

2197

BOOK 2197

4-679.

Book F.

Accepted, Letter E. 9/20/10.

MAY 7 - 1910

197

FIELD NOTES

2197 OF THE SURVEY OF THE 2197

Subdivision lines of Township Twenty-one North, Range

Nineteen West.

2197

Of the Gila & Salt River Base and Meridian,

Territory of Arizona

AS SURVEYED BY

Fred W. Rodolf, United States Deputy Surveyor,

Under his Contract No. 155, dated March 10, 1909

Survey commenced February 16, 1900

Survey completed March 4th, 1900

6-161

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NAMES AND DUTIES OF ASSISTANTS.

A. P. Remo.	Chairman
Bert Lyon	Chairman
Ralph R. Ellis	Moundman
R. N. Stark.	Coxman
G. M. Parker	Coxman
George Newell	Flagman

BOOK 2191

INDEX DIAGRAM.

Township 21 North, Range 19 West.

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PRELIMINARY OATHS OF ASSISTANTS.

WE, A. P. Kerns and Bert Lyon
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 subdivision lines of Township 21 North, Range 19 West.

A. P. Kerns, Chainman.
Bert Lyon, Chainman.

Subscribed and sworn to before me this 10

day of December, 1909

My commission expires March 29, 1914



W. E. Ferencik
Notary Public

WE, Ralph R. Ellis 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 the subdivision lines of Township 21 north Range 19 West.

Ralph R. Ellis, Moundman.
Moundman.

Subscribed and sworn to before me this 10

day of December, 1909

My commission expires March 29, 1914



W. E. Ferencik
Notary Public

WE, R. M. Stark and P. M. Parker
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 the subdivision lines of Township 21 North, Range 19 West.

R. M. Stark, Axman.
P. M. Parker, Axman.

Subscribed and sworn to before me this 10

day of December, 1909

My commission expires March 29, 1914



W. E. Ferencik
Notary Public

I, George Newell, 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 subdivision lines of Township 21 North Range 19 West

George Newell, Flagman.

Subscribed and sworn to before me this 10

day of December, 1909

My commission expires March 29, 1914



W. E. Ferencik
Notary Public

Subdivision of Tn. 21 N., Rg. 18 West.

chains.

Survey commenced February 16, 1910 and executed with a Young and Sons light mountain transit No 7532, with a solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other and reading to single minutes of arc, which is the least count of the verniers of the lat. and decl. arcs.

The instrument was examined, tested on the true meridian at Phoenix, found correct, and approved by the Surveyor General for Arizona.

I examine the adjustments of the transit and find them correct; then to test the solar apparatus by comparing its indications resulting from observations made during a.m., and p.m. hours, with a meridian established by polaris observations, I proceed as follows:-

At the standard cor. of secs. 35 and 36, recently established by me, latitude, $35^{\circ}09'36''N$, longitude $114^{\circ}13'57''W$. I set off $35^{\circ}09\frac{1}{2}'N$ on the lat. arc; $12^{\circ}20'S$ on the decl. arc, and at 4h.00m., p.m., l.m.t., determine a meridian with the solar and mark a point thereof by a cross on a rock firmly set 5chs. N. of my station.

At 9h.38m., p.m., l.m.t., I observe polaris at western elongation in accordance with the Manual of Instructions and mark a point in the line thus determined on a peg driven in the ground, 5 chs. N. of my station.

February 16, 1910.

February 17; At 7h.30m., a.m., l.m.t., I lay off the azimuth of polaris, $1^{\circ}26'$ to the East, and mark a point in the meridian thus determined by a small groove on the rock set February 16; on which the meridian coincides with the meridian established by solar observations.

At 8h.00m., a.m., l.m.t., I set off $12^{\circ}06'S$ on the decl. arc $35^{\circ}09\frac{1}{2}'N$ on the lat. arc and determine a meridian with the solar, marking a point thereof by a notch on the stone already set 5 chs. N. of cor., which meridian coincides with the meridian established by polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic decl. of the true meridian at 8h.30m., a.m., is $N 14^{\circ}56'W$; the angle thus determined gives the magnetic decl. as $14^{\circ}56'E$.

Thence I run

$N 0^{\circ}01'W$. bet. secs. 35 and 36.

Over rolling land thru dense underbrush.

4.00 Wash, 15 lks. wide, course SE.

15.35 Wash, 15 lks. wide, course SE.

24.50 Wash, 40 lks. wide, course SE.

29.25 Wash, 60 lks. wide, course SE.

40.00

Set a malpais stone, $15 \times 8 \times 8$ ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, $18 \times 18 \times 12$ ins. N. and S. of stone, 3ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

44.50 Wash, 15 lks. wide, course SE.

50.10 Wash, 15 lks. wide, course SE.

59.55 Wash, 15 lks. wide, course SE.

68.00 Wash, 15 lks. wide, course SE.

71.90 Wash, 30 lks. wide, course SE.

76.20 Wash, 30 lks. wide, course SE.

80.00

Set a malpais stone, $15 \times 8 \times 8$ ins., 10 ins. in the ground, for cor. of secs. 25, 26, 35 and 36, marked with 1 notch on S. and E. edges; dig pits, $18 \times 18 \times 12$ ins., in each sec., $5\frac{1}{2}$ ft. dist.; and raise a mound of earth, 4ft. base, 2ft. high, W. of cor.

Land, rolling.

Soil, gravelly; 2nd rate.

No timber.

Underbrush, greasewood, sage and aceti.

Rolling land covered with dense underbrush, and on

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Subdivision of Tp.21 N.,Rg.18 West.

chains.

account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.00 chs.

40.00 Thence I run
 79.98 S 89°58'E. on random line bet.secs.25 and 36.
 Set temp. 1/4 sec.cor.
 Intersect the E.bdy.of Tp.11 lks.S. of the cor. of secs.25,30,31 and 36.
 Thence I run
 39.99 S 89 57'W. on true line bet.secs.25 and 36.
 Over rolling land thru dense underbrush.
 Set a malpais stone,18X6X6ins.,12ins.in the ground, for 1/4 sec.cor.,marked 1/4 on W.face; dig pits,18X18X12ins. E.and W. of stone,3ft.dist.; and raise a mound of earth 3 1/2 ft.base,1 1/2 ft.high,W. of cor.
 58.30 Wash,30 lks.wide,course SE.
 63.00 Wash,15 lks.wide,course SE.
 79.98 The cor. of secs.25 26,35 and 36.
 Land,rolling.
 Soil,gravelly; 3rd rate.
 No timber.
 Underbrush,greasewood and cacti.
 Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,79.98 chs.
 At this cor.I set off 12°03 1/2'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°10 1/2'N.

6.20 N 0°01'W. bet.secs.25 and 26.
 12.80 Over rolling land thru dense underbrush.
 33.90 Wash,15 lks.wide,course SE.
 40.00 Wash,15 lks.wide,course SE.
 Wash,15 lks.wide,course SE.
 Set a malpais stone,15X8X6ins.,10ins.in the ground, for 1/4 sec.cor.,marked 1/4 on W.face; dig pits,18X18X12ins. N.and S. of stone,3ft.dist.; and raise a mound of earth, 3 1/2 ft.base,1 1/2 ft.high,W. of cor.
 42.60 Wash,10 lks.wide,course SE.
 52.00 Wash,20 lks.wide,course SE.
 54.50 Wash,20 lks.wide,course SE.
 56.70 Wash,20 lks.wide,course SE.
 59.80 Wash,25 lks.wide,course SE.
 62.45 Wash,25 lks.wide,course SE.
 68.85 Wash,10 lks.wide,course SE.
 70.80 Wash,10 lks.wide,course SE.
 80.00 Set a malpais stone,18X12X10ins.,12ins.in the ground, for cor. of secs.23,24,25 and 26,marked with 2 notches on S.and 1 notch on E.edge; dig pits,18X18X12ins.,in each sec.,5 1/2 ft.dist.; and raise a mound of earth,4ft. base,2ft.high,W. of cor.
 Land,rolling.
 Soil,grave ly; 2nd rate.
 No timber.
 Underbrush,greasewood and cacti.
 Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.00 chs,

40.00 Thence I run
 80.02 N 89°57'E. on random line bet.secs.24 and 25.
 Set temp. 1/4 sec.cor.
 Intersect the E. bdy.of Tp.6lks.N. of the cor. of secs. 19,24,25 and 30.

Subdivision of Tp.21 N.,Rg.19 West.

chains.

Thence I run
West bet.secs.24 and 25.
Over rolling land thru dense underbrush.

2.50 Wash,140 lks.wide,course S.
20.00 Wash,150 lks.wide,course S.
40.01 Set a malpais stone,15X8X6ins.,10ins.in the ground,
for $\frac{1}{4}$ sec.cor.,marked $\frac{1}{4}$ on N.face; dig pits,18X18X12ins.
E.and W. of stone,3ft.dist.; and raise a mound of earth
 $3\frac{1}{2}$ ft.base, $1\frac{1}{2}$ ft.high,N. of cor.
46.00 Wash,10 lks.wide,course SE.
48.10 Wash,35 lks.wide,course SE.
50.50 Wash,20 lks.wide,course SE.
80.02 The cor. of secs.23,24,25 and 26.
Land,rolling.
Soil,gravelly; 2nd rate.
No timber.
Underbrush,greasewood and cacti.
Rolling land covered with dense underbrush,and on
account of the scarcity of water and other reasons
more fully explained at the end of these notes,excepti-
onally difficult to survey,80.02 chs.
February 17; 1910.

February 18; At 8h.00m.,a.m.,l.m.t.,I set off $11^{\circ}45'$
S. on the decl.arc; $35^{\circ}11\frac{1}{2}'$ N. on the lat.arc and deter-
mine a meridian with the solar at the cor. of secs.23,
24,25 and 26.
Thence I run
N $0^{\circ}01'$ W. bet.secs.23 and 24.
Over rolling land thru dense underbrush.

14.10 Wash,20 lks.wide,course SE.
38.30 Wash,20 lks.wide,course SE.
40.00 Set a malpais stone,15X8X6ins.,10ins.in the ground,for
 $\frac{1}{4}$ sec.cor.,marked $\frac{1}{4}$ on N.face; dig pits,18X18X12ins.,
N.and S. of stone,3ft.dist.; and raise a mound of earth,
 $3\frac{1}{2}$ ft.base, $1\frac{1}{2}$ ft.hgh,W. of cor.
44.25 Wash,20 lks.wide,course SE.
57.60 Wash,75 lks.wide,course SE.
77.75 Wash,15 lks.wide,course SE.
80.00 Set a malpais stone,18X10X8ins.,12ins.in the ground,
for cor. of secs.13,14,23 and 24,marked with 3 notches
on S.and 1 notch on E.edge; dig pits,18X18X12ins.,in
each sec. $5\frac{1}{2}$ ft.dist.; and raise a mound of earth, $4\frac{1}{2}$
base,2ft.high,W. of cor.
Land,rolling.
Soil,gravelly; 2nd rate.
No timber.
Underbrush,greasewood and cacti.
Rolling land covered with dense underbrush,and on
account of the scarcity of water and other reasons more
fully explained at the end of these notes,exceptionally
difficult to survey,80.00 chs.

Thence I run
East on random line bet.secs.13 and 24.

40.00 Set temp $\frac{1}{4}$ sec.cor.
80.12 Intersect the E.bdy.of Tp.2 lks.S. of the cor. of secs
13,18,19 and 24.
Thence I run
S $89^{\circ}59'$ W. on true line bet.secs.13 and 24.
Over rolling land thru dense underbrush.

15.85 Wash,20 lks.wide,course S.
36.60 Wash,20 lks.wide,course S.
40.06 Set a malpais stone,18X8X6ins.,12ins.in the ground,for
 $\frac{1}{4}$ sec.cor.,marked $\frac{1}{4}$ on N.face; dig pits,18X18X12ins.,
E.and W. of stone,3ft.dist.; and raise a mound of earth,
 $3\frac{1}{2}$ ft.base, $1\frac{1}{2}$ ft.high,N. of cor.
43.00 Wash,20 lks.wide,course SW.
45.30 Wash,20 lks.wide,course SW.
56.65 Wash,100 lks.wide,course S.

Subdivision of Tp.21 N.,Rg.19 West.

Chains.

62.00
66'40
69.30
75!60
80.12

Wash,100 lks.wide,course S. (Sacramento Wash)
Wash,50 lks.wide,course S.
Wash,50 lks.wide,course S.
Wash,15 lks.wide,course SE.
The cor. of secs.13,14,23 and 24.
Land,rolling.
Soil,gravelly; 2nd rate.
No timber.
Underbrush,greasewood,sage and cacti.
Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.12 chs.
At thic cor. I set off 11°42½'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°12'W.

15.30
27.85
31.25
40.00

Thence I run
N 0°01'W. bet.secs.13 and 14.
Over rolling land thru dense underbrush.
Wash,20 lks.wide,course SE.
Wash,50 lks.wide,course E.
Wash,150 lks.wide,course SE.
Set a malpais stone,20X6X6ins.,15ins.in the ground, for ¼ sec.cor.,marked ¼ on W.face; dig pits,18X18X12ins N.and S. of stone,3ft.dist.; and raise a mound of earth, 3½ ft.base,1½ ft.high,W. of cor.
80.00 Set a malpais stone,15X8X8ins.,10ins.in the ground, for cor. of secs.11,12,13 and 14,marked with 4 notches on S.and 1 notch on E.edge; dig pits,18X18X12ins., in each sec.5½ ft.dist.; and raise a mound of earth,4ft base,2ft.high,W. of cor.
Land,rolling.
Soil,gravelly; 2nd rate.
No timber.
Underbrush,greasewood,sage and cacti.
Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explaibed at the end of these notes,exceptionally difficult to survey,80.00 chs.

40.00
80.18

Thence I run
N 89°59'E. on random line bet.secs.12 and 13.
Set a temp.¼ sec.cor.
Intersect the E.bdy.of Tp.11 lks.S. of the cor. of secs. 7,12,13 and 18.

28.70
40.09

Thence I run
S 89°54'W. bet.secs.12 and 13,on true line.
Over rolling land thru dense underbrush.
Wash,15 lks.wide,course SW.
Set a malpais stone,18X6X6ins.,12ins.in the ground, for ¼ sec.cor.,marked ¼ on N.face; dig pits,18X18X12ins. E.and W. of stone,3ft.dist.; and raise a mound of earth, 3½ ft.base,1½ft.high,N. of cor.

71.30
80.18

Wash,15 lks.wide,course SW.
The cor. of secs.11,12,13 and 14.
Land,rolling.
Soil,gravelly; 3rd rate.
No timber.
Underbrush,greasewood and cacti.
Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.18 chs. February 18; 1910.

Subdivision of Tp. 21 N., Rg. 19 West.

chains.

February 19; At 8h.00m., a.m., l.m.t., I set off $11^{\circ}24'$ S, on the decl. arc; $35^{\circ}13'N$ on the lat. arc and determine a meridian with the solar at the cor. of secs. 11, 12, 13 and 14.

Thence I run

N $0^{\circ}01'W$. bet. secs. 11 and 12.

Over rolling land thru dense underbrush.

36.70

Wash, 80 lks. wide, course SW.

40.00

Set a malpais stone, 15X8X6 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

47.00

Enter and along wash, 50 lks. wide, course SW.

53.57

Road, Kingman to Union Pass, bears E. and W.

54.60

Leave wash.

80.00

Set a malpais stone, 20X11X6 ins., 15 ins. in the ground, for cor. of secs. 1, 2, 11 and 12, marked with 5 notches on S. and 1 notch on E. edge; dig pits, 18X18X12 ins., in each sec. $5\frac{1}{2}$ ft. dist.; and raise a mound of earth, 4 ft. base. 2 ft. high, W. of cor.

Land, rolling.

Soil, gravelly; 2nd rate.

No timber.

Underbrush, greasewood and cacti.

Rolling land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.

Thence I run

N $89^{\circ}54'E$. bet. secs. 1 and 12.

40.00

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

80.22

Intersect the E. bdy. of Tp. 13 lks. N. of the cor. of secs. 1, 6, 7 and 12.

Thence I run

West on true line bet. secs. 1 and 12.

Over rolling land thru exceptionally dense cacti underbrush, very difficult to chain thru.

16.90

Wash, 20 lks. wide, course S.

27.00

Wash, 15 lks. wide, course SW.

40.11

Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., mark $d\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins., E. and W. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.

62.00

Wash, 75 lks. wide, course SW.

69.10

Wash, 40 lks. wide, course SW.

80.22

The cor. of secs. 1, 2, 11 and 12.

Land, rolling.

Soil, gravelly; 2nd rate.

No timber.

Underbrush, dense cacti.

Rolling land covered with exceptionally dense cacti underbrush, very difficult and slow to chain thru, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.22 chs.

At this cor. I set off $11^{\circ}21\frac{1}{2}'S$. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is $35^{\circ}14'N$.

Thence I run

N $0^{\circ}01'W$. on random line bet. secs. 1 and 2.

40.00

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

80.09.

Intersect the N. bdy. of Tp. 14 lks. W. of the cor. of secs. 1, 2, 35 and 36.

Thence I run

S $0^{\circ}05'W$. on true line bet. secs. 1 and 2.

Over rolling land thru exceptionally dense cacti underbrush, very difficult to chain thru.

Subdivision of Tn. 21 N., Rg. 19 West.

chains.	
14.15	Wash, 15 lks. wide, course SE.
33.00	Wash, 20 lks. wide, course SW.
36.00	Same wash, course SE.
38.80	Wash, 20 lks. wide, course SE.
40.09	Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
80.09	The cor. of secs. 1, 2, 11 and 12. Land, rolling. Soil, gravelly; 2nd rate. No timber. Underbrush, dense cacti. Rolling land covered with exceptionally dense cacti underbrush, very difficult to chain thru, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.09 chs.
	From the Standard Cor. of secs. 34 & 35, reestablished by me, I run N $0^{\circ}01'$ W. bet. secs. 34 and 35. Over rolling land thru dense underbrush.
1.90	Wash, 10 lks. wide, course E.
7.50	Wash, 10 lks. wide, course E.
13.75	Wash, 30 lks. wide, course E.
21.60	Wash, 25 lks. wide, course SE.
30.00	Wash, 25 lks. wide, course E.
38.35	Wash, 20 lks. wide, course SE.
40.00	Set a malpais stone, 18X9X9 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
44.00	Wash, 30 lks. wide, course SE.
53.00	Wash, 20 lks. wide, course SE.
64.40	Wash, 20 lks. wide, course SE.
76.50	Wash, 40 lks. wide, course SE.
80.00	Set a malpais stone, 24X9X8 ins., 18 ins. in the ground, for cor. of secs. 26, 27, 34 and 35, marked with 1 notch on S. and 2 notches on E. edge; dig pits, 18X18X12 in., 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, gravelly; 3rd rate. No timber. Underbrush, greasewood and cacti. Rolling land covered with dense underbrush, and on an account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. February 19, 1910.
	February 20; At 8h.00m., a.m., l.m.t., I set off $11^{\circ}02\frac{1}{2}'$ S. on the decl. arc; $35^{\circ}10\frac{1}{2}'$ N. on the lat. arc and determine a meridian with the solar at the cor. of secs. 26, 27, 34 and 35. Thence I run S $89^{\circ}58'$ E. on random line bet. secs. 26 and 35.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.06	Intersect the N. and S. line, at the cor. of secs. 25, 26, 35 and 36. Thence I run N $89^{\circ}58'$ W. on true line bet. secs. 26 and 35. Over rolling land thru dense underbrush.
7.90	Wash, 30 lks. wide, course SE.
15.80	Wash, 40 lks. wide, course SE.
38.30	Wash, 10 lks. wide, course SE.
40.03	Set a malpais stone, 15X8X8 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3 ft. dist.;

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	
	and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
50.00	Wash, 10 lks. wide, course NE.
58.00	Wash, 25 lks. wide, course NE.
63.80	Wash, 25 lks. wide, course SE.
80.06	The cor. of secs. 26, 27, 34 and 35. Land, rolling. Soil, gravelly; 2nd rate. No timber. Underbrush, greasewood and cacti. Rolling land covered with dense underbrush and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.06 chs.
	<hr/>
	Thence I run N $0^{\circ} 01' W$. bet. secs. 26 and 27. Over rolling land thru dense underbrush.
5.10	Wash, 20 lks. wide, course SE.
14.60	Wash, 20 lks. wide, course SE.
19.40	Wash, 15 lks. wide, course SE.
22.30	Wash, 15 lks. wide, course SE.
28.55	Wash, 20 lks. wide, course SE.
31.25	Wash, 20 lks. wide, course SE.
33.40	Wash, 25 lks. wide, course SE.
36.75	Wash, 25 lks. wide, course SE.
40.00	Set a malpais stone, 18X8X6 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.
78.00	Wash 18 lks. wide course SE.
80.00	Set a granite stone, 15X8X6 ins., 10 ins. in the ground, for cor. of secs. 22, 23, 26 and 27. marked with 2 notches on S. and E. edges; dig pits. 18X18X12 ins., in each sec. $5\frac{1}{2}$ ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor. Land, rolling. Soil, gravelly; 3rd rate. No timber. Underbrush, greasewood and cacti. Rolling land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. At this cor. I set off $11^{\circ} 00' S$. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is $35^{\circ} 11\frac{1}{2}' N$.
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	Thence I run S $89^{\circ} 58' E$. on random line bet. secs. 23 and 26.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.04	Intersect the N. and S. line 2 lks. S. of the cor. of secs. 23, 24, 25 and 26. Thence I run N $89^{\circ} 59' W$. on true line bet. secs. 23 and 26. Over rolling land thru dense underbrush.
21.00	Wash, 15 lks. wide, course SE.
30.00	Wash, 25 lks. wide, course SE.
37.75	Enter and along wash, 20 lks. wide, course SE.
40.02	Point for $\frac{1}{4}$ sec. cor. falls in wash.
41.00	Leave wash, comes from NW.
41.32	Set a malpais stone, 15X10X6 ins., 10 ins. in the ground, for witness cor. to $\frac{1}{4}$ sec. cor. marked WC $\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins., E. and W. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
43.65	Wash, 10 lks. wide, course NE.
77.00	Wash, 30 lks. wide, course SE.
80.04	The cor. of secs. 22, 23, 26 and 27. Land, rolling. Soil, gravelly; 3rd rate. No timber.

Subdivision of Tp.21 N.,Rg.19 West.

chains.

Underbrush,greasewood,and cacti.
Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptio- nly difficult to survey,80.04 chs.

Thence I run
N 0°01'W. bet.secs.22 and 23.
Over rolling land thru dense underbrush.

- 2.00 Wash,20 lks.wide,course SE.
- 4.20 Wash,20 lks.wide,course SE.
- 24.30 Wash,30 lks.wide,course SE.
- 27.75 Wash,20 lks.wide,course SE.
- 29.40 Wash,20 lks.wide,course SE.
- 40.00

Set a malpais stone,15X9X8ins.,10ins.in the ground, for 1/4 sec.cor.,marked 1/4 on W.face; dig pits,18X18X12ins. N.and S. of stone,3ft.dist.; and raise a mound of earth, 3 1/2 ft. base,1 1/2 ft.high,W. of cor.

- 63.00 Wash,20 lks.wide,course SE.
- 64.50 Wash,10 lks.wide,course SE.
- 74.50 Wash,10 lks.wide,course SE.
- 76.50 Wash,25 lks.wide,course SE.
- 80.00

Set a malpais stone,20X10X7ins.,15ins.in the ground, for cor. of secs.14,15,22 and 23,marked with 3 notches on S.and 2 notches on E.edge; dig pits,18X18X12ins.in each sec.5 1/2 ft.dist.; and raise a mound of earth,4ft. base,2 ft.high,W. of cor.

Land,rolling.
Soil,gravelly; 3rd rate.
No timber.

Underbrush,greasewood,cacti and cacti.
Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.00 chs.

February 20,1910.

February 21; At 8h.00m.,a.m.,l.m.t.,I set off 10°41' S. on the decl.arc; 35°12'N. on the Nat.arc and deter- mine a meridian with the solar at the cor. of secs.14, 15,22 and 23.

Thence I run
S 89°59'E. on random line bet.secs.14 and 23.

- 40.00 Set temp. 1/4 sec.cor.
- 80.02 Intersect the N.and S. line 2 lks.N. of the cor. of secs.13,14,23 and 24.

Thence I run
N 89°58'W. on true line bet.secs.14 and 23.
Over rolling land thru dense underbrush.

- 17.00 Wash,100 lks.wide,course SE.
- 19.10 Wash,35 lks.wide,course SE.

40.01 Set a malpais stone,18X7X6ins.,12ins.in the ground, for 1/4 sec cor.,marked 1/4 on N.face; dig pits,18X18X12ins. E.and W. of stone,3ft.dist.; and raise a mound of earth 3 1/2 ft.base,1 1/2 ft.high,N. of cor.

- 42.15 Wash,20 lks.wide,course SE.
- 47.75 Same wash,10 lks.wide,course SE.
- 49.80 Wash,10 lks.wide,course SE.
- 80.02 The cor. of secs.14,15,22 and 23.

Land,rolling.
Soil,gravelly; 3rd rate.
No timber.

Underbrush,greasewood,sage and cacti.
Rolling land covered with dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.02 chs.

Subdivision of Tp.21 N.,Rg.19 West.

chains.	Thence I run
	N 0° 01' W. bet. secs. 14 and 15.
	Over rolling land thru dense underbrush.
10.85	Wash, 20 lks. wide, course SE.
25.20	Wash, 10 lks. wide, course SE.
40.00	Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
48.50	Wash, 20 lks. wide, course SE.
52.85	Wash, 20 lks. wide, course SE.
63.00	Wash, 50 lks. wide, course SE.
72.40	Wash, 15 lks. wide, course SE.
80.00	Set a malpais stone, 15X8X6 ins., 10 ins. in the ground, for cor. of secs. 10, 11, 14 and 15, marked with 4 notches on S. and 2 notches on E. edge; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, rolling.
	Soil, gravelly and rocky; 3rd rate.
	No timber.
	Underbrush, greasewood and cacti.
	Rolling land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.
	At this cor. I set off 10° 38' N. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35° 13' N.
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	Thence I run
	S 89° 58' E. on random line bet. secs. 11 and 14.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.90	Intersect the N. and S. line 4 lks. S. of the cor. of secs. 11, 12, 13 and 14.
	Thence I run
	West on true line bet. secs. 11 and 14.
	Over rolling land thru dense underbrush,
13.10	Wash, 100 lks. wide, course S. (Sacramento)
26.25	Wash, 10 lks. wide, course SE.
39.95	Set a malpais stone, 24X10X8 ins., 18 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
40.45	Wash, 25 lks. wide, course SE.
45.25	Wash, 25 lks. wide, course SE.
47.10	Wash, 10 lks. wide, course SE.
79.90	The cor. of secs. 10, 11, 14 and 15.
	Land, rolling.
	Soil, gravelly; 3rd rate.
	No timber.
	Underbrush, greasewood, catclaw and cacti.
	Rolling land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.90 chs.
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	Thence I run
	N 0° 01' W. bet. secs. 10 and 11.
	Over rolling land thru dense underbrush.
34.40	Wash, 25 lks. wide, course SE.
37.60	Wash, 25 lks. wide, course SE.
40.00	Set a malpais stone, 18X8X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
42.00	Wash, 15 lks. wide, course SE.
56.10	Wash, 20 lks. wide, course SE.
58.90	Road, bears E. and W.
59.65	Wash, 30 lks. wide, course SE.
76.00	Road, bears NW. and SE. To Cottonwood. 2.5 miles.

Subdivision of Tp.21 N.,Rg.19 West.

chains.
80.00

Set a malpais stone, 20X9X8ins., 15ins. in the ground, for cor. of secs. 2, 3, 10 and 11, marked with 5 notches on S. and 2 notches on E. edge; and raise a mound of stone, 2ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.
February 21, 1910.

40.00
79.92

February 22; At 8h.00m., a.m., 1, m. t., I set off 10° 19' S. on the decl. arc; 35° 14' N. on the lat. arc and determine a meridian with the solar at the cor. of secs. 2, 3, 10 and 11.

Thence I run
East on random line bet. secs. 2 and 11.

Set temp. 1/4 sec. cor.
Intersect the N. and S. line 4 lks. S. of the cor. of secs. 1, 2, 11 and 12.

Thence I run
S 89° 58' W. on true line bet. secs. 2 and 11.

39.56

Over rolling land thru dense underbrush.
Set a malpais stone, 18X8X6ins., 12ins. in the ground, for witness cor. to 1/4 sec. cor., marked WC 1/4 on N. face; dig pits, 18X18X12ins., E. and W. of stone, 3ft. dist.; and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high, N. of cor. Point for 1/4 sec. cor. falls in wash, 30 lks. wide, course SW.

39.96
49.40
58.00
69.60
79.92

Wash, 30 lks. wide, course S.
Wash, 250 lks. wide, course S.
Wash, 35 lks. wide, course SE.
The cor. of secs. 2, 3, 10 and 11.

Land, rolling.
Soil, gravelly; 3rd rate.
No timber.

Underbrush, greasewood, sage and cacti.
Rolling land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.92 chs.

40.00
80.04

Thence I run
N 0° 01' W. on random line bet. secs. 2 and 3.

Set temp. 1/4 sec. cor.
Intersect the N. bdy. of Tp. 2 lks. W. of the cor. of secs 2, 3, 34 and 35.

Thence I run
South on true line bet. secs. 2 and 3.

Over rolling land covered with loose rocks thru dense underbrush.

40.04

Set a malpais stone, 18X8X6ins., 12ins. in the ground, for 1/4 sec. cor., marked 1/4 on W. face; and raise a mound of stone, 2ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable.

46.15
56.00
64.35
80.04

Wash, 100 lks. wide, course SE. (Sacramento)
Wash, 50 lks. wide, course E.
Wash, 30 lks. wide, course SE.
The cor. of secs. 2, 3, 10 and 11.

Land, rolling.
Soil, gravelly; and rocky; 3rd rate.
No timber.

Underbrush, greasewood, sage and cacti.
Rolling land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.04 chs.

At this cor. I set off 10° 16 1/2' S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35° 14' N.

Subdivision of Tp.21 N.,Rg.19 West.

chains.	From the Standard Cor. of secs. 33 & 34, as reestablished by me, I run N, 0°02'W. bet. secs. 33 and 34. Over broken and mountainous land covered with loose rocks thru dense underbrush.
0.15	Wash, 15 lks. wide, course SE. Over loose rocks.
10.35	Wash, 20 lks. wide, course E. Over loose rocks.
15.31	Wash, 30 lks. wide, course E. Over loose rocks.
23.60	Wash, 20 lks. wide, course SE. Over loose rocks.
25.00	Wash, 20 lks. wide, course E. Over loose rocks.
28.15	Wash, 20 lks. wide, course E. Over loose rocks.
37.50	Wash, 20 lks. wide, course E. Over loose rocks.
40.00	Set a malpais stone, 18X10X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
55.70	Wash, 20 lks. wide, course E. Over loose rocks.
74.40	Wash, 20 lks. wide, course E. Over loose rocks.
78.30	Wash, 20 lks. wide, course E. Over loose rocks.
80.00	Set a malpais stone, 18X10X6 ins., 12 ins. in the ground, for cor. of secs. 27, 28, 33 and 34, marked with 1 notch on S. and 3 notches on E. edge; dig pits, 18X18X12 ins., in each sec. $5\frac{1}{2}$ ft. dist.; and raise a mound of earth and rocks 4 ft. base, 2 ft. high, W. of cor. Land, mountainous and broken. Soil, rocky; 3rd rate. Timber, a few cedars Underbrush, greasewood and cacti. Mountainous and broken land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.

	Thence I run S 89°58'E. on random line bet. secs. 27 and 34.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.00	Intersect the N. and S. line 9 lks. S. of the cor. of secs. 26, 27, 34 and 35. Thence I run S 89°58'W. on true line bet. secs. 27 and 34.
40.00	Ascending over mountainous land thru dense underbrush Set a malpais stone, 15X8X6 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
42.00	Wash, 10 lks. wide, course SE.
80.00	The cor. of secs. 27, 28, 33 and 34. Land, mountainous. Soil, gravelly; 3rd rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. February 22, 1910.

	February 23; At 8h.00m., a.m., l.m.t., I set off 9°57' $\frac{1}{2}$ ' S. on the decl. arc; 35°10' $\frac{1}{2}$ ' N. on the lat. arc and determine a meridian with the solar at the cor. of secs. 27, 28, 34 and 33. Thence I run N 0°02'W. bet. secs. 27 and 28. Over mountainous and broken land covered with loose rocks thru dense underbrush.
5.80	Wash, 20 lks. wide, course E. Over loose rocks.
10.20	Wash, 10 lks. wide, course SE. Over loose rocks.
17.90	Wash, 10 lks. wide, course E. Over loose rocks.
24.50	Wash, 20 lks. wide, course E. Over loose rocks.
30.50	

Subdivision of Tp. 21 N., Rg. 19 West.

Chains.	
30.50	Wash, 20 lks. wide, course E. Over loose rocks.
32.30	Wash, 20 lks. wide, course E. Over loose rocks.
40.00	Set a malpais stone, 24X10X6 ins., 18 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth and rocks $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
40.45	Wash, 30 lks. wide, course E. Over loose rocks.
46.30	Wash, 30 lks. wide, course E. Over loose rocks.
50.00	Wash, 10 lks. wide, course E. Over loose rocks.
55.25	Wash, 20 lks. wide, course E. Over loose rocks.
58.80	Wash, 20 lks. wide, course E. Over loose rocks.
63.15	Wash, 20 lks. wide, course E. Over loose rocks.
68.25	Wash, 25 lks. wide, course E. Over loose rocks.
70.00	Wash, 20 lks. wide, course E. Over loose rocks.
73.40	Wash, 20 lks. wide, course E. Over loose rocks.
80.00	Set a malpais stone, 18X9X9 ins., 12 ins. in the ground, for cor. of secs. 21, 22, 27 and 28, marked with 2 notches on S. and 3 notches on E. edge; dig pits, 18X18X12 ins., in each sec. $5\frac{1}{2}$ ft. dist.; and raise a mound of earth, and rocks, 4 ft. base, 2 ft. high, W. of cor. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood, sage catclaw and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.
	Thence I run N 89° 58' E. on random line bet. secs. 22 and 27.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.98	Intersect the N. and S. line, 2 lks. N. of the cor. of secs. 22, 23, 26 and 27. Thence I run S 89° 59' W. on true line bet. secs. 22 and 27. Ascending out of Sacramento Valley, over mountainous land thru dense underbrush.
1.30	Wash, 10 lks. wide, course SE.
6.00	Wash, 10 lks. wide, course SE.
23.00	Wash, 10 lks. wide, course SE.
39.99	Set a granite stone, 18X12X8 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3 ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
44.75	Wash, 20 lks. wide, course SE.
63.15	Wash, 20 lks. wide, course NE.
79.98	The cor. of secs. 22, 23, 27 and 28. Land, mountainous. Soil, gravelly; 3rd rate. No timber. Underbrush, greasewood, and cacti. Mountainous land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.98 chs. At this cor. I set off 9° 54' S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35° 11' N.
	Thence I run N 0° 02' W. bet. secs. 21 and 22. Over rolling land thru dense underbrush.
1.30	Wash, 15 lks. wide, course SE.
8.40	Wash, 15 lks. wide, course SE.
14.60	Wash, 25 lks. wide, course SE.
32.40	Wash, 25 lks. wide, course SE.
40.00	Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone.

Subdivision of Tn. 21 N., Rg. 19 West.

chains.	3ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
42.80	Wash, 15 lks. wide, course SE.
54.85	Wash, 20 lks. wide, course SE.
58.00	Wash, 30 lks. wide, course SE.
71.25	Wash, 30 lks. wide, course SE.
77.70	Wash, 10 lks. wide, course SE.
80.00	Set a malpais stone, 18X8X8 ins., 12 ins. in the ground, for cor. of secs., 15, 16, 21 and 22., marked 21 N on NE., and 19 W on SE. face, with 3 notches on S. and E. edges; dig pits, 18X18X12 ins., in each sec. $5\frac{1}{2}$ ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Land, rolling. Soil, gravelly; 3rd rate. No timber. Underbrush, greasewood and cacti. Rolling land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.
	Thence I run N $89^{\circ}59'$ E. on random line bet. secs. 15 and 22.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.94	Intersect the N. and S. line, 7 lks. N. of the cor. of secs. 14, 15, 22 and 23. Thence I run N $89^{\circ}58'$ W. on true line bet. secs. 15 and 22. Ascending out of the Sacramento Valley thru dense underbrush.
39.97	Set a malpais stone, 24X8X6 ins., 18 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
40.85	Enter and along wash, 70 lks. wide, course SE.
53.80	Leave wash, comes from NW.
57.20	Wash, 30 lks. wide, course SE.
69.15	Wash, 20 lks. wide, course NE.
79.94	The cor. of secs. 15, 16, 20 and 21. Land, mountainous and rolling. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood, and cacti. Rolling land covered with dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.94 chs.
	February 23, 1910.
	February 24; At 9h. 00m., a.m., l.m.t., I set off $9^{\circ}35\frac{1}{2}'$ S. on the decl. arc; $35^{\circ}12'N$ on the lat. arc and determine a meridian with the solar at the cor. of secs. 15, 16, 21 and 22.
	Thence I run N $0^{\circ}02'$ W. bet. secs. 15 and 16. Over rolling land thru dense underbrush.
13.35	Wash, 30 lks. wide, course SE.
19.70	Wash, 20 lks. wide, course SE.
40.00	Set a malpais stone, 15X9X8 ins., 10 ins. in the ground for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3ft. dist.; and raise a mound of earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
45.15	Wash, 10 lks. wide, course SE. Over loose rocks.
54.00	Wash, 10 lks. wide, course SE. Over loose rocks.
61.00	Wash, 20 lks. wide, course SE. Over loose rocks.
80.00	Set a malpais stone, 18X8X8 ins., 12 ins. in the ground, for cor. of secs. 9, 10, 15 and 16. marked with 4 notches on S. and 3 notches on E. edge; and raise a mound of stone 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

Subdivision of Td. 21 N., R. 19 West.

chains.	<p>Land, rolling. Soil, gravelly and rocky; 3rd rate. No timber. Underbrush, greasewood, and cacti. Rolling land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.</p>
40.00	Thence I run
79.96	S 89° 58' E. on random line bet. secs. 10 and 15. Set temp. $\frac{1}{4}$ sec. cor. Intersect the N. and S. line 4 lks. S. of the cor. of secs. 10, 11, 14 and 15. Thence I run West on true line bet. secs. 10 and 15. Over rolling land thru dense underbrush over loose rocks
13.05	Wash, 30 lks. wide, course SE. Over loose rocks.
19.25	Wash, 40 lks. wide, course SE. Over loose rocks.
39.98	Set a malpais stone, 18X8X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable
66.65	Wash, 30 lks. wide, course SE. Over loose rocks.
79.96	The cor. of secs. 9, 10, 15 and 16. Land, rolling. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Rolling land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79, 96 chs. At this cor. I set off 9° 32' S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35° 13' N.
2.20	Thence I run N 0° 02' W. bet. secs. 9 and 10. Over rolling land covered with loose rocks thru dense underbrush.
10.30	Wash, 30 lks. wide, course SE. Over loose rocks.
14.00	Wash, 10 lks. wide, course SE. Over loose rocks.
15.65	Wash, 20 lks. wide, course SE. Over loose rocks.
24.50	Wash, 20 lks. wide, course SE. Over loose rocks.
35.05	Wash, 30 lks. wide, course SE. Over loose rocks.
40.00	Wash, 40 lks. wide, course SE. Over loose rocks. Set a malpais stone, 15X8X6 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth and stone, 3 $\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
54.40	Wash, 15 lks. wide, course SE. Over loose rocks.
61.55	Wash, 15 lks. wide, course SE. Over loose rocks.
64.30	Wash, 20 lks. wide, course SE. Over loose rocks.
67.40	Road, bears E. and W.
77.00	Wash, 50 lks. wide, course SE. Over loose rocks.
80.00	Set a malpais stone, 18X8X6 ins., 12 ins. in the ground, for cor. of secs. 3, 4, 9 and 10, marked with 5 notches on S. and 3 notches on E. edge; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Land, rolling. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood, sage and cacti. Rolling land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	Thence I run East on random line bet. secs. 3 and 10.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.04	Intersect the W. and S. line 2 lks. N. of the cor. of secs. 2, 3, 10 and 11.
	Thence I run N 89 59' W. on true line bet. secs. 3 and 10.
	Over rolling land covered with loose rocks thru dense underbrush.
3.80	Road, bears NW. and SE. To Cottonwood.
26.20	Wash, 15 lks. wide, course SE. Over loose rocks.
30.00	Wash, 20 lks. wide, course SE. Over loose rocks.
40.02	Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
80.04	The cor. of secs. 3, 4, 9 and 10. Land, rolling. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood, and cacti. Rolling land covered with loose rocks and dense under brush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.04 chs. February 24; 1910.
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	February 25; At 8h. 00m., a.m., l.m.t., I set off 9°13'S. on the decl. arc; 35°14'N. on the lat. arc and determine a meridian with the solar at the cor. of secs. 3, 4, 9 and 10.
	Thence I run N 0°02' W. on random line bet. secs. 3 and 4.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.12	Intersect the N. bdy. of Tp. 2 lks. W. of the cor. of secs. 3, 4, 33 and 34.
	Thence I run S 0°01' E. on true line bet. secs. 3 and 4.
	Over mountainous land covered with loose rocks and dense underbrush.
16.00	Wash, 25 lks. wide, course E. Over loose rocks.
18.65	Wash, 20 lks. wide, course SE. Over loose rocks.
28.50	Wash, 25 lks. wide, course SE. Over loose rocks.
30.85	Wash, 50 lks. wide, course E. Over loose rocks.
34.50	Wash, 20 lks. wide, course SE. Over loose rocks.
40.12	Set a malpais stone, 18X10X6 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.
51.15	Wash, 20 lks. wide, course SE. Over loose rocks.
54.05	Wash, 20 lks. wide, course E. Over loose rocks.
64.05	Wash, 15 lks. wide, course NE. Over loose rocks.
80.12	The cor. of secs. 3, 4, 9 and 10. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood, and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.12 chs. <hr/>
	Thence I run N 0°02' W. bet. secs. 32 and 33 from standard cor. of secs. 32 and 33, which is a stone, marked and witnessed as described by the Surveyor General.
	Ascending along E. slope of mountains over loose rock thru dense underbrush.
10.85	Wash, 30 lks. wide, course E. Over loose rocks.
24.70	Wash, 20 lks. wide, course E. Asc. steep slope over loose rocks.

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	
30.00	Top of bare rocky ridge, bears E. and W. Desc. steep slope over loose rocks.
35.35	Wash, 20 lks. wide, course E. Asc. over loose rocks.
40.00	Set a granite stone, 18X10X8 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.
60.50	Wash, 20 lks. wide, course E. Along E. slope over loose rocks.
62.35	Wash, 20 lks. wide, course SE. Along E. slope over loose rocks.
80.00	Set a malpais 20X10X10 ins., 15 ins. in the ground, for cor. of secs. 28, 29, 32 and 33, marked with 1 notch on S., and 4 notches on E. edge; and raise a mound of stone, 2 ft. base, $1\frac{1}{4}$ ft. high, W. of cor. Pits impracticable. Land, mountainous. Soil, rocky; 3rd rate. Timber, a few cedars. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. At this cor. I set off $9^{\circ}10\frac{1}{2}'$ S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is $35^{\circ}10\frac{1}{2}'$ N.
	Thence I run East on random line bet. secs. 28 and 33.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.12	Intersect the N. and S. line 7 lks. N. of the cor. of secs. 27, 28, 33 and 34. Thence I run N $89^{\circ}57'$ W. on true line bet. secs. 28 and 33. Ascending over loose rocks thru dense underbrush.
34.20	Wash, 20 lks. wide, course SE. Asc. steep slope over loose rocks and boulders.
40.06	Set a granite stone, 18X10X5 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, N. of cor. Pits impracticable.
53.50	Top of high granite hill and Desc. steep slope over loose rocks and boulders.
70.70	Wash, 20 lks. wide, course S. Asc. over loose rocks.
80.12	The cor. of secs. 28, 29, 32 and 33. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.12 chs.
	Thence I run N $0^{\circ}02'$ W. bet. secs. 28 and 29. Over mountainous land covered with loose rocks thru dense underbrush.
21.35	Wash, 25 lks. wide, course E. Over loose rocks.
25.00	Wash, 25 lks. wide, course E. Over loose rocks.
32.55	Wash, 30 lks. wide, course E. Over loose rocks.
38.00	Wash, 40 lks. wide, course E. Over loose rocks.
40.00	Set a granite stone, 24X8X8 ins., 18 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth, and stone, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
43.70	Wash, 20 lks. wide, course SE. Over loose rocks.
47.10	Wash, 20 lks. wide, course SE. Over loose rocks.
50.05	Wash, 20 lks. wide, course SE. Over loose rocks.
58.80	Wash, 20 lks. wide, course SE. Over loose rocks.
63.20	Wash, 20 lks. wide, course SE. Over loose rocks.

Subdivision of T_p. 21 N., R_g. 19 West.

chains.	
67.70	Wash, 20 lks. wide, course SE. Over loose rocks.
76.70	Wash, 15 lks. wide, course SE. Over loose rocks.
80.00	Set a malpais stone, 18X13X6 ins., 12 ins. in the ground, for cor. of secs. 20, 21, 28 and 29, marked with 2 notches on S. and 4 notches on E. edge; and raise a mound of stone 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable. Land, rough and mountainous. Soil, rocky; 3rd rate. Timber. A few cedars. Underbrush, greasewood and cacti. Mountainous and rough land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.
	February 25, 1910.
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	February 26; At 8h.00m., a.m., l.m.t., I set off 8°51' S. on the decl. arc; 35°11' N. on the lat. arc and determine a meridian with the solar at the cor. of secs. 20, 21, 28 and 29.
	Thence I run
	S 89°57' E. on random line bet. secs. 21 and 28.
40.00	Set temp. ¼ sec. cor.
80.04	Intersect the N. and S. line 7 lks. S. of the cor. of secs 21, 22, 27 and 28.
	Thence I run
	West on true line bet. secs. 21 and 28.
	Ascend over mountainous land covered with loose rocks thru dense underbrush.
18.70	Wash, 20 lks. wide, course NE. Over loose rocks.
30.80	Wash, 20 lks. wide, course SE. Over loose rocks.
35.00	Wash, 15 lks. wide, course NE. Over loose rocks.
40.02	Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for ¼ sec. cor., marked ¼ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3 ft. dist.; and raise a mound of earth & stone, 3½ ft. base, 1½ ft. high, N. of cor.
46.80	Wash, 15 lks. wide, course NE. Over loose rocks.
65.60	Wash, 15 lks. wide, course NE. Over loose rocks.
78.70	Wash, 15 lks. wide, course NE. Over loose rocks.
80.04	The cor. of secs. 20, 21, 28 and 29. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.04 chs.
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	Thence I run
	N 0°02' W. bet. secs. 20 and 21.
	Over rolling and mountainous land covered with loose rocks thru dense underbrush.
3.25	Wash, 20 lks. wide, course NE. Over loose rocks.
5.50m	Wash, 20 lks. wide, course E. Over loose rocks.
18.10	Wash, 20 lks. wide, course E. over loose rocks.
20.70	Wash, 20 lks. wide, course SE. Over loose rocks.
36.40	Wash, 20 lks. wide, course E. Over loose rocks.
37.30	Wash, 15 lks. wide, course SE. Over loose rocks.
40.00	Set a malpais stone, 18X9X6 ins., 12 ins. in the ground, for ¼ sec. cor., marked ¼ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3 ft. dist.; and raise a mound of earth, and stone, 3½ ft. base, 1½ ft. high, W. of cor.
40.30	Wash, 15 lks. wide, course SE. Over loose rocks.
57.55	Wash, 20 lks. wide, course SE. Over loose rocks.
71.65	Wash, 20 lks. wide, course SE. Over loose rocks.
80.00	Set a malpais stone, 20X8X8 ins., 15 ins. in the ground, for cor. of secs. 16, 17, 20 and 21, marked with 3 notches

Subdivision of Tp.21 N.,Rg.19 West.

chains

on S. and 4 notches on E. edge; and raise a mound of stone 2ft. base, 1½ ft. high, W. of cor. Pits impracticable.
 Land, rolling and mountainous.
 Soil, rocky; 3rd rate.
 No timber.
 Underbrush, greasewood and cacti.

Rolling and mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 30.00 ch.
 At this cor. I set off 8°48'S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35°12'N.

40.00 Thence I run
 79.96 East on random line bet. secs. 16 and 21.
 Set temp. ¼ sec. cor.
 Intersect the N. and S. line 2 lks. S. of the cor. of secs. 15, 16, 21 and 22.

Thence I run
 S 89°59'W. on true line bet. secs. 16 and 21.
 Over rolling land covered with loose rocks thru dense underbrush.
 38.15 Wash, 10 lks. wide, course SE. Over loose rocks.
 35.50 Same wash, 10 lks. wide, course NE. Over loose rocks.
 36.25 Same wash, course SE. Over loose rocks.

39.98 Set a malpais stone, 18X8X8 ins., 12 ins. in the ground for ¼ sec. cor., marked ¼ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3ft. dist.; and raise a mound of stone and earth, 3½ ft. base, 1½ ft. high, N. of cor.
 58.00 Wash, 20 lks. wide, course SE. Over loose rocks.
 79.96 The cor. of secs. 20, 21, 16 and 17.
 Land, rolling.
 Soil, rocky; 3rd rate.
 No timber.
 Underbrush, greasewood and cacti.
 Rolling land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.96 chs.

Thence I run
 N 0°02'W. bet. secs. 16 and 17.
 Over rolling and mountainous land covered with loose rocks thru dense underbrush.

4.10 Wash, 30 lks. wide, course NE. Over loose rocks.
 24.00 Wash, 30 lks. wide, course NE. Over loose rocks.
 31.80 Wash, 20 lks. wide, course NE. Over loose rocks.
 36.00 Wash, 30 lks. wide, course SE. Over loose rocks.
 40.00 Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for ¼ sec. cor., marked ¼ on W. face; dig pits, 18X18X12 ins. N. and S. of stone, 3ft. dist.; and raise a mound of stone and earth, 3½ ft. base, 1½ ft. high, W. of cor.
 54.00 Wash, 40 lks. wide, course SE. Over loose rocks.
 72.50 Wash, 20 lks. wide, course SE. Over loose rocks.

80.00 Set a malpais stone, 15X10X6 ins., 10 ins. in the ground, for cor. of secs. 16, 17, 8 and 9, marked with 4 notches on S. and E. edges; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impracticable.
 Land, rolling and mountainous.
 Soil, rocky; 3rd rate.
 No timber.
 Underbrush, greasewood and cacti.
 Rolling and mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 ch.

February 26, 1910.

Subdivision of Tp.21 N., Rg.19 West.

chains.	
	February 27; At 8h.00m., a.m., l.m.t., I set off $8^{\circ}28\frac{1}{2}'$ S. on the decl. arc; $35^{\circ}13'N.$ on the lat. arc and determine a meridian with the solar at the cor. of secs. 8, 9, 16 and 17. Thence I run N $89^{\circ}59'E.$ on random line bet, secs. 8 and 16.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.02	Intersect the N. and S. line 2 lks. N. of the cor of secs 9, 10, 15 and 16. Thence I run West on true line bet. secs. 9 and 16. Over rolling and mountainous land covered with loose rocks thru dense underbrush.
37.35	Wash, 15 lks. wide, course SE. Over loose rocks.
40.01	Set a malpais stone, 15X8X8 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; dig pits, 18X18X12 ins. E. and W. of stone, 3 ft. dist.; and raise a mound of stone and earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
49.50	Wash, 20 lks. wide, course SE. Over loose rocks.
80.02	The cor. of secs. 8, 9, 16 and 17. Land, rolling and mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Rolling and mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.02 ch
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	Thence I run N $0^{\circ}02'W.$ bet. secs. 8 and 9. Over Mountainous land covered with loose rocks thru dense underbrush, along east slope.
6.45	Road, bears NE. and SW.
19.30	Wash, 20 lks. wide, course E. Over loose rocks.
31.75	Wash, 25 lks. wide, course E. Over loose rocks.
36.30	Wash, 10 lks. wide, course E. Over loose rocks.
40.00	Set a malpais stone, 24X12X6 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.
42.75	Wash, 50 lks. wide, course E. Over loose rocks.
44.60	Wash, 30 lks. wide, course E. Over loose rocks.
47.00	Wash, 30 lks. wide, course E. Over loose rocks.
61.65	Wash, 10 lks. wide, course E. Over loose rocks.
69.70	Wash, 15 lks. wide, course E. Over loose rocks.
70.53	Road, Kingman to Union Pass, bears E. and W.
78.75	Wash, 20 lks. wide, course E. Over loose rocks.
80.00	Set a malpais stone, 18X8X6 ins., 12 ins. in the ground, for cor. of secs. 4, 5, 8 and 9, marked with 5 notches on S. and 4 notches on E. 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 rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. At this cor. I set off $8^{\circ}25\frac{1}{2}'S.$ on the decl. arc, and observe the sun on the meridian at noon; the resulting lat. is $35^{\circ}14'N.$
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	Thence I run East on random line bet. secs. 4 and 9.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.94	Intersect the N. and S. line, 4 lks. S. of the cor. of secs. 3, 4, 9 and 10. Thence I run S $89^{\circ}58'W.$ on true line bet. secs. 4 and 9.

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	Ascending E. slope of mountains over loose rocks thru dense underbrush.
5.15	Wash, 50 lks. wide, course SE. Over loose rocks.
39.97	Set a malpais stone, 18X8X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
72.50	The cor. of secs. 4, 5, 8 and 9.
79.94	Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacto. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.94 chs.
	Thence I run N $0^{\circ}02'$ W. on random line bet. secs. 4 and 5.
40.00	Set temp. $\frac{1}{4}$ sec. cor. Land covered with loose rocks and
80.11	Intersect the N. bdy. of Tp., 16 lks. W. of the cor. of secs. 4, 5, 8 and 9.
	Thence I run S $0^{\circ}05'$ W, on true line bet. secs. 4 and 5.
	Over mountainous land covered with loose rocks, thru dense underbrush.
0.50	Wash, 10 lks. wide, course NE. Over loose rocks.
2.10	Wash, 15 lks. wide, course E. Over loose rocks.
15.80	Enter and across wash, course SE.
18.10	Leave wash, course SE. Asc. over loose rocks.
36.50	Wash, 10 lks. wide, course NE. Asc. over loose rocks.
40.11	Set a malpais 20X10X8 ins., 15 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18X18X12 ins., N. and S. of stone, 3 ft. dist.; and raise a mound of stone, and earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
40.50	Top of ridge, bears E. and W., Desc. over loose rocks.
46.00	Wash, 10 lks. wide, course NE. Desc. over loose rocks.
63.35	Wash, 20 lks. wide, course SE. Asc. over loose rocks.
72.00	Top of ridge, bears E. and W. Desc. over loose rocks.
74.00	Drain, course SE., Over loose rocks.
80.11	The cor. of secs. 4, 5, 8 and 9. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.11 chs. February 27, 1910.
	February 28; At 8h.00m., a.m., l.m.t., I set off $8^{\circ}06'S$. on the decl. arc; $35^{\circ}09\frac{1}{2}'N$. on the lat. arc and determine a meridian with the solar at the standard cor. of secs. 31 and 32, which is a stone 10X8X6 ins., poorly set in a mound of stone, I destroy the cor and in the same place set a malpais stone, 20X10X8 ins., 15 ins. in the ground for standard cor. of secs. 31 and 32, marked SC on N. face, with 5 grooves on E. and 1 groove on W. face; and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
	Thence I run N $0^{\circ}03'$ W. bet. secs. 31 and 32.
	Descending steep slope over loose rocks thru dense underbrush
13.00	Drain, course W. Asc. steep slope over loose rocks.
21.00	Top of ridge, bears E. and W. Desc. steep slope over loose rocks and boulders.
24.50	Wash, 20 lks. wide, course W. Asc. steep slope over loose rocks and boulders.
27.00	Top of ridge, bears E. and W. Desc. steep slope over loose rocks and boulders.

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	
32.00	Wash, 30 lks. wide, course W. Asc. steep slope over loose rocks and boulders.
40.00	Point for $\frac{1}{4}$ sec. cor., falls on a bare rock ridge, 50ft. below top of ridge. Mark a cross (X) at point for cor, for $\frac{1}{4}$ sec. cor., and mark $\frac{1}{4}$ W. of cross; and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
40.70	Top of high bare rock ridge, bears E, and W. Desc. steep preceptious slope nearly impossible to chain.
60.00	Descend over mountainous land thru dense timber and underbrush. This point is 600 ft. below top of ridge, by observed vertical angle.
80.00	Set a malpais stone, 18X8X8ins., 12ins. in the ground, for cor. of secs. 29, 30, 31 and 32, marked with 1 notch on S. and 5 notches on E. edge; from which A cedar 8ins. diam., bears N 59° 10' E. 241 lks. dist.; marked, T 21 N R 19 W S 29 BT. A cedar 5ins. diam., bears S 8° 00' E. 118 lks. dist.; marked T 21 N R 19 W S 32 BT. and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. In sec. 32 is a high parapet mountain with wall 300 ft. high. Land, mountainous. Soil, rocky; 4th rate. Timber, cedar. Underbrush, greasewood, cacti and scrub cedar. Mountainous land covered with loose rocks and dense timber and underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 ch At this cor. I set off 8° 03' S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35° 10 $\frac{1}{2}$ ' N. ✓

	Thence I run East on random line bet. secs. 29 and 32.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.92	Intersect the W. and S. line, 11 lks. S. of the cor. of secs. 28, 29, 32 and 33. Thence I run S 89 55' W. on true line bet. secs. 29 and 32. Ascend over mountainous land covered with loose rocks thru dense underbrush and scattering timber.
11.50	Wash, 20 lks. wide, course SE. Asc. over loose rocks.
21.60	Wash, 20 lks. wide, course SE. Asc. over loose rocks.
28.00	Top of ridge, extends S. Desc. steep slope over loose rock.
39.96	Set a malpais stone, 18X6X6ins., 12ins. in the ground, for $\frac{1}{4}$ sec cor. marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
47.25	Wash, 20 lks. wide, course NE. Asc. steep slope over loose rocks.
62.00	Top of ridge, bears N. and S. Desc. steep slope over loose rocks.
71.65	Wash, 20 lks. wide, course N. Asc. over loose rocks.
73.20	Wash, 50 lks. wide, course N. Asc. over loose rocks.
79.92	The cor. of secs. 29, 30, 31 and 32. Land, mountainous. Soil, rocky 4th rate. Timber, cedar. Underbrush, greasewood, cacti and scrub cedar. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.92 chs.

	Thence I run West on random line bet. secs. 30 and 31.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.28	Intersect the W. bdy. of Tp. 21 lks. N. of the cor. of secs.

Subdivision of Tp.21 N.,Rg.19 West.

chains.

25,30,31 and 36, which is a stone, marked and witnessed as described by the surveyor General. I refreshen the notches and build a mound of stone 2ft. base, 1 1/2 ft. high W. of cor.

Thence I run N 89° 51' E. on true line bet. secs. 30 and 31.

Asc., over mountainous land covered with loose rocks thr scattering timber and dense underbrush.

10.00 Top of ridge, bears N. and S. desc. steep slope over loose rocks.

17.40 Wash, 10 lks. wide, course NW. Asc. steep slope over loose rocks.

20.00 Top of ridge, bears N. and S. Desc. steep slope over loose rocks.

28.00 Wash, 25 lks. wide, course NW. Asc. steep slope over loose rocks.

32.00 Foot of huge pile of rocks. Asc. over bare rocks.

35.00 Top of pile of rocks 250 ft. high. Desc. over bare rocks.

37.00 Foot of pile of rocks. Desc. steep slope over loose rocks

40.28 Point for 1/4 sec. cor., falls on S. end of E. slope of pile of bare rocks. Cut a cross (X) for 1/4 sec. cor., and mark 1/4 on N. side of cross, from which.

A cedar 6 ins. diam., bears N 64 1/2° E. 109 lks dist.; marked 1/4 S 30 BT.

A cedar 8 ins. diam., bears S 8 1/2° W., 23 lks. dist.; marked 1/4 S 31 BT

45.45 Wash, 50 lks. wide, course NE. Asc. steep slope over loose rocks.

59.05 Top of ridge, bears N. and S. Desc. steep slope over loose rocks.

76.65 Wash, 50 lks. wide, course NE. Asc. steep slope over loose rocks.

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

Sec. 31 has huge pile of rocks in center and is extremely mountainous and rough with high base walls of rock.

A wash in the E. half of Sec 31 has water in but is practicably inaccessible.

Land, mountainous and rough, Soil, rocky; 4th rate.

Timber, cedar. Underbrush, greasewood and cacti.

Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.28 chs.

February 28, 1910.

March 1; At 8h. 00m., a.m., l.m.t., I set off 7° 43' S. on the decl. arc; 35° 10 1/2' N. on the lat. arc and determine a meridian with the solar t

Thence I run N 0° 03' W. bet. secs. 29 and 30.

Over rolling and mountainous land covered with loose rocks thru scattering timber and dense underbrush.

3.60 Wash, 50 lks. wide, course NE. Over loose rocks.

10.00 Wash, 40 lks. wide, course NE. Over loose rocks.

19.70 Wash, 20 lks. wide, course E. Over loose rocks.

31.70 Wash, 20 lks. wide, course E. Over loose rocks.

38.00 Wash, 20 lks. wide, course NE. Over loose rocks.

40.00 Set a malpais stone, 18X10X7 ins., 12 ins. in the ground, for 1/4 sec. cor., marked 1/4 on W. face; from which

A cedar 6 ins. diam., bears N 22 1/2° W. 196 lks. dist.; marked 1/4 S 30 BT

A cedar 8 ins. diam., bears S 23 1/2° E. 200 lks. dist.; marked 1/4 S 29 BT.

46.30 Wash, 35 lks. wide, course NE. Over loose rocks.

50.83 Road, bears NE. and SW.

56.90 Wash, 20 lks. wide, course NE. Over loose rocks.

77.85 Wash, 10 lks. wide, course E. Over loose rocks.

80.00 Set a malpais stone, 18X8X6 ins., 12 ins. in the ground, for cor. of secs. 19, 20, 29 and 30, marked with 2 notches

Subdivision of Tp.21 N., Rg.19 West.

chains.	
	<p>on S. and 5 notches on E. edge; and raise a mound of stone 2ft. base, 1½ ft. high, W. of cor. pits impracticable. Land, mountainous. Soil, rocky; 3rd rate. Timber, cedar. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.</p>
	<p>Thence I run N 89°55'E. on random line bet. secs. 20 and 29.</p>
40.00	Set temp. ¼ sec. cor.
80.10	Intersect the N. and S. line 16 lks. N. of the cor. of secs. 20, 21, 28 and 29.
	<p>Thence I run N 89°58'W. on true line bet. secs. 20 and 29. Ascending over rolling mountainous land covered with loose rocks thru scattering timber and dense underbrush.</p>
2.50	Wash, 20 lks. wide, course NE. Over loose rocks.
9.30	Wash, 20 lks. wide, course NE. Over loose rocks.
20.30	Wash, 20 lks. wide, course NE. Over loose rocks.
21.70	Wash, 20 lks. wide, course NE. Over loose rocks.
25.50	Wash, 20 lks. wide, course NE. Over loose rocks.
31.30	Wash, 10 lks. wide, course NE. Over loose rocks.
37.90	Wash, 30 lks. wide, course NE. Over loose rocks.
40.05	Set a malpais stone, 15X8X8 ins., 10 ins. in the ground, for ¼ sec. cor., marked ¼ on N. face; and raise a mound of stone, 2ft. base, 1½ ft. high, N. of cor. Pits impracticable.
53.80	Wash, 20 lks. wide, course NE. Over loose rocks.
70.20	Road, bears NE. and SW.
80.10	The cor. of secs. 19, 20, 29 and 30. Land, mountainous. Soil, rocky; 3rd rate. Timber, cedar. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.10 chs. At this cor. I set off 7°40½'S. on the decl. arc and observe the sun on the meridi n at noon; the resulting lat. is 35°11½'N.
	<p>Thence I run S 89°51'W. on random line bet. secs. 19 and 30.</p>
40.00	Set temp. ¼ sec. cor.
80.12	Intersect the W. bdy. of Tp. 7 lks. S. of the cor. of secs. 19, 24, 25 and 30, which is a stone, marked and witnessed as described by the Surveyor General. Build a mound of stone, 2ft. base, 1½ ft. high, W. of cor.
	<p>Thence I run N 89°54'E. on true line bet. secs. 19 and 30. Ascend steep slope over loose rocks thru dense underbrush.</p>
2.00	Top of ridge, bears N. and S. Desc. steep slope over loose rocks.
6.00	Wash, 10 lks. wide, course S. Asc. steep slope over loose rocks.
12.00	Top of ridge, bears N. and S. Desc. steep slope over loose rocks.
18.00	Wash, 10 lks. wide, course SW. Asc. steep slope over loose rocks and boulders.
30.00	Top of high ridge, bears N. and S. Desc. precipitous slope over loose rocks.
31.00	Top of 100 ft. bluff. Desc.
31.20	Foot of 100 ft. bluff, Desc. steep slope over loose rocks
39.70	Wash, 10 lks. wide, course NE. Asc. steep slope over loose rocks.

Subdivision of Tp.21 N.,Rg.19 West.

chains
40.12 Point for $\frac{1}{4}$ sec.cor., falls on a malpais rock in place 18X20X12ins. above ground. I cut cross (X) for $\frac{1}{4}$ sec.cor and mark $\frac{1}{4}$ on N.face of rock, from which
A cedar 6ins.diam., bears N 20°E., 68 lks.dist.; marked $\frac{1}{4}$ S 19 BT.
A cedar 8ins.diam., bears S 86°W. 54 lks.dist.; marked $\frac{1}{4}$ S 30 BT

52.00 Top of rocky ridge, bears NE. and SW. Desc. steep slope over loose rocks and boulders.

80.12 The cor. of secs. 19, 20, 29 and 30.
Land, mountainous.
Soil, rocky; 4th rate.
Timber, cedar.
Underbrush, greasewood, and cacti.
Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.12 chs.
March 1, 1910.

March 2; At 8h.00m., a.m., l.m.t., I set off 7°20 $\frac{1}{2}$ 'S. on the decl. arc; 35°11 $\frac{1}{2}$ 'W. on the lat. arc and determine a meridian with the solar at the cor. of secs. 19, 20, 29 and 30.

Thence I run
N 0°03'W. bet. secs. 19 and 20.
Ascending over mountainous land covered with loose rocks thru dense underbrush.

22.00 Top of rocky ridge, bears E. and W. Desc. over loose rocks.

40.00 Set a malpais stone, 18X9X6ins., 12ins. in the ground, for $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on W.face; and raise a mound of stone, 2ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

50.80 Wash, 10 lks. wide, course E. Over loose rocks.

60.25 Wash, 20 lks. wide, course E. Over loose rocks.

62.65 Wash, 30 lks. wide, course E. Over loose rocks.

75.40 Wash, 20 lks. wide, course E. Over loose rocks.

80.00 Set a malpais stone, 18X8X8ins., 12ins. in the ground, for cor. of secs. 17, 18, 19 and 20, marked with 3 notches on S. and 5 notches on E. edge; from which
A cedar 4ins.diam., bears N 8 W. 153 lks.dist.; marked T 21 N R 19 W S 18 BT.
A cedar 8ins.diam., bears N 32 E. 158 lks.dist.; marked T 21 N R 19 W S 17 BT
and build a mound of stone, 2ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
Land, mountainous.
Soil, rocky; 3rd rate.
Timber, cedar.
Underbrush, greasewood and cacti.
Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80,00 chs.

Thence I run
S 89°58'E. on random line bet. secs. 17 and 20.

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

80.12 Intersect the N. and S. line 2 lks. S. of the cor. of secs. 16, 17, 20 and 21.
Thence I run
N 89°59'W. on true line bet. secs. 17 and 20.
Over mountainous land covered with loose rocks thru dense underbrush.

17.45 Wash, 15 lks. wide, course NE. Over loose rocks.

24.70 Wash, 25 lks. wide, course NE. Over loose rocks.

37.53 Road, bears NE. and SW.

40.06 Set a malpais stone, 20X10X8ins., 15ins. in the ground, for $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on N.face; dig pits, 18X18X12ins. E. and W. of stone, 3ft. dist.; and raise a mound of stone

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	
	and earth, $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high, N. of cor.
65.50	Wash, 30 lks. wide, course SE. Over loose rocks.
70.95	Wash, 30 lks. wide, course NE. Over loose rocks.
76.65	Wash, 30 lks. wide, course SE. Over loose rocks.
80.12	The cor. of secs. 17, 18, 19 and 20. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.12 chs. At this cor. I set off $7^{\circ}17\frac{1}{2}'S.$ on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is $35^{\circ}12'N.$
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	Thence I run $S 89^{\circ}54'W.$ on random line bet. secs. 18 and 19.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.95	Intersect the W. bdy. of Tp. 13 lks. N. on the cor. of secs. 13, 18, 19 and 24, which is stone, marked and witnessed as described by the Surveyor General. I refreshen notches and build a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor Thence I run $N 89^{\circ}48'E.$ on true line bet. secs. 18 and 19. Descending E. slope of Black mountainous over loose rocks thru scattering timber thru dense underbrush.
2.30	Wash, 10 lks. wide, course NE. Desc. over loose rocks.
10.90	Wash, 10 lks. wide, course N. Desc. over loose rocks.
29.50	Wash, 20 lks. wide, course NE. Desc. over loose rocks.
39.95	Set a malpais stone, 24x8x6 ins., 18 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; from which A cedar 5 ins. diam., bears $S 60\frac{1}{2}^{\circ}E.$ 36 lks. dist.; marked $\frac{1}{4} S 19 RT.$ A cedar 7 ins. diam., bears $N 24\frac{1}{4}^{\circ}W.$ 137 lks. dist.; marked; $\frac{1}{4} S 18 RT.$
43.35	Wash, 20 lks. wide, course SE. Desc. over loose rocks.
61.05	Wash, 20 lks. wide, course NE. Desc. over loose rocks.
67.00	Wash, 20 lks. wide, course SE. Desc. over loose rocks.
70.35	Same wash, course NE. Desc. over loose rocks.
79.95	The cor. of secs. 17, 18, 19 and 20. Land, mountainous. Soil, rocky; 3rd rate. Timber, cedar. Underbrush, greasewood sage and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 79.95 chs.
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	Thence I run $N 0^{\circ}03'W.$ bet. secs. 17 and 18. Over mountainous land covered with loose rocks thru dense underbrush and timber.
2.00	Wash, 30 lks. wide, course SE. Asc. steep slope over loose rocks.
23.00	Top of ridge, bears E. and W. Desc. over loose rocks.
23.20	Wash, 30 lks. wide, course E. Asc. over loose rocks.
26.00	Top of ridge, bears E. and W. Desc. steep slope over loose rocks.
29.35	Wash, 10 lks. wide, course E. Asc. steep slope over loose rocks.
34.80	Top of ridge, bears E. and W. Desc. steep slope over loose rocks.
36.40	Wash, 25 lks. wide, course E. Asc. steep slope over loose rocks.

Subdivision of Tp. 21 N., Rg. 19 West.

chains.	
40.00	Set a malpais stone, 15X8X8 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; from which, A cedar 5 ins. diam., bears S $54\frac{1}{2}^{\circ}$ E., 137 lks. dist.; marked $\frac{1}{4}$ S 17 BT. A cedar 4 ins. diam., bears S 81° W., 32 lks. dist.; marked $\frac{1}{4}$ S 18 BT
40.50	Drain, course SE.
43.50	Top of ridge, bears E. and W. Desc. steep slope over loose rocks.
54.50	Wash, 10 lks. wide, course E. Asc. steep slope over loose rocks.
59.80	Top of rocky granite ridge, bears E. and W. Desc. steep slope over loose rocks.
64.85	Canyon, 50 ft. wide, course SE. Asc. steep slope over loose rocks.
73.00	Top of ridge, bears E. and W. Desc. steep slope over loose rocks.
80.00	Set a malpais stone, 18X11X6 ins., 12 ins. in the ground, for cor. of secs. 7, 8, 17 and 18, marked with 4 notches on S. and 5 notches on E. edge; from which; A cedar 5 ins. diam., bears N 8° E., 142 lks. dist.; marked T 21 N R 19 W S 8 BT A cedar 5 ins. diam., bears S $76\frac{1}{2}^{\circ}$ E., 76 lks. dist.; marked T 21 N R 19 W S 17 BT A cedar 5 ins. diam., bears S $80\frac{1}{2}^{\circ}$ W., 52 lks. dist.; marked T 21 N R 19 W S 18 BT A cedar 4 ins. diam., bears N $53^{\circ}45'$ W., 98 lks. dist.; marked T 21 N R 19 W S 7 BT. Land, mountainous. Soil, rocky; 4th rate. Timber, cedar Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense timber and underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.
	March 2, 1910.
	March 3; At 8h.00m., a.m., l.m.t., I set off $6^{\circ}58'18''$ on the decl. arc; $35^{\circ}13'13''$ on the lat. arc and determine a meridian with the solar at the cor. of secs. 7, 8, 17 and 18 Thence I run S $89^{\circ}59'$ E. on random line bet. secs. 8 and 17.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.08	Intersect the N. and S. line at the cor. of secs. 8, 9, 16 and 17. Thence I run N $89^{\circ}59'$ W. on true line bet. secs. 8 and 17. Over mountainous land covered with loose rocks thru dense underbrush.
3.00	Road, bears NE. and SW.
9.85	Wash, 15 lks. wide, course SE. Over loose rocks.
27.90	Wash, 20 lks. wide, course SE. Over loose rocks.
34.60	Wash, 25 lks. wide, course SE. Over loose rocks.
40.04	Set a malpais stone, 18X6X6 ins., 12 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
51.70	Wash, 20 lks. wide, course SE. Over loose rocks.
73.00	Wash, 10 lks. wide, course SE. Over loose rocks.
77.10	Wash, 10 lks. wide, course NE. Over loose rocks.
78.50	Top of ridge, bears N. and S. Desc. steep slope over loose rocks.
80.08	The cor. of secs. 7, 8, 17 and 18. Land, mountainous. Soil, rocky; 3rd rate. No timber. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush, and on account of the scarcity of water and

Subdivision of Tp 21 N. Rg 19 West

chains.	other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.08 chs.
	Thence I run S 89°48'W. on random line bet. secs. 7 and 18.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.05	Intersect the W. bdy. of tp. 33 lks. S. of the cor. of secs. 7, 12, 13 and 18, which is a stone 16X8X6 ins. ste in a mound of stone, with 4 notches on S. and 2 notches on N. edge; refreshen notches and build a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
	Thence I run S 89°58'E. on true line bet. secs. 7 and 18.
	Desc. E. slope of Black Mountains over loose rocks thru dense timber and underbrush.
9.70	Wash, 10 lks. wide, course NE. Desc. over loose rocks.
15.85	Wash, 10 lks. wide, course SE. Desc. over loose rocks.
20.00	Wash, 10 lks. wide, course NE. Desc. over loose rocks.
36.70	Wash 15 lks. wide, course SE. Asc. steep slope over loose rocks.
40.05	Set a malpais stone, 20X6X6 ins., 15 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; from which. A cedar 5 ins. diam., bears S 37°E. 21 lks. dist.; marked $\frac{1}{4}$ S 18 BT A cedar 4 ins. diam., bears N 8°W. 104 lks. dist.; marked $\frac{1}{4}$ S 7 BT
47.10	Top of ridge, bears N. and S. Desc. steep slope over loose rocks.
77.15	Wash, 15 lks. wide, course NE. Asc. steep slope over loose rocks.
80.05	The cor. of secs. 7, 8, 17 and 18. Land, mountainous. Soil, rocky; 4th rate. Timber, cedar. Underbrush, greasewood and cacti. Mountainous land covered with loose rocks and dense timber and underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.05 chs. At this cor. I set off 6°55'S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat. is 35°13'N.
	Thence I run N 0°03'W. bet. secs. 7 and 8.
	Descending over mountainous land covered with loose rocks thru dense underbrush.
0.35	Wash, 25 lks. wide, course NE. Asc. over loose rocks.
2.00	Wash, 25 lks. wide, course SE. Asc. over loose rocks.
12.25	Wash, 25 lks. wide, course E. Asc. over loose rocks.
20.00	Top. of ridge, bears E. and W. Desc. steep slope over loose rocks.
31.50	Wash, 25 lks. wide, course E. Desc. over loose rocks.
40.00	Set a malpais stone. 18X8X8 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, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
42.45	Wash, 20 lks. wide, course SE. Asc. over loose rocks, E. slope.
46.95	Wash, 10 lks. wide, course E. Asc. over loose rocks.
49.85	Wash, 25 lks. wide, course E. Over loose rocks.
65.60	Wash, 20 lks. wide, course E. Desc. over loose rocks.
74.60	Wash, 10 lks. wide, course E. Desc. over loose rocks.
75.67	Road, bears E. and W. Kingman to Union Pass.
80.00	Set a malpais stone, 20X8X8 ins., 15 ins. in the ground, for cor. of secs. 5, 6, 7, and 8, marked with 5 notches on S. and E. edges; and raise a mound of stone 2ft. base $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Land, mountainous. Soil, rocky; 3rd rate.

Subdivision of Tp.21 N.,Rg.19 West.

chains.

No timber.
Underbrush,greasewood and cacti.
Mountainous land covered with loose rocks and dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.00 chs.
March 3,1910.

March 4; At 8h.00m.,a.m.,l.m.t.,I set off 6°35'S. on the decl.arc; 35°14'N. on the lat.arc and determine a meridian with the solar at the cor. of secs.5,6,7,and8
Thence I run
S 89°59'E. on random line bet.secs.5 and 8.
Set temp.¼ sec.cor.
Intersect the N.and S. line 2 lks.S. of the cor. of secs 4,5,8 and 9.

40.00
80.08

Thence I run
West on true line bet.secs.5 and 8.
Ascending mountainous land covered with loose rocks thru dense underbrush.

4.85
40.04

Wash,20 lks.wide,course SE. Asc.over loose rocks.
Set a malpais stone,15X8X8ins.,10ins.in the ground, for ¼ sec.cor.,marked ¼ on N.face; and raise a mound of stone,2ft.base,1½ ft.high,N. of cor.Pits impraticable.
The cor. of secs.5,6,7 and 8.

80.08

Land,mountainous.
Soil,rocky; 3rd rate.
No timber.
Underbrush,greasewood and cacti.
Mountainous land covered with loose rocks and dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.08 chs.

Thence I run
N 89°58'W. on random line bet.secs.6 and 7.
Set temp.¼ sec.cor.
Intersect the W.bdy.of Tp.9 lks.S. of the cor. of secs. 1,6,7 and 12,which is malpais stone,15X8X8ins.,in mound of stone,with 5 notches on S.and 1 notch on N.edge; re freshen notches and build a mound of stone,2f .base,1½ ft.high,W. of cor.

40.00
79.80

Thence I run
S 89°54'E. on true line bet.secs.6 and 7.
Descend over mountainous land covered with loose rock thru dense underbrush.

22.00
24.00
39.80

Wash,10 lks.wide,course SE. Desc.over loose rocks.
Road,bears WNW and ESE.
Set a granite stone,20X8X8ins.,15ins.in the ground, for ¼ sec.cor.,marked ¼ on W.face; dig pits,18X18X12 ins.,E.and W. of stone,3ft.dist.; and raise a mound of stone and earth,3½ ft.base,1½ ft.high,N. of cor.

43.80
62.90
79.80

Wash,15 lks.wide,course NE. Desc.over loose rocks.
Wash,20 lks.wide,course SE. Desc.over loose rocks.
The cor. of secs.5,6,7 and 8.

Land,mountainous.
Soil,rocky; 3rd rate.
No timber.
Underbrush,greasewood and cacti.
Mountainous land covered with loose rocks and dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,79.80 chs.
At this cor. I set off 6°31½'S. on the decl.arc and observe the sun on the meridian with the solar at noon; the resulting lat.is 35°14'N.

Subdivision of Tp.21 N.,Rg.19 West.

chains.	
	Thence I run N 0°03'W. on random line bet.secs.5 and 6.
40.00	Set temp. $\frac{1}{4}$ sec.cor.
80.10	Intersect the N.bdy.of Tp.14 lks.W. of the cor. of secs. 31,32 5 and 6.
	Thence I run S 0°03.W. on true line bet.secs.5 and 6.
	Ascending over mountainous land covered with loose rocks thru dense underbrush.
15.00	Wash,35 lks.wide,course E. Asc.over loose rocks.
24.00	Top of ridge,bears E.and W. Desc.over loose rocks.
34.00	Wash,100 lks.wide,course SE. Asc.over loose rocks.
40.10	Set a malpais stone,18X8X4ins ,12in .in the ground, for $\frac{1}{4}$ sec.cor.,marked $\frac{1}{4}$ on W.face; from which A cedar 4ins diam.,beard N 4°W. 60 lks.dist.;
	marked $\frac{1}{4}$ S 6 BT and raise a mound of stone,2ft.base,1 $\frac{1}{2}$ ft.high,W. of cor Pits impracticable. No other trees available.
45.00	Wash,25 lks.wide,course SE. Asc. along east slope.
67,30	Wash,25 lks.wide,course NE. Asc.over loose rocks.
77.70	Wash,20 lks.wide,course E. Asc.over loose rocks.
80.10	The cor. of secs.5,6,7,and 8. Land,mountainous. Soil,rocky; 3rd rate. Timber,cedar. Underbrush,greasewood and cacti. Mountainous land covered with loose rocks and dense underbrush,and on account of the scarcity of water and other reasons more fully explained at the end of these notes,exceptionally difficult to survey,80.10 chs. March 4,1910.

GENERAL DESCRIPTION

This Tp.is mostly mountainous land the soil being very poor and not fit for cultivation. It is covered with a dense growth of underbrush with some scrub cedar in the Western part. The extreme West of the Tp.is mineral.

There are no settlers.

There is no water within this Tp.except a small spring in sec. 31 which is nearly inaccessible and could not be used for camp use,and in order to get water while surveying this Tp,it was necessary to go a distance of 16 miles. The length of this haul for water,32 miles to a trip,kept an extra team,wagon and man busy all the time. As it was necessary to make a road from each camp to the road on which the tank we obtained water from was located,and the fact that we had to keep 3 barrels of water in camp for camp use and for the camp and line teams,made it impossible to move camp to suit the work and I had to work the entire Tp.from 1 camp,making long walks to and from work and materialy cutting down the number of miles run in a day.

A large part of this Tp. although covered with loose rocks did not have stones large enough to use for cor. stones,and knowing that the most essential part of a survey is the establishment of cors. that wlll not be easily destroyed,I employed an extra wagon,team and man to haul rocks for cor.s in preference to setting mounds of earth with deposits and stake in pit,which would have been easier and cost less but would have soon been obliterated. The average haul of rocks was 4 miles and kept the team busy at all times.

The heavy snowfall here in the early winter had rotted out the grass,so I had to buy and haul hay from Kingman to feed the extra teams made necessary by the scarcity of water and hauling rocks for substantial cors.

The fact that the ground covered by this Tp.is partly

Subdivision of Tp.21 N.,Pg.19 West.

chains.

maximun and the other part nearly maximun far worse than ordinary intermediate, and the extra expenses and troubles incurred in properly excuting the survey of this Tp., have made this Tp. very exceptionally difficult to survey and I ask to be allowed those rates.

Fred W. Podoff
U.S. Deputy Surveyor

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by A. W. Rodolf

....., 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 subdivision

lines of Township 21 North, Range 19 West.

showing the respective capacities in which they acted:

- A. P. Kerns....., Chainman.
- Bert Lyon....., Chainman.
- Ralph R. Ellis....., Moundman.
-, Moundman.
- R. N. Stark....., Axman.
- E. M. Parker....., Axman.
- George Newell....., Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted A. W. Rodolf

....., United States Deputy Surveyor, in surveying all those parts or portions of the subdivision lines of Township 21 North,

Range 19 West

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

- A. P. Kerns....., Chainman.
- Bert Lyon....., Chainman.
- Ralph R. Ellis....., Moundman.
-, Moundman.
- R. N. Stark....., Axman.
- E. M. Parker....., Axman.
- George Newell....., Flagman.

Subscribed and sworn to before me this 7 day of March, 1980

My Commission Expires March 25, 1984



W. F. ...
Notary Public

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BOOK 2197

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Fred W. Rodolf, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Frank S. Angalls, United States Surveyor General for Arizona, bearing date of the 10 day of March, 1909, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Arizona, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of subdivision lines of Township 21 North Range 19 West

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

Fred W. Rodolf
United States Deputy Surveyor.

Subscribed by said Fred W. Rodolf, and sworn to before me }
this 7th day of May, 1900

Frank S. Angalls
U.S. Surveyor General for Arizona



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix Ariz. Aug 18, 1901

The foregoing field notes of the survey of the subdivision lines of T. 21 N. R. 19 W. of the Gila and Salt River Base and Meridian, Arizona.

executed by Fred W. Rodolf, U.S. Deputy Surveyor under his contract No. 155, dated March 10, 1909, 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. Angalls
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.