron post, 3 ft. long, 1 in. diam., 14 ins. in the ground, on solid rock, supported by a mound of stone, for $\frac{1}{4}$ sec. cor., marked on brass cap</p>

North Boundary of T. 16 N., R. 16 W.

Chains.

1915 on S. rim;
 1/4 S34 in N. and
 S3 in S. half;
 and raise a mound of stone, 5 ft. base, 3 ft. high,
 N. of cor. Pits impracticable.
 46.30 Desc. SE. slope, 130 ft. to
 54.35 Ravine, course S. 15° W.
 May 7, 1915.

May 6, 1915.
 S. 89° 54' E., on a true line, bet. secs. 3 and 34.
 Asc. SW. slope, 755 ft. to
 80.00 Point for cor. falls on a large block of granite, 3 ft.
 X 3 ft. X 5 ft., just west of a great boulder, 10 ft.
 high. Mark a cross on the granite block, at the exact
 point for cor. of secs. 2, 3, 34 and 35, with 2 grooves
 E. and 4 grooves W. of cross;
 and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
 6 ft. west of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky 4th rate.
 No timber.
 Undergrowth, scrub oak.
 Note: Cor. falls on a side hill, covered with huge boulders.
 No good place for iron post anywhere near.

S. 89° 54' E., on a true line, bet. secs. 2 and 35.
 Over mountainous land, through scattering undergrowth.
 Asc. SW. slope, 125 ft. to
 18.15 Spur, brs. SE. Desc. SE. slope, 1180 ft.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 12 ins. in the
 ground, on solid rock, supported by a mound of stone,
 for 1/4 sec. cor., marked on brass cap

1915 on S. rim;
 1/4 S35 in N. and
 S2 in S. half;
 and raise a mound of stone, 2 ft. base, 1 1/2 ft. high,
 N. of cor. Pits impracticable.
 74.35 Cow Creek, clear water, 3 lks. wide, course S. 10° W.
 Asc. SW. slope, 165 ft. to
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., on solid rock,
 supported by a mound of stone, for cor. of secs. 1, 2,
 35 and 36, marked on brass cap

1915 on S. rim;
 T16 1/2 N in N.,
 T16N in S. and
 R16W in W. half;
 S35 in NW.,
 S36 in NE.,
 S1 in SE. and
 S2 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.
 No timber.
 Undergrowth, scrub oak.
 May 6, 1915: At this cor., I set off 16° 24' N. on the
 decl. arc; and at apparent noon, I observe the sun on the
 meridian; the resulting lat. is 34° 46' N.

S. 89° 54' E., on a true line, bet. secs. 1 and 36.
 Over mountainous land, through scattering undergrowth.
 Asc. SW. slope, 1125 ft.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
 ground, for 1/4 sec. cor., marked on brass cap
 1915 on S. rim;

North Boundary of T. 16 N., R. 16 W.

Chains.

$\frac{1}{4}$ S36 in N. and
 S1 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.
 54.00 Spur, brs. SW. Desc. SE. slope, 265 ft. to
 72.20 Draw, course S. Asc. SW. slope, 85 ft. to
 77.80 Spur, brs. S. Desc. SE. slope to
 80.00 The cor. of Tps. 16 and $16\frac{1}{2}$ N., Rs. 15 and 16 W.
 Land, mountainous.
 Soil, rocky 4th rate.
 No timber.
 Undergrowth, scrub oak.

I. W. S.
 May 6, 1915.

Boundaries of T. 16 N., R. 16 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.		
			N. chs.	S. chs.	E. chs.	W. chs.	
South boundary,	N.89°55'W.	479.42	.69			479.42	
West boundary,	North.	480.00	480.00				
North boundary,	S.89° 54' E.	479.52		.84	479.52		
East boundary,	South,	480.00		480.00			
Convergency.							.50
Totals.			480.69	480.84	480.02	479.42	
Error in lat.				480.69	479.42		
				.15	.60	Error in dep.	

U. S. Surveyor.

H. S. Thompson.

North Boundary of T. 15 N., R. 14 W.

Chains.

Survey commenced May 11, 1915, and executed by Carl Dyson, U. S. Transitman, with Young and Sons' light mountain transit No. 8539, with Smith solar attachment. For description of instrument and certificate of approval, see subdivision of T. 15 N., R. 13 W. For tests of adjustment, see subdivision of T. 16 N., R. 14 W.

At 8 hrs. 32 m. a.m., l.m.t., I set off 34° 41' N. on the lat. arc; 17° 43½' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 15 and 16 N., R. 14 W., which is an iron post, established by me, as hereinbefore described.

Thence I run

West on a random line, along the N. bdy. of Tp. 15 N., R. 14 W., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs.; to the cor. of secs. 4, 5, 32 and 33, where I leave a temporary point.

May 11, 1915.

May 12, 1915: At 8 hrs. 5 m., a.m., l.m.t., I set off 34° 41' N. on the lat. arc; 17° 59' N. on the decl. arc; and determine a meridian with the solar at the temp. cor. of secs. 4, 5, 32 and 33.

Thence I run

West on a random line, along the N. bdy. of Tp. 15 N., R. 14 W., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs.; and at 478.14 chs. intersect the W. bdy. of T. 15 N., R. 14 W., 40 lks. S. of the cor. of Tps. 15 and 16 N., Rs. 14 and 15 W., which is an iron post, established by R. D. Armstrong, U. S. Transitman, as hereinbefore described. The falling answers to a correction of 0° 3' or 7 lks. N. per mile, counting from the NE. cor. of the Tp.; therefore I run S. 89° 57' E., on a true line, bet. secs. 6 and 31. Over rolling land, through scattering undergrowth.

Desc. 35 ft. to

- 3.25 Foot of desc., brs. N. and S.
- 3.35 Wash, course SW.
- 7.15 Wash, course SW. Asc. 25 ft. to
- 22.15 Low hill, brs. NW. and SE. Desc. 35 ft. to
- 24.45 Foot of desc., brs. NW. and SE.
- 25.15 Wash, course SW.
- 28.15 Wash, course SW.
- 29.15 Wash, course SW.
- 38.14 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap

1915 on S. rim;
1831 in N. and
S6 in S. half;

dig pits, 18 X 18 X 12 ins., E. and W. of post, 3 ft. dist.; and raise a mound of earth, 3½ ft. base, 1½ ft. high. N. of cor.

53.15 Asc. W. slope, 240 ft. to

78.14 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

1915 on S. rim;
T16N in N.,
T15N in S. and
R14W in W., half;
S31 in NW.,
S32 in NE.,
S 5 in SE. and
S 6 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, rolling and mountainous.

Soil, rocky; 4th rate.

No timber.

Undergrowth, greasewood, palo verde, ocotilla and scrub cedar.

Chains.	
	S. 89° 57' E., on a true line, bet. secs. 5 and 32. Over mountainous land, through scattering undergrowth. Asc. to
.50	Ridge, brs. NE. and SW. Desc. 100 ft. to
15.50	Asc. 75 ft. to
25.35	Desc. 35 ft. to
26.30	Center of wash, 1 ch. wide, course SW. Asc. 125 ft. to
36.90	Low hill, brs. NW. and SE. Desc. 35 ft. to
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 1915 on S. rim; $\frac{1}{4}$ S32 in N. and S5 in S. half; dig pits, 18 X 18 X 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, N. of cor. Asc. 30 ft. to
46.00	Hill, brs. NE. and SW. Desc. SE. slope, 25 ft. to
49.90	Wash, course SW.
55.10	Wash, course SW.
58.00	Wash, course SW. Asc. 145 ft. to
67.50	Ridge, brs. NE. and SW. Desc. SE. slope, 135 ft. to
75.00	Road, brs. N. to Signal, and S. to Chicken Springs and Yucca.
75.20	Prospect hole brs. N. 70 lks. dist.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked on brass cap 1915 on S. rim; T16N in N., T15N in S. and E14W in W. half; S32 in NW., S33 in NE., S4 in SE. and S5 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. Undergrowth, greasewood, palo verde, ocotilla and scrub cedar.
	S. 89° 57' E., on a true line, bet. secs. 4 and 33. Over mountainous land, through scattering undergrowth. Asc. along S. slope of saddle, 55 ft. to
12.20	Ridge, brs. NW. and SE. Desc. 25 ft. to
16.20	Head of gulch, course N. Asc. NW. slope to
22.50	Ridge, brs. NE. and SW. Desc. E. slope, 575 ft.
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 1915 on S. rim; $\frac{1}{4}$ S33 in N. and S4 in S. half; -and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
59.37	Foot of desc.; road brs. NW. to Chicken Springs and Yucca and SE. to Signal. Asc. W. slope to
75.00	Hill, brs. N. and S. Desc. 45 ft. to
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 1915 on S. rim; T16N in N., T15N in S. and R14W in W. half;

Chains.

S33 in NW.,
 S34 in NE.,
 S3 in SE. and
 S4 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky; 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde, ocetille and cacti.

S.89° 57' E., on a true line, bet. secs. 3 and 34.
 Over rolling land, through scattering undergrowth.
 Desc. SE. slope, to
 2.30 Wash, course NE. Road in wash, brs. NE. to Signal, and SW.
 to Chicken Springs and Yucca. Asc. NW. slope to
 8.00 Hill, brs. NE. and SW. Desc. SE. slope, 50 ft. to
 33.80 Enter wash, course NE.
 37.00 Leave wash, course NE. Asc. to
 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
 1915 on S. rim;
 ¼S34 in N. and
 S3 in S. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor. Pits impracticable.
 May 12, 1915.

May 13, 1915.
 Thence I continue
 S.89° 57' E., on a true line, bet. secs. 3 and 34.
 Desc. 40 ft. to
 60.00 Wash, course NE. Asc. NW. slope, 30 ft. to
 65.00 Hill, brs. NE. and SW. Desc. 165 ft. to
 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
 1915 on S. rim;
 T16N in N.,
 T15N in S. and
 R14W in W. half;
 S34 in NW.,
 S35 in NE.,
 S 2 in SE. and
 S 3 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous and rolling.
 Soil, sandy and rocky; 3rd and 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde, ocatilla and scrub
 oak.

S.89° 57' E., on a true line, bet. secs. 2 and 35.
 Over rolling land, through scattering undergrowth.
 Asc. NW. slope, to
 4.00 Hill, brs. NE. and SW. Desc. SE. slope, 60 ft. to
 25.00 Wash, course NE.
 37.00 Wash, course NE. Asc. NW. slope to
 39.00 Hill, brs. NE. and SW. Desc. SE. slope, 100 ft.
 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
 1915 on S. rim;
 ¼S35 in N. and
 S2 in S. half;

Chains.	
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
44.80	Wash, course NE.
58.10	Wash, course NE.
59.20	Road, brs. SE. to Shannon Mine, and NW. to Chicken Springs. Desc. 35 ft. to
73.70	Wash, course N. Asc. 60 ft. to
78.45	Desc. 25 ft. to
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 1915 on S. rim; T16N in N., T15N in S. and R14W in W. half; S35 in NW., S36 in NE., S1 in SE. and S2 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.; Pits impracticable. Land, rolling. Soil, 3rd rate. No timber. Undergrowth, greasewood, palo verde, ocotillo and cacti.
11.80	S. 89° 57' E., on a true line, bet. secs. 1 and 36. Over rolling land, through scattering undergrowth. Road, brs. NW. to Chicken Springs, and SE. to Shannon Mine.
15.45	Leave rolling, enter mountainous land, brs. NE. and SW. Desc. 85 ft. to
23.00	Wash, course NE. Asc. 20 ft. to
26.70	Desc. 40 ft. to
30.50	Wash, course N. Asc. W. slope, 55 ft. to
33.30	Ridge, brs. N. and S. Desc. NE. slope, 140 ft.
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 1915 on S. rim; ¼S36 in N. and S1 in S. half; and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.
46.50	Stream of water, 1 lk. wide, 1 in. deep, in draw, course SE. Asc. SW. slope, 90 ft. to
53.00	Point of spur, brs. S. Desc. SE. slope, 225 ft. to
77.00	Stream of water, 1 lk. wide, 2 ins. deep, in canyon, course NE. Asc. slightly to
80.00	The cor. of Tps. 15 and 16 N., R. 14 W. Land, rolling and mountainous. Soil, rocky; 3rd and 4th rate. No timber. Undergrowth, greasewood, palo verde, ocotillo and cacti. C. D. May. 13, 1915

Boundaries of T. 15 N., R. 14 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
		chs.	chs.	chs.	chs.	chs.
South boundary,	S. 89° 51' W.	479.18		1.20		479.18
West boundary,	North.	480.00	480.00			
North boundary,	S. 89° 57' E.	478.14		.40	478.14	
East boundary,	South.	480.00		480.00		
Convergency.					.50	
Totals.			480.00	481.60	478.64	479.18
				480.00		478.64
Error in lat.				1.60		
Error in dep.						.14

T. S. Brantton.

East Boundary of T. 16 N., R. 14 W.

Chains.

Survey commenced May 11, 1915, and executed by H. N. Bradstreet, U. S. Transitman, with Young and Sons' light mountain transit No. 7109, with Smith solar attachment. For description of instrument, and certificate of approval, see subdivision of T. 16 N., R. 13 W. For latest test of adjustments, see subdivision of T. 16 N., R. 14 W. in Book "P"

In the following field notes, the initials H. N. B. and C. D. refer to H. N. Bradstreet, and Carl Dyson, U. S. Transitmen, respectively.

At 7 hrs. 56 m., a.m., l.m.t., I set off 34° 41' N. on the lat. arc; 17° 43½' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 15 and 16 N., R. 14 W., which is an iron post, established by C. D., as hereinbefore described.

Thence I run

North along the E. bdy. of sec. 36.

Over mountainous land, through scattering undergrowth.

Desc. to

- .50 Enter bed of canyon, course SE.
- .70 Stream of water, 1 lk. wide, 2 ins. deep, course SE.
- 2.00 Leave bed of canyon, course SE. Asc. S. slope, 315 ft. to
- 15.00 Ridge, brs. E. and W. Desc. N. slope, 105 ft. to
- 33.00 Draw, course E. Asc. slight S. slope to
- 37.00 Low spur, extends 4 chs. E. Desc. NE. slope.
- 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

1915 on S. rim;
¼S36 in W. half; from which

A cedar limb, 6 ins. diam., brs. S. 13° E., 167 lks. dist., marked ¼S31 BT.

No other trees within limits. Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

- 42.00 Draw, course SE. Asc. S. slope, 115 ft. to
- 49.00 Ridge, brs. E. and W. Desc. NW. slope, 10 ft. to
- 50.00 Thence along W. slope to
- 52.00 Desc. N. slope, 200 ft. to
- 59.00 Gulch, course SE. Asc. 25 ft. to
- 63.00 Ridge, brs. E. and W. Desc. NE. slope, 30 ft. to
- 67.00 Gulch, course E. Asc. SE. slope, 45 ft. to
- 71.25 Ridge, brs. E. and W. Desc. N. slope, 105 ft. to
- 75.50 Gulch, course E. Asc. SE. slope, 65 ft. to
- 79.80 Ridge, brs. E. and W. Desc. N. slope to
- 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 25, and 36, marked on brass cap

1915 on S. rim;
T16N in N. and
R13W, S30, S31 in E. half;
R14W, S25 in NW. and
S36 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Undergrowth, greasewood, palo verde, ocetille and scrub cedar.

North, along the E. bdy. of sec. 25.

Over mountainous land, through dense undergrowth.

Desc. NE. slope, 90 ft. to

- 3.75 Gulch, course NE. Asc. SE. slope, 55 ft. to
- 7.70 Ridge, brs. ENE. and WSW. Road on ridge, brs. ENE. to Signal, and WSW. to Chicken Springs and Yucca.
- Desc. NW. slope, 85 ft. to
- 15.00 Gulch, 30 lks. wide, course NE. Asc. SE. slope, 40 ft. to
- 25.00 Low spur, extends 3 chs. NE. Desc. NE. slope, 55 ft. to
- 35.00 Draw, course E. Asc. SE. slope, 25 ft. to
- 36.50 Spur, extends 1 ch. E. Desc. N. slope, 175 ft.

Chains.	
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 1915 on S. rim; $\frac{1}{4}$ S25 in W. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
44.40	Gulch, course NW. Asc. SW. slope, 15 ft. to
45.00	Spur, extends 1 ch. W. Desc. NW. slope, 120 ft. to
53.90	Center of canyon, 1.50 chs. wide, course E. Asc. SE. slope 30 ft. to
59.50	Spur, extends 3 chs. E. Thence along broken E. slope to
62.30	Desc. NE. slope, 75 ft. to
65.30	Gulch, 1 ch. wide, course E. Asc. 65 ft. to
66.80	Spur, extends 5 chs. E. Desc. 85 ft. to
72.30	Gulch, 50 lks. wide, course E. Asc. 120 ft. to
73.30	Ridge, brs. NE. and SW. Desc. NW. slope, 45 ft. to
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 22 ins. in the ground, on solid rock, in a mound of stone, for cor. of secs. 24 and 25, marked on brass cap 1915 on S. rim; T16N in N. and R13W, S19, S30 in E. half; R14W S24 in NW., and S25 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. Undergrowth, greasewood, palo verde, ocatilla and scrub cedar. May 11, 1915: At this cor., I set off $17^{\circ} 45\frac{1}{2}'$ N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 42\frac{1}{2}'$ N.
	North along the E. bdy. of sec. 24. Over mountainous land, through dense undergrowth. Desc. NW. slope, 65 ft. to
6.30	Gulch, course NE. Asc. SE. slope, 30 ft. to
12.30	Spur, extends 5 chs. NE. Desc. NW. slope 50 ft. to
15.30	Gulch, course NE. Asc. SE. slope, 30 ft. to
20.30	Spur, extends 10 chs. NE. Desc. N. slope, 30 ft. to
25.30	Foot of desc.; thence over level land.
40.00	Point for $\frac{1}{4}$ sec. cor. falls in wash, course E.
40.30	Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for witness cor. to $\frac{1}{4}$ sec. cor., marked on brass cap 1915 on S. rim; WC S. of center; $\frac{1}{4}$ S24 in W. half; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
41.30	Asc. S. slope, 40 ft. to
45.30	Top of asc., brs. E. and W. Thence over level land.
75.30	Wash, 50 lks. wide, course E.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 13 and 24, marked on brass cap 1915 on S. rim; T16N in N. half; R13W, S18, S19 in E. half; R14W, S13 in NW. and S24 in SW. quadrant; dig pits, 24 X 24 X 12 ins., in each sec., 6 ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor. Land, level and mountainous. Soil, rocky; 4th rate. No timber.

Chains.

Undergrowth, greasewood, palo verde, ocatilla and scrub cedar.

North along the E. bdy. of sec. 13.
 Over level land, through scattering undergrowth.
 10.00 Center of wash, 1 ch. wide, course E.
 38.00 Wash, 10 lks. wide, course E.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S13 in W. half;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
 Asc. to
 45.00 Low spur, brs. E. Desc. N. slope, 25 ft. to
 51.00 Wash, 10 lks. wide, course E. Asc. SE. slope, 25 ft. to
 62.00 Spur, brs. E. Desc. NW. slope, 225 ft. to
 77.00 Enter drainage channel, course NE.
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 12 and 13, marked on brass cap
 1915 on S. rim;
 T16N in N. and
 R13W, S7, S18 in E. half;
 R14W S12, in NW. and
 S13 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
 Land, level and rolling.
 Soil, 2nd and 4th rate.
 No timber.
 Undergrowth, scattering scrub cedar.

May 11, 1915.

May 29, 1915: At 9 hrs. 3 m., a.m., l.m.t., I set off
 34° 44 $\frac{1}{2}$ ' N. on the lat. arc; 21° 32' N. on the decl. arc;
 and determine a meridian with the solar at the cor. of
 secs. 12 and 13.
 Thence I run
 North along the E. bdy. of sec. 12.
 Across level drainage channel, through scattering undergrowth.
 15.00 Leave drainage channel, asc. SE. slope, 175 ft. to
 25.00 Asc. S. slope to
 33.00 Top of asc.; brs. E. and W. Thence over level land.
 39.00 Road, brs. W. to San Francisco Mine and
 Cedar.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 16 ins. in the ground, in a mound of stone, for $\frac{1}{4}$ sec. cor., marked on brass cap
 1915 on S. rim;
 $\frac{1}{4}$ S12 in W. half; from which
 A cedar, 5 ins. diam., brs. N. 88° E., 203 lks. dist., marked $\frac{1}{4}$ S7 BT.
 A cedar, 6 ins. diam., brs. S. 68° W., 43 lks. dist., marked $\frac{1}{4}$ S12 BT.
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 1 and 12, marked on brass cap
 1915 on S. rim;
 T16N in N. and
 R13W, S6, S7 in E. half;
 R14W S1 in NW. and
 S12 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
 Land, gently rolling.

Chains.

Soil, 2nd rate.
 No timber.
 Undergrowth, greasewood, palo verde, ocetilla and scrub cedar.

North along E. bdy. of sec. 1.
 Over gently rolling land, through dense undergrowth.
 Desc. NE. slope to

30.00

Thence over level land.

37.00

Wash, 50 lks. wide, course NE.

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

1915 on S. rim;

 $\frac{1}{4}$ S1 in W. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.

53.00

Desc. N. slope, 50 ft. to

54.50

Enter wash, course E.

68.75

Leave wash, asc. SW. slope, 45 ft. to

70.50

Thence over level land.

80.00

Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the
 ground, for cor. of Tps. 16 and $16\frac{1}{2}$ N., R. 14 W., mark-
 ed on brass cap

1915 on S. rim;

T16 $\frac{1}{2}$ N in N.,

R13W, S31, S6 in E.,

T16N in S. and

R14W in W. half;

S36 in NW., and

S1 in SW. quadrant; from which

A cedar, 8 ins. diam., brs. N. 82° W., 334 lks. dist.,
 marked T16 $\frac{1}{2}$ N R14W S36 BT.

No other trees within limits. Raise a mound of stone,
 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Land, level and gently rolling.

Soil, 1st and 4th rate.

No timber.

Undergrowth, scrub cedar.

May 29, 1915: At this cor., I set off $21^\circ 33'$ N! on the
 decl. arc; and at apparent noon, I observe the sun on
 the meridian; the resulting lat. is $34^\circ 46'$ N. ✓

H.N.B.

Completion of
North Boundary of T. 16 N., R. 13 W.

Chains.

May 29, 1915: H. N. B.
 From the cor. of secs. 4, 5, 32 and 33, on the N. bdy. of the Tp., which is an iron post, properly set, marked and witnessed as described by the Surveyor-General, I run
 West on a true line, bet. secs. 5 and 32.
 Over gently rolling land, through dense undergrowth.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S32 in N. and
 S5 in S. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
 Asc. SE. slope, 40 ft. to
 43.00 Asc. E. slope, 45 ft. to
 63.00 Low spur, extends 5 chs. SE. Desc. SW. slope 15 ft. to
 65.00 Wash, 20 lks. wide, course SE. Asc. E. slope, 70 ft. to
 75.00 Spur, extends 2 chs. SE. Desc. slight SW. slope to
 80.00 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
 1915 on S. rim;
 T16 $\frac{1}{2}$ N in N.,
 T16N in S. and
 R13W in W. half;
 S31 in NW.,
 S32 in NE.,
 S5 in SE. and
 S6 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high. W. of cor. Pits impracticable.
 Land, level and slightly rolling.
 Soil, 4th rate.
 No timber.
 Undergrowth, dense scrub cedar.

West on a true line, bet. secs. 6 and 31.
 Over gently rolling land, through dense undergrowth.
 Asc. E. slope to
 9.00 Low spur, brs. SE. Desc. slight SW. slope to
 16.00 Wash, 10 lks. wide, course SE. Asc. slight E. slope.
 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
 1915 on S. rim;
 $\frac{1}{4}$ S31 in N. and
 S6 in S. half;
 dig pits, 18 X 18 X 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, N. of cor.
 76.00 Continue to asc. slight E. slope to
 Intersect the E. bdy. of T. 16 N., R. 14 W., 4.02 chs. S. of the cor. of Tps. 16 and 16 $\frac{1}{2}$ N., R. 14 W., which is an iron post, hereinbefore described.
 At the point of intersection, set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for closing cor. of Tps. 16 and 16 $\frac{1}{2}$ N., R. 13 W., marked on brass cap
 1915 on S. rim;
 CC W. of center;
 R13W in E. and
 T16 $\frac{1}{2}$ N, S36, R14W, S1, T16N in W. half;
 T16 $\frac{1}{2}$ N S31 in NE. and
 T16N S6 in SE. quadrant;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, E. of cor. Pits impracticable.
 Land, gently rolling.
 Soil, gumbo, 3rd rate.
 No timber.

Completion of North Boundary of T. 16 N., R. 13 W.

Chains.

Undergrowth, ocatilla and dense scrub cedar.
 H. N. B.
 May 29, 1915.

Boundaries of T. 16 N., R. 13 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	West.	477.80				477.80
West boundary,	North.	479.42	479.42			
North boundary,	East.	476.00			476.00	
East boundary, (3rd. Guide Mer. W.)	South,	480.00		480.00		
	Convergency.				.50	
Totals.			479.42	480.00	476.50	477.80
				479.42		476.50
Error in latitude.				.58		
Error in departure.						1.30

U. S. Transition.

U. S. Transition.

Chains.

Survey commenced May 18, 1915, and executed by Irving W. Stoddard, U. S. Surveyor, with Young and Sons light mountain transit, No. 8485, with Smith Solar Attachment. For description of instrument, and certificate of approval, see W. bdy. of T. 13 N., R. 13 W., this Book.

In the following field notes the initials I. W. S. and R. D. A. refer to Irving W. Stoddard, U. S. Surveyor, and R. D. Armstrong, U. S. Transitman, respectively.

Knowing from recent and repeated tests of this instrument on a meridian established by observations on Polaris at elongation, that it is in adjustment, I proceed to the survey of the E. bdy. of Fractional T. 16 1/2 N., R. 16 W.

At 8 hrs. 7 m., a.m., l.m.t., I set off 34° 46' N. on the lat. arc; 19° 25' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 16 and 16 1/2 N., Rs. 15 and 16 W., which is an iron post, established by me, as hereinbefore described.

From this cor., Wm. Esham's House brs. S. 42 3/4° W. Thence I run

North, bet. secs. 31 and 36.

Over mountainous land, through scattering undergrowth.

Asc. SE. slope, 480 ft. to

24.20

Spur, brs. SW. Continue to asc. SW. slope.

34.00

Desc. NW. slope, 610 ft.

40.00

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

1915 on S. rim;
1/4 S36 in W. and
S31 in E. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

58.20

Creek, 1 lk. wide, course SW. Asc. S. slope, 575 ft. to

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

1915 on S. rim;
T16 1/2 N in N. half;
R16W S25 in NW.,
R15W S30 in NE.,
S31 in SE. and
S36 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.

No timber.

Undergrowth, laurel, scrub oak, and cat claw.

May 18, 1915: At this cor., I set off 19° 27' N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 47' N.

North, bet. secs. 25 and 30.

Over mountainous land, through scattering undergrowth.

Asc. S. slope, 50 ft. to

4.50

Spur, brs. W. Desc. NW. slope, 785 ft.

40.00

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

1915 on S. rim;
1/4 S25 in W. and
S30 in E. half;

and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

48.10

Creek, 3 lks. wide, course S. 75° W., Asc. S. slope, 525 ft. to

76.10

Spur, brs. SW. Desc. NW. Slope, 70 ft. to

Chains.
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

1915 on S. rim;
T16¹/₂N in N. half;
R16W S24 in NW.,
R15W S19 in NE.,
S30 in SE. and
S25 in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1¹/₂ ft. high, W. of cor. Pits impracticable.

Land, mountainous.

Soil, rocky 4th rate.

No timber.

Undergrowth, deer brush, scrub oak, laurel and cat claw.

North, bet. secs. 19 and 24.

Over mountainous land, through scattering undergrowth. Desc. NW. slope, 40 ft. to

2.20 Ravine, course SW. Asc. SW. slope, 130 ft. to

9.10 Spur, brs. W. Thence along broken W. slope.

20.50 Ravine, course SW. Asc. SW. slope, 385 ft. to

34.50 Spur, brs. W. Desc. NW. slope, 220 ft.

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

1915 on S. rim;
 $\frac{1}{4}$ S24 in W. and
S19 in E. half;

and raise a mound of stone, 2 ft. base, 1¹/₂ ft. high, W. of cor. Pits impracticable.

May 18, 1915.

May 19, 1915: At 9 hrs. 58 m., a.m., l.m.t., I set off 34° 48' N. on the lat. arc; 19° 39' N. on the decl. arc; and determine a meridian with the solar at the $\frac{1}{4}$ sec. cor. bet. secs. 19 and 24.

Thence I run

North, bet. secs. 19 and 24.

44.20 Creek, 1 lk. wide, course SW. Asc. SE. slope, 190 ft. to

54.30 Spur, brs. SW. Desc. NW. slope, 180 ft. to

65.05 Intersect the 4th Standard Parallel North, 7.48 chs. E. of the standard cor. of secs. 32 and 33, T. 17 N., R. 15 W., which is an iron post, properly set, marked and witnessed as described by the Surveyor-General.

At the point of intersection, I set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for closing cor. of Fractional T. 16¹/₂ N., R. 15 and 16 W., marked on brass cap

1915 on S. rim,
CC S. of center;
SC, T17N R15W, S32, S33 in N. and
T16¹/₂N in S. half;
S19R15W in SE. and
S24R16W in SW. quadrant;

and raise a mound of stone, 2 ft. base, 1¹/₂ ft. high, S. of cor. Pits impracticable.

Land, mountainous.

Soil, rocky 4th rate.

No timber.

Undergrowth, deer brush, scrub oak, laurel and cat claw.

I. W. S.

May 19, 1915.

Boundaries of Fractional T. 16 1/2 N., R. 16 W.
Latitudes, departures and closing Errors.

Line designated.	True bearing.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
South boundary,	N. 89° 54' W.	479.52	.84			479.52
West boundary,	North,	224.51	224.51			
North boundary, (4th. Std. Par. N.)	East,	478.66			478.66	
East boundary,	South.	225.05		225.05		
Convergency.					.23	
Totals.			225.35	225.05	478.89	479.52
			225.05			478.89
Error in lat.			.30 Error in dep.			.63

W. H. Sawyer.

U. S. Land Office.

East Boundary of T. 16 N., R. 15 W.

Chains.

Survey of E. bdy. T. 16 N., R. 15 W., and N. bdy. T. 16 N., R. 14 W., commenced May 28, 1915, and executed jointly by H. N. Bradstreet and Carl Dyson, U. S. Transitmen, with Young and Sons' light mountain transits Nos. 7109 and 8539, respectively, with Smith solar attachments. For description of instruments, and certificate of approval, see subdivision of T. 16 N., R. 13 W. For tests of adjustments, see subdivision of T. 16 N., R. 14 W. In the following field notes, the initials H. N. B. and C. D. refer to H. N. Bradstreet and Carl Dyson, U. S. Transitmen, respectively.

H. N. B. and C. D.

C. D.

At 8 hrs. 9 m., a.m., l.m.t., I set off $34^{\circ} 41' N$ on the lat. arc; $21^{\circ} 22' N$ on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 15 and 16 N., Rs. 14 and 15 W., which is an iron post, established by R. D. Armstrong, U. S. Transitman, as hereinbefore described.

Thence I run

North bet. secs. 31 and 36.

Over rolling and mountainous land, through scattering undergrowth.

Desc. NE. slope, 60 ft. to

10.00 Wash, 10 lks. wide, course SE. Asc. S. slope, 90 ft. to

25.00 Low spur, brs. SW. Desc. NW. slope to

30.00 Center of draw, 120 lks. wide, course W. Asc. SW. slope, 150 ft.

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

1915 on S. rim;

S36 $\frac{1}{4}$ in W. and

S31 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

42.50 Spur, extends 7 chs. W. Desc. NW. slope, 65 ft. to

47.37 Wash, 50 lks. wide, course SW. Asc. S. slope, 330 ft. to

78.50 Spur, extends 20 chs. W. Desc. N. slope, to

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

1915 on S. rim;

T16N in N.,

R14W in E. and

R15W in W. half;

S25 in NW.,

S30 in NE.,

S31 in SE. and

S36 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 and rolling.

Soil, rocky; 3rd rate.

No timber.

Undergrowth, palo verde and cedar.

North bet. secs. 25 and 30.

Over mountainous land, through scattering undergrowth.

Desc. N. slope, 145 ft. to

9.50 Center of wash, 60 lks. wide, course W. Asc. SW. slope, 195 ft. to

19.50 Ridge, brs. E. and W. Desc. N. slope, 160 ft. to

34.10 Wash, 50 lks. wide, course W. Asc. SW. slope, 185 ft.

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

1915 on S. rim;

S25 $\frac{1}{4}$ in W. and

S30 in E. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high,

Chains.

57.00 W. of cor. Pits impracticable.
 62.00 Ridge, brs. NW. and SE. Desc. N. slope, 115 ft. to
 66.50 Wash, 20 lks. wide, course NE. Asc. SE. slope, 70 ft. to
 70.00 Spur, brs. E. Desc. NE. slope to
 80.00 Thence along E. slope to
 Set an iron post, 3 ft. long, 3 ins. diam., 8 ins. in the
 ground, on solid rock, in a mound of stone, for cor.
 of secs. 19, 24, 25 and 30, marked on brass cap
 1915 on S. rim;
 T16N in N.,
 R14W in E. and
 R15W in W. half;
 S24 in NW.,
 S19 in NE.,
 S30 in SE. and
 S25 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky; 4th rate.
 No timber.
 Undergrowth, mesquite, scrub oak and scrub cedar.
 May 28, 1915.

May 29, 1915: At 8 hrs. 55 m., a.m., 1.m.t., I set off
 34° 42½' N. on the lat. arc; 21° 32' 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 rolling and mountainous land, through scattering
 undergrowth.

23.82 Desc. NE. slope, 365 ft. to
 29.34 Wash, 5 lks. wide, course NE. Asc. 30 ft. to
 31.92 Desc. 50 ft. to
 34.30 Wash, 6 lks. wide, course NE. Asc. slightly to
 40.00 Desc. 95 ft.
 Set an iron post, 3 ft. long, 1 in. diam., on solid rock,
 in a mound of stone, for ¼ sec. cor., marked on brass
 cap
 1915 on S. rim;
 S24 ¼ in W. and
 S19 in E. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 64.65 Wash, 15 lks. wide, course NE Asc. 30 ft. to
 74.90 Desc. 40 ft. to
 78.74 Wash, 12 lks. wide, course NE. Asc. SE. slope to
 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
 1915 on S. rim;
 T16N in N.,
 R14W in E. and
 R15W in W. half;
 S13 in NW.,
 S18 in NE.,
 S19 in SE. and
 S24 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous and rolling.
 Soil, rocky; 3rd and 4th rate.
 No timber.
 Undergrowth, scrub cedar, scrub oak and palo verde.

Chains.

North bet. secs. 13 and 18.
 Over rolling and mountainous land, through scattering undergrowth.
 Asc. SE. slope, 55 ft. to Hill, brs. E. and W. Desc. N. slope, 65 ft. to Wash, 5 lks. wide, course E. Asc. S. slope, 305 ft. to Spur, extends 15 chs. E. Desc. N. slope, 340 ft.
 7.40
 13.22
 27.60
 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
 1915 on S. rim;
 S13 $\frac{1}{4}$ in W. and
 S18 in E. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
 May 29, 1915: At this cor., I set off $21^{\circ} 33'$ N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 44'$ N.
 59.73 Gulch, course NE. Asc. slightly to
 61.03 Road, brs. W. to Cedar and the San Francisco Mine, and E. to Signal, and Chicken Springs. Desc. to Wash, 20 lks. wide, course E. Asc. 50 ft. to Thence over rolling land.
 62.63
 69.70
 75.88 Old road, brs. NW. and SE.
 78.00 Desc. N. slope to
 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
 1915 on S. rim;
 T16N in N.,
 R14W in E. and
 R15W in W. half;
 S12 in NW.,
 S7 in NE.,
 S18 in SE. and
 S13 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 and mountainous.
 Soil, rocky; 3rd rate.
 No timber.
 Undergrowth, scrub oak, scrub cedar and palo verde.

North bet. secs. 7 and 12.
 Over rolling land, through dense undergrowth.
 Desc. N. slope, 50 ft.
 1.80 Corral brs. W. 1.50 chs. dist.
 1.84 Gulch, 25 lks. wide, course E.. Asc. SW. slope, 125 ft. to
 23.10 Top of asc., brs. E. and W. Desc. N. slope, 55 ft. to
 26.97 Wash, 6 lks. wide, course NE. Asc. S. slope to
 29.84 Low hill, extends E. and W. about 8 chs. Desc. N. slope, 65 ft. to
 35.85 Wash, 8 lks. wide, course E. Asc. S. slope, 15 ft. to
 40.00 Top of small hill, brs. E. and W.
 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
 1915 on S. rim;
 S12 $\frac{1}{4}$ in W. and
 S7 in E. half;
 and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
 Desc. N. slope, 20 ft. to
 42.69 Wash, 6 lks. wide, course E. Asc. SE. slope, 140 ft. to
 55.00 Hill, brs. SW. and NE. Desc. N. slope, 125 ft. to
 68.74 Stream, 3 lks. wide, 4 ins. deep, course E., in gulch, course E. Asc. S. slope, 100 ft. to
 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

Chains.

1915 on S. rim;
 T16N in N.,
 R14W in E. and
 R15W in W. half;
 S1 in NW.,
 S6 in NE.,
 S7 in SE. and
 S12 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, rolling.
 Soil, rocky; 3rd and 4th rate.
 No timber.
 Undergrowth, scrub oak and palo verde.

May 29, 1915.

May 31, 1915: At 9 hrs 4 m., a.m., l.m.t., I set off 34° 45' N. on the lat. arc; 21° 50' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1, 6, 7 and 12.

Thence I run North bet. secs. 1 and 6. Over rolling and mountainous land, through dense undergrowth.

- 1.70 Hill, brs. E. and W. Desc. N. slope.
- 14.70 Road, brs. NW. and SE. Asc. S. slope, 70 ft. to
- 25.00 Ridge, brs. NW. and SE. Desc. NE. slope to
- 27.31 Head of gulch, course SE. Asc. SE. slope, 180 ft.
- 30.13 Asc. SW. slope.
- 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
- 45.00 Ridge, brs. NW. and SE. Desc. NE. slope, 120 ft. to
- 53.01 Gulch, 10 lks. wide, course SE. Asc. S. slope, 25 ft. to
- 57.85 Rocky spur, brs. SE. Desc. N. slope, 30 ft. to
- 60.23 Gulch, 15 lks. wide, course E. Asc. slightly to
- 60.80 Old road, brs. E. and W.
- 65.00 Desc. to
- 66.26 Gulch, 25 lks. wide, course SE. Asc. SW. slope, 305 ft. to to
- 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 16 and 16½ N., Rs. 14 and 15 W., marked on brass cap

1915 on S. rim;
 T16½N in N.,
 R14W in E.,
 T16N in S. and
 R15W in W. half;
 S36 in NW.,
 S31 in NE.,
 S6 in SE. and
 S1 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 S. of cor. Pits impracticable.

Land, rolling and mountainous.
 Soil, rocky; 3rd and 4th rate.
 No timber.
 Undergrowth, greasewood, scrub oak and scrub cedar.
 May 31, 1915: At this cor., I set off 21° 51' N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 46' N.

C. D.
 May 31, 1915.

Chains.

May 29, 1915: H. N. B.
 At our camp in the NW. $\frac{1}{4}$ of sec. 21, T. 16 N., R. 14 W., lat. $34^{\circ} 43'$ N., long. $113^{\circ} 44'$ W., using as reference point, a peak on the sky line, the approximate bearing to which by a hasty solar observation, is $N. 4^{\circ} 55'$ W., I make hour angle observations on Polaris for meridian as follows:-

I orient my transit so that the vernier reads $0^{\circ} 0'$ when pointing North.

With telescope direct.

At 7 hrs. 48 m., p.m., l.m.t., by my watch, which is set to correct local mean time, I observe Polaris.
 Reading of vernier, $0^{\circ} 28'$ left.

With telescope reversed.

At 7 hrs. 50 m., p.m., l.m.t., I observe Polaris.
 Reading of vernier, $0^{\circ} 27'$ left.

Average time of observation, 7 hrs. 49 m., p.m.
 Average angle from approximate north to star, $0^{\circ} 27\frac{1}{2}'$ left.

Time of upper culmination, Greenwich Meridian, May 29, 1915	9 hrs. 05.2 m. a.m.
Correction for longitude.	-1.3 m.
Correction for latitude, etc.	0.0

Corrected time of upper culmination	9 hrs. 03.9 m. a.m.
Time elapsed since culmination	10 hrs. 45.1 m.
Azimuth corresponding to hour angle	$0^{\circ} 26.1'$ W.
Bearing of peak,	N. $4^{\circ} 53\frac{1}{2}'$ W.
	May 29, 1915.
	H. N. B.

H. N. B. and C. D.

May 30, 1915: At 9 hrs. 0 m., a.m., l.m.t., we set off $34^{\circ} 43'$ N. on the lat. arcs; $21^{\circ} 41\frac{1}{2}'$ N. on the decl. arcs; and determine a meridian with each solar, and note the bearing of the peak with each instrument.

May 30, 1915: At apparent noon, we set off $21^{\circ} 42'$ N. on the decl. arcs; and observe the sun on the meridian; the resulting lat. by each transit is $34^{\circ} 43'$ N.

At 3 hrs. 0 m., p.m., l.m.t., we set off $21^{\circ} 43\frac{1}{2}'$ N. on the decl. arcs; $34^{\circ} 43'$ N. on the lat. arcs; and determine a meridian with each solar, and note the bearing of the peak with each instrument.

The solars, by a.m. and p.m. observations, define positions for meridian which deviate less than $1\frac{1}{2}'$ from the true meridian determined by observations on Polaris. As these instruments satisfy the conditions imposed by our instructions, we deem them satisfactory for field use.

May 30, 1915.
 H. N. B. and C. D.

H. N. B.

May 31, 1915: At 8 hrs. 57 m., a.m., l.m.t., I set off $34^{\circ} 46'$ N. on the lat. arc; $21^{\circ} 50'$ N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 16 and $16\frac{1}{2}$ N., R. 14 W., which is an iron post, established by me, as hereinbefore described.

Thence I run

West on a random line, along the N. bdy. of T. 16 N., R. 14 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs. to the temp. cor. of secs. 2, 3, 34 and 35.

May 31, 1915: At this cor., I set off $21^{\circ} 51'$ N. on the

Chains.

decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 46'$ N.

Thence I continue

West on a random line, along the N. bdy. of T. 16 N., R. 14 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs. to the temp. cor. of secs. 5, 6, 31 and 32.

H. N. B.

C. D.

From the temp. cor. of secs. 5, 6, 31 and 32, I run West on a random line, along the North Boundary of T. 16 N., R. 14 W., setting a temp. $\frac{1}{4}$ sec. cor. at 40.00 chs.; and at 77.20 chs., intersect the W. bdy. of T. 16 $\frac{1}{2}$ N., R. 14 W., 14 lks. N. of the cor. of Tps. 16 and 16 $\frac{1}{2}$ N., Rs. 15 and 14, W., which is an iron post, established by me, as hereinbefore described. The falling answers to a correction of $0^{\circ} 1'$, or 2 lks. S. per mile, counting from the NE. cor. of the Tp.; therefore I run

N. $89^{\circ} 59'$ E., on a true line, bet. secs. 6 and 31.

Over mountainous land, through scattering undergrowth.

Asc. SW. slope, 295 ft. to

10.50 Spur, slopes S. Desc. SE. slope, 175 ft. to

26.60 Gulch, course SE. Thence along S. slope to

34.10 Desc. 135 ft.

37.20 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

1915 on S. rim;

$\frac{1}{4}$ S31 in N. and

S16 in S. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

40.27 Gulch, 15 lks. wide, course S. Asc. SW. slope, 420 ft.

40.77 Prospect hole on line.

61.20 Ridge, brs. NW. and SE. Desc. NE. slope, 545 ft. to

77.20 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

1915 on S. rim;

T16 $\frac{1}{2}$ N in N.,

T16N in S. and

R14W in W. half;

S31 in NW.,

S32 in NE.,

S5 in SE. and

S6 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.

Undergrowth, scrub oak and palo verde.

C. D.

H. N. B.

N. $89^{\circ} 59'$ E., on a true line, bet. secs. 5 and 32.

Over mountainous land, through scattering undergrowth.

Desc. E. slope, 190 ft. to

15.00 Wash, 30 lks. wide, course SE. Asc. SW. slope, 40 ft. to

20.85 Spur, extends 5 chs. SE. Desc. 185 ft. to

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

1915 on S. rim;

$\frac{1}{4}$ S32 in N. and

S5 in S. half;

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

Chains.

57.00 Desc. 115 ft. to
 Wash, 30 lks. wide, course SE. Cement watering tank and
 spring in wash, 8 chs. SE. Asc. SW. slope, 75 ft. to
 62.15 Ridge, brs. NW. and SE. Desc. NE. slope, 90 ft. to
 71.00 Center of wash, 1 ch. wide, course SE. Asc. SW. slope,
 35 ft. to
 77.00 Old road, brs. ENE and WSW. Thence along N. slope to
 80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the
 ground, for cor. of secs. 4, 5, 32 and 33, marked on
 brass cap

1915 on S. rim;
 T16 $\frac{1}{2}$ N in N.,
 T16N in S. and
 R14W in W. half;
 S32 in NW.,
 S33 in NE.,
 S4 in SE. and
 S5 in SW. quadrant; from which

A cedar, 8 ins. diam., brs. S.68 $\frac{1}{2}$ ° W., 40 lks. dist.,
 marked T16N R14W S5 BT.

No other trees available. 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.

Undergrowth, greasewood, palo verde, ocotillo and scrub
 cedar.

N.89° 59' E., on a true line, bet. secs. 4 and 33.

Over mountainous land, through dense undergrowth.

Along N. slope to

6.35 Road, on ridge, brs. NW. to San Francisco Mine and Cedar,
 and SE. to Signal. Desc. NE. slope, 80 ft. to

14.50 Wash, 20 lks. wide, course N. Asc. NW. slope, 30 ft. to

16.50 Spur, extends 5 chs. N. Desc. NE. slope, 250 ft.

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

1915 on S. rim;
 $\frac{1}{4}$ S33 in N. and
 S4 in S. half;

and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 N. of cor. Pits impracticable.

50.00 Center of wash, 2 chs. wide, course SE. Asc. SW. slope,
 120 ft. to

68.00 Spur, extends 4 chs. S. Desc. SE. slope, 15 ft. to

71.30 Wash, 20 lks. wide, course SE. Asc. W. slope, 25 ft. to

74.00 Spur, extends 5 chs. SE. Desc. E. slope, 60 ft. to

77.50 Wash, 20 lks. wide, course SE. Asc. SW. slope, 20 ft. to

80.00 Spur, extends 5 chs. S. 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

1915 on S. rim;
 T16 $\frac{1}{2}$ N in N.,
 T16N in S. and
 R14W in W. half;
 S33 in NW.,
 S34 in NE.,
 S3 in SE. and
 S4 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 and sandy; 4th rate.

No timber.

Undergrowth, greasewood, palo verde and scrub cedar.

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North Boundary of T. 16 N., R. 14 W.

Chains.

- N.89° 59' E., on a true line, bet. secs. 3 and 34.
Over rolling land, through scattering undergrowth.
Desc. SE. slope, 70 ft. to
- 12.20 Wash, 20 lks. wide, course S. Asc. SW. slope to
- 15.00 Spur, extends 2 chs. S. Desc. SE. slope, 225 ft.
- 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
1915 on S. rim;
 $\frac{1}{4}$ S34 in N. and
S3 in S. half; from which
A cedar limb, 5 ins. diam., brs. N. 21 $\frac{1}{4}$ ° E., 107 lks.
dist., marked $\frac{1}{4}$ S34 BT.
A cedar limb, 6 ins. diam., brs. S.50° E., 94 lks.
dist.; marked $\frac{1}{4}$ S3 BT.
- 45.00 Center of wash, 1 ch. wide, course NE. Asc. slightly to
- 46.50 Spur, extends 1 ch. N. Desc. NE. slope, 25 ft. to
- 50.00 Enter wash, course ESE. Thence across wash.
- 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
1915 on S. rim;
T16 $\frac{1}{2}$ N in N.,
T16N in S. and
R14W in W. half;
S34 in NW.,
S35 in NE.,
S2 in SE. and
S3 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 and rocky; 4th rate.
No timber.
Undergrowth, greasewood, palo verde, ocotilla and scrub
cedar.
-
- N.89° 59' E., on a true line, bet. secs. 2 and 35.
Over rolling land, through scattering undergrowth.
Across wash.
- 1.50 Leave wash, course SE. Asc. SW. slope, to
- 10.00 Spur, extends 5 chs. SE. Desc. NE. slope, 30 ft. to
- 13.00 Enter wash, course SE.
- 20.20 Leave wash, course SE. Asc. W. slope, 35 ft. to
- 23.00 Spur, extends 5 chs. SE. Desc. NE. slope, 30 ft. to
- 28.00 Center of draw, 2 chs. wide, course SE. Asc. SW. slope,
20 ft. to
- 36.50 Spur, extends 3 chs. SE. Desc. NE. slope, 80 ft.
- 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
1915 on S. rim;
 $\frac{1}{4}$ S35 in N. and
S2 in S. half;
and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
N. of cor. Pits impracticable.
- 46.00 Center of wash, 4 chs. wide, course SE. Asc. W. slope, 40
ft. to
- 49.00 Spur, extends 1 ch. S. Desc. SE. slope, 70 ft. to
- 55.00 Wash, 30 lks. wide, course SE. Asc. SW. slope, 35 ft. to
- 66.50 Mesa, brs. NW. and SE. Thence over level land.
- 75.00 Desc. SE. slope, 30 ft. to
- 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
1915 on S. rim;
T16 $\frac{1}{2}$ N in N.,
T16N in S. and
R14W in W. half;
S35 in NW.,

North Boundary of T. 16 N., R. 14 W.

Chains.

S36 in NE.,
 S1 in SE. and
 S2 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, rolling and level.
 Soil, sandy and rocky; 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde, ocotilla and scrub
 cedar.

3.50 N.89° 59' E., on a true line, bet. secs. 1 and 36.
 Over rolling land, through scattering undergrowth.
 Desc. 45 ft. to
 Foot of desc.; thence over nearly level land, draining
 E.
 30.00 Wash, course SE. Asc. SW. slope, 35 ft. to
 35.00 Edge of mesa, brs. NW. and SE. Thence over level land.
 40.00 Set an iron post, 3 ft. long, 1 in. diam., 18 ins. in the
 ground, on solid rock, in a mound of stone, for ¼ sec.
 cor., marked on brass cap
 1915 on S. rim;
 ¼S36 in N. and
 S1 in S. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor. Pits impracticable.
 80.00 The cor. of Tps. 16 and 16½ N., R. 14 W.
 Land, level and rolling.
 Soil, sandy and rocky; 4th rate.
 No timber.
 Undergrowth, greasewood, palo verde, ocotilla and scrub
 cedar.

H. N. B.
 May 31, 1915.

Boundaries of T. 16 N., R. 14 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N.	S.	E.	W.
South boundary,	N.89° 57' W.	478.14	.40			478.14
West boundary,	North.	480.00	480.00			
North boundary,	N.89° 59' E.	477.20	.14		477.20	
East boundary,	South.	480.00		480.00		
Convergency.					.51	
Totals.			480.54	480.00	477.71	478.14
			480.00			477.71
Error in latitude			.54			
Error in departure						.43

U. S. Transit Co.
 U. S. Geol. Surv.

West Boundary of Fractional T. 16 $\frac{1}{2}$ N., R. 14 W.

Chains.

Survey commenced June 1, 1915, and executed by Carl Dyson, U. S. Transitman, with Young and Sons' light mountain transit No. 8539, with Smith solar attachment. For description of instrument and certificate of approval, see subdivision of T. 15 N., R. 13 W. For tests of adjustment, see North Boundary of T. 16 N., R. 14 W. In the following field notes, the initials H. N. B. and C. D. refer to H. N. Bradstreet and Carl Dyson, U. S. Transistmen, respectively.

At 8 hrs. 58 m. a.m., l.m.t., I set off 34° 46' N. on the lat. arc; 21° 59' N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 16 and 16 $\frac{1}{2}$ N., Rs. 14 and 15 W., which is an iron post, established by me, as hereinbefore described.

Thence I run

North bet. secs. 31 and 36.

Over mountainous land, through dense undergrowth.

Asc. SW. slope, 310 ft. to

16.00

Ridge, brs. NW. and SE. Desc. N. slope, 525 ft.

38.64

Old road, brs. E. to Owens, and W. to Cedar.

38.75

Prospect hole on line.

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

1915 on S. rim;

S36 $\frac{1}{4}$ in W. and

S31 in E. half;

and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

41.43

Stream of water, 4 lks. wide, 3 ins. deep, course NE., in gulch, course NE. Asc. SE. slope, 45 ft. to

51.95

Spur, brs. E. and W. Desc. NE. slope, 20 ft. to

56.76

Gulch, 6 lks. wide, course SE. Asc. rocky SW. slope, 210 ft. to

73.28

Spur, brs. NW. and SE. Desc. N. slope, 170 ft. to

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

1915 on S. rim;

T16 $\frac{1}{2}$ N in N. half;

R15W S25 in NW.,

R14W S30 in NE.,

S31 in SE. and

S36 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.

Undergrowth, greasewood, scrub oak and scrub cedar.

North bet. secs. 25 and 30.

Over mountainous land, through dense undergrowth.

Desc. to

.50

Wash, 20 lks. wide, course NE. Asc. rocky, S. slope, 465 ft. to

29.85

Ridge, brs. E. and W. Desc. N. slope.

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

1915 on S. rim;

S25 $\frac{1}{4}$ in W. and

S30 in E. half;

and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

June 1, 1915: At this cor., I set off 21° 59 $\frac{1}{2}$ ' N. on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is 34° 47 $\frac{1}{2}$ ' N.

42.92

Wash, 3 lks. wide, course E. Asc. slightly to

43.90

Spur, extends 6 chs. E. Desc. 25 ft. to

48.73

Wash, 6 lks. wide, course E. Asc. S. slope, 160 ft. to

Chains.

60.30 Spur, brs. E. Desc. NE. slope, 175 ft. to
 79.00 Wash, 6 lks. wide, course NE. Asc. slightly to
 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

1915 on S. rim;
 T16 $\frac{1}{2}$ N in N. half;
 R15W S24 in NW.,
 R14W S19 in NE.,
 S30 in SE. and
 S25 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; 3rd rate.

No timber.

Undergrowth, dense scrub oak and scrub cedar.

North bet. secs. 19 and 24.

Over mountainous land, through dense undergrowth.

Asc. slightly to

1.00 Spur, extends 4 chs. E. Desc. to
 2.41 Wash, 6 lks. wide, course E. Asc. S. slope to
 7.00 Spur, extends 3 chs. E. Desc. 20 ft. to
 9.00 Wash, 20 lks. wide, course SE. Asc. rocky SW. slope, 360
 ft. to
 25.00 Gulch, 8 lks. wide, course SW. Asc. SE. slope to
 35.60 Spur, extends 6 chs. SW. Desc. NW. slope, 25 ft. to
 39.20 Head of draw, course SW. Asc. SE. slope, 270 ft.
 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

1915 on S. rim;
 S24 $\frac{1}{4}$ in W. and
 S19 in E. half;

and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,
 W. of cor. Pits impracticable.

53.37 Ridge, brs. E. and SW. Desc. N. slope, 455 ft. to
 65.69 Intersect Fourth Standard Parallel North, 6.86 chs. E. of
 the Standard Cor. of secs. 32 and 33, T. 17 N., R. 14
 W., which is an iron post, properly set, marked and
 witnessed as described by the Surveyor-General.

At the point of intersection, set an iron post, 3 ft. long,
 3 ins. diam., 24 ins. in the ground, for closing cor.
 of fractional Tps. 16 $\frac{1}{2}$ N., Rs. 14 and 15 W., marked on
 brass cap

1915 on S. rim;
 CC S. of center;
 T17N R14W, S32, S33 in N. and
 T16 $\frac{1}{2}$ N in S. half;
 R14W S19 in SE. and
 R15W S24 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.

Undergrowth, greasewood, scrub oak and scrub cedar.

C. D.

June 1, 1915.

Boundaries of Fractional T. 16 $\frac{1}{2}$ N., R. 14 W.
 Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	S. 89° 59' W.	477.20		.14		477.20
West boundary,	North.	225.69	225.69			
North boundary, (4th Std. Par. N.)	East.	478.10			478.10	
East boundary,	South.	225.23		225.23		
Convergency,					.24	
<u>Totals.</u>			225.69	225.37	478.34	477.20
			225.37		477.20	
<u>Error in latitude.</u>			.32			
<u>Error in departure.</u>					1.14	

U. S. Transition.

Boundaries of Fractional T. 16 $\frac{1}{2}$ N., R. 15 W.
 Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South Boundary	S. 89° 56' W.	477.92		.60		477.92
West Boundary	North.	225.05	225.05			
North Boundary (4th Std. Par. N.)	East	479.38			479.38	
East Boundary	South	225.69		225.69		
Convergency					.24	
<u>Totals.</u>			225.05	226.29	479.62	477.92
				225.05	477.92	
<u>Error in latitude</u>			1.24			
<u>Error in departure</u>					1.70	

U. S. Surveyor.

U. S. Transition.

Chains.

	<p>S25 $\frac{1}{4}$ in W. and S30 in E. half; and raise a mound of stone, 2 ft. base, 1$\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Desc. N. slope, 25 ft. to</p>
42.40	Wash, course E. Asc. S. slope, 15 ft. to
46.50	Spur, brs. E. Desc. N. slope, 45 ft. to
51.00	Center of wash, 5 chs. wide, course E. Asc. 55 ft. to
62.40	Spur, brs. E. Desc. slight N. slope to
76.00	Wash, course E. Asc. slightly to
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 24, and 25, marked on brass cap
	<p>1915 on S. rim; T16$\frac{1}{2}$N in N. and R13W, S19, S30 in E. half; R14W S24 in NW. and S25 in SW. quadrant; dig pits, 24 X 24 X 12 ins., in each sec., 6 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor. Land, rolling. Soil, gravelly; 3rd rate. No timber. Undergrowth, greasewood, palo verde, ocotillo and scrub cedar.</p>
	June 14, 1915.
	<p>June 15, 1915: At 9 hrs: 53 m., a.m., l.m.t., I set off 34° 48' N. on the lat. arc; 23° 18' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 24 and 25. Thence I run North along the E. bdy. of sec. 24. Over gently rolling land, through scattering undergrowth. Old road, brs. NE. and SW.</p>
4.20	Wash, course E. Asc. slightly to
16.00	Spur, brs. E. Desc. to
23.00	Wash, course E.
33.00	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
40.00	<p>1915 on S. rim; S24 $\frac{1}{4}$ in W. and S19 in E. half; and raise a mound of stone, 2 ft. base, 1$\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.</p>
44.50	Wash, course E. Asc. to
54.48	Spur, brs. E. Desc. to
55.00	Wash, course E. Asc. to
57.80	Spur, brs. E. Desc. to
60.00	Wash, course E. Asc. to
65.00	Spur, brs. E. Desc. to
65.23	Intersect the Fourth Standard Parallel North, 4.96 chs. E. of the std. cor. of secs. 32 and 33, T17N, R13W, an iron post, properly set, marked and witnessed as described by the Surveyor-General. At the point of intersection, set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for closing cor. of fractional Tps. 16 $\frac{1}{2}$ N., Rs. 13 and 14 W., marked on brass cap
	<p>1915 on S. rim; CC S. of center; T17N R13W, S32, S33 in N. and T16$\frac{1}{2}$N in S. half; R13W S19 in SE. and R14W S24 in SW. quadrant; and raise a mound of stone, 2 ft. base, 1$\frac{1}{2}$ ft. high, S. of cor. Pits impracticable. Land, gently rolling. Soil, rocky; 3rd rate.</p>

Chains.

No timber.
Undergrowth, greasewood, palo verde, ocotillo, scrub cedar
and cacti.

C. D.
June 15, 1915.

Boundaries of Fractional T. 16 $\frac{1}{2}$ N., R. 13 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary,	West.	476.00				476.00
West boundary,	North.	229.25	229.25			
North boundary, (4th. Std. Par. N.)	East.	155.04			155.04	
	N. 89° 55' E.	40.11	.06		40.11	
	N. 89° 44' E.	80.18	.37		80.18	
	S. 89° 39' E.	40.12		.24	40.12	
East boundary, (3rd. Guide Mer. W.)	South	229.14		229.14		
Convergency.					.24	
Totals.			229.68	229.38	477.04	476.00
			229.38		476.00	
Error in latitude.			.30			
Error in departure.					1.04	

J. S. [unclear]

J. S. [unclear]

Chains.

Survey commenced Dec. 17, 1915, and executed jointly by Albert Smith, Jr., U. S. Surveyor, and Thos. A. Hayden, U. S. Transitman, with Young and Sons' light mountain transits Nos. 8583 and 8396, respectively, with Smith solar attachments. For description of instruments, certificate of approval and tests of adjustment, see subdivision of T. 16 N., R. 15 W. Book "T"

In the following field notes, the initials A. S. and T. A. H. refer to Albert Smith, Jr., U. S. Surveyor, and Thos. A. Hayden, U. S. Transitman, respectively.

A. S. and T. A. H.

A. S.

From the cor. of Tps. 16 and $16\frac{1}{2}$ N., Rs. 14 and 15 W., which is an iron post, established by Carl Dyson, U. S. Transitman, as described hereinbefore, I run

West on a random line, along the N. bdy. of T. 16 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs., to the temp. cor. of secs. 2, 3, 34 and 35. Dec. 17, 1915: At the temp. $\frac{1}{4}$ sec. cor. bet. secs. 1 and 36, at apparent noon, I set off $23^{\circ} 19\frac{1}{2}'$ S. on the decl. arc; and observe the sun on the meridian; the resulting lat. is $34^{\circ} 46' N.$

Dec. 17, 1915.

Dec. 19, 1915; At 9 hrs. 0 m., a.m., l.m.t., I set off $34^{\circ} 46' N.$ on the lat. arc; $23^{\circ} 22\frac{1}{2}' S.$ on the decl. arc; and determine a meridian with the solar at the temp. cor. of secs. 2, 3, 34 and 35.

Thence I run

West on a random line, along the N. bdy. of T. 16 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs., to the temp. cor. of secs. 4, 5, 32 and 33.

Dec. 19, 1915: At the temp. cor. of secs. 3, 4, 33 and 34, I set off $23^{\circ} 23\frac{1}{2}' S.$ on the decl. arc; and at apparent noon, I observe the sun on the meridian; the resulting lat. is $34^{\circ} 46' N.$

Dec. 19, 1915.

A. S.

T. A. H.

Dec. 23, 1915: At 8 hrs. 0 m., a.m., l.m.t., I set off $34^{\circ} 46' N.$ on the lat. arc; $23^{\circ} 22\frac{1}{2}' S.$ on the decl. arc; and determine a meridian with the solar at the temp. cor. of secs. 4, 5, 32 and 33.

Thence I run

West on a random line, along the N. bdy. of T. 16 N., R. 15 W., setting temp. $\frac{1}{4}$ sec. and sec. cors. at intervals of 40.00 chs.

Dec. 23, 1915: At the temp. cor. of secs. 5, 6, 31 and 32, at apparent noon, I set off $23^{\circ} 25\frac{1}{2}' S.$ on the decl. arc; and observe the sun on the meridian; the resulting lat. is $34^{\circ} 46' N.$

At 477.92 chs. from the NE. cor. of the Tp., intersect the W. bdy. of T. $16\frac{1}{2}$ N., R. 15 W., 60 lks. N. of the cor. of Tps. 16 and $16\frac{1}{2}$ N., Rs. 15 and 16 W., which is an iron post, established by Irving W. Stoddard, U. S. Surveyor, as hereinbefore described. The falling answers to a correction of $0^{\circ} 4'$, or 10 lks. S. per mile, counting from the NE. cor. of the Tp.

Dec. 23, 1915.

T. A. H.

Dec. 24, 1915.

From the cor. of Tps. 16 and $16\frac{1}{2}$ N., Rs. 15 and 16 W.,

I run

N. $89^{\circ} 56' E.$, on a true line, bet. secs. 6 and 31.

Over mountainous land, through dense undergrowth.

Desc. to

6.67

Junction of two gulches, one from SE., other from NE., course SW. Asc. 705 ft.

Chains.	
37.92	Set a granite stone, 28 X 12 X 9 ins., 16 ins. in the ground, on solid 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, 4 ft. base, 3 ft. high, N. of cor. Pits impracticable.
46.02	Ridge, brs. N. and S. Desc. E. slope, 340 ft. to
58.97	Gulch, course S.15° E. Heads in low saddle, 4 chs. N. of line. Asc. SW. slope, 240 ft. to
68.77	Spur, slopes S. Desc. SE. slope, 40 ft. to
73.52	Head of gulch, course S. Asc. SW. slope, 100 ft. to
77.92	Set a granite stone, 28 X 13 X 10 ins., 18 ins. in the ground, on solid rock, in a mound of stone, for cor. of secs. 5, 6, 31 and 32, marked with 5 notches on E. and 1 notch on W. edge; and raise a mound of stone, 5 ft. base, 3 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, mountainous. Soil, rocky; 4th rate. No timber. Undergrowth, scrub oak, mahogany and manzanita.
	N.89° 56' E., on a true line, bet. secs. 5 and 32. Over mountainous land, through dense undergrowth. Asc. SW. slope, 50 ft. to
5.40	Top of asc., brs. S. Desc. SE. slope, 50 ft. to
8.20	Gulch, course S.15° W. Asc. rocky SW. slope, 760 ft. to
28.50	Ridge, brs. N. and S. Desc. 300 ft. to
35.55	Gulch, course SE. Asc. SW. slope, 105 ft.
40.00	Point for $\frac{1}{4}$ sec. cor. falls on granite boulder, 22 ins. square, 3 ft. above ground, on which Cut a cross (X) at the corner point, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. side of cross; and raise a mound of stone, 4 ft. base, 3 ft. high, N. of cor. Pits impracticable.
41.10	Spur, slopes SE. Desc. SE. slope, 250 ft. to
49.00	Gulch, course S.12° E. Heads 6 chs. N.12° W. Asc. SW. slope, 85 ft. to
54.70	Spur, slopes SE. Desc. 270 ft. to
63.55	Gulch, course SE. Thence along S. slope to
66.95	Spur, slopes SE. Desc. E. slope, 305 ft. to
76.60	Gulch, course S.10° E. Asc. SW. slope, 50 ft. to
80.00	Set a granite stone, 22 X 12 X 12 ins., 17 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked with 4 notches on E. and 2 notches on W. edge; 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. Undergrowth, scrub oak, manzanita, mahogany and cat-claw. T. A. H.
	A. S. N.89° 56' E., on a true line, bet. secs. 4 and 33. Over mountainous land, through dense undergrowth. Asc. 25 ft. to
2.30	Spur, slopes SE. Desc. 140 ft. to
14.15	Gulch, 10 lks. wide, course SE. Asc. 115 ft. to
25.00	Thence along S. slope to
40.00	Point for $\frac{1}{4}$ sec. cor. falls on granite ledge, 2 X 2 X 2 ft. above ground, on which Cut a cross (X) at the corner point, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. side of cross; and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
	Desc. SE. slope, 55 ft. to
44.80	Gulch, course SW. Asc. W. slope, 105 ft. to
47.80	Main divide, brs. N. and S. Desc. NE. slope, 195 ft. to

North Boundary of T. 16 N., R. 15 W.

Chains.

53.80 Gulch, 20 lks. wide, course SE. Asc. SW. slope, 195 ft. to

70.20 Spur, extends 8 chs. S. Desc. SE. slope, 105 ft. to

80.00 Point for cor. of secs. 3, 4, 33 and 34 falls on granite ledge rock, 2 X 2 X 3 ft. above ground, on which Cut a cross (X) at the corner point, for cor. of secs. 3, 4, 33 and 34, marked with 3 grooves E. and W. of cross; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, mountainous.
Soil, rocky; 3rd rate.
No timber.
Undergrowth, scrub oak, mahogany and cat claw.

N.89° 56' E., on a true line, bet. secs. 3 and 34. Over mountainous land, through dense undergrowth.

Desc. to

.40 Wash, course SW. Asc. W. slope, 125 ft. to

9.23 Spur, slopes S. Desc. SE. slope, 55 ft. to

14.45 Wash, 10 lks. wide, course S. Asc. W. slope, 220 ft. to

22.80 Spur, slopes S. Desc. 150 ft. to

31.92 Thence along broken S. slope to

38.30 Spur, slopes S. Continue along broken S. slope.

40.00 Set a granite stone, 14 X 12 X 10 ins., 10 ins. in the ground, for ¼ sec. cor., marked ¼ on N. face; and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

48.57 Ridge, brs. NW. and SE. Desc. 525 ft. to

61.66 Thence along N. slope to

72.66 Spur, extends 10 chs. N. Desc. NE. slope, 245 ft. to

80.00 Point for cor. of secs. 2, 3, 34 and 35 falls on a granite ledge, 4 X 4 X 3 ft. above ground, on which Cut a cross (X) at the corner point, for cor. of secs. 2, 3, 34 and 35, marked with 2 grooves E. and 4 grooves W. of cross; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.

Land, mountainous.
Soil, granite; 3rd rate.
No timber.
Undergrowth, scrub oak, mahogany and cat claw.

N.89° 56' E., on a true line, bet. secs. 2 and 35. Over mountainous land, through dense undergrowth.

Desc. NE. slope, 500 ft. to

27.00 Gulch, course SE. Asc. W. slope, 255 ft.

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
1915 on S. rim;
¼S35 in N. and
S2 in S. half;
and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Pits impracticable.

43.30 Spur, slopes S. Desc. SE. slope, 350 ft. to

54.92 Gulch, 20 lks. wide, course S. Asc. W. slope, 65 ft. to

59.60 Spur, slopes S. Desc. SE. slope, 180 ft.

63.15 One wire telephone line, brs. N. and S. to San Francisco Mine.

75.30 Wash, 25 lks. wide, course SW. Asc. NW. slope, 115 ft. to

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
1915 on S. rim;
T16½N in N.,
T15W in S. and
R15W in W. half;

North Boundary of T. 16 N., R. 15 W.

Chains.

S35 in NW.,
 S36 in NE.,
 S1 in SE. and
 S2 in SW. quadrant;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 W. of cor. Pits impracticable.
 Land, mountainous.
 Soil, rocky; 3rd rate.
 No timber.
 Undergrowth, scrub oak, mesquite and cat claw.

10.44 N. 89° 56' E., on a true line, bet. secs. 1 and 36.
 28.90 Over mountainous land, through dense undergrowth.
 40.00 Asc. W. slope, 220 ft. to
 Ridge, brs. NW. and SE. Desc. NE. slope, 280 ft. to
 Head of gulch, course N. Thence along N. slope
 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the
 ground, for ¼ sec. cor., marked on brass cap
 1915 on S. rim;
 ¼ S36 in N. and
 S1 in S. half;
 and raise a mound of stone, 2 ft. base, 1½ ft. high,
 N. of cor. Pits impracticable.
 54.95 Head of gulch, course N. Asc. W. slope, 25 ft. to
 57.60 Ridge, brs. NE. and SW. Desc. NE. slope, 125 ft.
 70.00 Road, brs. N. to Cedar, and S. to San Francisco Mine and
 Owens.
 72.45 Head of gulch, 15 lks. wide, course SE. Asc. 110 ft. to
 80.00 The cor. of Tps. 16 and 16½ N., Rs. 14 and 15 W.
 Land, mountainous.
 Soil, granite; 3rd rate.
 No timber.
 Undergrowth, scrub oak, mesquite and cat claw.
 A. S.
 Dec. 24, 1915.

Boundaries of T. 16 N., R. 15 W.

Latitudes, departures and closing errors.

Line designated.	True bearing.	Dist. chs.	Latitudes.		Departures.	
			N. chs.	S. chs.	E. chs.	W. chs.
South boundary.	S89° 57' W.	478.22		.41		478.22
West boundary.	North.	480.00	480.00			
North boundary.	N89° 56' E.	477.92	.60		477.92	
East boundary.	South.	480.00		480.00		
Convergency.					.50	
Totals.			480.60	480.41	478.42	478.22
			480.41		478.22	
<u>Error in latitude.</u>			.19			
<u>Error in departure.</u>					.20	

U. S. Surveyor

U. S. Transition.

FINAL OATH OF UNITED STATES SURVEYOR.

I, _____, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for _____ bearing date of the _____ day of _____, 191____, 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 _____ of the _____ Meridian, in the State of _____, which are represented in the foregoing field notes as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for _____ and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

U. S. Surveyor.

Subscribed by said _____, and sworn to before me }
this _____ day of _____ 191____



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, February 15____, 1917.

The foregoing field notes of the survey of the Township Exterior lines, under Group 41 Arizona which are shown by red lines on Index Diagram on page I hereof

executed by Irving W. Stoddard and Albert Smith Jr., U.S. Surveyors and R.D. Armstrong, H.N. Bradstreet, Carl Dyson, Hans D. Voigt and Thomas A. Hayden, U.S. Transitmen.

under special instructions dated December 28th _____, 1914, 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. Pratt

U. S. Surveyor General.
of Arizona

~~I certify that the foregoing transcript of the field notes of the above described surveys in Book _____ Group 41 _____, has been correctly copied from the original notes on file in this office.~~