

2275

Book B.

2275

BOOK 2275

FIELD NOTES

OF THE SURVEY OF THE

Subdivision lines of T9 S. R 31 E
and

Retrocement - Resurvey of East Boundary T9 S. R 31 E.

2275

2275

Of the *T9 S. R 31 E* Meridian,
Arizona

AS SURVEYED BY

Hugh J. DuVal, United States Deputy Surveyor,

Under his Contract No. *163*; dated *May 16*, 19*10*

Survey commenced *October 18*, 19*10*

Survey completed *November 26*, 19*10*

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NAMES AND DUTIES OF ASSISTANTS.

Orris Phillips

Chairman

J. P. Du Val

Bob Manuel

Hayman

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BOOK 2275

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BOOK 2275

PRELIMINARY OATHS OF ASSISTANTS.

WE, Cris Phillips and J. P. DuVal

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

the sub. lines T9S.R31E - T15S.R26E, & Fragmentary subdivision of T23S.R24E - T20S.R21E - T18S.R23E - T12S.R13E - T12S.R9E - T7S.R10E & T8S.R10E.

J. P. DuVal, Chairman.
Cris Phillips, Chairman.

Subscribed and sworn to before me this 28th day of June, 1910



My Commission Expires April 27, 1914

John Evans
Notary Public

WE, _____ and _____

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

_____, Moundman.
_____, Moundman.

Subscribed and sworn to before me this _____ day of _____, 19 _____



WE, _____ and _____

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

_____, Axman.
_____, Axman.

Subscribed and sworn to before me this _____ day of _____, 19 _____



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

survey of the sub. lines of T9S.R31E - T15S.R26E, & Fragmentary subdivision of T23S.R24E - T20S.R21E - T18S.R23E - T12S.R13E - T12S.R9E - T7S.R10E & T8S.R10E.

Bob Manuel, Flagman.

Subscribed and sworn to before me this 25th day of June, 1910



Hugh F. DeWitt
U.S.D.

Retracement and resurvey of E. bdy. T. 9 S. R. 31 E.

Chains.	October 18, 1910.	
	From the cor. of Tps. 9 and 10 S., Rs. 31 and 32 E., previously described, I run North on a random line. Bet. secs. 31 and 36.	
39.58	Intersect the $\frac{1}{4}$ sec. cor., a malpais stone, 14x10x6 ins. above ground, properly marked and witnessed as described by the Surveyor General.	
79.28	Fall 22 lks. E. of the cor. of secs. 25, 30, 31 and 36, a volcanic stone, 15x10x6 ins. above ground properly marked and witnessed as described by the Surveyor General.	

	North on a random line bet. secs. 25 and 30.	
40.25	Fall 11 $\frac{1}{2}$ lks. E. of the $\frac{1}{4}$ sec. cor. a malpais stone, 6x7x6 ins. above ground, properly marked and witnessed as described by the Surveyor General.	
80.36	Fall 23 lks. E. of the cor. of secs. 19, 24, 25 and 30, a malpais stone, 7x5x6 ins. above ground, properly marked and witnessed as described by the Surveyor General.	

	North on a random line bet. secs. 19 and 24.	
40.03	Fall 11 $\frac{1}{2}$ lks. E. of the $\frac{1}{4}$ sec. cor., a malpais stone, 8x6x6 ins. above ground, properly marked and witnessed as described by the Surveyor General.	
80.06	Fall 23 lks. to the E. of the cor. of secs. 13, 18, 19 and 24, a malpais stone, 7x7x7 ins. above ground, properly marked and witnessed as described by the Surveyor General.	

	North on a random line bet. secs. 13 and 18.	
40.01	Fall 24 $\frac{1}{2}$ lks. to the W. of the $\frac{1}{4}$ sec. cor. a malpais stone, 6x6x6 ins. above ground, properly marked and witnessed as described by the Surveyor General.	
80.01	Fall 49 lks. to the W. of the cor. of secs. 7, 12, 13 and 18, a malpais stone, 8x6x5 ins. above ground, properly marked and witnessed as described by the Surveyor General.	

	North on a random line bet. secs. 7 and 12.	
40.17 $\frac{1}{2}$	Fall 13 $\frac{1}{2}$ lks. E. of the $\frac{1}{4}$ sec. cor. a malpais stone, 3x7x6 ins. above ground, properly marked and witnessed as described by the Surveyor General.	
80.35	Fall 27 lks. E. of the cor. of secs. 1, 6, 7 and 12, a malpais stone, 15x8x8 ins. above ground, properly marked and witnessed as described by the Surveyor General.	

	As this point is 400.00 chs. even from the Cor. of Tps. 9 and 10 S., Rs. 31 and 32 E., previously described and is very nearly in its proper position as regards direction, having a total bearing of N.0°4'W. Therefore making it possible for me to close my subdivisional lines thereon, I return to the SE. cor. of the township and proceed to establish corners common to the sections of this township only along this E. bdy.	

	From the Cor. of Tps. 9 and 10 S., Rs. 31 and 32 E., previously described, I run	

Retracement and Resurvey of a part of the E. Bdy. T. 9 S., R. 31 E.

Chains.

North on a true line on E. bdy. of sec. 36, ascending over rough and rocky ground.

18.00 Top of high rocky ridge bears E. and W. Descend.

30.60 Dry wash, 15 lks. wide, course NE.

39.58 The 1/4 sec. cor., previously described.

Thence N.0°19'W. Continue old measurements.

40.00 Set a malpais stone, 15x10x8 ins., 10 ins. in the ground for the 1/4 sec. cor., common only to sec. 36, mkd. 1/4 on W. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

45.88 Top of ascent, descend.

69.30 Foot of hill bears E. and W., thence over rolling ground.

71.10 Dry Wash, 15 lks. wide, course E.

79.28 The old corner of secs. 25, 30, 31 and 36, previously described.

Thence N.0°10'W. new course, but continuing old measurements.

80.00 Set a volcanic stone, 15x8x7 ins., 10 ins. in the ground for the cor. of secs. 25 and 36, mkd. with 5 notches on the N. and 1 notch on the S. edge, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land mountainous. Soil rocky, 4th rate. No timber. Good grass.

N.0°10'W. on a true line on the E. bdy. of sec. 25.

2.20 Dry wash, 10 lks. wide, course NE. Ascend.

14.30 Ridge NE. and SW. Descend.

20.90 Dry wash, 2 chs. wide, course NE. ascend.

24.30 Top of mesa, NE. and SW.

39.53 The old 1/4 sec. cor., previously described.

40.00 Set a malpais stone, 16x8x8 ins., 10 ins. in the ground for the 1/4 sec. cor. for secs. 25 mkd. 1/4 on W. face and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, West of corner.

47.50 Descend.

51.80 Dry wash, course E.

52.10 Leave dry wash and ascend abruptly 40 feet. Enter greasewood.

77.58 Leave greasewood, bears E. and W.

79.58 The old corner of secs. 19, 24, 25 and 30, previously described.

80.00 Set a malpais stone, 16x12x6 ins., 10 ins. in the ground for the corner common to secs. 24 and 25, mkd. with 2 notches on the S. and 4 notches on the N. edge, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Oct. 18th:- At this cor. I set off 9°29 1/2 S. on the decl. arc, and at 11h 45m. a. m., l. m. t., obs. the sun on the mer., the resulting lat. is 32°37'.N

Land rolling. Soil 3rd rate. No timber. Greasewood brush along a part of the line.

N.0°10'W. on a true line on the E. bdy. of sec. 24,

5.60 Enter draw, course E.

17.60 Leave draw, commence steep ascent.

20.60 Top bears E. and W. Enter greasewood brush, bears E. and W.

33.60 Descend

Chains.

- 36.50 Leave greasewood brush, bears E. and W.
 39.61 The old $\frac{1}{4}$ sec. cor., previously described.
 40.00 This point falls in center of Dry wash, 40 lks. wide, course E.
 40.35 Set a malpais stone, 15x15x5 ins., 10 ins. in the ground for the witness corner of the $\frac{1}{4}$ sec. cor., for sec. 24, mkd. WC $\frac{1}{4}$ on W. and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 Ascend.
 47.00 Ridge bears E. and W. Descend.
 53.00 Dry wash, 20 lks. wide, course SE.
 Ascend.
 57.55 Ridge bears E. and W., descend.
 70.45 Dry wash, 15 lks. wide, course NW., Thence over level ground, bears E. and W.
 79.64 The old cor. of secs. 13, 18, 19 and 24, previously described.

Thence N.0°21'E. continuing same measurements.

- 80.00 Set a malpais stone, 15x7x7 ins., 10 ins. in the ground for the cor. of secs. 13 and 24, mkd. with 3 notches on the N. and S. edges and raise a mound of stone, 2 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Land rolling. Soil 3rd rate. No timber.

 N.0°21'E. on a true line on the E. bdy. of sec. 13.

- Ascend.
 2.25 Top of ridge bears E. and W. Descend.
 9.15 Foot of ridge bears E. and W.
 12.94 Dry wash, 40 lks. wide, course NE.
 15.40 Dry wash, 40 lks. wide, course NE.
 17.60 Dry wash, 25 lks. wide, course NE.
 31.15 Dry wash, 25 lks. wide, course E.
 37.60 Road bears NE. and SW.
 39.65 The old $\frac{1}{4}$ sec. cor., previously described.
 40.00 Set a malpais stone, 15x9x9 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., common only to sec. 13, mkd. $\frac{1}{4}$ On W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
 43.65 Ascend little ridge,
 50.65 Top bears E. and W.
 59.65 Descend.
 72.44 Dry wash, 15 lks. wide, course NE.; ascend.
 74.64 Enter level ground, bears NE. and SW.
 79.65 The old cor. of secs. 7, 12, 13 and 18, previously described.
 Thence N.0°12'W. continuing same measurements.
 80.00 Set a malpais stone, 15x9x6 ins., 10 ins. in the ground for the corner of secs. 12 and 13, mkd. with 2 notches on the N. and 4 notches on the S. edges and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Land rolling. Soil 3rd rate. Good grass.

Oct. 18th:- At 3h, p. m., 1. m. t., I set off 9°32'S. on the decl. arc, and 57°21' on the co-lat. arc,

Chains.

and determine a mer. with the solar at this cor.

N. 0°12'W. on a true line on the E. bdy. sec. 12.
Ascending.

- .65 Ridge bears E. and W. Descend.
- 4.00 Enter level ground, bears E. and W.
- 39.82½ Old ¼ sec. cor., previously described.
- 40.00 Set a malpais stone, 15x10x6 ins., 10 ins. in the ground for the ¼ sec. cor. sec. 12, mkd. ¼ on W. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
- 80.00 The cor. of secs. 1, 6, 7 and 12, previously described. and level. Soil 3rd rate. No timber.

Oct. 18th, 1910.

Note:
As original cors. along this line were all witnessed by mounds no change in markings was necessary.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains. For test of instrument see Book "A"-bdrs. T. 9 S. R. 31 E. previously From the cor. of secs. 1, 2, 35 and 36, on S. Bdy of Tp. described, I run N. 0°5'W. bet. secs. 35 and 36.

descending.

5.00 Arroyo, 25 lks. wide, course W. Ascend.
10.00 Rocky point, W. side, Descend.

40.00 Set a malpais stone, 15x10x8 ins., 10 ins. in the ground for the 1/4 sec. cor., mkd. 1/4 on W face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

50.00 Arroyo, 75 lks. wide, course E. Ascend
80.00 Set a malpais stone, 20x15x8 ins., partly in the ground and in mound of stone, on rocky ground, for the cor. of secs. 25, 26, 35 and 36, mkd. with 1 notch on the S. and E. edges, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.

Land mountainous and exceptionally difficult to survey
Soil 4th rate. Grass good.

Oct. 19th:- At 11h.45m. a. m., l. m. t., I set off 9°51 1/2' S on the decl. arc, and at this cor. obs. the sun on the mer., the resulting lat is 32°36' N.

East on a random line bet. secs. 25 and 36.

40.00 Set a temp. 1/4 sec. cor.
79.82 Intersect the E. bdy. of the tp. at the cor. of secs. 25 and 36, previously described.

Thence I run, West on a true line bet. secs. 25 and 36.

34.80 Arroyo, 50 lks. wide, course NE.
59,91 Set a malpais stone, 15x8x6 ins., 10 ins. in the ground for the 1/4 sec. cor., mkd. 1/4 on N. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor

79.82 The cor. of secs. 25, 26, 35 and 36.
Land rolling. Soil 2nd rate. No timber. Good grass.

Oct. 19th:- At 3h, p. m., l. m. t., I set off 9°54' S. on the decl. arc, 57°24' on the co-lat. arc and determine a mer. with the solar at this cor.

N. 0°5'W. bet. secs. 25 and 26, over rolling ground. very rocky.

13.00 Wash, 50 lks. wide, course E.
40.00 Set a malpais stone, 15x10x8 ins., 10 ins. in the ground for the 1/4 sec. cor., mkd. 1/4 on W face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Oct. 19th, 1910.

72.00 Arroyo, 75 lks. wide, course E.

80.00 Set a malpais stone 15x10x6 ins., 10 ins. in the ground for the cor. of secs. 23, 24, 25 and 26, mkd. with 1 notch on the E. and 2 notches on the S. edge, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.
Land rolling. Soil 2nd rate. No timber. Good grass.

Chains.

East on a random line bet. secs. 24 and 25.

40.00
79.96

Set a temp. $\frac{1}{4}$ sec. cor.
Intersect the E. bdy. of the township at a point 3 lks.
S. of the cor. of secs. 24 and 25, previously described,

Oct. 20th:- At this cor. I set off $10^{\circ}13'S$ on the
decl. arc and at 11h.45m. a. m., l. m. t., obs. the sun
on the mer., the resulting lat. is $32^{\circ}37'N$

Thence I run $S.89^{\circ}59'W.$ on a true line bet. secs.
24 and 25.

39.98

Set a malpais stone, $16 \times 7 \times 7$ ins., 10 ins. in the ground
for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound
of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

64.00

Arroyo, 75 lks. wide, course NE.

79.96

The cor. of secs. 23, 24, 25 and 26,
Land rolling. Soil 2nd rate. No timber.
Good grass.

 $N.0^{\circ}5'W.$ bet. secs. 23 and 24 over rolling ground.

19.00

Arroyo, 20 lks. wide, course NE.

40.00

Set a malpais stone, $16 \times 12 \times 12$ ins., 10 ins. in the ground
for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound
of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

80.00

Set a malpais stone, $16 \times 8 \times 6$ ins., 10 ins. in the ground
for the cor. of secs. 13, 14, 23 and 24, mkd. with 3 notch-
es on the S. and 1 notch on the E. edge, and raise a mound
of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Oct. 20th: At 3h. p. m., l. m. t., I set off $10^{\circ}15\frac{1}{2}'S.$
on the decl. arc, $57^{\circ}22'$ on the co-lat. arc, and determine
a mer. with the solar at this cor.

Land rolling. Soil 2nd rate. No timber.

 $N.89^{\circ}59'E.$ on a random line bet. secs. 13 and 24.

40.00
79.79

Set a temp. $\frac{1}{4}$ sec. cor.
Intersect the E. bdy. of the tp. at a point 5 lks. N.
of the cor. of secs. 13 and 24, previously described.

Thence I run $N.89^{\circ}59'W.$ on a true line bet. secs.
13 and 24 over rolling ground.

26.79

Arroyo, 50 lks. wide, course NE.

39.89 $\frac{1}{2}$

Set a malpais stone, $15 \times 9 \times 6$ ins., 10 ins. in the ground
for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound
of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

45.00

Arroyo, 15 lks. wide, course $S.60^{\circ}E.$

79.79

The cor. of secs. 13, 14, 23 and 24.
Land rolling. Soil 3rd rate. No timber.
Good grass.

Oct. 20th, 1910.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.	N. 6°5'W. bet. secs. 13 and 14 over rolling ground.
40.00	Set a malpais stone, 14x7x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
60.00	Arroyo, 50 lks. wide, course NEly.
80.00	Set a malpais stone, 14x8x6 ins., 10 ins. in the ground for the cor. of secs. 11, 12, 13 and 14, mkd. with 4 notches on the S. and 1 notch on the E. edge, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
	Land rolling. Soil 2nd rate. No timber. Good grass.

	S. 89°59'E. on a random line bet. secs. 12 and 13,
40.00	Set a temp. $\frac{1}{4}$ sec. cor.
80.29	Intersect the E. bdy. of the township at a point 3 lks. N. of the cor. common to secs. 12 and 13, previously described.
	Thence I run, N. 89°58'W. on a true line bet. secs. 12 and 13.
40.14	Set a malpais stone, 14x7x7 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
41.15	Arroyo, 50 lks. wide, course NE.
80.29	The cor. of secs. 11, 12, 13 and 14.
	Land rolling. Soil 2nd rate. No timber. Good grass.
	Oct. 21st:—At this cor. I set off 10°34 $\frac{1}{2}$ 'S. on the decl. arc, and at 11h.45m, a. m., 1. m. t., I obs. the sun on the mer., the resulting lat. is 32°39'N

	N. 0°5'W. bet. secs. 11 and 12 over rolling ground.
40.00	Set a malpais stone, 12x7x6 ins., 8 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
	Oct. 21st:— At 4h, p. m., 1. m. t., I set off 10°37'S on the dec l. arc, 57°21' on the co-lat. arc and determine a mer. with the solar at this cor.
80.00	Set a malpais stone, 15x8x7 ins., 10 ins. in the ground for the cor. of secs. 1, 2, 11 and 12, mkd. 5 notches on the S. and 1 notch on the E. edge, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
	Land rolling. Soil 2nd rate. Good grass. Oct. 21st, 1910.

	S. 89°58'E. on a random line bet. secs. 1 and 12.
40.00	Set a temp. $\frac{1}{4}$ sec. cor.
80.28	Intersect the E. bdy. of the township at a point 5 lks. S. of the cor. of secs. 1, 6, 7 and 12; previously described. Thence I run West on a true line bet. secs. 1 and 12 over rolling ground.
40.14	Set a malpais stone, 15x6x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

- 80.28 Intersect the cor. of secs. 1, 2, 11 and 12.
land rolling. Soil 2nd rate.
- Oct. 22nd:- At this cor. I set off $10^{\circ}56'S$. on the decl. arc, and at 1h.45m. a. m., l. m. t. obs. the sun on the mer., the resulting lat. is $32^{\circ}40'N$.
-
- Thence I run $N.0^{\circ}5'W$. on a random line bet. secs. 1 and 2.
- 40.00 Set a temp. $\frac{1}{4}$ sec. cor.
79.96 Intersect the N. bdy. of the township at a point 3 lks. E. of the cor. of secs. 1, 2, 35 and 36, previously described.
- Oct 22nd:- At 3h, p. m., l. m. t. I set off $10^{\circ}58'S$. on the decl. arc, and $57^{\circ}19'$ on the co-lat. arc and determine a mer. with the solar at this cor.
- Thence I run, $S.0^{\circ}6'E$. bet. secs. 1 and 2.
On a true line over rolling ground.
- 39.96 Set a malpais stone, $14 \times 7 \times 6$ ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- 79.96 The cor. of secs. 1, 2, 11 and 12.
land rolling. Soil 2nd rate. No timber.
- Oct. 22nd, 1910.
-
- From the cor. of secs. 34, 35, 2 and 3 on the S. bdy. of the township, previously described, I run $N.0^{\circ}5'W$. bet. secs. 34 and 35, descending over rough and rocky ground.
- 30.00 Foot of descent, enter valley, bears NW. and SE.
40.00 Set a malpais stone, $15 \times 6 \times 6$ ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- 79.25 Arroyo, 50 lks. wide, course $S.80^{\circ}E$. Steep ascent.
- 80.00 Set a malpais stone, $15 \times 8 \times 6$ ins., 10 ins. in the ground for the cor. of secs. 26, 27, 34 and 35, mkd. with 1 notch on the S. and 2 notches on the E. edge and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
- Land mountainous and exceptionally difficult to survey.
Soil 4th rate. Godgrass.
-
- Thence I run East on a random line bet. secs. 26 and 35.
- 40.00 Set temp. $\frac{1}{4}$ sec. cor.
Oct. 24th:- At this cor. I set off $11^{\circ}38'S$. on the decl. arc, and at 1h.44m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is $32^{\circ}36'N$.
- 79.98 Intersect the N. and S. line at a point 3 lks., S. of the cor. of secs. 25, 26, 35 and 36.
- Thence I run $S.89^{\circ}59'W$. on a true line bet. secs.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

26 and 35.
 20.00 Arroyo, 15 lks. wide, course N.80°E.
 39.99 Set a malpais stone, 15x6x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
 79.98 The cor. of secs. 26, 27, 34 and 35.

Land mountainous. Soil 3rd rate. No timber.
 Good grass.

 N.0°5'W. bet. secs. 26 and 27, ascending over very steep and rocky ground.

40.00 Set a malpais stone, 15x8x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

42.00 Top of ridge bears NW. and SE.
 45.00 Descend, very steep and rocky.
 75.00 Foot of descent, bears NW. and SE.

Arroyo, 50 lks. wide, course SE.
 80.00 Set a malpais stone, 15x9x7 ins., 10 ins. in the ground for the cor. of secs. 22, 23, 26 and 27, mkd. with 2 notches on the S. and E. edges and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Land Mountainous. Soil 3rd rate. No timber.
 Good grass.

Oct. 24th:- At 3h. p. m., l. m. t., I set off 11°40'S on the decl. arc, 57°23' on the co-lat. arc and determine a mer. with the solar at this cor.
 Oct. 24th, 1910.

 N.89°59'E. on a random line bet. secs. 23 and 26.

40.00 Set a temp. $\frac{1}{4}$ sec. cor.
 79.88 Intersect the N. and S. line at a point 7 lks. N. of the cor. of secs. 23, 24, 25 and 26.

Thence I run, N.89°58'W. on a true line bet. secs. 23 and 26, over mountainous land.
 Ascending over rocky ground, gradually.

39.94 Set a malpais stone, 15x6x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft base, 1 $\frac{1}{2}$ ft. high, N. of cor.

79.88 The. cor. of secs. 23, 22, 26 and 27.
 Land mountainous. Soil rocky, 4th rate.
 Good grass.

Oct. 25th:- At this cor., I set off 11°59'S on the Decl. arc, and at 1h.44m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°37'N

 N. 0°5'W. bet. secs. 22 and 23.

40.00 Set a malpais stone, 12x7x6 ins., 8 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Oct. 25th:- At 4h. p. m., l. m. t., I set off 12°1 $\frac{1}{2}$ 'S. on the decl. arc, 57°22' on the co-lat. arc and determine a mer. with the solar at this cor.

80.00 Set a malpais stone, 15x8x5 ins., 10 ins. in the ground

10. Subdivisional Lines of T. 9 S. R. 31 E.

Chains.

for the cor. of secs. 14, 15, 22 and 23, mkd. with 3 notches on the S. and 2 notches on the E. edge, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor. Land mountainous. Soil 4th rate. Good grass.

Oct. 25th, 1910.

N. 89°58'E. on a random line bet. secs. 14 and 23.

40.00 Set a temp. 1/4 sec. cor.
79.60 Intersect the N. and S. line at a point 5 lks. S. of the cor. of secs. 13, 14, 23 and 24.

Thence I run, West on a true line bet. secs. 14 and 23. Over rocky ground.

39.80 Set a malpais stone, 12x7x6 ins., 8 ins. in the ground for the 1/4 sec. cor., mkd. 1/4 on N. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

79.60 The cor. of secs. 14, 15, 22 and 23.

Land rocky and semi mountainous. Good grass. Rocky soil.

N.0°5'W. bet. secs. 14 and 15 over rollig ground.

3.00 Arroyo, 50 lks. wide, course N.80°E.

38.00 Arroyo, 20 lks. wide, course SE

40.00 Set a malpais stone, 15x7x6 ins., 10 ins. in the ground for the 1/4 sec. cor., mkd. 1/4 on W. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Oct. 26th:- At this cor., I set off 12°19 1/2'S. on the decl. arc, and at 11h.44m.a. m., l. m. t., I obs the sun on the mer., the resulting lat. is 32°39' N

80.00 Set a malpais stone, 15x8x8 ins., 10 ins. in the ground, on the North side of a little hill, mkd. with 4 notches on the S. and 2 notches on the E. edge, for the cor. of secs. 10, 11, 14 and 15, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.

Land rolling. Soil 3rd rate. No timber. Good grass.

East on a random line bet. secs. 11 and 14.

40.00 Set a temp. 1/4 sec. cor.
79.80 Intersect the N. and S. line at a point 5 lks. S. of the cor. of secs. 11, 12, 13 and 14.

Thence I run, S.89°58'W. bet. secs. 11 and 14 over rooling ground.

39.90 Set a malpais stone, 12x10x5 ins., 8 ins. in the ground for the 1/4 sec. cor., mkd. 1/4 on N. face, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.

Oct. 26th:- At 3h, p. m., l. m. t., I set off 12°22'S. on the decl. arc, and 57°21' on the co-lat. arc and determine a mer. with the solar at this cor.

79.80 The cor. of secs. 10, 11, 14 and 15. Land rolling. Soil third rate. Good grass.

Oct. 26th, 1910.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.	N.0°5'W. bet. secs. 10 and 11 over rolling ground.
20.00	Enter draw, course NE.
40.00	Set a malpais stone, 18x8x7 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Ascend gradually.
60.00	Ridge bears NE. and SW. Descend.
75.00	Draw about 2 chs. wide, course NE. Ascend.
80.00	Set a malpais stone, 18x12x12 ins., 12 ins. in the ground for the cor. of secs. 2, 3, 10 and 11, mkd. with 5 notches on the S. and 2 notches on the E. edge, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Land rolling. Soil 3rd rate. No timber. Good grass.

	N.89°58'E. on a random line bet. secs. 2 and 11.
40.00	set a temp. $\frac{1}{4}$ sec. cor.
80.00	Intersect the N. and S. line at a point 3 lks. N. of the cor. of secs. 1, 2, 11 and 12. Thence I run, S.89°59'W. on a true line bet. secs. 2 and 11 over rolling ground.
40.00	set a malpais stone, 15x7x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Oct. 27th:- At this cor., I set off 12°40'E. on the decl. arc, and at 1h.44m.p. m., 1. m. t., I obs. the sun on the mer., the resulting lat. is 32°40'N
	Thence across wide draw, course NEly.
60.00	Leave draw, course NEly.
70.00	Ridge bears NE. and SW.
77.00	Draw about 2 chs. wide, course N40°E.
80.00	The cor. of secs. 2, 3, 10 and 11. Land rolling. Soil 2nd rate. No timber. Good grass.

	N.0°5'W. on a random line bet. secs. 2 and 3.
40.00	set a temp. $\frac{1}{4}$ sec. cor.
79.99	Intersect the N. bdy. of the township at a point 5 lks. E. of the cor. of secs. 2, 3, 34 and 35, previously described. Thence I run S.0°7'E. bet. secs. 2 and 3 on a true line. Over rolling ground.
10.00	Arroyo, 50 lks. wide, course NE.
39.99	Set a malpais stone, 15x9x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Oct. 27th:- At 3h. p. m., 1. m. t., I set off 12°42'S. on the decl. arc, 57°20' on the co-lat. arc, and determine a mer. with the solar at this cor.
79.99	The cor. of secs. 2, 3, 10 and 11. Land rolling. Soil 3rd and 2nd rate. Good grass. Oct. 27th, 1910.

Chains.

From the cor. of secs. 3, 4, 33 and 34 on the S. bdy. of the township, previously described, I run N. 0° 6' W. bet. secs. 34 and 33 across a little grassy valley, course SE.

35.00 Commence precipitous ascent of mountain ridge, bears NW. and SE.

40.00 Set a malpais stone, 15x8x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

48.00 Top of ridge bears NW. and SE. Descend over rough and rocky ground.

62.00 Canon, 30 lks. wide, course E. Ascend.

80.00 Set a malpais stone, 15x9x8 ins., 10 ins. in the ground for the corner of secs. 27, 28, 33 and 34, mkd. with 1 notch on the S. and 3 notches on the E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Oct. 28th:- At this cor., I set off 13° 09' S. on the decl. arc, and at 11h, 44m. a. m. l. m. t., I obs. the sun on the mer., the resulting lat. is 32° 36' N

Land mountainous and exceptionally difficult to survey. Soil 4th rate. Good grass.

East on a random line bet. secs. 27 and 34.

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

80.10 Intersect the cor. of secs. 26, 27, 34 and 35.

Thence I run West on a true line bet. secs. 27 and 34 over mountainous ground. Descending.

1.00 Arroyo, 50 lks. wide, course S. 80° E. Ascend gradually.

40.05 Set a malpais stone, 12x8x8 ins., 8 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

Oct. 28th:- At 3h, p. m. l. m. t., I set off 13° 2' S. on the decl. arc, 57° 24' on the co-lat. arc and determine a mer. with the solar at this cor.

60.00 Commence steep ascent of mountain.

80.10 The cor. of secs. 27, 28, 33 and 34.

Land mountainous and exceptionally difficult to survey. Soil 4th rate. Grass good.

Oct. 28th, 1910.

N. 0° 6' W. bet. secs. 27 and 28 ascending over rough and rocky ground.

6.00 Top of hill or point, runs back west. Descend over rough and rocky ground.

30.00 Canon, 50 lks. wide, course E. Ascend.

40.00 Set a malpais stone, 15x9x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face and raise amount of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

- 47.00 Point of ridge runs back W., descend.
 55.00 Canon, 30 lks. wide, course SE. Ascend.
 63.00 Ridge bears S. 80° E. and N. 80° W. Descend.
 80.00 Set a malpais stone, 15x8x6 ins., 10 ins. in the ground for the cor. of secs. 21, 22, 27 and 28, mkd. with 2 notches on the S. and 3 notches on the E. edge, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
- Land rough and rocky and exceptionally difficult to survey.
 Soil 3rd and 4th rate. Grass good.
- Oct. 29th:- At this cor., I set off 13°20½' S. on the decl. arc, and at 11h.44m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°37' N.
-
- East on a random line bet., secs. 22 and 27.
- 40.00 Set a temp. ¼ sec. cor.
 80.00 Intersect the N. and S. line at a point 3 lks. S. of the cor. of secs. 22, 23, 26 and 27.
 Thence I run, S. 89°59' W. on a true line bet. secs. 22 and 27.
- 10.00 Arroyo, 30 lks. wide, course SEly.
 Ascend.
- 40.00 Set a malpais stone, 15x10x6 ins., 10 ins. in the ground for the ¼ sec. cor., mkd. ¼ on N. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
- Oct. 29th:- At 4h, 9. m. ^{P.M.} l. m. t., I set off 13°22½' S. on the decl. arc, and 57°23' on the co-lat. arc, and determine a mer. with the solar at this cor.
- 80.00 The cor. of secs. 21, 22, 27 and 28.
 Land mountainous. Soil 4th rate. Good grass.
- Oct. 29th, 1910.
- N. 0°6' W. bet. secs. 21 and 22, descending.
- 25.00 Foot of descent, Arroyo, 50 lks. wide, course SEly.
 Ascend.
- 33.00 Top of spur from ridge, bears NW. and SE. Descend.
 40.00 Set a malpais stone, 15x15x12 ins., 10 ins. in the ground for the ¼ sec. cor., mkd. ¼ on W. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
- 46.00 Arroyo, 20 lks. wide, course SE. Ascend.
 72.00 Top of mountain peak, descend over very steep rocky ground.
- 80.00 Set a malpais stone, 18x15x6 ins., 12 ins. in the ground for the cor. of secs. 15, 16, 21 and 22, mkd. 9S on NE. 31 E on SE. with 3 notches on the S. and E. edges, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
 Land mountainous and exceptionally difficult to survey.
 Soil 4th rate. Good grass.
- Oct. 31st:- At this cor., I set off 14° S. on the decl. arc, and at 11h.44m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°38' N.
-
- N. 89°59' E. on a random line bet. secs. 15 and 22.
- 40.00 Set a temp. ¼ sec. cor.
 79.99 Intersect the N. and S. line at a point 14 lks. S. of the cor. of secs. 14, 15, 22 and 23. Thence I run

Chains.	S. 89°53'W. bet. secs. 15 and 22, ascending.
39.99½	Set a malpais stone, 20x14x8 ins., 15 ins. in the ground for the ¼ sec. cor., mkd. ¼ on N. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
72.00	Top of mountain ridge running NE. from peak, descend.
79.99	The cor. of secs. 15, 16, 21 and 22. Land mountainous and exceptionally difficult to survey. Soil 4th rate. Good grass.

	N. 0°6'W. bet. secs. 15 and 16, descending over rough rocky ground.
11.00	Canon, 20 lks. wide, course NE. Ascend.
40.00	Point for the ¼ sec. cor. falls on rock in place, 2x3x4 feet above ground and forming solid part of rocky ledge, mark x at exact point point for cor., with ¼ on W. side, for the ¼ sec. cor., and raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor. Oct. 31st, 1910.
47.00	Saddle bears E. and W. Descend.
80.00	Set a malpais stone, 18x12x8 ins., 12 ins. in the ground for the cor. of secs. 9, 10, 15 and 16, mkd. with 3 notches on the E. and 4 notches on the S. edge, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Land mountainous and exceptionally difficult to survey. Good grass. 3rd and 4th rate Soil.

	N. 89°53'E. on a random line bet. secs. 10 and 15.
40.00	Set a temp. ¼ sec. cor.
80.02	Intersect the N. and S. line at a point 26 lks. N. of the cor. of secs. 10, 11, 14 and 15. Thence I run, N. 89°56'W. on a true line bet. secs. 10 and 15 Ascending, gradually.
40.01	Set a malpais stone, 15x10x6 ins., 10 ins. in the ground for the ¼ sec. cor., mkd. ¼ on N. face, and raise mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
80.02	The cor. of secs. 9, 10, 15 and 16. Land mountainous. Soil 4th rate. Good grass.

	N. 0°6'W. bet. secs. 9 and 10 over broken rocky ground.
40.00	Set a malpais stone, 18x10x7 ins., 12 ins. in the ground for the ¼ sec. cor., mkd. ¼ on W. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Nov. 1st:- At this cor. I set off 14° 19'S. on the decl. arc, and at 1h.44m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°39'.N
45.00	Arroyo, 30 lks. wide, course E.
80.00	Set a malpais stone, 15x10x8 ins., 10 ins. in the ground for the cor. of secs. 3, 4, 9 and 10, mkd. with 5 notches on the S. and 3 notches on the E. edge, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Land mountainous. Soil 4th rate. Grass good.

Chains.

S. 89°56'E. on a random line bet. secs. 3 and 10.

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

79.98 Intersect the N. and S. line at a point 9 lks. S. of the cor. of secs. 2, 3, 10 and 11.

Thence I run West on a true line bet. secs. 3 and 10 over rolling ground.

10.00 Arroyo, 1 ch. wide, course NE.

39.99 Set a malpais stone, 15x8x7 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

79.98 The cor. of secs. 3, 4, 9 and 10.

Land rolling. Soil 3rd rate. Good grass. ✓

Nov. 1st:- At 3h. p. m., l. m. t. I set off 14°21 $\frac{1}{2}$ ' S. on the decl. arc, and 57°20' on the co-lat. arc and determine a mer. with the solar at this cor.-----
N. 0°6'W. bet. secs. 3 and 4 on a random line.40.00 Set a temp. $\frac{1}{4}$ sec. cor.

80.00 Intersect the N. bdy. of the township, 3 lks. E. of the cor. of secs. 3, 4, 33 and 34. previously described

Thence I run S. 0°7'W. on a true line bet. secs. 3 and 4 over rolling ground.

40.00 Set a malpais stone, 12x12x6 ins., 8 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

48.00 Arroyo, 50 lks. wide, course SE. Ascend.

50.00 Little ridge bears SE. and NW. Descend.

53.00 Arroyo, 50 lks. wide, course SE.

75.00 Arroyo, 2 chs. wide, course NEly.

80.00 The cor. of secs. 3, 4, 9 and 10.

Land rolling. Soil 2nd rate. Good grass.

Nov. 1st, 1910.

From the cor. of secs. 32, 33, 5 and 4, previously described on the S. bdy. of the township, I run N. 0°6'W. bet. secs. 32 and 33, ascending.

20.00 Ridge bears NE. and SW., Descend.

38.00 Canon, course S. 80°E., 1 ch. wide.

Ascend.

40.00 Set a malpais stone, 15x8x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.Nov. 2nd:- At this cor. I set off 14°38 $\frac{1}{2}$ ' S. on the decl. arc, and at 11h.44m. a. m. l. m. t. obs. the sun on the mer., the resulting lat. is 32°36' N. ✓

60.00 Top of ridge bears NE. and SW. Descend.

80.00 Set a malpais stone, 18x7x6 ins., 12 ins. in the ground for the cor. of secs. 28, 29, 32 and 33, mkd. with 1 notch on the S. and 4 notches on the E. edge, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.Nov. 2nd:- At 4h. p. m., l. m. t., I set off 14°40 $\frac{1}{2}$ ' S. on the decl. arc, and 57°24' on the co-lat. arc, and determine a mer. with the solar at this cor.

Land mountainous and exceptionally difficult to survey

16. Subdivisional Line T. 9 S., R. 31 E.

Chains.

Soil 4th rate. Grass good. No timber.
Nov. 2nd, 1910.

East on a random line bet. secs. 28 and 33.

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

80.21 Intersect the N. and S. line at a point 23 lks. S. of the cor. of secs. 27, 28, 33 and 34.

Thence I run S. $89^{\circ}50'W$. on a true line bet. secs. 28 and 33 over mountainous ground. Ascending.

40.10 $\frac{1}{2}$ Set a malpais stone, $15 \times 9 \times 6$ ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

Top of ridge bears NW. and SE.

Nov. 3rd, 1910:- At this cor. I set off $14^{\circ}57\frac{1}{2}'S$. on the decl. arc, and at 11h.44m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is $32^{\circ}36'N$

Descend.

72.21 Canon, 50 lks. wide, course S. $80^{\circ}E$. Ascend.

80.21 The cor. of secs. 28, 29, 32 and 33.

Nov. 3rd:- At 4h, p. m. l. m. t., ^{Set off} $14^{\circ}59\frac{1}{2}'S$. on the decl. arc, $57^{\circ}24'$ on the co-lat. arc, and determine a mer. with the solar at this cor.

Land mountainous, exceptionally difficult to survey.
Soil 4th rate. grass good.

Nov. 3rd, 1910.

N. $0^{\circ}6'W$. bet. secs. 28 and 29, descending.

6.00 Canon, 50 lks. wide, course S. $80^{\circ}E$. About 15 chs. up this canon from this point there is a well, new, contains no water, put down by one Phillips.

Ascend.

30.00 Top of ridge bears NW. and SE. Descend.

40.00 Set a malpais stone, $15 \times 15 \times 4$ ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high W. of cor.

Nov. 4th:- At this cor. I set off $15^{\circ}16'S$. on the decl. arc and at 11h.44m. a. m., l. m. t. obs. the sun on the mer., the resulting lat. is $32^{\circ}37'N$.

65.00 Canon, 50 lks. wide, course S. $70^{\circ}E$. Ascend.80.00 Set a malpais stone, $15 \times 10 \times 5$ ins., 10 ins. in the ground for the cor. of secs. 20, 21, 28 and 29, mkd. with 2 notches on the S. and 4 notches on the E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Land mountainous and exceptionally difficult to survey

Soil 4th rate. Grass good.

Nov. 4th:- At 3h, p. m., l. m. t., I set off $15^{\circ}18'S$. on the decl. arc, and $57^{\circ}23'$ on the co-lat. arc and determine a mer. with the solar at this cor.

Nov. 4th, 1910.

N. $89^{\circ}50'E$. on a random line bet. secs. 21 and 28.

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

80.05 Intersect the N. and S. line at a point 23 lks. S. of the cor. of secs. 21, 22, 27 and 28.

Thence I run S. $89^{\circ}40'W$. on a true line bet. secs. 21 and 28. Ascending.

Subdivisional Lines of Township 9 S., R. 31 E.

17.

Chains.

- 40.02½ Set a malpais stone, 15x8x6 ins., 10 ins. in the ground, for the ¼ sec. cor., mkd. ¼ on N. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
Cedar, 12 ins. in diam. bears N. 71° W., 65 lks. dist., mkd. ¼ S 21 B T. and a
Cedar 18 ins. in diam., bears S. 8° 30' W., 74 lks. dist., mkd. ¼ S 28 B T.
- Nov. 5th. At this cor. I set off 15° 34½' S. on the decl. arc, and at 11h. 44m. a.m., 1 m.t., I observe the sun on the meridian. The resulting lat. is 32° 37' N.
- 50.00 Ridge brs. NE. and SW. Descend.
- 80.05 The cor. of secs. 20, 21, 28 and 29.
Land, mountainous and exceptionally difficult to survey.
Soil 4th rate. Good grass. A few scattering cedar bushes along the E. center of this line.
- Nov. 5th: At 3h. p.m., 1 m.t., I set off 15° 36½' S. on the decl. arc; 57° 23' on the co-lat. and determine a mer. with the solar at this cor.

Nov. 5th, 1910.

-
- N. 0° 6' W., bet. secs. 20 and 21, ascending.
- 7.00 Top of mountain ridge bears NW. and SE. Descend.
- 39.00 Foot of descent, head of canon runs NE.
- 40.00 The ¼ sec. cor. point falls on stone in place, 2 ft. high, 3 ft. long, 4 ft. wide. Mark x at the exact point for cor., with ¼ on W., and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
- Ascend over very steep and rocky ground.
- 70.00 Top of high rocky ridge, bears NE. and SW. Descend.
- 74.00 Cliff, bears E. and W., 20 ft. abrupt descent.
A few scattering cedars br. east and west.
- 80.00 Set a malpais stone, 18x14x8 ins., 12 ins. in the ground for the cor. of secs. 16, 17, 20 and 21, marked with 3 notches on the S. and 4 notches on the E. edge, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
A cedar, 36 ins. in diam., bears S. 53° E., 5 lks. dist., marked T 9 S R 31 E S 21 B T.
A cedar 18 ins. in diam., bears N. 60½° E., 150 lks. dist., marked T 9 S R 31 E S 16 B T.
A cedar, 12 ins. in diam., bears N. 81° 45' W., 74 lks. dist., marked T 9 S R 31 E S 17 B T.
A cedar 9 ins. in diam., bears S. 39½° W., 107 lks. dist., marked T 9 S R 31 E S 20 B T.
- Nov. 7th. At 3h. p.m., 1 m.t., I set off 16° 12½' S. on the decl. arc; 57° 22' on the co-lat. arc and determine a meridian with the solar at this cor.
- Land, mountainous and exceptionally difficult to survey.
Soil, 4th rate.
A few scattering cedar trees. Grass good.
- Note: The sky was overcast at noon, and the sun not visible.

Nov. 7th, 1910.

-
- N. 89° 40' E. on a random line, bet. secs. 16 and 21.
- 40.00 Set temp. ¼ sec. cor.
- 80.00 Intersect N. and S. line at the cor. of secs. 15, 16, 21 and 22.
Thence I run, S. 89° 40' W. on a true line, across head of canyon, course NE.
- 10.00 Ridge, NW. and SE. Thence descending along SW. slope of ridge.
- 39.00 Canyon 10 lks. wide, course SE.; ascend.
- 40.00 Set a malpais stone 18x8x7 ins., 12 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.
- 75.00 Ascend top of ridge, brs. N. and S.
- 80.00 The cor. of secs. 16, 17, 20 and 21.
Land, mountainous, exceptionally difficult to survey.
No timber. Soil, 3rd rate. Good grass.
-

18. Subdivision lines of Township 9 South, Range 31 E.

Chains.

- N.0°6'W., bet. secs.16 and 17, descending over rough rocky ground.
- 33.00 Canon, 50 lks.wide, course NW. Ascend.
- 40.00 Set a malpais stone, 15x7x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ 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.
- 71.00 Top of rocky peak; descend.
- 80.00 Set a malpais stone, 18x7x7 ins., 12 ins. in the ground, for the cor.of secs.8,9,16 and 17, marked with 4 notches on the S. and E.edges, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,W.of cor.
- Nov.8th. At this cor.I set off 16°28'30"S.on the decl. arc, and at 11h. 44m.a.m., 1.m.t., observe the sun on the meridian; the resulting lat.is 32° 39' N.
- Land, mountainous and exceptionally difficult to survey.
Soil, 4th rate.
Grass good.

-
- N,89°40'E. on a random line, bet. secs.9 and 16.
- 40.00 Set a temp. $\frac{1}{4}$ sec.cor.
Nov. 8th. At 3h.p.m., 1.m.t., I set off 16°30 $\frac{1}{2}$ 'S.on the decl.arc, and at 57°21' on the co-lat.arc, and determine a meridian with the solar at this cor.
- 80.02 Intersect the N. and S. line at a point 16 lks.N.of the cor. of secs.9,10,15 and 16.
Thence I run S.89°47'W., on a true line, bet. secs.9 and 16. Ascending.
- 15.00 NE. point of ridge, runs back SW. Descend.
- 25.00 Canon, 50 lks.wide, course NE. Ascend.
- 40.01 Set a malpais stone, 18x10x6 ins., 12 ins. in the ground, for the $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on N.face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,N.of cor.
- 72.00 Ridge brs. NE.and SW. Descend.
- 80.02 The cor.of secs.8,9, 16 and 17.
Land, mountainous, exceptionally difficult to survey.
Soil, 4th rate.
Grass good.

Nov. 8th, 1910.

-
- N.0°6'W., bet, secs. 8 and 9, ascending along W.slope of mountain ridge.
- 19.00 Top of ridge brs. NW.and SE. Descend.
- 39.90 Arroyo, 50 lks.wide, course NW. Ascend.
- 40.00 Set a malpais stone,18x7x6 ins., 12 ins. in the ground, for the $\frac{1}{4}$ 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.
Descend.
- 50.00 Arroyo, 50 lks.wide, course NE. Ascend.
- 53.00 Nov. 9th. At this point I set off 16°46'S. on the decl. arc; and at 11h.44m., a.m., 1.m.t., observe the sun on the meridian; the resulting lat.is 32°39'N.
- 80.00 Set a malpais stone, 18x8x8 ins., 12 ins. in the ground, for the cor.of secs.4,5,8 and 9, marked with 5 notches on the S. and 4 notches on the E.edge, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high,W.of cor.
- Nov.9th. At 4h.p.m., 1 m.t., I set off 16°47'30"S.on the decl.arc; 57°20'on the co-lat.arc, and determine a mer. with the solar at this cor.
- Land, mountainous, exceptionally difficult to survey.
Soil,4th rate. Grass good.

-
- N.89°47'E.on a random line bet. secs.4 and 9.
- 40.00 Set a temp. $\frac{1}{4}$ sec cor.
- 80.10 Intersect the N.and S. line at a point 5 lks.S.of the

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

cor. of secs. 3, 4, 9 and 10.

Nov. 9th, 1910.

Thence I run S. 89°45'W. bet. secs. 4 and 9,
on a true line, descending.

- 5.00 Arroyo, 2 chs. wide, course NE. Ascend.
40.05 Set a malpais stone, 18x9x9 ins., 12 ins. in the ground
for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound
of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
50.00 Commence very steep ascent of high mountain ridge.
80.10 The cor. of secs. 4, 5, 8 and 9.
Land mountainous and exceptionally difficult to
survey for last 40.00 chs.
Soil 4th rate. Grass good.

- 20.00 N. 0°6'W. on a random line bet. secs. 4 and 5
At this point; Nov. 10th:- Set off 17°3'S. on the decl.
arc, and at 1h. 44m. a. m., l. m. t., obs. the sun on
the mer., the resulting lat. is 32°40' N.

- 40.00 Set a temp. $\frac{1}{4}$ sec. cor.
80.16 Intersect the N. bdy. of the township at a point 5 lks.
E. of the cor. of secs. 4, 5, 32 and 33, previously des-
cribed.

Thence I run S. 0°8'E. bet. secs. 4 and 5, descend-
ing.

- 4.00 Arroyo of White Rock Canon, 50 lks. wide, course NE.
Ascend.
40.16 Set a malpais stone, 18x9x9 ins., 12 ins. in the ground
for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound
of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
Nov. 10th:- At 3h, p. m., l. m. t., I set off
17°4 $\frac{1}{2}$ 'S. on the decl. arc, 57°20' on the co-lat. arc, and
determine a mer. with the solar at this cor.
Commence very steep ascent of peak.
78.00 Top of mountain peak, descend.
80.16 The cor. of secs. 4, 5, 8 and 9,
Land mountainous and exceptionally difficult to
survey.
Soil 4th rate. grass good., Nov. 10th, 1910.

From the cor. of secs. 31, 32, 5 and 6 on the S. bdy.
of the township, previously described, I run
N. 0°7'W. bet. secs. 31 and 32, descending.

- 8.00 Head of canon, course S. 80°E. Ascend.
21.00 Top of ridge bears E. and W. Descend. Slope 30°.
40.00 Set a malpais stone, 18x9x6 ins., 12 ins. in the ground
for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound
of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
Nov. 11th:- At this cor. I set off 17°20'S. on the
decl. arc, and at 1h. 46m. a. m., l. m. t., I obs. the sun
on the mer., the resulting lat. is 32°36' N
47.00 Canon, 50 lks. wide, course SE.
Ascend.
66.00 Top of ridge bears E. and W. Descend.
78.00 Canon, 50 lks. wide, course N. 80°E. Ascend.
80.00 Set a malpais stone, 18x9x4 ins., 12 ins. in the ground,
for the cor. of secs. 29, 30, 31, and 32, mkd. with
1 notch on the S. and 5 notches on the E. edge, and raise
a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft high, W. of cor.
Land mountainous and exceptionally difficult to
survey. No timber. Good grass. Soil 4th rate.

---Nov. 11th:- At 3h, p. m., l. m. t., I set off
17°21 $\frac{1}{2}$ 'S. on the decl. arc, 57°24' on the co-lat. arc,
and determine a mer. with the solar at this cor.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

Nov. 11th, 1910.

East on a random line bet. secs. 29 and 32.

40.00 Set a temp. $\frac{1}{4}$ sec. cor.
80.00 Intersect the cor. of secs. 28, 29, 32 and 33.

Thence I run West on a true line bet. secs. 29 and 32. ascending along N. slope of Canon. Scattering cedar.

20.00 Descend.

40.00 Set a malpais stone, 18x9x6 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

Nov. 12th:- At this cor. I set off 17°36 $\frac{1}{2}$ ' S. on the decl. arc, and at 11h.44m.a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°36' N

A cedar tree 36 ins. in diam., bears S.89°E., 69 lks. dist.

mkd. $\frac{1}{4}$ S32BT.

Cedar 12 ins. in diam bears N.21 $\frac{1}{2}$ °E., 21 lks. dist.

mkd. $\frac{1}{4}$ S29BT.

66.00 Canon, 30 lks. wide, course N.80°E.

Ascend.

80.00 The cor. of secs. 29, 30, 31 and 32.

Land mountainous and exceptionally difficult to survey, 80.00 chs.

Soil 4th rate. Good grass. Scattering cedar.

Nov. 12th:- At 4h. p. m., l. m. t., I set off 17°37 $\frac{1}{2}$ ' S. on the decl. arc, 57°24' on the co-lat. arc and determine a mer. with the solar at this cor.

Nov. 12th, 1910.

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

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

Nov. 14th:- At this cor., I set off 18°8 $\frac{1}{2}$ ' S. on the decl. arc, and at 11h.44m.a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°36' N

80.17 Intersect the W. bdy. of the township at a point 16 lks. S. of the cor. of secs. 25, 30, 31 and 36, previously described.

Thence I run, S.89°53'E. on a true line bet. secs. 30 and 31, ascending precipitous side of mountain.

30.00 Top of high rocky ridge bearw NE. and SW. Descend.

40.17 Set a malpais stone, 15x7x6 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

Nov. 14th:- At 4h. p. m., l. m. t., I set off 18°9 $\frac{1}{2}$ ' S. on the decl. arc, 57°24' on the co-lat. arc, and determine a mer. with the solar at this cor.

62.00 Enter canon, thence descending along S. side of Canon.

73.00 Cross to N. side of Canon, course S080°E., 30 lks. wide. Ascend.

80.17 The cor. of secs. 29, 30, 31 and 32.

Land mountainous and exceptionally difficult to survey.

Good grass. Soil 4th rate.

Nov. 14th, 1910.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

N. 0° 7' W. bet. secs. 29 and 30, ascending over rough rocky precipitous ground.

- 12.00 Top of ridge, bears NE. and SW. Descend.
 28.00 Canon, 50 lks. wide, course S. 80° E. Ascend.
 40.00 Point for the $\frac{1}{4}$ sec. cor. falls on rock in place, 2 ft. high, $\times 1\frac{1}{2}$ ft. $\times 1\frac{1}{2}$ ft. thick. Mark, \times at exact point for cor., with $\frac{1}{4}$ on W. for $\frac{1}{4}$ sec. cor., and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 Nov. 15th:- At this cor. I set off 18° 24' S. on the decl. arc, and at 11h. 45m. a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32° 37' N
- 44.00 Top of the highest ridge in the Black Hills bears E. and W. Descend.
 65.00 Head of canon, course E. Ascend.
 76.00 Top of saddle bears NE. and SW. Descend.
 80.00 Set a malpais stone, 20x10x10 ins., 15 ins. in the ground for the corner of secs. 19, 20, 29 and 30, mkd. with 2 notches on the S. and 5 notches on the E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
 A cedar, 10 ins. in diam. bears S. 45° W., 116 lks. dist. mkd. T9SR31ES30BT.
 No other bearings available. Land mountainous and exceptionally difficult to survey. Soil 4th rate. Good grass.
- Nov. 15th:- At 4h, p. m., l. m. t. I set off 18° 25' S. on the decl. arc, 57° 23' on the co-lat. arc and determine a mer. with the solar at this cor.
 Nov. 15th, 1910.

 East on a random line bet. secs. 20 and 29.

- 40.00 Set a temp. $\frac{1}{4}$ sec. cor.
 80.30 Fall 36 lks. N. of the cor. of secs. 20, 21, 28 and 29.
 Thence I run ^{N 89° 45' W} ~~N 89° 45' W~~ on true line bet. secs. 20 and 29 along S. slope of high mountain ridge.
 39.10 Canon, 10 lks. wide, course SW. Nov. 16th:- At 3h, p. m., l. m. t., I set off 18° 40' 30" S. on the decl. arc, and 57° 23' on the co-lat. arc, and determine a mer. with the solar at this cor. Ascend.
- 40.15 Set a malpais stone, 18x9x6 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
- 60.00 Top of ridge bears NE. and SW. Descend.
 80.30 The cor. of secs. 19, 20, 29 and 30.
 Land mountainous and exceptionally difficult to survey.
 Soil 4th rate. Grass good.

Note: The sky was overcast at noon and solar obs. at that time impossible.

Nov. 16th, 1910.

- N. 89° 53' W. on a random line bet. secs. 19 and 30.
 40.00 Set a temp. $\frac{1}{4}$ sec. cor.
 80.25 Intersect the W. bdy. of the township at a point 10 lks. N. of the cor. of secs. 19, 24, 25, and 30. Previously described
 Thence I run S. 89° 57' E. on a true line bet. secs 19 and 30.
 Ascending over steep rocky ground. W. slope of mountain.

Chains.

40.25 Set a malpais stone, 20x7x4 ins., 15 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

Nov. 17th:- At this cor., I set off $18^{\circ}54'S.$ on the decl. arc, and at 11h.45m.a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is $32^{\circ}37'N.$

Thence ascending almost vertical cliffs which bear N. and S.

60.00 Nov. 17th:- At 3h, p. m., l. m. t., I set off $18^{\circ}55'30''S.$ on the decl. arc, $57^{\circ}23'$ on the co-lat. arc, and determine a mer. with the solar at this point.

80.25 The cor. of secs. 19, 20, 29 and 30.

Land mountainous and extremely difficult to survey. Soil 4th rate. No timber. Good grass.

Nov. 17th, 1910.

N. $0^{\circ}7'W.$ bet. secs. 19 and 20, descending over rough rocky ground.

40.00 Set a malpais stone, 15x8x8 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Nov. 18th: At this cor., I set off $19^{\circ}8'30''S.$ on the decl. arc, and at 11h.45m.a. m., l. m. t., I obs. the sun on the mer., the resulting lat. is $32^{\circ}38'N.$

40.20 Canon, 12 lks. wide, course NE. Ascend.

50.00 Top of ascent bears NE. and SW. Descend.

60.00 Canon, 10 lks. wide, course NE. Ascend.

64.00 Top of ascent bears NE. and SW. Descend.

77.50 Canon, 10 lks. wide, course N. $80^{\circ}E.$ Ascend.

80.00 Set a malpais stone, 18x9x4 ins., 12 ins. in the ground for the cor. of secs. 17, 18, 19 and 20, mkd. with 3 notches on the S. and 5 notches on the E. edge, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

Land Mountainous and exceptionally difficult to survey

Soil 4th rate. Grass good.

Nov. 18th:- At 3h, p. m., l. m. t., I set off $19^{\circ}10'S.$ on the decl. arc, $57^{\circ}22'$ on the co-lat. arc, and determine a mer. with the solar at this cor.

The flag on the cor. of secs. 16, 17, 20 and 21 being visible, I run N. $89^{\circ}56'E.$ on a true line for bearing and a random line for distance.

20.00 Knock off for night. Nov. 18th, 1910.

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

80.30 Intersect the cor. of secs. 16, 17, 20 and 21.

Thence I run, S. $89^{\circ}56'W.$ on a true line bet. secs. 17 and 20, descending over rough rocky ground.

23.30 Canon, 15 lks. wide, course N. Ascend over sliding rock.

34.00 Top of ridge bears N. and S. Descend.

40.15 Set a malpais stone, 18x7x6 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

50.00 Nov. 19th:- At this point, I set off $19^{\circ}23'S.$ on the decl.

Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

- arc and at 11h.45m. a.m., l. m. t., I obs. the sun on the mer., the resulting lat. is 32°38' N.
- 60.00 Canon, 20 lks. wide, course N.
80.30 The cor. of secs. 17, 18, 19 and 20.
Land mountainous, exceptionally difficult to survey.
Good grass. Soil 4th rate.
-
- 10.00 N. 89°57' W. on a random line bet. secs. 18 and 19.
Nov. 19th; - At 3h, p. m., l. m. t., I set off 19°24' S.
on the decl. arc, 57°22' on the co-lat. arc, and determine
a mer. with the solar at this point.
27.00 Top of high rocky ridge bears N. and S. Discontinue
work for the night. Nov. 19th, 1910.
- 40.00 Set a temp. $\frac{1}{4}$ sec. cor.
80.40 Intersect the W. bdy. of the township at a point 19 lks.
N. of the cor. of secs. 13, 18, 19 and 24, previously
describd.
Thence I run, N. 89°55' E. on a true line bet. secs.
18 and 19, ascending over rough rocky ground, W. slope
of high mountain ridge.
40.40 Set a malpais stone, 18x8x7 ins., on rocky ground,
in mound of stone, for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face,
and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N.
of cor.
Nov. 21st: - At this cor. I set off 19°50 $\frac{1}{2}$ ' S. on the
decl. arc, and at 11h.46m, a. m., l. m. t., obs. the sun
on the mer., the resulting lat. is 32°38' N.
Thence up almost vertical side of mountain.
- 53.40 Top of high mountain ridge bears N. and S. Nov. 21st: -
At 3h, p. m., l. m. t., I set off 19°51 $\frac{1}{2}$ ' S. on the decl.
arc, 57°22' on the co-lat. arc, and determine a mer. with
the solar at this cor.
Thence descend over rough rocky ground.
- 80.40 The cor. of secs. 17, 18, 19 and 20.
Land mountainous and exceptionally difficult to
survey.
Soil 4th rate. grass good.
Nov. 21st, 1910.
-
- N. 0°7' W. bet. secs. 17 and 18 along East slope of moun-
tain ridge. Ascending.
- 40.00 Set a malpais stone, 18x8x8 ins., 12 ins. in the ground for
the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of
stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
- 60.00 Top of ridge bears NE. and SW. Nov. 22nd: - At this point
I set off 20°3 $\frac{1}{2}$ ' S. on the decl. arc, and at 11h.46p. a. m.,
l. m. t., I obs. the sun on the mer., the resulting lat.
is 32°39' N.
Descend.
- 78.00 Canon, 50 lks. wide, course NE. Ascend.
80.00 Set a malpais stone, 15x9x6 ins., 10 ins. in the ground
for the cor. of secs. 7, 8, 17 and 18, mkd. with 4 notches
on the S. and 5 notches on the E. edge, and raise a mound
of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
Land mountainous, exceptionally difficult to survey.
Soil 4th rate. grass good.
-
- 10.00 N. 89°56' E. on a random line bet. secs. 8 and 17.
Nov. 22nd: - At 4h., p. m., l. m. t. I set off 20°4' S.
on the decl. arc, 57°21' on the co-lat. arc and determine

24. Subdivisional Lines of T. 9 S., R. 31 E.

Chains.

40.00 a mer. with the solar at this point.
 80.35 set a temp. $\frac{1}{4}$ sec. cor. ----- Nov. 22nd, 1910.
 intersect the N. and S. line at a point 3 lks. S. of the
 cor. of secs. 8, 9, 16 and 17, Thence $\frac{1}{4}$ run
 S. $89^{\circ}55'$ W. on a true line bet. secs. 8 and 17.
 Descending.

47.00 Ascend.
 37.00 Top of mountain peak on S. side. Descend.
 40.17 $\frac{1}{2}$ Set a malpais stone, 15x9x7 ins., 10 ins. in the ground
 for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound
 of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
 Nov. 23rd:- At 11h.46m. a. m., 1. m. t., I set off
 20 \cdot 16 $\frac{1}{2}$ ' S. on the decl. arc, and obs. the sun on the mer.,
 the resulting lat. is 32 \cdot 39' N

71.00 Canon, 50 lks. wide, course N. Ascend.
 75.00 Descend.
 78.00 Canon, 25 lks. wide, course NE. Ascend.
 80.35 The cor. of secs. 7, 8, 17 and 18.
 Land mountainous. soil 4th rate. Grass good.
 This line was exceptionally difficult to survey for 80.35
 chs.

Nov. 23rd:- At 3h, p. m. 1. m. t., I set off 20 \cdot 17 $\frac{1}{2}$ '
 S. on the decl. arc, 57 \cdot 21' on the co-lat. arc, and
 determine a mer. with the solar at this cor.

 S. $89^{\circ}55'$ W. on a random line bet. secs. 7 and 18.

40.00 Set a temp. $\frac{1}{4}$ sec. cor.
 80.36 Intersect the W. bdy. of the township at a point 2 lks.
 S. of the cor. of secs. 7, 12, 13 and 18, previously
 described. Thence I run,
 N. $89^{\circ}56'$ E. on a true line bet. secs. 7 and 18.

Ascending.
 18.00 Top of high mountain ridge bears N. and S., Descend.
 38.55 Nov. 24th:- At 4h, p. m., 1. m. t. I set off 20 \cdot 29' S.
 on the decl. arc, 57 \cdot 21' on the co-lat. arc, and determine
 a mer. with the solar at this cor.

38.50 Canon, 20 lks. wide, course N. 80° E. Ascend.
 40.36 Set a malpais stone, 15x10x6 ins., 10 ins. in the ground
 for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound
 of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.
 60.00 Low ridge, runs back SW. to top of mountain. Descend.
 80.36 The cor. of secs. 7, 8, 17 and 18.
 Land mountainous and exceptionally difficult to
 survey.
 Soil 4th rate. grass good.

Nov. 24th, 1910.
 Sky overcast at noon.

 N. $0^{\circ}7'$ W. bet. secs. 7 and 8 Ascending.

15.00 Ridge bears NE. and SW. Descend.
 34.00 Canon, 50 lks. wide, course NE. Ascend.
 40.00 Set a malpais stone, 15x8x6 ins., 10 ins. in the ground
 for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound
 of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

49.00 Top of rocky ridge bears NE. and SW. Descend.
 67.00 Canon, 50 lks. wide, course NE. Ascend.
 80.00 Set a malpais stone, 20x7x4 ins., 15 ins. in the ground
 for the corner of secs. 5, 6, 7 and 8, mkd. with 5
 notches on the S. and E. edges, and raise a mound of stone,
 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Nov. 25th:- At this cor., I set off 20 \cdot 41' S. on the
 decl. arc, and at 11h.47m. a. m., 1. m. t., I obs. the sun
 on the mer., the resulting lat. is 32 \cdot 40' N
 Land mountainous and exceptionally difficult to

Chains.

survey.

Soil 4th rate. Grass good.

N.89°55'E. on a true line bet. secs. 5 and 8, for direction, and a random line for distance? The flag on the cor. of secs. 4, 5, 8 and 9 being visible.

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

80.40 Intersect the cor. of secs. 4, 5, 8 and 9.

Thence I run S.89°55'W. on a true line bet. secs. 5 and 8 along S. side of mountain peak.

3.67 Commence steep descent.

20.00 Canon, 10 lks. wide, course N. Ascend.

30.00 Top of ascent, descend.

39.87 The point for the $\frac{1}{4}$ sec. cor. will fall in bed of canon where its destruction will be inevitable.

Set a malpais stone, 17x6x5 ins., 11 ins. in the ground for the witness corner to the $\frac{1}{4}$ sec. cor., mkd. WC $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. High, N. of cor.

Nov. 25th:- At 3h. p. m., 1 m. t., I set off 20°42'S. on the decl. arc, 57°20' on the co-lat. arc, and determine a mer. with the solar at this cor.

40.20 Point for $\frac{1}{4}$ sec. cor., Canon 60 lks. wide, course N. Ascend.

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

Land mountainous and exceptionally difficult to survey.

Grass good. Soil 4th rate.

Nov. 25th, 1910.

S.89°56'W. on a random line bet. secs. 6 and 7.

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

80.40 Intersect the W. bdy. of the township at a point, 37 lks. N. of the cor. of secs. 1, 6, 7 and 12, previously described.

Thence I run, N.89°40'E. on a true line bet. secs. 6 and 7. Ascending over steep and precipitous ground.

10.00 Descend.

20.00 Canon, 15 lks. wide, course N.80°W. Ascend.

40.10 Fence bears N. and S. Drift fence of cattle company.

40.40 Set a malpais stone, 15x10x7 ins., 10 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on N. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Top of ridge bears N. and S.

Descend.

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

Land mountainous, exceptionally difficult to survey.

Soil 4th rate. Grass good.

Nov. 26th:- At this cor., I set off 20°52 $\frac{1}{2}$ 'S. on the decl. arc, and at 1h.42p. a. m., 1. m. t., I obs. the sun on the mer., the resulting lat. is 32°40'. N.

N.0°7'W. on a random line bet. secs. 5 and 6.

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

79.81 Intersect the N. bdy. of the township at a point 50 lks. W. of the Cor. of secs. 5, 6, 31 and 32, previously described, Thence I run

Chains.

S.0°14'W. on a true line bet. secs. 5 and 6, ascending.

26.00

Top of mountain peak, runs SE. and W. Flat top.

39.81

Set a malpais stone, 20x10x6 ins., 15 ins. in the ground for the $\frac{1}{4}$ sec. cor., mkd. $\frac{1}{4}$ on W. face, and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Nov. 26th:-

At 3h, p. m., 1. m. t., I set off 20°53 $\frac{1}{2}$ 'S. on the decl. arc, 57°20' on the co-lat. arc and determine a mer. with the solar at this cor.

49.00

Descend.

79.81

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

Land mountainous and exceptionally difficult to survey.

Soil 4th rate. Grass good.

Nov. 26th, 1910.

GENERAL DESCRIPTION T. 9 S., R. 31 E.

There are no settlers in this township. There were some people living in section 1 but they have left and their neighbors in the adjoining township have just about removed everything they put on the land.

The Eastern part of this township is fairly level. The Western part is very rough. There is good grass all over the township and immense herds of cattle graze on this township. There are no wells or springs or water holes that I could find in the township. Hauled all my water from Duncan about 7 miles to my camp.

Hugh F. Barker
U. S. D. S.

Jr FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

See Book O

LIST OF NAMES.

BOOK 2275

A list of the names of the individuals employed by

....., United States Deputy Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of

showing the respective capacities in which they acted:

-, *Chainman.*
-, *Chainman.*
-, *Moundman.*
-, *Moundman.*
-, *Axman.*
-, *Axman.*
-, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted

....., United States Deputy Surveyor, in surveying all those parts or portions of the

..... of the

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

-, *Chainman.*
-, *Chainman.*
-, *Moundman.*
-, *Moundman.*
-, *Axman.*
-, *Axman.*
-, *Flagman.*

Subscribed and sworn to before me this }
day of, 19



27 Jan
91
BOOK 2275

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

Per Book

....., United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from United States Surveyor General for, bearing date of the day of, 19, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of

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

.....
United States Deputy Surveyor.

Subscribed by said, and sworn to before me }
this day of, 19



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Henry Craig Jan. 13, 1912

The foregoing field notes of the survey of *the Subdivision lines of T. 9 S. R. 31 E. and Attachment Recovery of the East Boundary of T. 9 S. R. 31 E. Side and East Corner Base and Meridian Arizona*

executed by *Hugh J. DuVal* under his contract No. *163*, dated *May 16*, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank S. Lyall
United States Surveyor General.

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

.....
United States Surveyor General.