2195

494

4—679. BOOK 2195

MAY 17 1910

Book D

Accepted, Letter E. 9/10.

FIELD NOTES

OF THE SURVEY OF THE

2195

2195

Resurvey of the North, East & West boundaries of Township 21 North, Range 18 West. North boundary of Township 21 North, Range 19 West, The 5th Standard Parallel North through portions of Range 19 West, and the retracement of the 5th Guide Meridian West, through Townships 19 and 20 North.

2195

Of the Gila & Salt River Base & Meridian,

of the Territory of Arizona

AS SURVEYED BY

Fred W. Rodolf, *United States Deputy Surveyor,*

Under his Contract No. 15-5, *dated* March 10, 1909

Survey commenced January 27, 1910

Survey completed February 4, 1910

6—151

2195

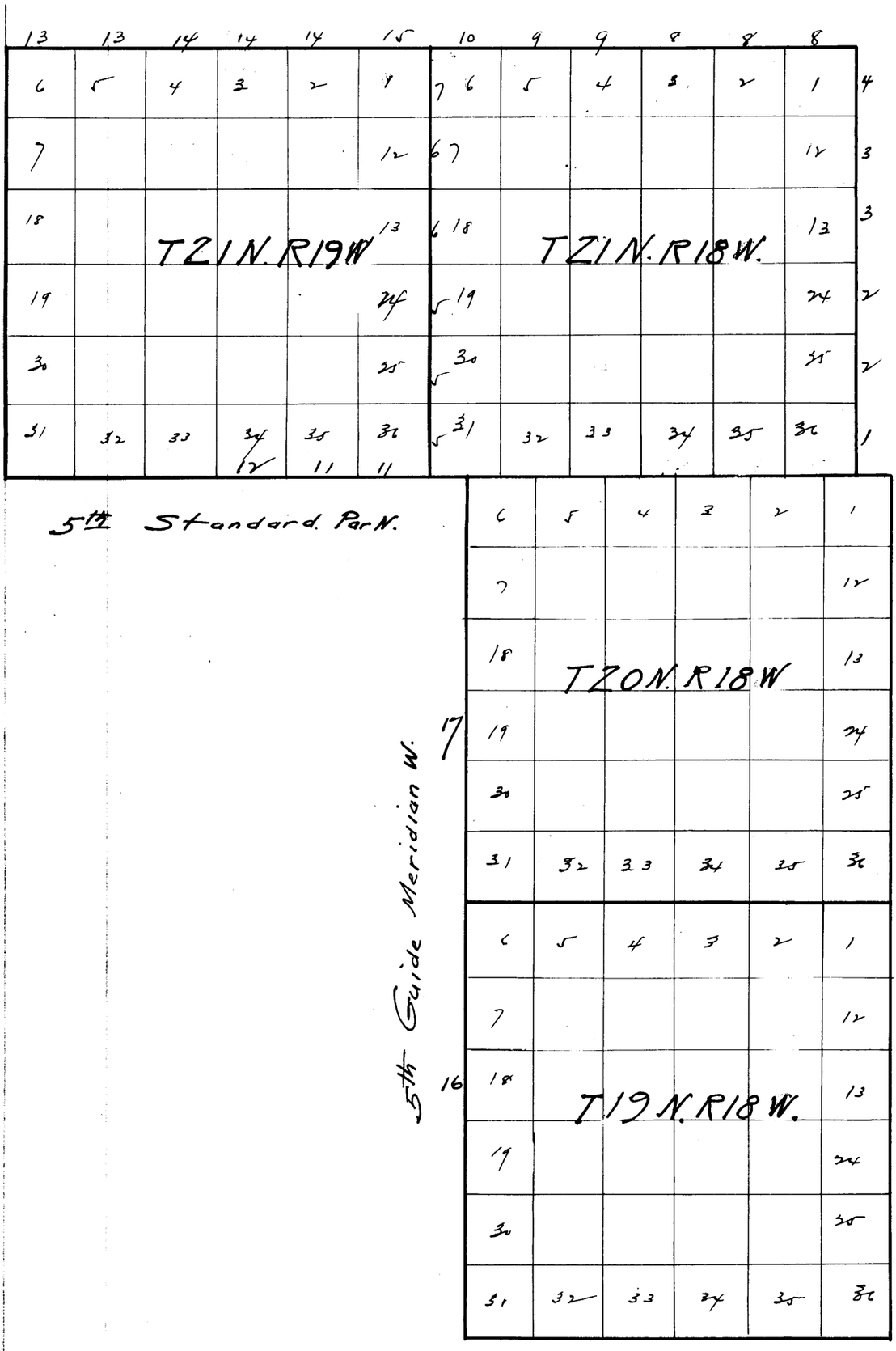
145
1A

BOOK 2195

NAMES AND DUTIES OF ASSISTANTS.

A. P. Kerns.	Chainman
Bert Lyon	Chainman
R. E. Sames.	Chainman
J. H. Smither	Chainman
Ralph R Ellis	Roundsman
R. N. Stark	Axman
V. M. Parker	Axman
George Newell	Flagman

6—151

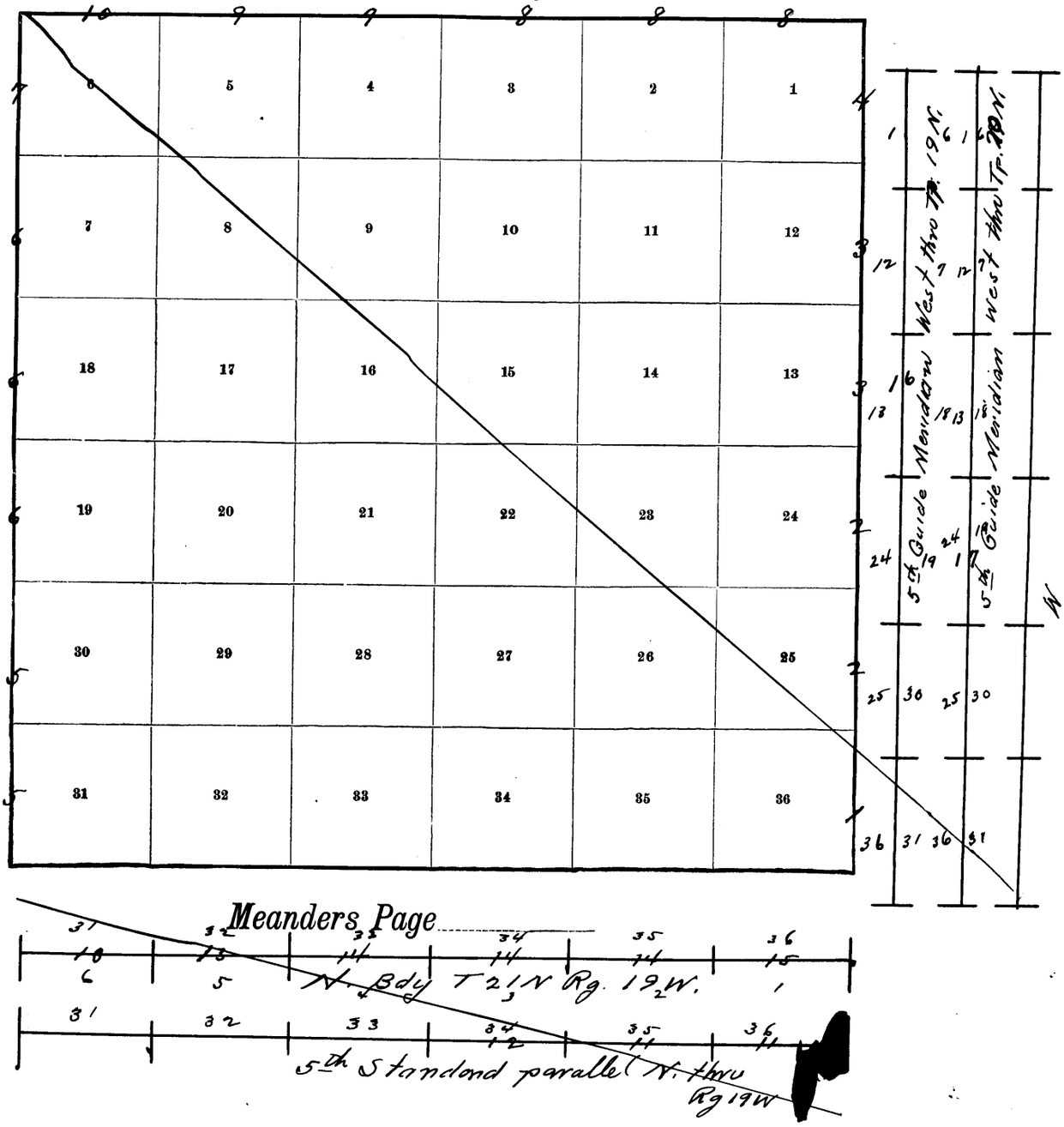

T21N. R19W.
T21N. R18W.
T20N. R18W.
T19N. R18W.
5th Standard Par N.
5th Guide Meridian W.

1C

BOOK 2195

INDEX DIAGRAM.

Township 21 N., *Range* 18 West.



Meanders Page

147
10

BOOK 2195

PRELIMINARY OATHS OF ASSISTANTS.

WE, C. P. Kerns, R. E. Sames and J. H. Smithers, Bert Lyons 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 Resurvey of the N. E. & W. Bdys. of T 21 N, R 18 W & N. Bdy T 21 N. R. 19 W & 5th Standard Parallel N. & 5th Guide Meridian West through 19 and 20 N.

R E Sames, Chainman.
C. P. Kerns, Chainman.
J. H. Smithers
Bert Lyons, Chainman.

Subscribed and sworn to before me this 10 day of December, 1909

M. J. Gerrich
Notary Public

SEAL

My commission expires March 27, 1914

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 resurvey of the N. E. & W Bdys. of Tps 21 N. Rg. 18 W, N. Bdy T 21 N R. 19 W, 5th Standard Parallel and the retracement of the 5th Guide Meridian W. thru Tps 19 & 20 N.

Ralph R Ellis, Moundman.
....., Moundman.

Subscribed and sworn to before me this 10 day of December, 1909

My commission expires March 27, 1914

M. J. Gerrich
Notary Public

SEAL

WE, R. N. Stark and F. 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 resurvey of the N. E & W. Bdys of T. 21 N, R 18 W, N. Bdy. T 21 N. R. 19 W. 5th Standard Parallel N. thr Range 18 W & 5th Guide Meridian W. thru Tps 19 & 20 N.

R N Stark, Axman.
F M Parker, Axman.

Subscribed and sworn to before me this 10 day of December, 1909

My commission expires March 27, 1914

M. J. Gerrich
Notary Public

SEAL

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 resurvey of the N. E. & W. Bdys of Tp. 21 N. R 18 W, N Bdy T. 21 N, R 19 W the survey of 5th Guide Meridian West thru Tps 19 & 20 N and 5th Standard Parallel N. thru Tp. 19 W.

George Newell, Flagman.

Subscribed and sworn to before me this 10 day of December, 1909.

My commission expires March 27, 1914

M. J. Gerrich
Notary Public

SEAL

6—151

148

BOOK 2195

1E

Resurvey of the E, Bdy.of Tp. 21 N.,Rg. 18 West.

chains.	
	Survey commenced January 27,1910,and excuted with a Young and sons Light mountain transit,No.7532,with solar attachment. The horizontal limb is provided with two double veriners placed opposite to each other,reading to single minutes of arc,which is also the least count, of the latitude and declination 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 appratus by comparing its indications,resulting from observations made during a.m.,and p.m.hours,with a meridian established by observations on polaris, I proceed as follows;
	At the ~~cor. of~~ Standard cor. of Tps. 21 N.,Rgs.17 and 18 west,which is a stone,marked and witnessed as described by the Surveyor General,latitude 35°09'36"N., longitude 114°06'32"W.; I set off 18°26'S. on the decl. arc; 35°09½'N. on the lat.arc and at 4h.00m.,p.m.,l.m. t.,determine a meridian with the solar and mark a point thereof on a stone firmly set in the ground,5chs.N. of the cor.
	At 10h57m.,p.m.,l.m.t.,I observe polaris at western elongation in accordance with the instructions in the Manual,and mark a point in the line thus determined on a peg driven in the ground 5chs.N. of my station.
	January 27,1910.

	January 28; At 7h.30m.,a.m ,l.m.t.,I lay off the azimuth of polaris, 1°26'to the East,and mark the meridian thus determined by cutting a small groove on the stone set January 27,on which the meridian coincides with the meridian established by the solar.
	At 8h.00m.,a.m.,l.m.t.,I set off 35°09½'N. on the lat.arc; 18°15½'S. on the decl.arcand determine a meridian with the solar marking a point thereof by a small notch on stone already set 5chs.N. of my station; this mark cioncides with the meridian established by polaris observations.
	The solar appratus,by p.m.,and a.m. observations de defines positions for meridian which coincide with the meridian establisned by polaris observations,therefore I conclude that the adjustments of the instruments are satisfactory.
	The magnetic bearing of the true meridian,at 8h.00m. a.m.,l.m.t, is N 14°50'W. the angle thus determined gives the mag,decl.as 14°50'E.

	Old ¼ sec.cor.,bears N 0°10'W.
	Therefore I run
	N 0°10'W. bet.secs.31 and 36.
	Descend over loose rocks thru dense underbrush.
13.27	Road,bears NW.and SE.
13.64	Center of Utah and Arizona Ry. track,bears NW.and SE.
14.44	Telephone line,bears NW.and SE.
30.28,	Wash,60 lks.wide,course W. Asc.over loose rocks and boulders, along west slope.
39.95	Old ¼ sec.cor.,which is nearly destroyed so I set a malpais stone,32X12X12ins.,24ins.in the ground,for ¼ sec. cor.,marked ¼ on W.face. and raise a mound of stone, 2ft.base,1½ ft.high,W. of cor. Pits impraticable.
	Old sec.cor.bears N 0°11'W.
	Thence I run
	N 0°11'W. bet.secs.31 and 36.
59.10	Wash,60 lks.wide,course W. Asc.over loose rocks and boulders.

Resurvey of E. Bdy.of Tp.21 N.,Rg.18 West.

chains.	
80.01	The old cor. of secs. 25,30,31 and 36,which is nearly obliterated,so I set a malpais stone,36X12X12ins., 27ins.in the ground,for cor. of secs.,25,30,31 and 36, marked with 5 notches on N. and 1 notch on S. edge; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticable. Land,mountainous. Soil,rocky; 3rd and 4th rate. No timber. Underbrush,greasewood and cacti. Mountainous land covered with loose rocks and boulder and dense underbrush,and exceptionally difficult to su survey,80.01 chs.
	Old ¼ sec.cor.bears N 0°02'E. Therefore I run N 0°02'E. bet.secs.25 and 30. Ascending o er mountainous land covered with loose rocks and boulders thru exceptionally dense underbrush.
40.08	Old ¼ sec.cor.,which is nearly obliterated,so I set a malpais stone,28X8X8ins.,21ins.in the ground,for ¼ sec.cor.,marked ¼ on W.face; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticable. Old sec.cor.bears N 0°07'E. Therefore I run N 0°07'E. bet.secs.25 and 30.
80.18	The old cor. of secs.19,24,25 and 30,which is nearly obliterated,so I set a malpais stone,32X12X10ins.,24ins. in the ground,for cor. of secs.19,24,25,and 30,marked with 2 notches on S.and 4 notches on N.edge; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticable. Land,mountainous. Soil,rocky; 3rd and 4th rate. No timber. Mountainous land covered with loose rocks and boulders and exceptionally dense underbrush,exceptionally difficult to survey,80.18 chs. At this cor. I set off 18°15'S' on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°11½'N.
	Old cor. of Tps.21 and 22N.,Rs.17 and 18 W.,bears N 0°04'E. Therefore I run N 0°04'E. bet. secs. 19 and 24. Over mountainous land covered with loose rocks and boulders thru exceptionally dense underbrush.
12.60	Wash,50 lks.wide,course SW. Over loose rocks and buolder
35.55	Wash,25 lks.wide,course SW. Asc.steep slope over loose rocks.and boulders.
39.50	Along steep W. slope over loose rocks and boulders.
40.00	Diligent search fails to find old ¼ sec.cor. I set a malpais stone,24X10X8ins.,18ins.in the ground,for ¼ sec. cor.,maeked ¼ on W.face; and raise a mound of stone,2ft. base,1½ ft.high,W. of cor. Pits impraticable.
46.00	Descend steep slope over loose rocks and boulders.
52.15	Wash,30 lks.wide,course SW. Asc.steep slope over loose rocks and boulders.
60.56	Top of malpais hill,Desc.steep slope over loose rocks and boulders.
70.80	Wash,50 lks.wide,coyrse SW. Asc.steep slope over loose rocks and boulders.
76.50	Top of ridge,bears NE.and SW. Desc.steep slope over loose rocks and boulders.
80.00	Diligent search fails to find any trace of old sec. cor. I set a malpais stone,20X14X12ins.,15ins.in the ground,for cor. of secs.,13,18,19 and 24,marked with 3 notches on S.and N.edges; and raise a mound of stone,

Chains.	
	2ft.base,1½ ft.high,W. of cor. Pits impraticable. Land,rough and mountainous. Soil,rocky; 4th rate. No timber. Underbrush,greasewood and cacti. Mountainous land co ered with loose rocks and boulder and exceptionally dense underbrush,exceptionally difficult to survey,80.00 chs. January 28,1910.
	January 29; At 8h.00m.,a.m.,l.m.t.,I set off 17°59½' S.on the decl.arc; 35°12'N. on the lat.arc and determine a meridian with the solar at the cor. of secs. 13,18,19 and 24. Thence I run N 0°04'E. bet.secs.13 and 18. Descending steep slope over loose rocks thru dense underbrush.
13.90	Wash,40 lks.wide,course SW. Over mountainous land covered with loose rocks and boulders t
31.35	Wash,40 lks.wide,course SW. Over mountainous land covered with loose rocks and boulders.
36.80	Old road,bears NE.and SW.
39.35	Wash,10 lks.wide,course SW. Over mountainous land covered with loose rocks and boulders.
40.00	Make diligent search but find no trace of old ¼ sec. cor. so I set a malpais stone,24X10X8ins.,18ins.in the ground,for ¼ sec.cor.,marked ¼ on W.face; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticable.
41.00	Asc,steep sSW. slope of malpais hill over loose rocks.
60.00	Desc.steep NW. slope over loose rocks and boulders.
72.00	Wash,50 lks.wide,course SW. Over mountainous land covere with loose rocks and boulders.
80.00	Diligent search fails to reveal any sign of old cor. of secs. 7,12,13 and 18. I set a malpais stone,20X10X6ins., 15ins.in the ground,for cor. of secs.7,12,13, and 18, marked with 4 notches on S.and 2 notches on N.edge; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticable. Land,mountainous. Soil,rocky; 4th rate. No timber. Underbrush,greasewood,sage and cacti. Mountainous land covered with loose rocks and boulders and dense underbrush,exceptionally difficult to survey,80.00 chs.
	Thence I run N 0°04'E. bet.secs.7 and 12. Over rolling land covered with loose rocks thru dense underbrush.
7.15	Road,bears E.and W. Kingman to Union Pass.
20.00	Wash,20 lks.wide,course W. Over loose rocks and boulders.
27.90	Wash,20 lks.wide,course W. Over loose rocks and boulders
40.00	No trace of old ¼ sec.cor. I set a malpais stone, 15X8X6ins.,10ins.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 stones and earth,2ft. high,3½ ft.base,W. of cor. No trace of old Cor.
40.80	Wash,20 lks.wide,course SW. Over loose rocks and boulder
47.60	Wash,40 lks.wide,course SW.Over loose rocks and boulders
50.50	Wash,40 lks.wide,course SW.Over loose rocks.and boulders
62.75	Road,NW.and SE. Kingman to Chloride.
70.65	Wash,20 lks.wide,course W.Over loose rocks.and boulders.
78.00	Wash,10 lks.wide,course W.over loose rocks and boulders.
80.00	Diligent search fails to reveal any trace of old sec.cor. Set a malpais stone,20X8X8ins.,15ins.in the ground,for cor. of secs.1,6,7 and 12,marked with 5 notch es on S.and 1 notch on N.edge; and raise a mound of stone,2ft.base,1½ ft.high,W. od cor. Pits impraticable

Resurvey of E.Bdy.of Tp.21 N.,Rg.18 W.

chains.	
	Land,rolling and mountainous. Soil,rocky; 3rd rate. No timber. Underbrush,greasewood sage and cacti. Mountainous and rolling land covered with loose rocks and boulders and dense underbrush,except onally difficult to survey,80.00 chs. At this cor. I set off 17°59'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°14'N.
	Thence I run N 0°04'E. on true line bet.secs.1 and 6. Over mountainous land covered with loose rocks and boulders thru dense underbrush.
3.80	Telephone line,bears NW.and SE.
12.00	Wash,10 lks.wide,course SW. Over loose rocks and boulder
14.00	Telephone line,bears NW.and SE.
20.60	Wash,35 lks.wide,course W.Over loose rocks.and boulders.
35.85	Wash,20 lks.wide,course W. Asc.steep slope over loose rocks and boulders.
40.00	Diligent search fail to find any trace of old ¼ sec.coor. Set a granite stone,24X12X8ins.,18ins.in the ground, for ¼ sec.cor.,marked ¼ on W.face; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticabl.
42.60	Top of granite ridge,bears E.and W. Desc.steep slope ove loose rocks and boulders.
49.45	Wash,50 lks.wide,course SW. Asc.over loose rocks and boulders.
79.00	Top of granite ridge,extends.E. Desc over loose rocks and boulders.
80.22	Old cor. of Tps. 21 and 22N.,Rgs.17 and 18,W.which is a granite stone,12X6X6ins.,in scattering mound of stone,marks nearly obliterated. I set a granite stone, 28X10X8ins.,21ins.in the ground,for cor. of Tps. 21 and 22 N.,Rs.17 and 18 W.,marked 22 N on NE.,17 W. on SE., 21 N. on SW.,and 18 W.on NW.face; with 6 notches on N.E,S,and W.edges; and raise a mound os stone,4ft.base, 3ft.high,S. of cor. Pits impraticable. Land,mojntainous. Soil,rocky; 3rd rate. No timber. Underbrush,greasewood,catclaw and cacti. Mountainous land covered with loose rocks and boulders and dense underbrush,exceptionally difficult to survey,80.22 chs. January 29,1910.

Resurvey of W.Bdy.of Tp.21 N.Rg.18 West.

chains.

January 30,1910; At 8h.00m.,a.m,l.m.t.,I set off 17°43½'S. on the decl.arc; 35°09½'N. on the lat.arc and determine a meridian at the standard cor. of Tp. 21 N.,Rs. 18 and 19 West.

Thence I run

North bet.Rgs.18 and 19 W.,at every 40.00 chs I make a diligent earch for old corners but fail to find any trace of old cors. Therefore I resurvey the range line as follows;

The Standard cor. of Tps. 21 N.,Rgs.18 and 19 W.is a stone marked and witnessed as described by the Surveyor General. I redig pits and rebuild mound of earth.

Thence I run

North bet.secs.31 and 36.

Over level land thru exceptionally dense cacti underbrush very slow to chain thru.

12.70 Wash,50 lks.wide,course SE.

34.00 Wash,10 lks.wide,course SE.

40.00 Set a malpais stone,18X8X10ins.,12ins.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. No trace of old Cor.

80.00 Set a malpais stone,18X8X8ibs.,12ins.in the ground, for cor. of secs.25,30,31,and 36,marked with 1 notch on S.and 5 notches on N.edge; dig pits,18X18X12ins.,in each sec.5½ ft.dist.; and raise a mound of earth,4ft.base, 2ft.high,W. of cor. No trace of old Cor

Land,level.

soil,gravelly; 3rd rate.

No timber.

Underbrush,exceptionally dense cacti.

Land covered with exceptionally dense cacti underbrush very difficult and slow to chain thru,exceptionally difficult to survey,80.00 chs.

Thence I run

North bet.secs.25 and 30.

Over level land thru dense underbrush.

23.40 Set a malpais stone,20X8X8ins.,15ins.in the ground,for witness cor. to ¼ sec.cor.,marked WC ¼ on W.face; and raise a mound of stone,2ft.base,1½ ft.high,W. of cor. Pits impraticable.

24.20 Enter wash,70 lks.wide,course SE.

34.00 Wash connects with Sacramento wash,along Sacramento wash, course SE.

40.00 Point for ¼ sec.cor.falls in wash. No trace of old Cor

52.00 Leave Sacramento wash,over land subject to over flow.

58.00 Wash,150 lks.wide,course SE. Over level land.

80.00 Set a Tufa stone,20X10X10ins.,15ins.in the ground,for cor. of secs.,19,24,25 and 30,marked with 2 notches on S.and 4 notches on N.edge; dig pits,18X18X12ins.,in each sec.5½ ft.dast.; and raise a mound of earth,4ft.base, 2ft.high,W. of cor. No trace of old Cor

Land,nearly level.

soil,gravelly; 3rd rate.

No timber.

Underbrush,catclaw greasewood and cacti.

Land covered with dense underbrush,80.00 chs.

At this cor. I set off 17°42½'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°11½'N.

Thence I run

North bet.secs.24 and 19.

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

13.20 Wash,100 lks.wide,coursd SW.

Resurvey of W.Bdy.of Tp.21 N.,Rg.18 West.

chains.

40.00 Set a granite stone,18X10X10ins.,12ins.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,20X12X6ins.,15ins.in the ground for cor. of secs.13,18,19 and 24,marked with 3 notches on S.and N. edges; dig pits,18X18X12ins.,in each sec. 5½ ft.dist.; and raise a mound of earth,4ft.base, 2ft. high,W. of cor. No trace of old Cor.

Land,rolling.
Soil,rocky; 3rd rate.
No timber.
Underbrush,exceptionally dense cacti.
Rolling land covered with exceptionally dense cacti underbrush,very slow and difficult to chain thru,exceptionally difficult to survey,80.00 chs.

Thence I run
North bet.secs.13 and 18.
Over rolling land thru exceptionally dense cacti underbrush,very difficult to chain thru.

4.90 Wash,20 lks.wide,course SE.

11.20 Wash,20 lks.wide,coirse SE.

40.00 Set a malpais stone,18X8X6ins.,12ins.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. No trace of old Cor.

80.00 Set a malpais stone,20X10X8ins.,15ins.in the ground, for cor. of secs.,7,12,13 and 18,marked with 4 notches on S.and 2 notches on N.edges; dig pits,18X18X12ins.,in each sec.5½ ft.dist.; and raise a mound of earth,4ft. base,2ft.high,W. of cor. No trace of old Cor.

Land,rolling.
Soil,gravelly; 3rd rate.
No timber.
Underbrush,exceptionally dense cacti.
Rolling land covered with exceptionally dense cacti underbrush,very slow and difficult to chain thru,exceptionally difficult to survey,80.00 chs.

January 30,1910.

January 31;At 8h.00m.,a.m.,l.m.t.,I set off 17°27½' S. on the decl.arc; 35°13'N. on the lat.arc and determine a merifdian with the solar at the cor. of secs.7, 12,13 and 18.

Thence I run
North bet.secs.7 and 12.
Over rolling land covered with exceptionally dense cacti underbrush very slow to chain thru.

40.00 Set a malpais stone,18X6X6ins.,12ins.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. No trace of old Cor.

43.10 Wash,20 lks.wide,course SE.

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

80.00 Set a malpais stone,18X6X6ins.,12ins.in the ground, for cor. of secs.,1,6,7 and 12,marked with 5 notches on S.and 1 notch on N.edge; dig pits,18X18X12ins.,in each sec.5½ ft.dist.; and raise a mound of earth,4ft.base, 2ft.high,W. of cor. No trace of old Cor.

Land,rolling.
Soil,gravelly; 3rd rate.
No timber.
Underbrush,exceptionally dense cacti.
Rolling land covered with exceptionally dense cacti underbrush,very difficult and slow to chain thru,exceptionally difficult to survey,80.00 chs.

Resurvey,of W.Bdy.of Tp.21 N.,Rg.18 West.

Chains.	
	North bet.secs.1 and 6.
	Over rolling land covered with exceptionally dense cacti underbrush,very slow to chain thru.
40.00	Set a malpais stone.18X8X8ins.,12ins.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. No trace of old cor.
80.00	Set a malpais stone,20X10X10ins.,15ins.in the ground, for cor. of Tps.21 and 22N.,Rgs.18 and 19 W.,marked 22 N on NE.,18 W on SE.,21 N on SW,and 19 W on NW.face; with 6 notches on N.E.S.and W.edges; dig pits,24X24X12in on each line,N.E.and W.,4ft.,and S. of stone,8ft.dist.; and raise a mound of earth,5ft.base,2½ ft.high,S. of cor. No trace of old cor.
	Land,rolling.
	Soil,gravelly; 3rd rate.
	No timber.
	Underbrush,exceptionally dense cacti.
	Rolling land covered with exceptionally dense cacti underbrush,very slow and difficult to chain thru,exceptionally difficult to survey,80.00 chs.
	At this cor. I set off 17°26½'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°15'N.
	January 31,1910.

Chains.	
	February 1,1910; At 8h.00m.,a.m.,I set off 17°11'S. on the decl.arc; 35°15'N. on the lat.arc and determine a meridian with the solar at the cor. of Tps.21 and 22 N.,Rgs.18 and 19 W.,
	Thence I run
	East on a random line along N. Bdy.of Tp 21 N.,Rg. 18 W.,setting temp.¼ sec.cor and sec.cors. at intervals of 40.00 chs.,and making diligent search for old cors.; at 479.58 chs.intersect the N.and S. line 27 lks.S. of the cor. of Tps.21 and 22N.,Rgs. 17 and 18 W. Find no trace of old Cors.
	Thence I run
	S 89°58'W. on true bet.secs.1 and 36.
	Over rolling land covered with loose rocks thru dense underbrush.
1.40	Wash,15 lks.wide,course SW.
7.80	Wash,35 lks.wide,course SW.
16.15	Wash,15 lks.wide,course SW.
30.00	Wash,20 lks.wide,course SW.
32.30	Road,bears NW.and SE. Kingman to Cerbat.
35.55	Wash,20 lks.wide,course SW.
37.90	Telephone line,bears N.and S.
38.40	Telephone line,bears N.and S.
40.00	Set a granite stone,18X10X6ins.,12ins.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.
51.70	Wash,15 lks.wide,course SW. No trace of old Cor.
63.00	Wash,15 lks.wide,course SW.
73.65	Wash,40 lks.wide,course SW.
80.00	Set a malpais stone,18X6X6ins.,12ins.in the ground, for cor. of secs.,1,2,35 and 36,marked with 1 notch on E.and 5 notches on W.edge; and raise a mound of stone, 2ft.base,1½ ft.high,W. of cor. Pits impraticable. No trace of old Cor.
	Land,rolling.
	Soil,rocky; 3rd rate.
	Underbrush,greasewood,sage and cacti. No timber.
	Rolling land covered with loose rocks and dense - underbrush,80.00 chs.

	Thence I run
	S 89°58'W. bet.secs.2 and 35.
	Over rolling land thru dense underbrush.
2.90	Wash,30 lks.wide,course SW.
6.40	Road,bears N.and S. Kingman to Chloride.
33.00	Wash,25 lks.wide,course SW.
40.00	Set a malpais stone,18X8X8ins.,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,1½ ft.high,N. of cor.No trace of old ¼ sec.cor.
42.60	Wash,20 lks.wide,course SW.
47.10	Wash,75 lks.wide,course SW.
59.30	Wash,15 lks.wide,course SW.
62.80	Wash,15 lks.wide,course SW.
74.75	Wash,50 lks.wide,course SW.
80.00	Set a malpais stone.18X8X8ins.,12ins.in the ground, for cor. of secs.2,3,34 and 35,marked with 2 notches on E.and 4 notches on W.edge; dig pits,18X18X12ins.,in each sec.,5½ ft.dist.; and raise a mound of earth,4ft. base,2ft.high W. of cor. No trace of old sec.cor.
	Land,rolling.
	Soil,g avelly; 3rd rate.
	No timber.
	Underbrush,greasewood,sage and cacti.
	Rolling land covered with dense underbrush,80.00 chs.

	Thence I run
	S 89°58'W. bet.secs.3 and 34.
	Over rolling land thru dense underbrush.
5.65	Wash,25 lks.wide,course SW.
16.00	Wash.10 lks.wide,course SW.

chains.	
17.00	Telephone line,bears N.and S.
17.76	Center of Utah and Arizona Ry.track.bears N.and S.
25.35	Wash,10 lks.wide,course SW.
30.65	Wash,10 lks.wide,course SW.
40.00	Set a malpais stone,18X8X6ins.,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,1½ ft.high,N. of cor. No trace of old cor.
42.10	Wash,10 lks.wide,course SW.
61.85	Wash,20 lks.wide,course SW.
63.70	Wash,30 lks.wide,course SW.
75.80	Wash,10 lks.wide,course SW.
80.00	Set a granite stone,18X8X6ins.,12ins.in the ground, for cor. of secs.3,4,33 and 34,marked with 3 notches on E.and W. edges; dig pits,18X18X12ins.,in each sec.,5½ ft dist.; and raise a mound of earth,4ft.base,2ft.high,W. of cor. No trace of old cor. Land,rolling. Soil,gravelly; 2nd rate. No timber. Underbrush,greasewood and cacti. Rolling land covered with dense underbrush,80.00 chs. At this cor.I set off 17°09½'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°15'N.

Thence I run
S 89°58'W. bet.secs.4 and 33.
Over rolling land covered with exceptionally dense cacti underbrush,very slow to chain thru.

14.65	Wash,15 lks.wide,course SW.
25.40	Wash,30 lks.wide,course SW.
37.85	Wash,10 lks.wide,course S.
40.00	Set a malpais stone,18X8X6ins.,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,1½ ft.high,N. of cor. No trace of old cor.
43.65	Wash,15 lks.wide,course SW.
45.30	Wash,50 lks.wide,course S.
58.15	Wash,35 lks.wide,course S.
80.00	Set a malpais stone,18X8X8ins.,12ins.in the ground, for cor. of secs.4,5,32 and 33,marked with 4 notches on E.and 2 notches on W.edge; dig pits,18X18X12ins.,in each sec.5½ ft.dist.; and raise a mound of earth,4ft. base,2ft.high, W,of cor. No trace of old sec.cor. Land,rolling. Soil,gravelly; 3rd rate. No timber. Underbrush,exceptionally dense cacti. Rolling land covered with exceptionally dense cacti underbrush,very difficult and s ow to chain thru,exceptionally difficult to survey,80.00 chs.

Thence I run
S 89°58'W. bet.secs.5 and 32.
Over rolling land thru exceptionally dense cacti underbrush,very difficult to chain thru.

9.00	Wash,50 lks.wide,course SW.
19.85	Wash,25 lks.wide,course SW.
28.50	Wash,15 lks.wide,course SW.
40.00	Set a granite stone,15X8X6ins.,10ins.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,1½ ft.high,N. of cor. No trace of old ¼ cor.
69.50	Wash,50 lks.wide,course S.
73.65	Wash,50 lks.wide,course S.
80.00	Set a malpais stone,18X10X6ins.,12ins.in the ground, for cor. of secs.5,6,31 and 32,marked with 5 notches on E.and 1 notch on W.edge; dig pits,18X18X12ins.,in each

chains. sec. 5½ ft.dist.; and raise a mound of earth,4ft.base, 2ft.high,W. of cor.
Land,rolling.
Soil,gravelly; 3rd rate.
No timber.
Underbrush,exceptionally dense cacti.
Rolling land covered with exceptionally dense cacti underbrush,very difficult and slow to chain thru,exceptionally difficult to survey,80.00 chs.

Thence I run
S 89°58'W. bet.secs.6 and 31.
Over rolling land thru exceptionally dense cacti underbrush,very difficult to chain thru.

0.15 Wash,10 lks.wide,course SE.
7.00 Wash,20 lks.wide,course SW.
40.00 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,1½ ft.high,N. of cor. No trace of old cor.
43.50 Wash,100 lks.wide,course S.
52.90 Wash,40 lks.wide,course SW.
79.58 The cor. of Tps. 21 and 22 N.,Rgs. 18 and 19 W.,previously desc.
Land,rolling.
Soil,gravelly; 3rd rate.
No timber.
Underbrush,exceptionally dense cacti.
Rolling land covered with exceptionally dense cacti underbrush,very difficult and slow to chain thru,exceptionally difficult to survey,79.58 chs.

February 1,1910.

T.21N. R18W.

Latitudes, departures, and closing errors.

Line designated	True bearing	Distance	Latitudes		Departures.	
			N.	S.	E.	W.
		chs.	chs.	chs.	chs.	chs.
E. Bdy. of T.21N.,Rg.18.W.	N0°10'W	39.95	39.95			0.12
	N0°11'W	40.06	40.06			0.13
	N0°02'E	40.08	40.08		0.02	
	N0°07'E	40.10	40.10		0.08	
	N0°04'E	320.22	320.22		0.37	
N. Bdy. of Tp.21N., Rg.18W.	S89°58'W	479.58		0.28		479.58
W. Bdy of Tp 21.N., Rg.18 W.	South	480.00		480.00		
5th Standard Parallel North	East.	480.00			480.00	
Convergency						0.51
Totals			480.41	480.28	480.47	480.34
			480.28		480.34	
Error in lat.			-0.13	Error in Dep.	0.13	

GENERAL DESCRIPTION

Tp.21 N.,R. 17 W. is extremely mountainous.and rough.
Tp 22 N.,R. 18 W. is Rolling and level land and civ covered with dense underbrush.

Tp 21 N.,Rg.18 West is rolling and level land,and covered with dense underbrush.

Fred W. Podolf.
U.S. Deputy Surveyor.

Resurvey of 5th Standard Parallel N. thru Rg. 19 West.

chains.

February 2,1910; At 8h.00m.,a.m.,l.m.t.,I set off 16°54'S. on the decl.arc; 35°09½'N. on the lat.arc and determine a meridian with the solar at the cor. of Tps. 21 N.,Rgs.18 and 19 W. previously described

From here the standard cor. of secs. 33 and 34,which is a stone,marked and witnessed as described by the Surveyor General,bears N 89°58'W. a distance of 240.12 chs.

Therefore I run
N 89°58'W. along S. bdy.of sec.36.on true line.
Over rolling land thru dense underbrush.

38.35 Wash,50 lks.wide,course S.

Difference bet.measurements of 40.02 chs.by two sets of chainmen is 6 lks.; position of middle point
By 1st set, 40.05 chs.
By 2nd set,39.99 chs.the mean of which is

40.02 Set a malpais stone,18X8X8ins.,12ins.in the ground,for standard ¼ sec.cor.,marked SC ¼ on N.face; dig pits, 18X18X12ins.,E.and W. of stone,3ft.dist., and raise a mound of earth,3½ ft.base,1½ ft.high,N. of cor.
Diligent search fails to find any traces of old cor.

40.75 Wash,30 lks.wide,course SE'

63.75 Enter wash,course SE.20 lks.wide.

70.00 Leave wash,comes from NW.

Difference bet.measurements of 80.04 chs.by two sets of chainmen ic 8 lks.; position of middle point
By 1st set,80.08 chs.
By 2nd set,80.00 chs.; the mean of which is

80.04 Set a malpais stone,20X12X7ins.,15ins.in the ground,for standard cor. of secs.35 and 36,marked SC on N.face; with 5 grooves on W.and 1 groove on E. face; dig pits, 24X18X12ins.,crosswise on each line,E.and W. of stone, 3ft.,and N. of stone,7ft dist.; and raise a mound of earth,4ft.base,2ft.high,N. of cor. No trace of old cor.

Land,rolling.
Soil,gravelly; 2nd rate.
No timber.
Underbrush,greasewood,sage and cacti.
Rolling land covered with dense underbrush,80.04 chs,

Thence I run
N 89°58'W. along S. bdy.of sec.35.
Over rolling land thru dense underbrush.

29.30 Wash,25 lks.wide,course SE.

39.65 Wash,25 lks.wide,course SE.

Difference bet.measurements of 40.02 chs.by two sets of chainmen is 4 lks.; position of middle point
By 1st set,40.04 chs.
By 2nd set,40.00 chs.,the mean of which is

40.02 Set a malpais stone,18X10X8ins.,12ins.in the ground, for standard ¼ sec.cor.,marked SC ¼ on N.face; dig pits, 18X18X12ins.,E.and W. of stone,3ft.dist.; and raise a mound of earth,3½ ft.base,1½ ft.high,N. of cor.
No trace of old ¼ cor.

57.90 Wash,20 lks.wide,course SE.

60.20 Same,wash,course NE.

63.25 Wash,20 lks.wide,course SE.

73.25 Wash,25 lks.wide,course SE.

Difference bet.measurements of 80.04 chs.by two sets of chainmen is 6 lks.; position of middle point
By 1st set,80.07 chs.
By 2nd set,80.01 chs.,the mean of which is

80.04 Set a malpais stone,18X9X6ins.,12ins.in the ground, for standard cor. of secs.34 and 35,marked SC on N.face; with 2 grooves on E.and 4 grooves on W.face; and raise a mound of stone,2ft.base,1½ ft.high,N. of cor.
Pits impraticable. No trace of old cor.

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

Resurvey of 5th Standard Parallel N.,thru Rg. 19 W.

chains.	
	Underbrush,greasewood and cacti.
	Rolling land covered with dense underbrush,80.04 chs.
	At this cor. I set off 16'52½'S. on the decl.arc and observe the sun on the meridian at nnon; the resulting lat.is 35°09½'N.

	Thence I run
	N 89°58'W. along S. bdy.of sec.34.
	Slowly ascending thru dense underbrush.
7.20	Wash,20 lks.wide,course NE.
18.50	Same wash course SE.
27.50	Wash,20 lks.wide,course SE.
36.00	Wash,20 lks.wide,course SE.
	Difference bet.measurements of 40.02 chs.by two sets of chainmen is 6 lks.; position of middle point
	By 1st set, 40.05 chs.
	By 2nd set, 39.99 chs.,the mean of which is
40.02	Set a malpais stone,15X8X6i s.,10ins.in the ground,for standard ¼ sec.cor.,marked SC ¼ on N.face; dig pits, 18X18X12ins.,E.and W. of stone,3ft.dist.; and raise a mound of earth,3½ ft.base,1½ ft.high,N. of cor. No trace of old ¼ cor.
44.25	Wash,20 lks.wide,course SE.
49.70	Wash,20 lks.wide,course SE.
55.00	Wash,20 lks.wide,course SE.
67.90	Wash,20 lks.wide,course SE.
76.60	Wash,20 lks.wide,course SE.
79.60	Wash,20 lks.wide,course SE.
	Difference bet.measurements of 80.04 chs.by two sets. of cahinmen is 8 lks.; position of middle point
	By 1st set,80.08 chs.
	By 2nd set,80.00 chs., the mean of which is
80.04	The standard cor. of secs.33 and 34,which is a malpais stone,10X6X6ins.loosely set in s scattering mound of stone,the markings are nearly obliterated,so I destroy this cor. and in the same place set a malpais stone, 20X6X6ins.,15ins.in the ground,for standard cor. of secs. 33 and 34,marked SC on N.face,with 3 grooves on E.and W. faces; and raise a mound of stone,2ft.base,1½ ft. high,N. of cor. Pits im raticable.
	Land,rolling.
	Soil,gravelly; 3rd rat .
	No timber.
	Underbrush,greasewood and cacti.
	Rolling land covered with dense underbrush,80.04 chs.
	February 2,1910.

Resurvey of N. Bdy.of Tp.21 N.,Rg. 19 West.

chains.	
	February 3,1910; At 8h.00m.,a.m.,l.m.t.,I set off 16°36½'S. on the decl.arc; 35°15'N. on the lat.arc and determine a meridian with the solar at the cor. of Tps. 21 and 22N.,Rgs.18 and 19 West. previously described
	Thence I run
	West on random line bet.Tps. 21 and 22 N.,setting temp.¼ sec.and sec.cors. at intervals on 40.00 chs.and making diligent search for old cors. At 479.90 chs. intersect the N.and S. line 41 lks.S. of the cor. of Tps.21 and 22 N.,Rgs.19 and 20 W.,which is a malpais stone,12X6X6ins.,loosely set in a scattering mound of stone with marks nearly obliterated,so I set a sandstone 18X8X8ins.,12ins.in the ground,for cor. of Tps. 21 and 22 N.,Rgs.19 and 20 W.,marked 22 N on NE.,19 W. on SE. 21 N.on SW.,and 20 W on NW.face; with 6 notches on N.E S.and W. edges; and build a mound of stone,3ft.base,2ft. high,S. of cor. pits impraticable. I found no traces of old cors. on this bdy.
	Thence I run
	S 89°57'E. on true line bet.secs.6 and 31.
	Ascending over rough and mountainous land covered with loose rocks thru dense underbrush.
6.00	Top of rocky granite ridge,bears N.and S. Desc.steep slope over loose rocks.
12.80	Wash,10 lks.wide,coirse SE.Desc.over steep slope.
24.80	Wash,20 lks.wide,course SE. Asc.steep slope over loose rocks.
28.00	Top of ridge,bears N.and S. Desc.steep slope over loose rocks.
36.70	Wash,20 l s.wide,course SE. Asc.steep slope over loose rocks.
39.90	Set a granite stone,18X8X6ins.,12ins.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. No trace of old cor.
42.00	Top of ridge,bears N.and S. Desc.over loose rocks.
79.90	Set a malpais stone,20X10X8ins.,15ins.in the ground, for cor. of secs,5,6,31 and 32,marked with 5 notches on E.and 1 notch on W.edge; and raise a mound of stone, 2ft.base,1½ ft.high,W. of cor. Pits impraticable No trace of old cor.
	Land,mountainous and rough.
	Soil,rocky; 4th rate.
	No timber.
	Underbrush,greasewood and cacti.
	Mountainous land covered with loose rocks and dense underbrush,exceptionally difficult to survey,79.90 chs.

	Thence I run
	S 89°57'E. bet.secs.5 and 32.
	Descend over mountainous land covered with loose rocks thru dense underbrush.
10.00	Asc,steep slope over loose rocks.
21.50	Top of ridge,bears N.and S. Desc.over loose rocks.
40.00	Set a malpais stone,18X8X6ins.,12ins.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 No trace of old cor.
80.00	Set a malpais stone,20X10X8ins.,15ins.in the ground, for cor. of secs.4,5,32 and 33,marked with 4 notches on E. and 2 notches on W. edge; and raise a mound of stone 2ft.base,1½ ft.high,W. of cor. Pits impraticable. No trace of old cor.
	Land,mountainous.
	Soil,rocky; 3rd rate.
	No timber.
	Underbrush,greasewood and cacti.
	Mountainous land covered with loose rocks and dense underbrush,exceptionally difficult to survey,80.00 chs.
	At this cor. I set off 16°35'S.on the decl.arc and observe the

Chains.	
	sun on the meridian at noon; the resulting lat.is 35°15'N
	Thence I run S 89°57'E. bet.secs.4 and 33.
	Descending over mountainous land covered with loose rocks thru dense underbrush.
1.70	Wash,10 lks.wide,course NE.
3.00	Same,wash,course SE.
7.00	Same wash,course NE.
7.25	Wash,20 lks.wide,course SE.
15.80	Same wash,course SE.
25.00	Wash,10 lks.wide,course NE.
40.00	Set a malpais stone,24X10X8ins.,18ins.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 impraticable. No trace of old cor.
46.60	Wash,35 lks.wide,course SE.
48.15	Wash,10 lks.wide,course SE.
63.74	Old road, bears NW.and SE.
80.00	Set a malpais stone,18X10X6ins.,12ins.in the ground, for cor. of secs.3,4,33 and 34,marked with 3 notches on E.and W. edges; and raise a mound of stone,2ft.base,$1\frac{1}{2}$ ft.high,W. of cor. Pits impraticable. No trace of old cor. Land,mountainous. Soil,rocky; 3rd rate. No timber. Underbrush,greasewood and cacti. Mountainous land covered with dense underbrush,80.00 chs. Febraary 3,1910.
	February 4; At 8h.00m.,a.m.,l.m.t.,I set off 16°18½' S. on the decl.arc; 35°15'N. on the lat.arc and determine a meridian with the solar at the cor. of secs.3,4, 33 and 34. Thence I run S 89°57'E. bet.secs.3 and 34. Over rolling land covered with dense underbrush.
5.80	Wash,15 lks.wide,course SE.
23.25	Road,bears NW,and SE.
27.30	Wash,25 lks.wide,course SE.
40.00	Set a malpais stone,15X8X8ins.,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. No trace of old cor.
46.50	Wash,35 lks.wide,course SE.
51.70	Wash,10 lks.wide,course SE.
62.15	Wash,75 lks.wide,course SE.
69.00	Wash,100 lks.wide,course S.
71.10	Wash,11 lks.wide,course S.
80.00	Set a malpais stone,18X10X6ins.,12ins.in the ground, for cor. of secs.,2,3,34 amd 35,marked with 2 notches on E.and 4 notches on W.edge; dig pits,18X18X12ins.,in each sec.$5\frac{1}{2}$ ft.dist.; and raise a mound of earth,4ft. base,2ft.high,W. of cor. No trace of old cor. Land,rolling. Soil,gravelly; 3rd rate. No timber. Underbrush,greasewood and cacti. Rolling land covered with dense underbrush,80,00 chs.
	Thence I run S 89°57'E. bet.secs.2 and 35. Over rolling land thru dense underbrush.
34.65	Wash,15 lks.wide,course S.
40.00	Set a malpais stone,18X8X6ins.,12ins.in the ground, for

Resurvey of N.Bdy.of Tp.21 N.,Rg. 19 West.

chains.

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,1½ ft.high,N. of cor. No trace of old cor.

46.80 Wash,15 lks.wide,course S.

54.00 Wash,15 lks.wide,course S.

76.70 Wash,15 lks.wide,course S.

80.00 Set a malpais stone,18X6X6ins.,12ins.in the ground, for cor. of secs,1,2,35 and 36,marked with 1 notch on E.and 5 notches on W.edge; dig pits,18X18X12ins.,in each sec.5½ ft.dist.; and raise a mound of earth,4ft. base,2ft.high,W. of cor. No trace of old cor.

Land,rolling.

Soil,gravelly; 3rd rate.

No timber.

Underbrush,greasewood and cacti.

Rolling land covered with dense underbrush,80.00 chs.

At this cor. I set off 16°17'S. on the decl.arc and observe the sun on the meridian at noon; the resulting lat.is 35°15'N.

Thence I run

S 89°57'E. bet.secs.1 and 36.

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

2.65 Wash,25 lks.wide,course S.

19.15 Wash,15 lks.wide,course S.

22.50 Wash,15 lks.wide,course S.

38.20 Wash,15 lks.wide,course S.

40.00 Set a malpais stone,20X12X6ins.,15ins.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,1½ ft.high,N. of cor. No trace of old cor.

48.70 Wash,50 lks.wide,course SW.

50.00 Wash,50 lks.wide,course S.

80.00 The cor. of Tps. 21 and 22 N.,Rgs.18 and 19 W., previously described

Land,rolling.

Soil,rocky; 3rd rate.

No timber.

Underbrush,exceptionally dense cacti.

Rolling land covered with exceptionally dense cacti underbrush,very difficult and slow to chain thru,exceptionally difficult to survey,80.00 chs.

February 4,1910.

T 21 N. R 19 W.

Latitudes, Departures and closing errors.

Line designated	True bearing	Distance chs	Latitudes N chs	Latitudes S chs	Departures E chs	Departures W chs.
E.Bdy. of T. 21 N., Rg. 19 W.	North	480.00	480.00			
N.Bdy. of T. 21 N., Rg. 19 W.	N. 89°57' W.	479.90	.42			479.90
W. Bdy. of T. 21 N., Rg. 19 W.	South	480.00		480.00		
5th Standard Parallel North.	East	240.00			240.00	
	S 89°58' E.	240.12		0.14	240.12	
Convergency						0.51
Totals			480.42	480.14	480.12	480.41
			480.14			480.12
Error in Lat.			0.28	Error in Dep.		0.29

GENERAL DESCRIPTION

Tp. 22 N. R.19 W. is rolling in the E. and mountainous in the West.

Tp.21 N. Rg.20 W. is mountainous.and rough.

Tp 21 N.,Rg.19 W. is mountainous in the W,and rolling in the E.

Fred W. Rodolf
U.S.Deputy Surveyor.

Retracement of 5th Guide Meridian W. thru Tp. 19 N.

chains.

January 11,1910; At 4h.30m.,p.m.,l.m.t.,I.set off ½ 21°43½'S. on the decl.arc; 35°02½'N. on the lat.arc and determine a meridian with the solar at the cor. of secs. 7,12,13,and 18, (Which is a stone marked & witnessed as described by the Sur. Gen'l.) on the 5th Guide Meridian thru Tp. 19 N.

From here ¼ sec.cor.bears S 0°12'E.

Therefore I run

S 0°12'E. bet.secs.13 and 18.

Over mountainous land thru dense underbrush.

Difference bet.measurements of 40.15 chs,by two sets of chainmen is 8 lks.; position of middle point

By 1st set,40.19 chs.

By 2nd set,40.11 chs.,the m an of which is

40.15 Old ¼ sec.cor.,which is a malpais stone,marked and witnessed as described by the Surveyor General.

Old sec.cor.bears S 0°11'E.

Therefore I run

S 0°11'E. bet.secs.13 and 18,from ¼ sec.cor.

15.00 Top of ridge,bears E.and W. Desc.

28.00 Wash,100 lks.wide,course E. Asc.

Difference bet.measurements of 40.49 chs.by two sets of chainmen is 10 lks.; position of middle point

By 1st set,40.54 chs.

By 2nd set,40 44 chs.,the mean of which is

40.49 Old cor. of secs.13,18,19 and 24,marked and witnessed as described by the Surveyor General.

Land,mountainous.

Soil,rocky; 3rd rate.

No timber.

Underbrush,greasewood,catclaw and cacti.

January 11,1910.

Fred W. Rodolf,
U.S. Deputy Surveyor.

Retracement of 5th Guide Meridian W. thru Tp.20 N.

chains

January 26,1910; At 9h.30m.,a.m.,l.m.t.,I set off 18°46½'S. on the decl.arc; 35°06'N. on the lat.arc and determine a meridian with the solar at the cor. of secs. 19,24,25 and 30on the 5th Guide Meridian thru Tp.20 N., which is a stone,marked and witnessed as described by the Surveyor General.

Old ¼ sec.cor.bears N 0°06'E.

Therefore I run

N 0°06'E. bet.secs.19 and 24.

Over level land thru dense underbrush.

35.00 Wash,10 lks.wide,course E.

Difference bet.measurements of 40.66 chs.by two sets of chainmen is 8 lks.; position of middle point

By 1st set,40.70 chs.

By 2nd set,40.62 chs.,the mean of which is

40.66 Old ¼ sec.cor.,which is a stone,marked and witnessed as described by the Surveyor General.

Old sec.cor.bears N 0°03'E.

Therefore I run

N 0°03'E. from ¼ sec.cor.

16.50 Wash,55 lks.wide,course SE.

Difference bet.measurements of 40.08 chs.by two sets of chainmen is 6 lks.; position of middle point

By 1st set,40 11 chs.

By 2nd set,40 05 chs.,the mean of which is

40.08 Old cor. of secs.13,18,19 and 24,which is a stone, marked and witnessed as described by the Surveyor Genera I redig pits to the SW.and NW.,and fill the pits to the NE.and SE.and rebuild the moune of earth,to the W.making this the cor. to secs.13 and 24.

January 26;1910.

Fred. W. Rodolf.

U. S. Deputy Surveyor,

BOOK 2195 1657B

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Fred 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~~ Resurvey of the N. & W. Bdys. of T. 21 N. R. 19 W. + N. Bdy. T. 21 N. R. 19 W. + of the Standard Parallel N. thru R. 19 W. + Retracement of 5th Guide M. West thru Township 19 and 20 North. showing the respective capacities in which they acted:

R. E. Seames, Chainman.
A. R. Kemp
F. H. Smithers, Chainman.
Bert Lyon, Moundman.
Ralph R. Ellis, Moundman.
R. N. Stark, Axman.
T. M. Parker, Axman.
George Newell, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Fred W. Rodolf, United States Deputy Surveyor, in surveying all those parts or portions of the N. E. & W. Bdys. of Tps. 21 N. Rg. 18 W, N. Bdy. of T 21 N, Rg 19 W, the 5th Standard Parallel North thru range 19 W., and the 5th Guide Meridian W. thru T.ps. 19 & 20 N. of the Gila & Salt River Base & 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

R. E. Seames
A. R. Kemp
F. H. Smithers, Chainman.
Bert Lyon, Chainman.
Ralph R. Ellis, Moundman.
, Moundman.
R. N. Stark, Axman.
T. M. Parker, Axman.
George Newell, Flagman.

Subscribed and sworn to before me this 7 day of March, 1910

My commission expires March 23, 1914

SEAL

Notary Public

6—151

466
BOOK 2195

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. Ingalls 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 the N. E. & W. Bdys of Tp. 21 North. Rg. 18 West, the N. Bdy. of Tp. 21 N., Rg 19 West the 5th Standard Parallel North thru Rg 19 W. & the 5th Guide Meridian West thru Tps. 19 & 20 North. 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 17th day of May 1910., ~~190~~

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

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, Aug. 18, ~~190~~ 1910.

The foregoing field notes of the re survey of the North East and West Boundaries of Tp. 21 N. Rg. 18 W.; the North Boundary of Tp. 21 N. Rg. 19 W.; a portion of the 5th Standard Parallel North through Rg. 19 W.; and the retracement of portions of the 5th Guide Meridian West through Tps. 19 and 20 North, all 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. Ingalls
United States Surveyor General.

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

.....
United States Surveyor General.

6—151