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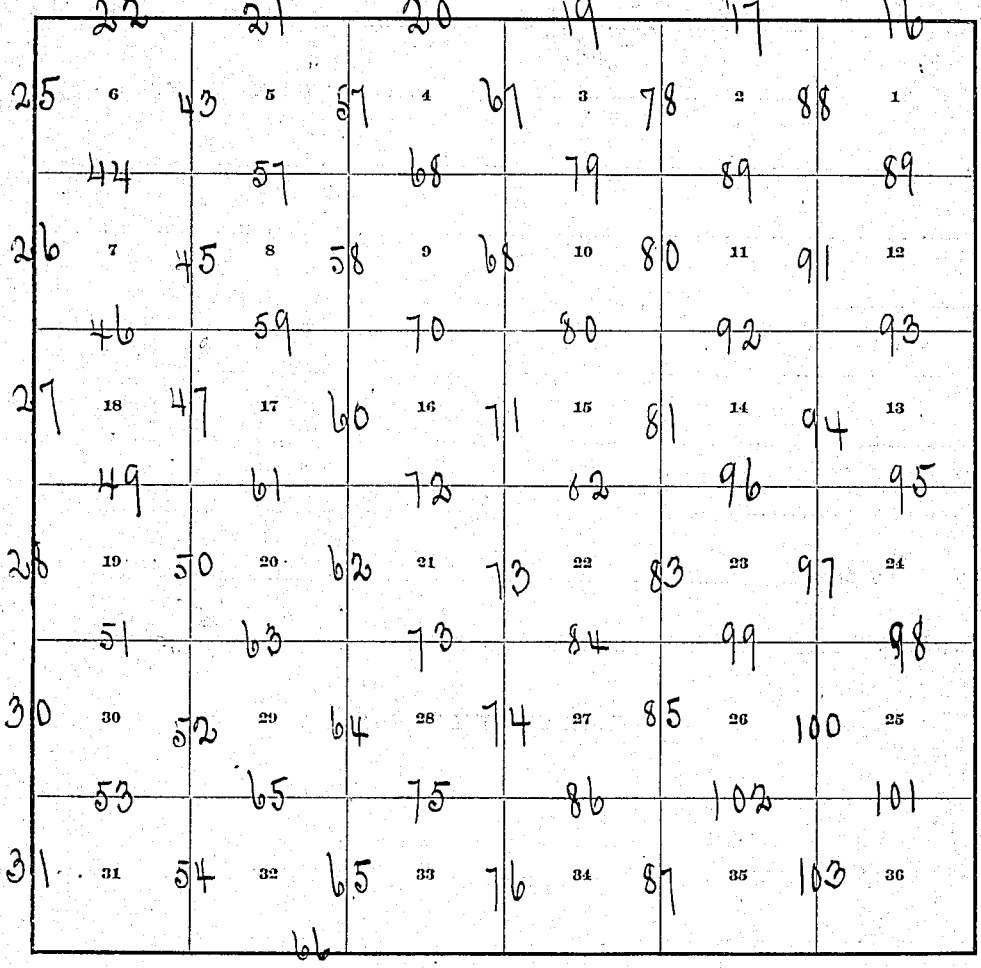

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FIELD NOTES

OF THE SURVEY OF THE

Of the ..... *Meridian,*

In the State of .....

EXECUTED BY

In the capacity of U. S. Surveyor....., under instructions dated....., 191....., issued by the United States Surveyor General to govern surveys included in Group No. ....., which were approved by the Commissioner of the General Land Office, ..., 191....., pursuant to authority contained in the Act of Congress dated ....., 191.....

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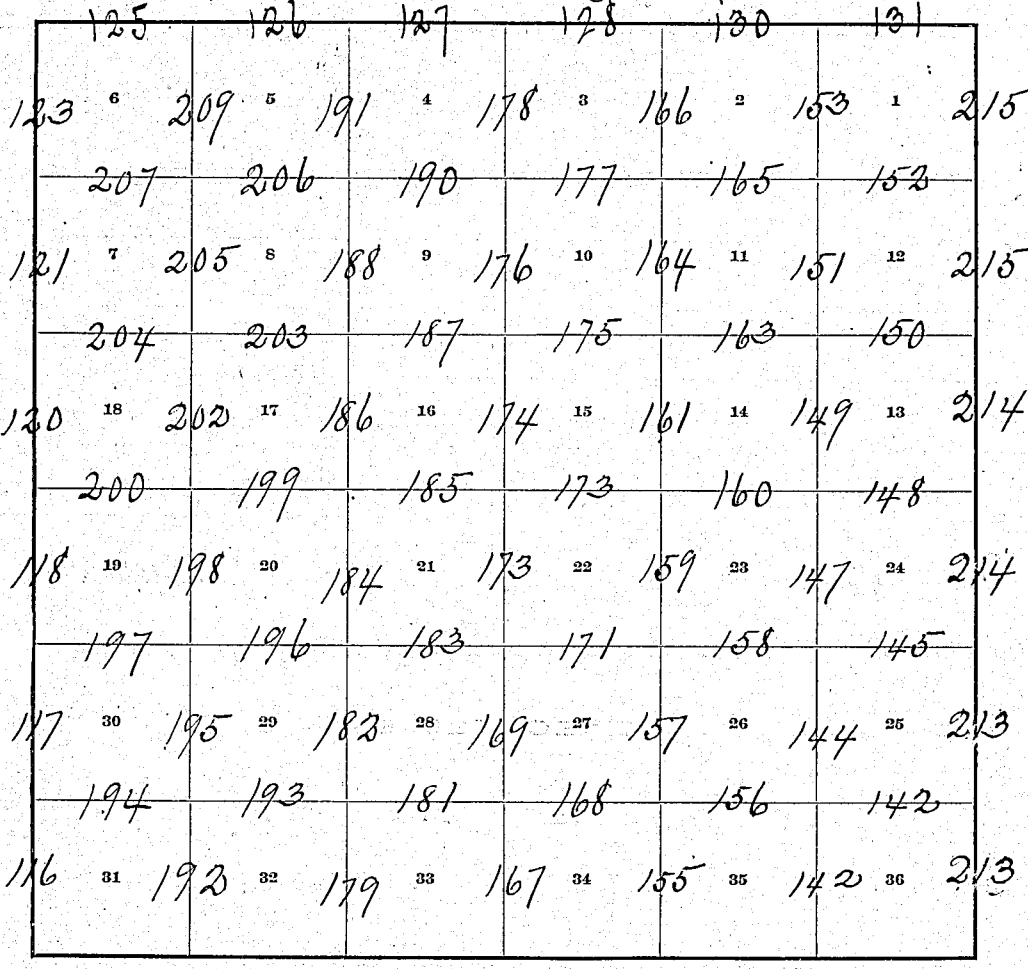

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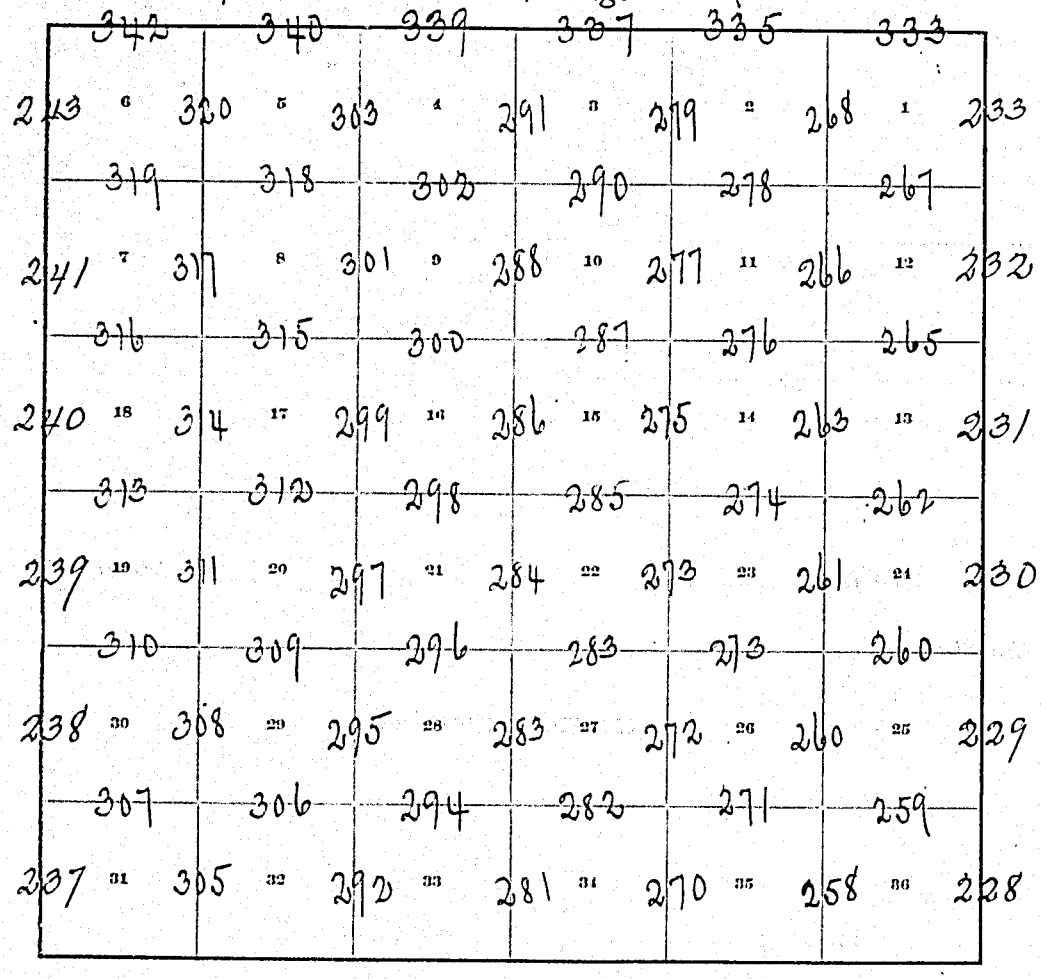

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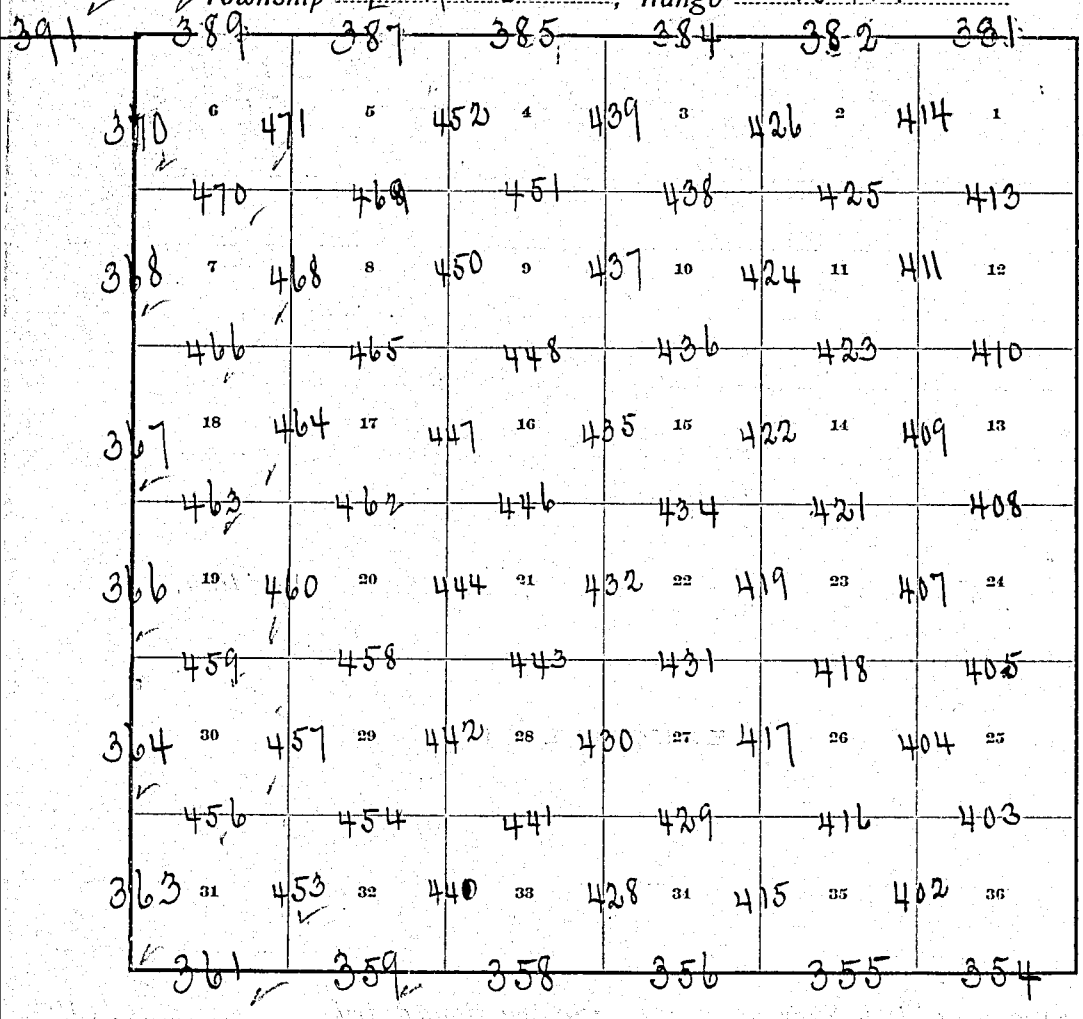

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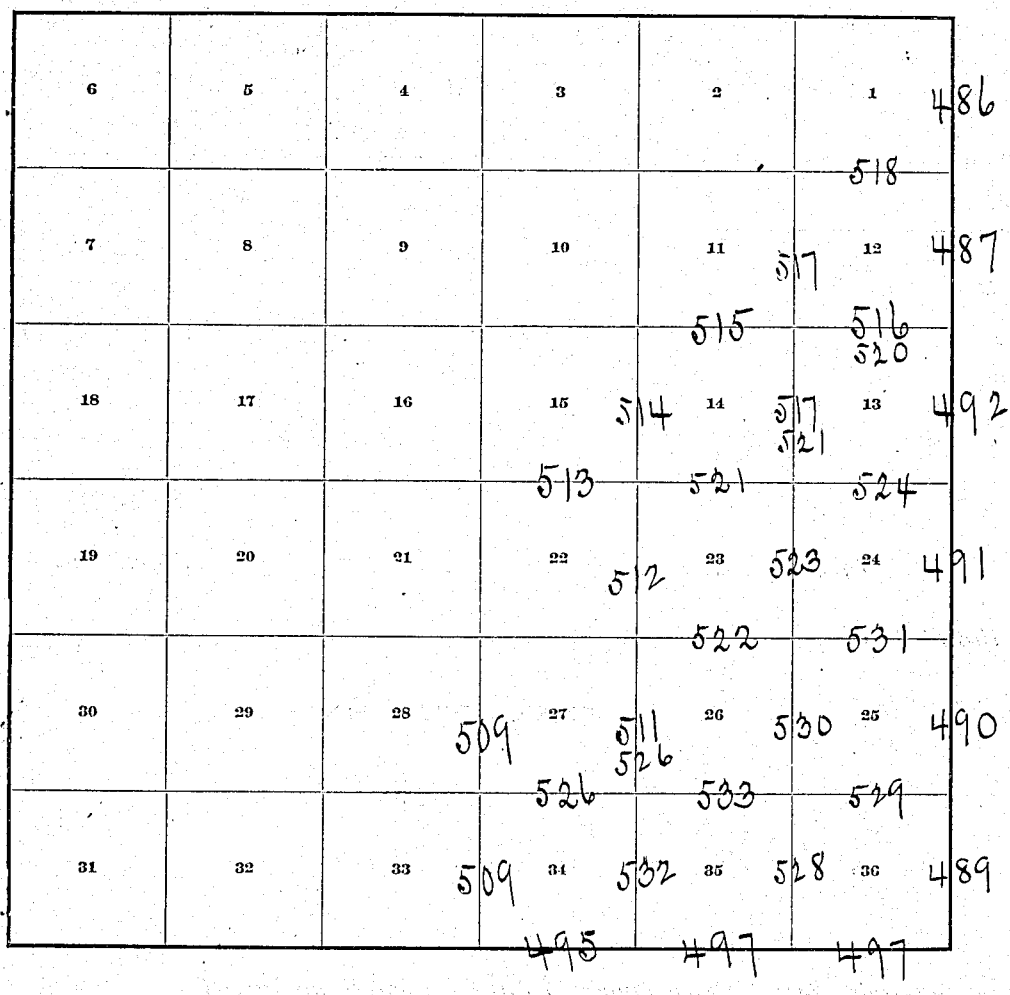

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In the State of .....

EXECUTED BY

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FIELD NOTES

OF THE SURVEY OF THE

NORTH AND WEST BOUNDARIES

O F

TOWNSHIP NO. 43 SOUTH,

RANGE NO. 17 WEST.

Of the SALT LAKE BASE AND *Meridian,*

U T A H.

AS SURVEYED BY

[illegible] Winwood and Harry L. Chamberlin, *United States Deputy Surveyors,*

under his Contract No. 314, *dated* June 28, *1909,*

Survey commenced October 22, *19*09,

Survey completed October 29, *19*09.

N. Bdy 6-00-00'
W. Bdy 5-46-66'
11-46-66
Closing 21-18"

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NAMES AND DUTIES OF ASSISTANTS.

Uberto P.Eldredge, Chainman.

Andre J.Kerr Chainman.

Jacob L.Laub Moundman.

Elmo Adams Flagman.

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PRELIMINARY OATHS OF ASSISTANTS.

We, Uberto P. Eldredge and Andre J. Kerr 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 West and North Bdys. of T. 43 S., R. 17 W. of the Salt Lake Base and Meridian, Utah.

Uberto P. Eldredge, *Chainman.*

Andre J. Kerr, *Chainman.*

Subscribed and sworn to before me this 23d day of October, 1909

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

~~We,~~ I, Jacob L. Laub ~~and~~ do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishment of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the survey of West and North Bdys. of T. 43 S., R. 17 W. of the Salt Lake Base and Meridian, Utah.

Jacob L Laub, *Moundman.*

, *Moundman.*

Subscribed and sworn to before me this 23d day of October, 1909

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

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

, *Axman.*

, *Axman.*

Subscribed and sworn to before me this day of , 19

SEAL

I, Elmo Adams, 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 West and North Bdys. of T. 43 S., R. 17 W. of the Salt Lake Base and Meridian, Utah.

Elmo Adams, *Flagman.*

Subscribed and sworn to before me this 23d day of October, 1909

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

6—151

Survey commenced Oct.22, 1909, and executed with a Berger & Sons transit, No.6199, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

The instrument was examined, tested on the true meridian at Salt Lake City, found correct, and was approved by the Surveyor-General for Utah, Oct.14, 1909.

I examine the adjustments of the transit and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications resulting from solar observations made during a.m. and p.m. hours with a meridian determined by observations on Polaris, I proceed as follows:-

At the closing cor. of T.42 S., Rs.16 and 17 W., which is a limestone 8 x 18 x 3 ins. above ground marked and witnessed as described by the surveyor general, lat. 37° 04' 53" N.; long. 113°37'37" W., I set off 37° 05' N. on lat. arc; 11° 03' S. on decl. arc; and at 2 h. 45 m. p.m. l.m.t. determine with the solar a meridian, and mark a point thereof on a stone firmly set in the ground 5 chs. N. of the corner,

Oct.22, 1909.

Oct.23: At 5h 16 m. a.m. l.m.t. I observe Polaris at western elongation, in accordance with 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.

At 6 h. 45m. a.m. l.m.t., I lay off the azimuth of Polaris 1° 28' to the east, and mark the meridian thus deter-

Chains. mined by cutting a small groove in the stone set on which the meridian falls 0.1 in.E.of the mark determined by the solar.

At 8 h. 45 m.a.m.l.m.t.I set off 37° 08' N.on the lat. arc 11° 18'S.on the decl.arc; and mark a point in the meridian determined with the solar by a cross on the stone already set 5 chs.N.of my station; this mark falls 0.2 ins.E.of the meridian established by the Polaris observation.

The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0' 5" W. and 0' 10" E.of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h. 00 m. a.m.is N.16° 30'W.; the angle thus determined gives the mag.decl.16°30'E.

From the closing cor.above described I run

West on true line along N.bdy.of Tp. bet.secs.1 & 36

Over gentle ascent,

8.50 Top of high cliffs of altered gypsum, which descend abruptly to valley 250 ft.below; bearing NW.and SE.

14.00 Bottom of steep cliffs.

Continue descent over broken ground.

25.00 Ravine 25 ft.deep, drains S.

40.00 Point for ¼ sec.cor.falls in bottom of dry wash, which apparently is filled with water during some seasons of the year; and corner cannot be perpetuated; therefore at

42.00 Set an iron post 3 ft.long, 1 in.diam.36 ins in the ground, on bank of wash for witness ¼ sec.cor., marked on brass cap S 36 in N.half, S 1 in S.half, WC¼ on E.; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft. dist., and raise a mound of earth 3½ ft.base, 1½ ft.

Chains.	
	high N.of cor.
45.00	Top of ridge, 75 ft.high bearing NW. and SE.
49.00	Ravine 50 ft.deep, drains SE.
	Ascend gently over broken ground.
77.00	Top of high ridge 200 ft.high bearing N.55° W. and S. 55° E.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 14 ins.in the ground, to bedrock, with mound of stones 10 ins.high around it for cor.of secs.1,2,35, and 36, marked on brass cap T 42 S S 35 in NW. R 17 W S 36 in NE. R 17 W S 1 in SE; and T 43 S S 2 in SW.quadrants; and raise a mound of stone 2½ ft.base, 1½ ft high W.of cor. Pits impracticable.
	This sec.cor.is on ridge sloping E., 10 lks.from where same breaks off on south.
	Land, mountainous and broken.
	Soil, rocky; 4th rate.
	No timber.
	Scattering undergrowth of black brush.
	Oct.23, 1909: At this cor.I set off 11° 22' S.on decl. arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 05'N.

West bet.secs.2 and 35,

	Descending over rim rock of ridge into canyon,
8.00	Bottom of canyon, 50 ft.deep, draining SE.
	Ascending over broken ground.
	Point for ¼ sec.cor.will fall on solid limestone, impossible to set iron post; therefore at
39.26	Set an iron post 3 ft.long, 1 in.dia.,26 ins.in the ground,

Chains.

for witness cor.to ¼ sec.cor. marked on brass cap W C ¼, S 35 in N.half, S 2 in S.half; raise mound of stone 2½ ft.base, 1½ ft.high N.of cor. Pits impracticable.

Witness cor.is in small basin about half way across ridge.

40.00 Point for ¼ sec.cor., marked cross on rock at exact point for corner.

42.00 Rim rock on edge of cliff; descend abruptly.

47.00 Ravine, 75 ft.deep, drains SW.

Ascend along west side of ravine.

54.00 Over rolling ground.

70.00 Ascend steep cliffs of altered gypsum and clay, bearing NW.and SE.

72.00 Top of high red dome 300 ft.above ravine.

Descend over rough ground sloping south.

80.00 Set an iron post 3 ft.long, 3 ins.diam., 18 ins.in ground, with mound of earth and rock around it, 6 ins. high, for cor.of secs.2,3,34, and 35, marked on brass cap

T 42 S S 34 in NW.

R 17 W S 35 in NE .

R 17 W S 2 in SE., and

T 43 S B 3 in SW.quadrants; and raise a mound of stone 2½ ft.base, 1½ ft.high W.of cor. Impossible to set post over 18 ins.in the ground.

Sec.cor.is on sloping N.side of canyon 50 ft.from top.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land 80.00 chs .

Chains.	
	West between secs.3 and 34.
	Descending over mountainous land,
4.50	Cross small ravine 25 ft.deep, draining SE.
	Ascend.
8.50	Top of ridge, 60 ft.high bears NW. and SE.
	Descend over rough ground sloping south.
12.00	Ravine 25 ft.deep, drains south; ascend.
24.50	Cross edge of wash in bottom of canyon; drains SE.
	Ascend E.side of hill, over rough ground.
40.00	Set an iron post 3 ft.long, 1 in.in diam., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap, $\frac{1}{4}$ S 34 in N.half, S 3 in S.half; and raise a mound of stone $2\frac{1}{2}$ ft.base, $1\frac{1}{2}$ ft.high N.of post.Pits impracticable.
	This $\frac{1}{4}$ sec.cor.is on E.side of high hill, 200 ft.above ravine.
42.00	Top of high prominent hill 45 ft.above $\frac{1}{4}$ sec.cor.
	Descend along W.side of hill.
50.50	Bottom of hill, 175 ft.below top.
	Ascend gently.
62.00	Top of low ridge, 25 ft. high, bears NW. and SE.
	Descend along S.side of valley.
73.00	Descend abruptly into valley.
77.25	Ravine 50 ft.deep, drains SE.
80.00	Set an iron post 3 ft.long, 3 ins.diam., 24 ins.in ground, for corner of secs.3,4,33, and 34, marked on brass cap,
	T 42S S33 in NW.
	R 17 W S 34 in NE.
	R 17 W S 3 in SE.; and
	T 43 S S 4 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.$5\frac{1}{2}$ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Sec.cor.is on nearly level bottom of small valley that

Chains.	
	drains SE.
	Land, mountainous.
	Soil, gravelly; 4th rate.
	Undergrowth scattering black brush and sagebrush.
	No timber.
	Mountainous land 80.00 chs.
	Oct.23, 1909.
	Oct.25 : At 8 h.44m. a.m.l.m.t.I set off 37° 05'N.on lat.arc; 12°01' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.3,4,33, and 34.
	Thence I run,
	West bet.secs.4 and 33,
	Over broken land.
15.00	Cross dry wash in bottom of small valley, 20 ft.below sec.cor., draining SE.
	Ascend gently; through scattering cedars.
29.50	Wash drains SE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 33 in N.half, S 4 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Continue gradual ascent over slope through scattering scrub cedars.
58.50	Wash drains northeasterly; ascend.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.4,5,32, and 33, marked on brass cap
	T 42 S S 32 in NW.
	R 17 W S 33 in NE.
	R 17 W S 4 in SW.; and
	T 43 S S 5 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	This sec.cor.is on ground sloping E., not far from base

Chains.

of high mountain.

Land, broken and rocky.

Soil, rocky;, 4th rate.

Timber; scattering cedars.

Oct.25, 1909: At this cor.I set off 12°04'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 05' N.

West bet.secs.5 and 32

Ascending gently.

14.00 Base of high mountain; begin abrupt ascent.

26.50 Edge of ridge, 200 ft,high, sloping NE., along steep S. side of deep canyon; through cedar and pinon pine timber, bearing N.and S.

40.00 Point for ¼ sec.cor. falls in loose rock slide; impossible to set post.

42.00 Set an iron post 3 ft.long, 1 in.dia., 12 ins.deep in cleft of rock,(impossible to set it any deeper) for ¼ sec.cor., marked on brass cap W C ¼ , S 32 in N.half, and S 5 in S.half; from which

A pinon pine, 14 ins.dia., bears N.50° W., 20 lks. dist., marked W C ¼ S 32 B T

A pinon pine 12 ins.dia., bears S.55°W. 55 lks. dist., marked W C ¼ S 5 B T

45.12 Edge of rough limestone cliffs, on N.edge of deep canyon draining NE;, steep high mountain on south;, deep canyon on north. Impossible to chain across.

Set a limestone 18 x 10 x 3 ins., 12 ins.in the ground, for witness point, marked W P on W.face;

To determine the distance across I set a flag on line; then measure a base north 20.00 chs.to a point, from which the flag bears S.61° 50' W.; from the flag the N. end of base bears N.61° 50' E.; therefore the dist. is tan.61° 50' x base, or 1.8676 x 20.00 equals 37.35,

S.61°50'W. 61°50' 37.35

Chains.

which added to 45.12 chs., makes 82.47 chs.. I measure east 47 lks., and on a cliff rock set a stone 42 x 6 x 5 ins.. in a mound of stone for witness cor.to cor.of secs. 5,6,31, and 32, marked T 42 S on N.; T 43 S on S., W C on E., with 5 notches on E., and 1 on W.edges; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Impracticable to set post corner.

This corner is on steep sloping ridge, on west side of canyon, about 400 ft.from bottom.

Land, mountainous; rough and broken.

Soil, rocky; 4th rate.

Timber, pinon pine and cedars.

Mountainous land on 80.00 chs.

October 25, 1909.

Oct.26: At 8 h. 44m.a.m.l.m.t., I set off 37° 05'E.on lat.arc; 12° 22'S.on decl.arc; and determine a meridian with the solar at witness cor.to cor.of secs.5,6,31, and 32. Thence I run

West bet.secs.6 and 31,

Ascending abruptly on top of spur, over rough ground.

17.50 Top of high mountain known as Jarvis Peak; high cliffs west; impossible to chain across.

17.55 Set a limestone 20 x 10 x 3 ins., 15 ins.in the ground, for witness point, marked W P on W.face; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

To determine the distance across I triangulate as follows: Set a flag across canyon, on line; then measure a base south 10.00 chs.to a point, from which the flag bears N.61° 38'W.; from the flag the S.end of base bears S.61° 38'E.; therefore the dist. is tan.61° 38'x base, or 1.852 x 10.00, equals 18.52, which added to

18.52
61°38' W
South 10.00

NORTH BOUNDARY T. 43 S., R. 17 W.

Chains.	
	17.55 makes 36.07. I measure east 7 lks. for suitable point, and at
36.00	Set a limestone 16 x 12 x 4 ins., 11 ins.in the ground, for witness point, marked W P on W.face.
40.00	On steep slope near steep ravine, Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 31 in N.half, S 6 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
42.00	Cross ravine, 40 ft.deep, draining west
	Descend along N.side of ravine.
53.00	Road from Apex to Shem bears N. and S.
62.50	Canyon, 120 ft.deep, drains N.
	Ascend.
67.00	Top of spur ridge, projects NE.
	Descend along rough mountain side, sloping N.
74.00	Canyon, 100ft.deep, drains NE.
	Ascend abruptly; through timber.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of Tps.42 and 43 S., Rs.17 and 18 W. marked on brass cap,
	T 42 S in N.
	T 43 S in S.
	R 18 W S 36 in NW.
	R 17 W S 31 in NE.
	S 6 R 17 W in SE.
	S 1 R 18 W in SW.quadrants; from which
	A pine 6 ins.dia., bears N.34° 15'E. 45 lks.dist. marked T 42 S R 17 W S 31 B T
	A pine 6 ins.dia., bears S.36° 40'E. 143 lks.dist. marked T 43 S R 17 W S 6 B T
	A pine 4 ins.dia., bears S.12° 30'W. 40 lks.dist. marked T 43 S R 18 W S 1 B T
	A pine 10 ins.dia., bears N.85° 55'W. 42 lks.dist. marked T 42 S R 18 W S 36 B T

NORTH BOUNDARY T. 45 S., R. 17 W.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, pine.

Mountainous land 80.00 chs.

Oct.26, 1909.

For general description see notes of the subdivision of this township.

Chains. Oct.27, 1909: At 8 h.44 m.a.m.l.m.t.I set off 37° 05'N. on lat.arc; 12° 42' S on decl.arc; and determine a meridian with the sol r at the cor.of Tps.42 and 43 S. Rs.17 and 18 W., established by me and heretofore described.

Thence I run

South bet.secs.1 and 6,

Ascending along west side of canyon draining N.

17.50 Canyon, dry, 50 ft.deep, drains N.20° E. Ascend.

21.50 High ridge, 125 ft.above canyon, bears N.80° E. and S.80° W. Enter timber, bears N. and S.

Descend along mountain side, sloping E.; very rough.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 1 in W.half, S 6 in E.half; from which

A pinon pine 12 ins.dia.,bears N.14° 10'E. 50 lks. dist., marked ¼ S 6 B T

A pinon pine, 14 ins.dia., bears N.72° 06'W. 33 lks.dist., marked ¼ S 1 B T

Continue along rough mountain side, not far above Apex Mining Camp.

53.74 U.S.L.M.No.1 bears S.44° 52'W. 11.77 chs.dist.

64.00 A point about 1 ch.west of upper adit of Apex Mine.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.1,6,7, and 12, marked on brass cap

T 43 S in N.half,

R 18 W S 1 in NW.

R 17 W S 6 in NE.

S 7 in SE.; and

S 12 in SW.quadrants; from which

A pine stump 10 ins.dia., bears S.26° 00'E. 24 lks.dist., marked T43S R17W S 7 B T

A pine stump 16 ins.dia., bears S.75° 20'W. 33 lks.

Chains. dist., marked T 43 S R 18 W S 12 B T

A cedar 14 ins.dia., bears N.16° 08'W. 61 lks.dist. marked T 43 S R 18 W S 1 B T

A pine 14 ins.dia., bears N.74° 15'E. 95 lks.dist. marked T 43 S R 17 W.S 6 B.T

This corner not far from steep ravine draining NE.

Land, mountainous, rough.

Soil, rocky; 4th rate.

Timber, pine and cedar.

Mountainous land 80.00 chs.

Oct.27, 1909: At this cor.I set off 12° 45'S.on decl. arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 04'N.

South bet.secs.7 and 12,

Over mountainous land;through scattering timber.

1.00 Ravine 30 ft.deep, drains NE.

Ascend abruptly 100 ft.

13.50 High ridge bears E. and W., 300 ft.high.

Descending into canyon.

28.00 Bottom of canyon, dry, 150 ft.deep,drains SE.

Thence along rough mountain side sloping E.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 in W.half, S 7 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.

43.00 Canyon drains E., 140 ft.deep. Ascend.

67.50 Ridge, 100 ft.high bears S.60° E. and N.60° W.

Descend into gulch.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.7,12,13, and 18, marked on brass cap

T.45 S in M.

Chains.

R 18 W S 12 in NW.

R 17 W S 7 in NE.

S 18 in SE.; and

S 13 in SW. quadrants; from which

A pine 6 ins.diam., bears N.47° 55'E. 42 lks.dist.
marked T 43 S R 17 W S 7 B T

A pine 5 ins.dia., bears S.76° 15'E. 96 lks.dist.
marked T 43 S R 17 W S 18 B T

A pine 10 ins.dia., bears S.23° 10'W. 185 lks.dist.
marked T 43 S R 18 W S 13 B T

A pine 8 ins.dia., bears N.47° 15'W. 102 lks.dist.
marked T 43 S R 18 W S 12 B T

Corner is on N.side of deep gulch 80 ft.below ridge.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, pine and cedars.

Mountainous land 80.00 chs.

Oct.27, 1909.

Oct.28: At 8 h.44 m.a.m.l.m.t.I set off 37°03' N.on lat. arc; 13°02' S on decl.arc; and determine a meridian with the solar at the cor.of secs.7,12,13, and 18.

Thence I run

South bet.secs.13 and 18,

Descending N.side of canyon.

6.50 Bottom of canyon, 60 ft.below cor.; drains southeasterly.

19.25 Top of limestone ridge, 70 ft.high bears NW. and SE.

21.55 Descend S.side of limestone ridge.

30.50 Canyon, 100 ft.deep, draining SE. Ascend.

34.95 Top of ridge, 70 ft.high bears E. and W. Descend.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 13 in W.half, S 18 in E.half; from which

Chains.	
	A pine tree 16 ins.dia., bears S.85° W. 15 lks. dist., marked ¼ S 13 B T
	A pine 12 ins.dia., bears S.10° E. 97 lks.dist. marked ¼ S 18 B T
41.40	Limestone ledge about 15 ft.high bears SE.
46.55	Canyon 20 ft.deep, drains southeasterly; Ascend.
54.80	Top of limestone ridge, 100 ft.high bears NW. and SE. Descend.
62.80	Ravine 60 ft.deep, draining SE. Ascend.
66.50	Top of ridge 60 ft.high bears SE. and NW.
80.00	Point for cor.of secs.13,18,19, and 24 falls on solid, limestone floor. [illegible]. At exact point for corner I cut a cross (X) on floor. Impossibe to set post.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, pine and cedar.
	Mountainous land 80.00 chs.

South bet.secs.19 and 24,

Over mountainous land.

0.52	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for witness cor.to cor.of secs.13,18,19, and 24, marked on brass cap
	T 43 S [illegible] in NE.
	R 18 W S 13 in NW.
	R 17 W S 18 W[illegible]in NE.
	S 19 in SE.; and
	S 24 in SW.quadrants; from which
	A pine 12 ins.dia., bears N.47° 50'W. 63 lks.dist. mkd.WC T 43 S R 18 W S 13 B T
	A cedar 8 ins.dia., bears N.74° 45'E. 45 lks.dist. mkd.WC T 43 S R 17 W S 18 B T
	A pine 8 ins.dia. bears S.52° 0'E.19 lks.dist.

Chains.	
	mRdtWC T 43 S R 17 W S 19 B T
	A cedar 12 ins.dia., bears S.61° 50'W. 81 lks.dist.
	mkd.WC T 43 S R 18 W S 24 B T
	Corner 90 ft.below ridge. Ascend.
5.00	Top of limestone ridge 80 ft.high bears NW. and SE. Desc.
13.50	Wash, draining SE., 50 ft.deep, 20 lks.wide.
	Ascend.
15.50	Top of ridge bears E. and W., 30 ft.above wash.
	Descend.
19.50	Wash, 50ft.deep, 30 lks.wide, drains E.
29.00	Wash, 20 ft.deep, drains E.into large one. Ascend.
37.75	Top of ridge, 40 ft.above wash, bears E. and W.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 24 in W.half, S 19 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
48.00	Thence along east side of ridge.
59.50	Wash, 200 ft.below ¼ sec.cor., drains SW.
	Old road St.George to the Muddy in bottom of wash.
69.70	Enter rolling hills.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs. 19,24,25, and 30, marked on brass cap
	T 43 S in N.half,
	R 18 W S 24 in NW.
	R 17 W S 19 in NE.
	S 30 in SE.; and
	S 25 in SW.quadrants; from which
	A pine 10 ins.dia., bears N.84° 14'E. 49 lks.dist.
	marked T 43 S R 17 W S 19 B T
	A pine 8 ins.dia., bears S.10° 28'E. 124 lks.dist.
	marked T 43 S R 17 W S 30 B T
	A pine 12 ins.dia., bears S.49° 48'W. 157 lks.dist.
	marked T 43 S.R 18 W S 25 B.T

Chains.	
	A cedar 6 ins.dia., bears N.35° 38'W. 161 lks.dist. marked T 43 S R 18 W S 24 B T
	Land, mountainous, and rolling hills.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Mountainous land 80.00 chs.
	Oct.28, 1909: At the noon hour cloud obscured the sun; obs.for lat.impossible, this day.
	Oct.28, 1909.

	Oct.29: At 8 h.44 m.a.m.l.m.t.I set off 37°01' N.on lat. arc; 13° 22' S on decl.arc; and determine a meridian with the solar at the cor.of secs.19,24,25, and 30,
	Thence I run
	South bet.secs.25 and 30,
	Over mountainous land.
10.00	Ascend east slope of limestone ridge,
15.55	Top of ridge projects from east to NW.
19.55	Wash draining W., 35 ft.deep.
38.90	Along foot of large limestone ledge bearing N. and S.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 25 in W.half, S 30 in E.half; from which
	A pine 24 ins.dia.bears N.74° 40'W. 142 lks.dist. marked $\frac{1}{4}$ S 24 B T
	A cedar 14 ins.dia., bears S.50° E. 65 lks.dist. marked $\frac{1}{4}$ S 30 B T
51.00	Top of sandstone ledge 150 ft.high bears NW and SE.
63.45	East slope of limestone ridge bearing N. and S.
67.35	Limestone spur from west, 20 ft.
70.00	Head of ravine, 60 ft.deep, draining SE.
72.85	Limestone ridge bearing SE. and NW.
80.00	Point for cor.of secs.25,30,31, and 36,

Chains. Land, mountainous.

Soil, rocky; 4th rate.

Timber, pine and cedar, scattering.

Mountainous land 80.00 chs.

Oct. 29: At this point I set off 13° 25'S. on decl. arc; and at 11 h. 44 m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 01'N.

South bet. secs. 31 and 36,

Over mountainous land.

0.50 Set an iron post 3 ft. long, 3 ins. dia., 24 ins. in the ground, for witness cor. to cor. of secs. 25, 30, 31, and 36, marked on brass cap,

W C T 43 S in N.

R 18 W S 25 in NW.

R 17 W S 30 in NE.

S 31 in SE.; and

S 36 in SW. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.

8.00 Along W. slope of ridge.

25.45 Limestone cliffs bear E. and W.

40.00 Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 31 in W. half, S 36 in E. half; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.

Corner 400 ft. below top of cliffs.

Descend.

46.66 Intersect Utah-Arizona Boundary line 21.18 chs. E. of the witness cor. to the 13th mile cor. on the bdy., which is a granite stone 10 x 12 x 10 ins. above ground, mkd. and witnessed as described by the surveyor general.

Set an iron post 3 ft. long, 3 ins. dia., 24 ins. in the

Chains. ground, for closing cor. of Tp. 43 S., Rs. 17 and 18 W. marked on brass cap,

U T 43 S in N.

C C A in S. half;

R 18 W S 36 in NW.

R 17 W S 31 in NE. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high N. of cor. Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land 46.66 chs. Oct. 29, 1909.

For general description see notes on the subdivision of this township.

BOUNDARIES OF T. 43 S., R. 17 W.

Lines Designated	True Bearing	Dist.	Latitudes, N.	Latitudes, S.	Departures. E.	Departures. W.
		chs.	chs.	chs.	chs.	chs.
North Boundary.	West	494.03	.....	.....	.....	494.03
West Boundary.	South	446.66	.....	446.66	.....	.....
South Boundary) Utah-Arizona Bdy.)	East	495.04	.....	.....	495.04	.....
East Boundary	North	447.64	447.64	.....	.....	.....
Convergency						0.51
Totals			447.64	446.66	495.04	494.54
			446.66		494.54	
Error in lat. and dep.			0.98		0.50	

Harry L. Chamberlin
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 Job H.Winwood and Harry L.Chamber-
n, United States Deputy Surveyors to assist in running, measuring, and
g the lines and corners described in the foregoing field notes of the survey of the West and
Bdys.of T. 43 S., R. 17 W., S.L.B.& M.,Utah,
g the respective capacities in which they acted:

Uberto P.Eldredge, *Chainman.*

Andre J.Kerr, *Chainman.*

Jacob L.Lamb, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Elmo Adams, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Harry L.Chamberlin
, United States Deputy Surveyor, in surveying all
arts or portions of the the West and North Boundaries of Township 41 S.,
W.

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

Uberto P.Eldredge, *Chainman.*

Andre J.Kerr, *Chainman.*

Jacob L.Lamb, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Elmo Adams, *Flagman.*

ed and sworn to before me this 29th
of October, 1909

SEAL

Harry L. Chamberlin
U.S.Deputy Surveyor.

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Harry L. Chamberlin, United States Deputy Surveyor, solemnly swear that, in pursuance of a contract received from Thomas Hull United States Surveyor General for Utah, bearing date of 28 day of June, 1909, I have well, faithfully, and truly, in my o proper person, and in strict conformity with the instructions furnished by the United States Surve General for Utah, the Manual of Surveying Instructions, and the laws of United States, surveyed all those parts or portions of the West and North Boundaries of Township 43 South, Range 17 West

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

Harry L. Chamberlin
United States Deputy Survey

Subscribed by said Harry L. Chamberlin, and sworn to before me this 13th day of March, 1911

Martin Vortsch
County Clerk-Baraga Coun
Michigan

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 191

The foregoing field notes of the survey of the North and West Boundaries of Township No.43 South, Range No.17 West of the Salt Lake Base and Meridian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin under their contract No. 314, dated June 28, 1909, having be critically examined, and the necessary corrections and explanations made, the said field notes, and t surveys they describe, are hereby approved.

Thomas Hull
United States Surveyor Gener

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 Gener

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BOOK A-368

B.

FILED
JAN 26 1911

FIELD NOTES

OF THE SURVEY OF THE

SUBDIVISION

OF

TOWNSHIP NO. 43 SOUTH,

RANGE NO. 17 WEST

Of the SALT LAKE BASE AND *Meridian,*

UTAH,

AS SURVEYED BY

H. Winwood and Harry L. Chamberlin, *United States Deputy Surveyors*

their
der his Contract No. 314, *dated* June 28, 1909,

vey commenced October 30, 1909,

vey completed November 18, 1909.

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BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Maurice J.McGrath,	Chainman.
John Williamson,	Chainman.
Uberto P.Eldredge,	Chainman.
Andre J.Kerr,	Chainman.
William Fawcett,	Moundman.
Jacob L.Laub,	Moundman.
Milo Canfield,	Flagman.
Elmo Adams,	Flagman.

BOOK A-368

INDEX DIAGRAM.

Township 43 South, *Range* 17 West

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7	3	8	16	9	26	10	38	11	49	12	
4		17		28		38		50		51	
18	5	17	18	16	29	15	39	14	52	13	
7		19		30		40		54		53	
19	8	20	20	21	31	22	41	23	55	24	
9		21		31		42		57		56	
30	10	29	22	28	32	27	43	26	58	25	
11		23		33		44		61		59	
31	12	32	23	33	34	34	45	35	61	36	

Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

We, Uberto P. Eldredge and Andre J. Kerr

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 of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah.

Uberto P. Eldredge, *Chainman.*

Andre J. Kerr, *Chainman.*

Subscribed and sworn to before me this 23rd day of October, 1909

SEAL

Harry L. Chamberlin
U.S. Deputy Surveyor.

We I. Jacob L. Laub 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~~ me, to the best of ~~our~~ my skill and ability, in the survey of the Subdivision of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah.

Jacob L. Laub, *Moundman.*

....., *Moundman.*

Subscribed and sworn to before me this 23rd day of October, 1909

SEAL

Harry L. Chamberlin
U.S. Deputy Surveyor.

We, ... and .....

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

....., *Axman.*

....., *Axman.*

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

SEAL

.....

.....

I, Elmo Adams, 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 of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah.

Elmo Adams, *Flagman.*

Subscribed and sworn to before me this 23rd day of October, 1909

SEAL

Harry L. Chamberlin
U.S. Deputy Surveyor.

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BOOK A-368

INDEX DIAGRAM.

Township ....., *Range* .....

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

We, [illegible] and John Williamson

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will [illegible] chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the [illegible] we will report the true distances to all notable objects, and the true lengths of all lines that we [illegible] measuring, to the best of our skill and ability, and in accordance with instructions given us, in the [illegible] the subdivision of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah.

[illegible] Chainman

John Williamson Chainman

Subscribed and sworn to before me this 24

day of November 1909.

Job H. Winwood

U.S. Deputy Surveyor.

I, William Fawcett

do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given me to the best of our skill and ability, in the survey of the subdivision of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah.

William Fawcett Moundman

Moundman

Subscribed and sworn to before me this 24

day of November 1909.

Job H. Winwood

U.S. Deputy Surveyor.

We, and

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

Axman

Axman

Subscribed and sworn to before me this

day of 19

I, Mile Canfield 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 of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah.

Mile Canfield Flagman

Subscribed and sworn to before me this 24

day of November 1909.

Job H. Winwood

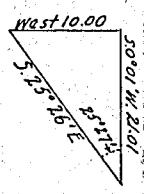
U.S. Deputy Surveyor.

Chains. Survey commenced October 30, 1909, and executed with the instrument described in book "A" of this survey. Believing from recent tests of instrument made at the cor. of Tps. 42 and 43 S., Rs. 16 and 17 W. that my instrument is in adjustment, I omit the test at this time.

At 8 h. 44 m. a.m. l.m.t. I set off 13° 44' S. on decl. arc; 37° 05' N. on lat. arc; and determine a meridian with the solar at point for corner of secs. 5, 6, 31, and 32, on N. bdy. of Tp., heretofore described.

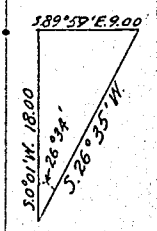
The line south between secs. 5 and 6 being impossible to chain, owing to deep canon and rugged cliffs, I triangulate as follows:

To determine distance across canyon I set a flag on line on ridge to south; then measure a base west 10.00 chs. from corner point above described to a point, from which the flag bears S. 25°26' E.; from the flag the west end of base bears N. 25°26' W.; therefore the dist. is cotang. 25°27' x base, or 2.1013 x 10.00 equals 21.01



21.01 Canyon, 300 ft. deep, drains N.

Owing to abrupt descent over cliffs it is still impossible to chain; therefore I measure a base S. 89° 59' E. 9.00 chs. to a point, from which the flag bears S. 26° 35' W.; from the flag the E. end of base bears N. 26° 35' E.; therefore the distance is cotan. 26° 34' x 9.00, equals 18.00 chs., which added to 21.01 chs. =



39.01 Point on west side of ravine draining south, which is about 450 ft. below ridge.

40.00 Set an iron post 3 ft. long, 1 in. dia., 36 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 6 in W. half, S 5 in E. half; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.

57.50 Ridge from NW., 150 ft. below ¼ sec. cor., bears NW. and

Chains.	
	SE.
	Descend through scattering cedar and pine timber.
76.00	Wash, 300 ft.below ridge,drains N.10° E.Leave timber.
80.00	Set an iron post 3 ft.long, 2 in.dia., 24 ins.in the ground, for cor.of secs.5,6,7, and 8, marked on brass cap, T 43 S S 6 in NW. R 17 W S 5 in NE. S 8 in SE.; and S 7 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, mountainous and rough.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Mountainous land 80.00 chs.
	Oct.30,1909: At this cor.I set off 13° 45'S.on decl.arc and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 04'N.

	West on a random line bet.secs.6 and 7,
40.00	Set temp.¼ sec.cor.
80.07	Intersect W.bdy.of Tp. 7 lks. N. of the cor.of secs.1,6, 7, and 12, heretofore described.
	Thence I run
	N.89° 57'E.on a true line bet.secs.6 and 7,
	Descending over mountainous land.
1.00	Steep ravine, 30 ft.below corner, drains north.
	Thence along mountain side, rough; through cedar and pine timber bearing E. and S.
8.50	Ravine on mountain side, 20 ft.deep, drains north.
17.50	Ridge bearing NE. and SW., 70 ft.above ravine.
	Descend abruptly into canyon.
29.00	Bottom of canyon, draining NE.; 200 ft.deep.

Chains.	
	Thence along mountain side.
34.00	Ravine on mountain side, drains N., 60 ft.deep.
40.03½	Set an iron post, 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 6 in N.half, S 7 in S.half; from which
	A pine 8 ins.dia.bears N.3° 50'E. 42.5 lks.dist. marked ¼ S 6 B T
	A pine 6 ins.dia.bears S.49° 45'E. 67 lks.dist. marked ¼ S 7 B T
	Descending into valley, 100 ft.below cor.
59.85	Ore road, Apex Mine to St.George, bears NW. and SE.
61.00	Wash, in bottom of valley, drains SE.
	Thence along nearly level valley.
70.00	Ascend gently.
79.50	Small ridge, 30 ft.high, bears N. and S.
80.07	The cor.of secs.5,6,7, and 8.
	Land, mountainous and nearly level valley.
	Soil, rocky; 4th rate.
	Timber, pine and cedar.
	Mountainous land 71.07 chs.
	Oct.30, 1909.

Nov.1,1909: At 8 h. 44 m.a.m.l.m.t.I set off 37°04' N.on lat.arc; 14°20'S.on dec.arc; and determine a meridian with the solar at the cor.of secs.5,6,7,and 8. Thence I run

S.0° 01'W.bet.secs.7 and 8

	Over nearly level valley bottom.
12.15	Ore road, Apex Mine to St.George, bears E. and W.
13.00	Wash, 50 ft.below cor., bears E. and W.
	Ascend gently; through cedar and pine timber.
31.00	Low round ridge, 6 0 ft.high.
	Thence along gentle south slope.

Chains.	
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 7 in W.half, S 8 in E.half ; from which
	A pinon pine 8 ins.dia., bears S.81° 26'E. 87 lks. dist., marked ¼ S 8 B T
	A cedar 14 ins.dia., bears N.66° 28'W.73 lks.dist. marked ¼ S 7 B T
47.00	Ravine, 30 ft.deep, drains N.60° E.
	Short ascent 50 ft.
68.50	Ravine, 30 ft.deep, drains E.
73.00	Rounding ridge, 60 ft.high, bears E. and W.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 7,8,17, and 18, marked on brass cap,
	T 43 S S 7 in NW.
	R 17 W S 8 in NE.
	S 17 in SE.; and
	S 18 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each secs., 5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Corner not in road from wagon road to St.George from the Apex Mine.
	Land, rolling.
	Soil, gravelly; 4th rate.
	Timber, scattering cedar and pine.
	Nov.1: At this cor.I set off 14° 24'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 03 ' N.

S.89° 57'W.on a random line bet.secs.7 and 18

40.00	Set temp. ¼ sec.cor.
79.98	Intersect W.bdy.of Tp. 2 lks.S.of the cor.of secs.7,12,

Chains.	
	13, and 18 heretofore described. Thence I run
	N.89° 58'E.on a true line bet.secs.7 and 18,
	Along N.side of deep gulch, draining easterly.
	Ascend 200 ft. through scattering cedar and pine.
19.00	Bottom of canyon, draining South.
29.50	High ridge, 150 ft. above canyon bears N. and S. Desc.
39.00	Canyon, 100 ft.deep, drains south.
39.99	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 7 in N.half, S 18 in S.half; from which
	A pine 12 ins.dia., bears N.8°30'W. 40.5 lks.dist. marked ¼ S 7 B T
	A pine 8 ins.dia., bears S.12° 00'W. 58 lks.dist. marked ¼ S 18 B T
	Corner near wash in bottom of canyon; drains southerly.
	Thence over rolling ground.
56.00	Ravine, 100 ft.deep, drains SE.
	Ascend.
60.00	Ridge, 90 ft.high bears N. and S.
79.98	The cor.of secs.7,8,17, and 18.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	Timber,scattering cedar and pine.
	Mountainous land,63.97 chs.
	Nov.1, 1909.

Nov.2, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 37°03' N. on lat.arc; 14° 40' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.7,8,17,and 18. Thence I run

S.0° 01'W.bet.secs.17 and 18,

Over rolling land.

0.50	Cross Old Southern Road from St.George to the Muddy.

Chains.	
	bearing E. and W.
	Ascend gently.
12.50	Ravine, 15 ft.deep, drains E.
17.00	Ravine, 20 ft.deep, drains E.
33.00	Thence over rough ground near base of sandstone cliffs 70 ft.above ravine, bearing E. and W.
40.00	Point for $\frac{1}{4}$ sec.cor.falls on small shelf on sandstone cliff, where it is impossible to set a post; therefore Set a sandstone 16 x 6 x 6 ins., firmly held in place by mound of stone, 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.
42.00	Small ravine drains W., 30 ft.deep.
44.00	Steep wash, 20 ft.deep, 20 lks.wide, drains NW,
59.00	Canyon, 75 ft.deep, drains SW.
	Thence over broken ground, near base of mountain.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 12 ins.in the ground, to bed rock, with mound of stone 12 ins.high around it, for cor.of secs.17,18,19, and 20, marked on brass cap,
	T 43 S S 18 in NW.
	R 17 W S 17 in NE.
	S 20 in SE.; and
	S 19 in SW.quadrants; from which
	A pinon pine 12 ins.dia., bears S.33° 50'E. 69 lks. dist., marked T 43 S R 17 W S 20 B T
	A cedar, 16 ins.diam. bears S.54° 20'W. 36 lks.dist. marked T 43 S R 17 W S 19 B T
	A cedar 18 ins.dia., bears N.32° 10'W. 141 lks.dist. marked T 43 S R 17 W S 18 B T
	A cedar 6 ins.dia., bears N.58° 45'E. 73 lks.dist. marked T 43 S R 17 W S 17 B T
	Land, rolling.
	Soil, rocky; 4th rate.
	Timber cedar and pinon pine.
	Nov.2: At this cor.I set off 14° 43'S.on decl.arc; and

Chains.	
	at 11 h. 44 m.a.m.l.m.t.obs rve the sun on the meridian; the resulting lat.is 37°02' N.
	S.89° 58'W.on a.random line bet.secs.18 and 19,
40.00	Set temp. ¼.sec.cor.
79.85	Intersect West boundary of Tp.16 lks.N.of point for cor. of secs.13,18,19, and 24,heretofore described.
	N.89° 51'E.on true line bet.secs.18 and 19,
	Over mountainous land; through cedar and pinon pine.
6.75	Descend limestone ridge, bearing E. and W.
19.00	Along north slope of ridge.
25.50	Wash, draining SE., 200 ft.below cor. Ascend.
31.50	Limestone ridge, 50 ft.high bearing NW. and SE.
36.00	Limestone ledge, bearing NW. and SE.
39.50	Old Southern road from St.George to the Muddy, bearing NE. and SW. Desc.
39.92½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked ¼ S 18 in N.half, S 19 in S.half; from which
	A cedar 6 ins.dia.bears N.57° 15'E. 148 lks.dist. marked ¼ S 18 B T
	A cedar 14 ins.dia., bears S.27° 10'W. 72 lks.dist. marked ¼ S 19 B T
44.00	Wash, 30 ft.below cor., drains SE. Ascend.
49.40	Limestone ridge 60 ft.high bears SE. and NW.
53.40	Thence over rolling hills broken by small washes, draining into large one that drains E.
65.05	Limestone ledge, 70 ft.high, bears NW. and SE. Desc.
73.05	Wash draining SE., 80 ft.below ledge.
79.85	The cor.of secs.17,18,19 and 20.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pinon pine.
	Mountainous land 79.85 chs. Nov.2, 1909.

Chains.	
	Nov.3, 1909: At 8 h.44m.a.m.l.m.t.I set off 14° 59'S. on decl.arc; 37°02' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.17,18,19, and 20. Thence I run
	S.0° 01'W.bet.secs.19 and 20,
	Descending over rough broken land.
5.00	Dry wash, 50 ft.deep, 50lks.wide, drains SE.
13.50	Cross large dry wash, 30ft.deep, 80 lks.wide, drains E. Begin steep ascent.
27.00	Sharp rugged ridge 150ft.high, bears NE. and SW. Descend diagonally along rough mountain side to large canyon.
39.50	Canyon drains NE., 200 ft.below ridge. Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap, ¼ S 19 in W.half, S 20 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Corner is 60 ft. above canyon.
43.00	Ridge, 70 ft.above corner, bears NE.and SW. Descend,through scattering timber.
68.00	Canyon, 60 ft.below ridge, drains E. Ascend.
73.50	Ridge between two canyons, 70 ft.high, about 8 chs. above intersection of same, bears E.and W. Desc.
76.00	Canyon, 70 ft.deep, drains E. Ascend.Leave timber.
79.50	Top of ridge, 90 ft.above canyon, bears E. and W. Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 8 ins.in the ground, with mound of stone and earth around it,16 ins.high, for cor.of secs.19,20,29, and 30, marked on brass cap,
	T 43 S S 19 in NW.
	R 17 W S 20 in NE.
	S 29 in SE., and
	S 30 in SW.quadrants; and raise a mound of stone

Chains.	
	2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Impossible to set post over 8 ins.in the ground.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine; scattering.
	Mountainous land 80.00 chs.
	Nov.3: At this cor.I set off 15°02' S.on decl.arc; and at 11 h.44 m.a.m. l.m.t.observe the sun on the meridian; the resulting lat.is 37°01' N.
	S.89° 51'W.on a random line bet.secs.19 and 30,
40.00	Set temp. ¼ sec.cor.
80.02	Intersect W.bdy.of Tp. 36 lks.S. of cor.of secs.19,24, 25 and 30, heretofore described.
	Thence I run
	S.89° 58'E.on a true line bet.secs.19 and 30,
	Over mountainous land
19.07	Begin ascent of mountain on W.slope.
25.57	Top of mountain, 225 ft.high, bearing N. and S.
37.90	Limestone ledge, 15 ft.high bearing NW. and SE.
	Descend.
40.01	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 19 in N.half, S 30 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
	Corner 40 ft.below ledge. Descend.
46.30	Limestone ledge, bears NW and SE.
52.00	Canyon, 100 ft.deep, drains SE. Ascend.
68.02	Ridge,200 ft.high,bears northwesterly and easterly.
	Descend.along north slope.
80.02	The cor.of secs.19,20,29, and 30.
	Land, mountainous.
	Soil, rocky; 4th rate.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	No timber.
	Mountainous land 80.02 chs.
	Nov.3, 1909.
	Nov.4, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 15°18' S. on decl.arc; 37°01' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.19,20,29, and 30. Thence I run
	S.0° 01'W.bet.secs.29 and 30,
	Descending into wide canyon, with limestone cliffs.
4.00	Canyon, 50 ft.deep, drains E.
	Ascend.
10.00	Ridge, 90 ft.high, bears E. and W. Descend.
14.00	Canyon, 100 ft.deep, drains E.
	Ascend.
20.00	Ridge, 80 ft.high, bears E. and W. Descend.
24.00	Canyon, 100 ft.deep, drains E. Ascend.
30.00	Ridge, 120 ft.high, bears E. and W.
	Descend.
37.00	Canyon, 60 ft.deep, drains E. Ascend.
40.00	On ridge 70 ft.high, between two canyons that intersect about 4 chs.E.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 30 in W.half, S 29 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
42.00	Canyon, 75 ft.deep, drains.E.
51.00	Canyon, 60 ft. deep, drains.E.
57.00	Canyon, 80 ft.deep, drains E.
77.00	Canyon, 120 ft.deep, drains E.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.29,30,31, and 32, marked on brass cap

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Chains.	
	T 43 S S 30 in NW.
	R 17 W S 29 in NE.
	S 32 in SE., and
	S 31 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Cor.100 ft.above canyon; under N.side of rugged limestone cliff.
	Land, mountainous, very broken.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.00 chs.
	N.89° 58'W.on a random line bet.secs.30 and 31,
40.00	Set temp. ¼ sec.cor.
79.93	Intersect W.bdy.of Tp.20 lks. N.of the W.C.of secs.25, 30,31, and 36, heretofore described.
	Nov.4: At this cor.I set off 15°21' S.on decl.arc; and at 11h.44m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 01'N.
	Thence I run
	S.89° 45'E.on a true line bet.secs.30 and 31,
	Descending, over mountainous land.
4.50	Wash, 50 ft.below cor.draining SE. Ascend.
15.25	Limestone mountain and ledges 30 ft.high bear NW and SE. Descend.
26.15	Wash, 100 ft.deep, drains SE., into large one. Ascend.
36.75	Top of limestone ledge, 80 ft.high bears NW. and SE.
39.96½	Impossible to set irom post on account of steep ledges therefore
	Set a limestone 14 x 12 x 5 ins., 10 ins.in the ground, for ¼ sec.cor., marked ¼ on N.face; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits im-

Chains.	
	impracticable.
55.10	Point of rocks, bearing northeasterly and southwesterly.
75.10	Along limestone ledge bearing E. and W.
79.93	The cor. of secs. 29,30,31, and 32.
	Land, mountainous.
	Soil rocky; 4th rate.
	No timber.
	Mountainous land 79.93 chs.

S.0° 01'W. bet. secs. 31 and 32,

Over mountainous land.

1.50	High limestone cliff, 50 ft. above cor., bears E. and W.
6.00	Begin descent.
10.00	Bottom of canyon 120 ft. deep, drains E.
15.50	South edge of canyon; ascend.
24.00	Top of ridge 200 ft. above canyon, bears S.60° E. and N.60° W.
	Descend abruptly 150 ft.
30.00	Bottom of canyon, 150 ft. deep, drains E.
	Ascend along side of mountain, gypsum formation.
40.00	Set an iron post 3 ft. long, 1 in. dia., 20 ins. in the ground, for $\frac{1}{4}$ sec. cor., with mound of stone and earth around it 6 ins. high, marked on brass cap $\frac{1}{4}$ S 31 in W. half, S 32 in E. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
	This corner on N. slope near to where same breaks off abruptly.
42.25	Line runs over inaccessible cliffs, 400 ft. high, over which it is impossible to chain; therefore at this point, on edge of cliffs,
	Set an iron post 3 ft. long, 2 ins. dia., 20 ins. in the ground, with mound of stone around it, 4 ins. high, for witness closing corner of secs. 31 and 32, marked on

Chains.

brass cap

U in N.

C C A in S.half,

T 43 S S 31 in NW.,

R 17 W. W C S 32 in NE.quadrant; and raise a mound of stone 3 ft.base, 1½ ft.high N.of cor.

46.76 Line joining WC 15th mile cor.to WC 15th mile cor.Utah-Arizona Bdy.line.

Land, mountainous, rough and broken.

Soil, rocky; 4th rate.

No timber.

Mountainous land 46.76 chs. Nov.4, 1909.

Harry L. Chamberlin
U.S. Deputy Surveyor

Survey commenced Nov.3, 1909, and executed with a Berger & Sons transit No.5201, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs. The

The instrument was examined, tested on the true meridian at Salt Lake City, found correct, and was approved by the surveyor general for Utah, Oct.14, 1909.

I examine the adjustments of the transit and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications resulting from solar observations made during a.m.and p.m. hours with a meridian determined by observations on Polaris, I proceed as follows:

At the cor.of secs.4,5,32, and 33 on N.bdy.of Tp.heretofore described; lat.37° 05'N.; long.113° 38'W., I set off 37°.05'N.on lat.arc; 15° 04'S.on decl.arc; and at 2 h. 44 m.p.m.l.m.t.determine with the solar a meridian; and mark a point thereof on a stone firm-

ly set in the ground 5 chs.N.of the corner.

Nov.3, 1909.

Nov.4: At 4 h. 32 m.a.m.l.m.t.I observe Polaris at western elongation, in accordance with Manual of Instructiona; and mark a point in the line thus determined, on a peg driven in the ground 5 chs.N.of my station.

At 8 h. 30 m.a.m.l.m.t.I lay off the azimuth of Polaris 1° 29' to the East and mark the meridian thus determined by cutting a small groove in the stone set Nov. 3, on which the meridian falls 0.3 ins.west of the mark determined by the solar.

At 8 h. 44 m.a.m.l.m.t.I set off 37° 05' N.on the lat. arc; 15° 18' S.on the decl.arc; and mark a point in the meridian determined with the solar by a cross on the stone already set 5 chs.N.of my station; this mark falls 0.3 ins.west of the meridian established by the Polaris observation.

The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0' 16" E. and 0' 16" W.of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h. 44 m. a.m. is N. 16° 30'E.; the angle thus determined gives the mag.decl.16° 30 W.

From the cor.of secs.4,5,32, and 33 on the N.bdy.of Tp. heretofore described, I run

Chains.	
	S.0° 01'W.bet.secs.4 and 5,
	Ascending over rolling slope,
10.00	Head of wash draining NE.
18.00	Top of limestone ridge, 100 ft.high bears NE. and SW. Descend.
24.00	Small wash, drains E.,
	Thence over low rolling hills.
40.00	Set an iron post 5 ft.long, 1 in.dia., 26 ins.in the ground, for ½ sec.cor., marked on brass cap ½ S 5 in W.half, S 4 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
69.00	Wagon road, St.George to Apex Mine crossing from E.to SW. Ascend along north end of bench.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.4,5,8, and 9, marked on brass cap T 43 S S 5 in NW., R 17 W S 4 in NE. S 9 in SE.; and S 8 in SW.quadrants;dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land rolling.
	Soil, rocky; 4th rate.
	No timber.

	West on a random line bet.secs.5 and 8,
40.00	Set temp.¼ sec.cor.
80.17	Intersect N. and S.line 5 lks. S. of cor.of secs.5,6,7 and 8. Thence I run
	N.89° 58'E.on a true line bet.secs.5 and 8,
	Descending.

Chains.	
1.50	Wash in bottom of canyon, 20 ft. below cor., drains S.
	Ascend.
7.50	Ridge 35 ft. high, bears N. and S.
	Descend.
14.00	Canyon, 30 ft. deep, drains S.
	Thence over rolling ground, cut by small ravines draining S.
40.085	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 5 in N. half, S 8 in S. half; dig pits 18 x 18 x 18 ins. E. and W. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
	Nov. 4: At this cor. I set off 15° 21' S. on decl. arc; and at 11 h. 44 m. a. m. l. m. t. observe the sun on the meridian; the resulting lat. is 37°04' N.
	This cor. is on ground sloping south, about midway between wash on S. and base of mountain on N.
	Thence over slightly rolling ground, cut by small ravines draining S.
68.85	Ore road, Apex Mine to St. George, bears NE. and SW.
73.00	Begin ascent of bench, 75 ft. high, bears N. and S.
80.17	The cor. of secs. 4, 5, 8, and 9; on top of bench.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 14.00 chs.

S. 0° 01' W. bet. secs. 8 and 9,

	Along top of bench.
18.00	Top of box canyon.
21.00	Bottom of box canyon, 150 ft. deep, drains from W. to SE.
24.40	S. edge of box canyon.

Chains.	
	Thence over rolling hills.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in W.half, S 9 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
60.00	Head of wash draining E.
	Thence over low rolling limestone hills.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.8,9,16, and 17, marked on brass cap T 43 S R 17 W S 8 in NW. S 9 in NE. S 16 in SE., and S 17 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist. and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, rolling and mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 6.40 chs. Nov.4, 1909.

Nov.5, 1909 At 8 h.44 m.a.m.l.m.t.I set off 15° 36'S. on decl.arc; 37°03' W.on lat.arc; and determine a meridian with the solar at the cor.of secs.8,9,16, and 17. Thence I run

S.89° 58'W.on a random line bet.secs.8 and 17

40.00	Set temp.¼ sec.cor.
80.17	Intersect N. and S.line at the cor.of secs.7,8,17, and 18. Thence I run

N.89° 58'E.on true line bet.secs.8 and 17,

Over nearly level land.

12.17	Old Southern road, from St.George to the Muddy, bears NE. and SW.

Chains.	
	Continue over nearly level land.
40.085	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in N.half, S 17 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
52.15	Begin ascent.
65.15	Top of bench, 150 ft.high.
	Descend over rolling ground to
80.17	The cor.of secs.8,9,16, and 17.
	Land, rolling and nearly level.
	Soil, rocky; 4th rate.
	No timber.

S.0° 01'W.bet.secs.16 and 17,

	Descending.
8.00	Wash, drains to E., 40 ft.deep,
18.00	Ascend slope of low hill.
25.00	Top of hill bears E. and W.
30.00	Descend gently.
33.00	Head of wash, 30 ft.below low hill,drains E. Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 17 in W.half, S 16 in E.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor. On NE.slope of hill.
46.00	Ridge 40 ft.high, bears NW. and SE.
54.00	Bottom of descent of S.slope of ridge.
59.00	Head of wash, 20 ft.below ¼ sec.cor., drains SE.
71.00	Descend gently.
72.00	Head of wash drains SE.
	Ascend abruptly

Chains.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.16,17,20, and 21. mkd.on brass cap T 43 S S 17 in NW.
R 17 W S 16 in NE.
S 21 in SE.; and
S 20 in SW.quadrants;dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.;and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land 80.00 chs.

Nov.5: At this cor.I set off 15° 39'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 02'N.

S.89° 58'W.on a random line bet.secs.17 and 20,

40.00 Set temp.¼ sec.cor.

80.17 Intersect N. and S.line 23 lks.N.of the cor.of secs.17, 18.19, and 20. Thence I run

N.89° 48'E.on a true line bet.secs.17 and 20,

Over mountainous land; ascending.

13.00 Top of ascent, bearing N. and S.

Descend along rough mountain side.

25.75 Bottom of canyon, 100 ft.deep, drains S. Ascend.

29.90 Top of sharp ridge bearing N. and S., 300 ft.high.

Descend over rugged limestone cliffs.

38.00 Bottom of descent; limestone waste at bottom.

40.08½ Set an iron post 3 ft.long. 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 17 in N.half, S 20 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.

Thence over nearly level valley bottom.

Chains.	
59.00	Begin ascent of broken limestone cliffs.
61.50	Top of broken limestone cliffs, 400 ft.high, bearing NW. and SE. Thence over broken ledges of limestone.
71.00	High ridge bears N. and S. Descend.
77.00	Hollow, 30 ft.deep, drains SE.
80.17	The cor.of secs.16,17,20, and 21.
	Land, mountainous and valley.
	Soil, rocky, 4th rate.
	No timber.
	Mountainous land 78.97 chs.

S.0° 01'W.bet.secs.20 and 21.

	Over mountainous land.
17.00	Head of valley sloping W. Ascend along ridge 100 ft.high bearing N. and S.
28.00	Begin descent.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground,for ¼ sec.cor., marked on brass cap ¼ S 20 in W.half,S 21 in E.half;dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.;and raise a mound of earth 3½ ft. base, 1½ ft.high W.of cor.
44.00	Wash, 40 ft.deep, drains SW.
47.00	West slope of ridge; ascending.
58.00	Top of ridge,bears NE. Descend over rolling hills.
70.00	Wash drains NW., 60 ft.deep. Ascend.
79.00	Top of limestone hill, 70 ft.above wash.
80.00	Set an iron post 3 ft.long,2 ins.di .. 24 ins.in the ground,for cor.of secs.20,21,28, and 29, mkd.on brass cap T 43 S S 20 in NW. R 17 W S 21 in NE. S 28 in SE.; and S 29 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.;and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

SUBDIVISION OF T. 43 S., R. 17 W.

Land, mountainous.
Chains. Soil, rocky; 4th rate.
No timber.
Mountainous land, 28.00 chs.

Nov.5, 1909.

Nov.6: At 8 h. 44 m.a.m.l.m.t.I set off 15° 53'S.on decl.arc; and 37°01' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.20,21,28 and 29. Thence I run

S.89° 48'W.on random line bet.secs.20 and 29,

40.00 Set temp.¼ sec.cor.

79.99 Intersect N. and S.line 5 .1ks.S.of cor.of secs.19,20, 29, and 30. Thence I run

N.89° 50'E.on true line bet.secs.20 and 29,

Over mountainous land.

18.00 Descending W.side of canyon, draining northeasterly.

23.20 Bottom of canyon, 100 ft.deep, Ascend.

39.995 On steep W.slope of canyon,

Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 20 in N.half, S 29 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.

Thence along E.side of canyon, ascending.

61.20 Top of ascent, bearing N. and S.

66.00 Limestone ledge, 150 ft.from top to base, bears N.and S.

Ascend.

77.00 Top of limestone ridge, 20 ft.high, bearing N. and S.

79.99 The cor.of secs.20,21,28, and 29.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land 79.99 chs.

Nov.6: At this corner I set off 15° 57'S.on decl.arc;

Chains.	
	and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37°01'25" N.
	S.0° 01'W.bet.secs. 28 and 29
	Ascending over mountainous land.
8.00	Descend.
20.00	Thence over rolling hills.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 29 in W.half, S 28 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 2 ft.high W.of cor.
	Ascend.
52.50	Top of limestone ridge, about 50 ft.above ¼ sec.cor. bears NW.
	Descend.
66.25	Wash, 40 ft.below ridge, 3 ft.deep, 40 lks.wide, drains SW.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.28,29,32, and 33, marked on brass cap T 43 S S 29 in NW. R 17 W S 28 in NE. S 33 in SE., and S 32 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Land, mountainous and rolling hills.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 60.00 chs. Nov.6, 1909.

Chains.	
	Nov.16: At 8 h. 45 m.a.m.l.m.t., I set off 37° 01'N.on lat.arc; 18° 40'S.on decl.arc; and determine a meridian with the solar at the cor.of secs.28.29.32, and 33. Thence I run
	S.89° 50'W.on a random line bet.secs.29 and 32,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
79.90	Intersect N. and S.line 26 lks.S.of the cor.of secs.29, 30,31, and 32. Thence I run
	S.89° 52'E.on true line bet.secs.29 and 32,
	Over mountainous land.
10.80	Descending E.end of ridge,
22.80	Box canyon,300 ft.below cor.draining S.into Virgin River.
26.63	Top of ledge bears N.& S.; ascend E.side of canyon.
39.95	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground,for $\frac{1}{4}$ sec.cor.,marked on brass cap $\frac{1}{4}$ S 29 in N.half;S 32 in S.half;and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft. high N.of cor.Pits impracticable.
66.40	East rim of canyon,about 450 ft.deep.Thence over level land.
79.90	The cor.of secs.28.29.32, and 33.
	Land, mountainous. Soil, rocky; 4th rate. No timber. Mountainous land 66.40 chs.
	Nov.16: At this cor.I set off 18° 43'S.on decl.arc;and at 11 h. 45 m.a.m.l.m.t.,observe the sun on the meridian;the resulting lat.is 37° 01'N.

	S.0° 01'W.bet.secs.32 and 33,
	Over nearly level land.
15.00	Enter rolling hills.
20.00	Descend.
30.00	Wash, 30 ft.deep, drains SE.
32.40	Limestone ledge 1 ch.west,30 ft.high,bears N. and S.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 32 in

Chains.	
	W.half, S 33 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Corner on side of limestone ridge.
46.85	Intersect Utah-Arizona Bdy.line 3.27 chs.E.from witness cor.for 15 mile cor.on State bdy., which is a limestone 36x16x6 ins.on bed rock in a mound of stone,marked and witnessed as described by the surveyor general.
	Set an iron post 3 ft.long.2 ins.dia.,24 ins.in the ground,for closing cor.of secs.32 and 33,marked on brass cap U in N. C C A in S.half. T 43 S S 32.in NW., and R 17 W S 33 in NE.quadrants;and raise a mound of stone 2 ft.base,1½ ft.high N.of cor.Pits impracticable.
	Land, mountainous and nearly level.
	Soil. rocky;4th rate.
	No timber.
	Mountainous land 31.85 chs.

	To account for the closing on the Utah-Arizona Bdy., I retrace a portion of said bdy.as follows:
	Beginning at the witness cor.for 15th mile cor., above described I run
	East on a true line
	Over rolling land.
3.27	The closing cor.of secs.32 and 33,
21.00	Ravine 150 ft.deep, drains SE. Ascend.
35.00	Ridge 125 ft.high projcts SE. Descend.
48.00	Canyon 100 ft.deep, drains SE.
59.40	Intersect the 16th mile corner on the Utah-Arizona Bdy. which is a limestone 11 x 10 x 7 ins.above ground,mkd. and witnessed as described by the surveyor general.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	Nov.15, 1909. Job H. Kinwood U.S.Deputy Surveyor.
	Nov.5, 1909: At 8 h. 44 m.a.m.l.m.t. I set off 37° 05'N. on lat.arc;15° 36'S.on decl.arc;and determine a meridian with the solar at the cor.of secs.3.4.33, and 34 on N.bdy.of Tp., heretofore described.Thence I run S.0° 02'W.bet.secs.3 and 4,
	Over nearly level land.
6.50	Land strewn with cobble rocks.
11.00	Wash, 30 ft.below cor..10 lks.wide, 2 ft.deep,drains SE.
	Ascend over rolling land, cut by small ravines draining easterly.
27.65	Lone cedar,12 ins.dia.. 20 lks.E.of line.
40.00	Set an iron post 3 ft.long,1 in.dia.,26 ins.in the ground,for ¼ sec.cor.,mkd. ¼ on brass cap S 4 in W.half,S 3 in E. half;dig pits 18x18x12 ins.N.and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base.2 ft.high W.of cor.
	Cave Spring bears S.64° 33'E.
41.50	Top of ridge,40 ft.above cor.,bearing E.and W.
	Descend over rolling land.
51.50	Box canyon,1 ch.wide, 25 ft .deep,drains E.
64.50	Canyon drains E.50 ft.deep.Ascend over rolling land.
80.00	Set an iron post 3 ft.long,2 ins.dia.,24 ins.in the ground,for cor.of secs.3.4.9.and 10,mkd.on brass cap T 43 S S 4 in NW. R 17 W S 3 in NE. S 10 in SE., and S 9 in SW.quadrants;dig pits 18x18x12 ins.in each sec.5½ ft.dist.;and raise a mound of earth 4 ft. base,2 ft.high W.of cor.
	Land,rolling.
	Soil,rocky;4th rate.
	No timber. Undergrowth scattering black brush.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	West on a random line bet.secs.4 and 9,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
80.13	Intersect N.and S.line 5 lks.S.of cor.of secs.4,5,8 & 9.
	Nov.5: At this cor.I set off 15° 39'S.on decl.arc;and at 11 h. 44 m.a.m.l.m.t.,observe the sun on the meridian;the resulting lat.is 37° 04'.
	Thence I run
	S.89°58'E.on true line bet.secs.4 and 9,
	Descending gradually.
11.00	Bottom of hollow,drainingSE. Ascend.
17.10	Top of ridge.50 ft.high.bears NW.and SE.Desc.gently.
25.15	Bottom of wash 15 lks.wide,$1\frac{1}{2}$ ft.deep,drains SE. Old Southern Road from St.George to the Muddy,in wash.Asc.
34.10	Top of small knoll,50 ft.high,extending N. and S. Desc, over steep cliffs;changing gradually to gentle desc.
40.06½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground;for $\frac{1}{4}$ sec.cor.; marked on brass cap $\frac{1}{4}$ S 4 in N. half,S 9 in S.half;and raise a mound of stone 2 ft. base,$1\frac{1}{2}$ ft.high N.of cor. Corner about middle of E. slope of ridge. Continue descent.
50.13	Bottom of wash, about 5 chs.across.30 ft.deep, drains NE. Ascend.
60.10	Top of knoll, 40 ft.high,bearing N. and S.
	Descend gently along E.slope.
80.13	The cor.of secs.4,5,8, and 9.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.13 chs.

S.0° 02'W.bet.secs.9 and 10,

	Descending.
1.42	Road from Apex Mine to St.George, bears N.80° E. and

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	S.80° W.
12.00	Old wood road bears E. and W.
16.40	Small ravine, 10 ft.deep, drains NE.
	Thence over rolling land, sloping S.
40.00	Set an iron post 3 ft.long, 1 in.dia., 24 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S. 9 in W.half , S 10 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft.high W.of cor.
	Corner on ground sloping S.
43.00	North edge of box canyon, 100 ft.deep, 4.00 chs.wide, drains E.
	Thence over rolling ground.
55.50	Canyon drains E., 75 ft.deep,
	Ascend S.side of canyon, conglomerate cliffs, 75 ft. high.
72.00	Descend into canyon.
77.50	Bottom of canyon, 60 ft.deep, drains NE.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.9,10,15, and 16, marked on brass cap T 43 S S 9 in NW. R 17 W S 10 in NE. S15 in SE.; and S 16 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.$5\frac{1}{2}$ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Sec.corner on S.side of canyon about 2.50 chs.from bottom and 40 ft.above same.
	Land, rolling.
	Soil, rocky; 4th rate.
	No timber. Nov.5, 1909.

Nov.11, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 17° 21'

Chains.	
	S.on decl.arc; 37° 03' 09" N.on lat.arc; and determmine a meridian with the solar at the cor.of secs.9, 10,15, and 16.
	Thence I run
	N.89° 58'W.on random line bet.secs. 9 and 16,
40.00	Set temp.¼ sec.cor.
79.94	Intersect N. and S.line 2 lks. S of the cor.of secs.8, 9,16, and 17. Thence I run
	S.89° 57'E.on a true line bet.secs.9 and 16,
	Ascending over mountainous land.
2.00	Top of ridge, 180 ft.high bears N. and S.
	Descend.
25.00	Small ravine 40 ft.deep, drains S.
	Ascend.
35.00	Top of ridge, 60 ft.high bears N. and S.
39.97	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 9 in N.half, S 16 in S.half;dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Descend.
46.94	Small ravine, draining SE.
52.00	Top of ridge, 200 ft.high, bears NW. and SE.
	Descend.
77 00	Bottom of ravine 60 ft.below cor., drains NE.
	Ascend.
79.94	The cor.of secs.9,10,15, and 16.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.94 chs.
	Nov.11: At this cor.I set off 17° 24'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 03' [illegible]" N.

Chains.	
	S.0° 02'W.bet.secs.15 and 16,
	Ascending S.side of canyon.
9.00	Ridge,60 ft.high bears,NE and W.
24.00	Ravine 30 ft.deep, drains NE.
	Ascend gently.
38.00	Begin descent.
38.00	N.edge of deep canyon, draining SE.
40.00	Point for ¼ sec.cor.falls on rock in place 3x4 ft.x 4ft. above ground; impossible to set post corner. At exact point for ¼ sec.cor.I cut a cross (X) marked W C ¼ on NE.; and raise a mound of stone 2 ft.base, 1½ ft.high 5 lks.W., for witness ¼ sec.cor.
	This ¼ sec.cor.is about half way down N.side of canyon.
43.00	Bottom of canyon, 100 ft.deep, drains SE.
	Ascend rough limestone cliffs,bearing NW. and SE.
45.00	Top of cliffs on S.edge of canyon.
	Thence over rough low ridge,from the west.
48.00	Descend into canyon, 75 ft.deep, drains N.45° E.
52.00	Bottom of canyon.
57.00	S.edge of canyon.
	Ascend rough slope.
66.00	Begin gradual ascent.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.15,16,21, and 22, marked on brass cap T 43 S S 16 in NW. R 17 W S 15 in NE. S 22 in SE.; and S 21 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, rolling and broken.
	Soil, rocky; 4th rate.
	No timber.
	Nov.11, 1909

Chains.	
	Nov.12, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 17° 37' S.on decl.arc; 37° 02' 17" N.on lat.arc; and determine a meridian with the solar at the cor.of secs.15, 16,21, and 22. Thence I run
	N.89° 57'W.on a random line bet.secs.16 and 21,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
79.96	Intersect N. and S.line 8 lks.S.of the cor.of secs. 16,17,20, and 21. Thence I run
	S.89° 54'E.on a true line bet.secs.16 and 21,
	Descending gradually.
39.98	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 16 in N.half, S 21 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor.
42.00	Box canyon, 60 ft.deep, drains NE.
46.00	East edge of box canyon.
	Ascend.
48.00	Small hill, 30 ft.high.
	Thence over rolling ground.
79.96	The cor.of secs.15,16,21, and 22.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land, 48.00 chs.
	Nov.12: At this cor.I set off 17° 40'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 02' [illegible]" N.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	S.0° 02'W.bet.secs.21 and 22,
	Ascending gently.
14.00	Top of round knoll, 70 ft.high.
	Descend over rolling land.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 21 in W.half, S 22 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Continue over rolling land.
70.00	N.edge of box canyon, 50 ft.deep, draining E.
77.00	S.edge of box canyon.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 21,22,27, and 28, marked on brass cap T 43 S S 21 in NW. R 17 W S 22 in NE. S 27 in SE.; and S 28 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, rolling.
	Soil, rocky; 4th rate.
	No timber. Nov.11, 1909.

Nov.16, 1909: At 8 h. 45 m.a.m.l.m.t.I set off 37° 01' 35" N.on lat.arc; 18° 39' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.21,22, 27, and 28. Thence I run

N.89° 54'W.on random line bet.secs.21 and 28,

40.00	Set temp.¼ sec.cor.
79.88	Intersect N. and S.line 21 lks.S. of the cor.of secs.20, 21, 28, and 29.

Chains.	
	Thence I run
	S.89° 45'E.on a true line bet.secs.21 and 28,
	Over mountainous land.
8.65	Top of limestone ridge, bearing SW. and NE.
23.10	Along S.slope of ridge.
35.90	Wash, 50 lks.wide, 2 ft.deep, draining NE.
39.94	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 21 in N.half, S 28 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Ascend.
44.15	Top of limestone ridge, 100 ft.high, bearing NE.and SW.
	Descend from ridge.
60.40	Wash 20 ft.deep, drains NE.
	Continue descent over rolling hills cut by small washes.
79.00	Foot of descent.
79.88	The cor.of secs.21,22,27, and 28.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.88 chs.

Nov.16: At the cor.of secs.21,22,27, and 28, I set off 18° 43'S.on"declinat.and;at 11 h.45m.a.m.l.m.tand observe the sun on the meridian; the resulting lat. is 37° 01' [illegible]" N.

Thence I run

S.0° 02'W.bet.secs.27 and 28,

Over rolling ground,

27.50	N.edge of box canyon 6 chs.wide, 150 ft.deep, drains S.
[illegible]	S.80°E.[illegible] box canyon
33.50	S.edge of box canyon.

Chains.	
	Thence over land sloping gently NE.
40.00	Set an iron post 3 ft. long, 1 in. dia., 12 ins. in the ground, with mound of stone 14 ins. high around it, for ¼ sec. cor., marked on brass cap ¼ S 28 in W. half S 27 in E. half; and raise a mound of stone 2 ft. base 1½ ft. high W. of cor. Pits impracticable.
	Impossible to set post over 12 ins. in the ground.
	Corner is on ground sloping NE. about 6 chs. NE. of high round hill.
	Thence ascend over rolling land.
50.00	Rounding ridge, 40 ft. high, bears S. 70° E.
	Descend.
54.00	Steep ravine, 50 ft. deep, drains E.
60.00	Ravine 3 chs. wide, 25 ft. deep, drains NE.
	Thence over rough ground, sloping E.
71.00	Descend.
77.00	Sharp steep ravine drains E.; 40 ft. deep.
80.00	Set an iron post 3 ft. long, 3 ins. dia., 24 ins. in the ground, for cor. of secs. 27, 28, 33, and 34, marked on brass cap, T 43 S S 28 in NW. R 17 W S 27 in NE. S 34 in SE.; and S 33 in SW. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
	Land, rolling.
	Soil, rocky; 4th rate.
	No timber.

Harry L. Chamberlin
U.S. Deputy Surveyor

Nov. 16:

N. 89° 45' W. on a random line bet. secs. 28 and 33,

40.00	Set temp. ¼ sec. cor.
79.90	Intersect N. and S. line 5 lks. N. of the cor. of secs. 28, 29, 32, and 33. Thence I run

Chains.	
	S.89° 47'E.on a true line bet.secs.28 and 33,
	Ascending over mountainous land.
9.25	Top of ridge, 40 ft.high bears N. and S.
	Descend.
22.25	Wash, 90 ft.below ridge, drains S.
	Ascend.
29.25	Top Low ridge, 30 ft.high, bears north.
37.25	Descend from ridge.
39.95	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 28 in N.half, S 33 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Thence along low ridge, bearing E. and W.
64.00	Descend.
70.75	Box canyon, 100 ft.below ridge, draining SE.
79.90	The cor.of secs.27,28,33, and 34.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.90 chs.

Joh H. Winnwood
U.S. Deputy Surveyor

Nov.18: At 8 h.45 m.a.m.l.m.t.I set off 37° 01'N.on lat. arc; 19°09' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.27,28,33, and 34.

Thence I run

S.0° 02'W.bet.secs.33 and 34,

Over mountainous land.

1.50	Bottom of box canyon, 50 ft.below cor., drains N.40° E.
	Ascend.
5.50	Ridge, 40 ft.high, bears N.80° E. and S.80° W.
	Descend.
8.00	Small box canyon 2 chs.wide, 20 ft.deep, drains N.80° E.

Chains.	
	Ascend gentle slope.
36.50	Small ravine, 15 ft.deep, drains N.
40.00	Set an iron post 3 ft.long, 1 in.dia., 14 ins.in the ground, with mound of stone 12 ins.high around it, for ¼ sec.cor., marked on brass cap ¼ S 33 in W.half, S 34 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base 1½ ft.high W.of cor. Impossible to set post over 14 ins.in the ground.
46.63	Intersect Utah-Arizona Bdy.line 23.67 chs.E.of mile post No.16, which is a limestone 11 x 10 x 7 ins.above ground, mkd.and witnessed as described by the surveyor general.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing corner of secs.33 and 34, marked on brass cap U in N. C C A in S.half; T 43 S S 33 in NW. R 17 W S 34 in NE.quadrants; dig pits 24 x 18 x 12 ins.crosswise on each line E. and W.of post 3 ft., and N.of post 7 ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high N.of cor.
	Land, rolling and broken.
	Soil, rocky; 4th rate.
	No timber.

Nov.18, 1909.

Harry L. Chamberlin

U.S. Deputy Surveyor.

Nov.6, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 37° 05'N. on lat.arc; 15° 53'S.on decl.arc; and determine a meridianwith the solar at the cor.of secs.2,3,34, and 35 on N.bdy.of Tp., heretofore described. Thence I

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SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	run
	S.0° 03'W.bet.secs.2 and 3,
	Descending.
5.50	Ravine, 100 ft.deep, drains E. Ascend.
8.50	Ridge, 80 ft.above ravine, bears E. and W. Descend.
9.50	Ravine, 100 ft.deep, draining N.80° E.at intersection.
	Ascending.
25.00	Top of ascent, along ground sloping E., 150 ft.
32.00	Small ravine, 40 ft.deep, drains SE.
40.00	Point for ¼ sec.cor.falls in bottom of ravine draining E., where it is liable to be washed away; therefore at
40.85	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness cor.to ¼ sec.cor.mkd.brass cap, WC, ¼ S 3 in W.half, S 2 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Thence along west side of small valley. Ascend.
54.00	Ridge, 60 ft. high, bearing S.45° E. Descending.
60.50	Small canyon, 45 ft.deep, drains E. Ascend.
64.00	Ridge, 100 ft.high, bears E. and W.
65.00	Old wood road bears E. and W.
68.50	North edge of box canyon, 60 ft.deep, course E.
69.50	Bottom of canyon.
	Ascend over cliffs of conglomerate rocks.
74.00	S.edge of box canyon.
76.85	Road from Apex Mine to St.George,once used as ore road, bears E. and W.; Old Southern Road St.George to the Muddy.
79.50	Wash, 10 ft.deep, 50 lks.wide,drains E.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground,for cor.of secs.2,3,10,and 11, mkd.on brass cap, T 43 S S 3 in NW. R 17 W S 2 in NE; S 11 in SE.; and S 10 in SW.quadrants;and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

SUBDIVISION T. 43 S., R. 10 W.

Chains.	
	Land, rolling and broken.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth scattering sage and black brush.

West on a random line bet.secs.3 and 10,

40.00	Set temp. ¼ sec.cor.
80.01	Intersect N. and S.line 12 lks.N.of the cor.of secs.3,4, 9, and 10.
	Nov.6: At this cor.I set off 15° 57'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 04'N.
	Thence I run
	N.89° 55'E.on true line bet.secs.3 and 10,
	Descending gradually over rolling ground.
2.40	Road, Anex Mine to St.George bears SW. and NE.
7.00	Cave Spring bears N.41° 39'E.
40.00½	Set an iron post 3 ft.long, 1 in.dia. 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 3 in N.half, S 10 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Continue descent over rolling land.
70.85	Road, Southern road, St.George To the Muddy bears NE. and SW.
80.01	The cor.of secs.2,3,10, and 11.
	Land, slightly rolling with slope to the E.
	Soil, rocky; 4th rate.
	No timber. Nov.6, 1909.

Nov.8: At 8 h.44 m.a.m.l.m.t.I set off 16° 29'S.on decl. arc; 37° 04'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.2,3,10, and 11.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	Thence I run
	S.0° 03'W. bet.secs. 10 and 11,
	Ascending.
12.00	Rounding ridge, 40 ft.high bears E.
	Thence over rolling ground; descending.
24.00	Ravine, 60 ft.deep, drains N.60° E.
40.00	Set an iron post 3 ft.long, 1 in.dia.,12 ins.in the ground, with mound of stone 14 ins.high around it, for ¼ sec.cor., marked on brass cap ¼ S 10 in W.half. S 11 in E.half; dig pits 18 x 18 x 12 ins.N. and S. of post 3 ft.dist.; and raise a mound of earth 3½ ft. base, 1½ ft.high W.of cor.
	Impossible to set post over 12 ins.in the ground.
	Ascend gently.
65.10	Ridge, 100 ft. high bears E. and W. High hill to the E. about 20 chs. Descend gently.
80.00	Point for corner falls on ledge of limestone; impossible to set iron post; therefore
	Set a limestone 16 x 8 x 4 ins., on ledge, with mound of stone around it, 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, 1½ ft.high W.of cor.
	This section corner is about 38 lks.from NE.edge of box canyon, 80 ft.deep.
	Land, rolling and broken.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth scattering sage and black brush.
	Nov.8, 1909: At this cor.I set off 16° 33'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 03'09" N.

S.89° 55'W.on random line bet.secs.10 and 15,

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
40.00	Set temp. ¼ sec.cor.
80.01	Intersect N. and S.line 7 lks.N.of the cor.of secs.9, 10,15, and 16. Thence I run N.89° 52'E.on a true line bet.secs.10 and 15,
	Ascending gently.
18.00	Top of round knoll,30 ft.high
	Descend.
30.00	Ravine, 25 ft.deep, course NE.
40.00½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 10 in N.half, S 15 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
76.65	West edge of box canyon, 75 ft.deep, course SE.
79.65	East edge of box canyon.
80.01	The cor.of secs.10,11,14, and 15.
	Land, rolling.
	Soil, rocky; 4th rate.
	No timber. Nov.8, 1909.

Nov.13:Cloud obscures the sun;obs.for meridian impossible.
S.0° 03'W.bet.secs.14 and 15,

	Over mountainous land.
0.20	North edge of box canyon, 80 ft.deep, drains S.60° E. at intersection of line.
7.00	South edge of box canyon.; ledges of limestone.
	Ascend.
12.00	Ridge, 150 ft.high bears E. and W.
18.00	Thence over rolling land; broken by short ravines, draining E.
23.00	Canyon 60 ft.deep, drains N.80° E.
40.00	Set an iron post 3 ft.long, 1 in.dia.,12 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 15 in W.half, S 14 in E.half; raise mound of stone 14 ins. high around post; and mound of stone 2 ft.base, 1½

Chains.	
	ft.high W.of cor. Impossible to set post over 12 ins. in the ground.
	Ascend rough slope.
50.50	Ridge, 200 ft. high bears E. and W.
	Descend over rough ground.
65.00	Wash, 150 ft.below ridge; drains E.
71.00	Bottom of small canyon, 60 ft.deep, drains E.
	Ascending perpendicular limestone cliffs, 60 ft.high, bearing E. and W.
79.00	North edge of box canyon, 100 ft.deep, drains N.75°E.
80.00	Point for sec.cor. falls on side of steep cliff on side of box canyon about 30 ft.from top of cliffs; impossible to set iron post, for cor.of secs.14,15,22 & 23.
	Set a limestone 18 x 6 x 6 ins., in mound of stone on ledge, marked with 2 notches on E.and 3 notches on S. edges; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Land, rough and broken.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth, scattering black brush.
	Nov.13: At this cor.I set off 17° 56'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 02' 17" N.

	S.89° 52'W.on random line bet.secs.15 and 22,
40.00	Set temp.¼ sec.cor.
80.05	Intersect N. and S.line 5 lks.N.of the cor.of secs.15, 16,21, and 22. Thence I run N.89° 50'E.on true line bet.secs.15 and 22,
	Descending gently.
4.05	Short ravine, 20 ft.deep, drains N.
40.02½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 15

Chains.	
	in N.half, S 22 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Continue descent over rolling land.
78.55	Edge of box canyon, draining E.
80.05	The cor.of secs.14,15,22, and 23.
	Land, gently rolling; sloping E.
	Soil, rocky; 4th rate.
	No timber.
	Nov.13, 1909.

Nov.15: At 8 h. 45 m.a.m.l.m.t.I set off 18° 25'S.on decl.arc; 37° 02'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.14,15,22, and 23. Thence I run

S.0° 03'W.bet.secs.22 and 23,

	Descending over limestone cliffs into box canyon.
3.00	Bottom of box canyon, 50 ft.below cor.
	Ascend over limestone cliffs.
6.00	South edge of box canyon.
	Ascend gentle slope.
19.00	Thence along E.side of low hills.
	Descending over rolling land.
24.00	Old wood road bears E. and W.
29.50	Descending into canyon
31.50	Bottom of canyon, 50 ft.deep, drains E.
	Ascend gradually.
40.00	Set an iron post 3 ft.long, 1 in.dia., 22 ins.in the ground, with mound of stone 14 ins.high around it. for ¼ sec.cor., marked on brass cap ¼ S 22 in W.half; S 23 in E.half; and raise a mound of stone 2 ft.base 1½ ft.high W.of cor.
	Corner on ground sloping E. about 2 chs.W.of small box canyon running N.

Chains.	
60.00	Ridge, 40 ft.high bears N.45°E. and S.45° W.
	Thence over rolling ground, sloping E.
67.00	Ridge 150 ft.high bears S.45° E. and N.45° W.
	Descend.
73.00	Ravine, 60 ft.deep, drains E.
80.00	Point for cor.of secs.22,23,26, and 27 falls on ledge, impossible to set iron post; therefore
	Set a limestone 18 x 12 x 8 ins. in mound of stone on ledge, marked with 2 notches on S. and E.edges; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Land, rough and rolling.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth scattering black brush.
	Nov.15: At this cor.I set off 18° 28'S.on decl.arc;and at 11 h. 45 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 01' 17" N.

S.89° 50'W.on a random line bet.secs.22 and 27

40.00	Set temp.¼ sec.cor.
80.17	Intersect N. and S.line 1 lk. S. of the cor.of secs. 21,22,27, and 28. Thence I run N.89°50'E.on true line bet.secs.22 and 27, Ascending along S.side of small valley.
10.17	Ridge, 200 ft.high, bears N.30° E. and S.30° W.
	Descend gently.
40.08½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 22 in N.half, S 27 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft. base, 1½ ft.high N.of cor.
46.15	Box canyon 1 ch.wide, 50 ft.deep, drains N.20° W.
50.17	Ridge, 200 ft.high, bears N. and S.
	Descend.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
71.17	Bottom of canyon,100 ft.deep, drains SE.
	Ascend from canyon, over limestone ledges.
72.90	Top of ascent.
80.17	The cor.of secs.22,23,26, and 27.
	Land, rough and broken, and mountainous.
	Soil, rocky; 4th rate.
	Mountainous land 40.085 chs. Nov.15,1909.

Nov.17, 1909: At 8 h. 45 m.a.m.l.m.t.I set off 37° 01' N.on the lat.arc;18°55' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.22,23, 26, and 27. Thence I run

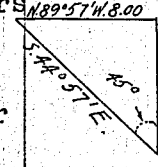
S.0° 03'W.bet.secs.26 and 27,

Descending.

8.00	North edge of box canyon,125 ft.deep, drains S.70°E.
13.00	S.edge of canyon.
36.70	N.edge of box canyon, 200 ft.deep, drains N.65° E.

Impracticable to chain across canyon; to determine the distance across I triangulate as follows:

Set a flag on line on S.bank; then measure a base N.89° 57'W. 8.00 chs. to a point; from which the flag bears S.44°57'E.; from the flag the W.end of base bears N.44°57'W.; therefore the dist.is tan.45°00' x base, or 1.0000 x 8.00 equals 8, which added to 36.70 makes 44.70. I measure N.5 lks.; and at



44.65	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness cor.to ¼ sec.cor., marked on brass cap W C ¼; S 27 in W.half; and S 26 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.Witness cor.is 25 lks.S.of edge of canyon.
56.50	Along E.side of box canyon,draining S.

Chains.	
66.75	N.edge of box canyon,175 ft.deep, drains E.
71.60	S.edge of canyon.
77.00	Small canyon,70 ft.deep,drains E.
	Point for sec.cor.falls on limestone floor, impossible to set post corner. I mark a cross (X) at exact point for cor.; and at
79.975	Set a limestone 24 x 10 x 3 ins., in mound of stone,for witness cor.to cor.of secs.26,27,34, and 35, mkd.1 notch on S. and 2 notches on E.edges; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Impossible to set post corner.
80.00	Point for cor.secs.26,27,34, and 35;cor.not set.
	Land, broken. Soil, rocky;4th rate. No timber. Undergrowth scattering black brush.
	Nov.17: At the noon hour sky overcast;obs.for lat.impossible.

	S.89° 50'W.on a random line bet.secs.27 and 34
40.00	Set temp.¼ sec.cor.
80.15	Intersect N. and S.line 6 lks.S.of the cor.of secs.27, 28,33, and 34.Thence I run
	N.89° 53'E.on true line bet.secs.27 and 34,
	Ascending.from box canyon.
12.15	Box canyon,220 ft.deep, draining northeasterly.
12.65	Canyon 2 chs.wide, 35 ft.deep,drains N.
20.15	Along side of box canyon,draining E. Descend.
40.07½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.mkd.brass cap ¼827 in N.half,S34 in S.half;and raise a mound of stone 2 ft.base,1½ ft. high N.of cor.Descend over rolling land.
60.15	Head of ravine,drains E.Desc.along S.side of ravine.
80.15	Point for cor.secs.26,27,34, and 35.
	Land, rolling.
	Soil, rocky;4th rate. No timber. Nov.17,1909

Chains.	
	S.0° 03'W.bet.secs.34 and 35,
	Descending over rolling land.
30.00	Small canyon, 50 ft.deep, drains E.
39.00	Steep ravine, drains E., into box canyon, 70 ft.deep.
40.00	Set an iron post 3 ft.long, 1 in.dia., 14 ins.in the ground, with mound of stone 12 ins.high around it, for ¼ sec.cor., marked on brass cap ¼ S 34 in W.half, S 35 in E.half; and raise a mound of stone 2 ft.base 1½ ft.high W.of cor. Impossible to set post over 14 ins.in the ground.
	Thence along W.side of box canyon.
47.06	Intersect Utah-Arizona Boundary line 23.98 chs.E.of mile post No.17, a conglomerate stone 21 x 18 x 6 ins.above ground, mkd.and witnessed as described by the surveyor general,
	Set an iron post 3 ft.long, 3 ins.dia., in mound of stone on cliff, for closing cor.of secs.34 and 35, marked on brass cap,
	U in N.
	C C A in S.half;
	T 43 S S 34 in NW.
	R 17 W S 35 in NE.quadrants; and raise a mound of stone 4 ft.base, 3 Ft.high N.of corner.
	Post could not be set in the ground; but mound of stone piled around it sufficient to hold it firmly in place.
	Closing corner is on W.side of canyon draining N.
	Land, broken.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth scattering black brush.

Nov.18, 1909.

Harry L. Chamberlin
U.S. Deputy Surveyor

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
	Nov.8, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 16°30'S. on decl.arc; 37° 05'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.1,2,35, and 36 on N.bdy.of Tp., heretofore described.
	Thence I run
	S.0° 03'W.bet.secs.1 and 2,
	Descending abruptly into wash draining E.
4.00	Bottom of wash, 50 ft.below cor.
	Ascend.
8.00	Top of limestone ridge, 60 ft.high, bears E. and W.
13.00	Begin abrupt descent.
15.00	Wash, 40 ft.deep, drains E.
	Thence along slope of ridge.
20.00	Top of ridge, 50 ft.high, bearing NE. and SW.
	Descend over land cut by small washes draining easterly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 2 in W.half, S 1 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.Pits impracticable.
	Ascend.
58.00	Top of ridge, 20 ft.above cor., bears NW. and SE.
	Descend over south slope over rough ground.
64.00	Wash, 40 ft.below ridge, drains SE. This wash drains several small washes from W.and NW.
70.00	Old Southern Road from St.George to the Muddy bears NW. and SE. Ascend.
74.00	Top of ridge, 40 ft.high, bears E. and W.
	Descend to south.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.1,2,11, and 12, marked on brass cap T 43 S S 2 in NW. R 17 W S 1 in NE. S 12 in SE., and S 11 in SW.quadrants; dig pits 18 x 18 x 12 ins.in

Chains.	
	each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.Pits impracticable.
	Land, rolling and broken.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth scattering black brush and sagebrush.
	West on a random line bet.secs.2 and 11,
40.00	Set temp.¼ sec.cor.
80.16	Intersect E. and S.line 5 lks. N. of the cor.of secs.2, 3,10, and 11. Thence I run
	N.89° 58'E.on a true line bet.secs.2 and 11,
	Over broken land.
18.65	Wash, drains SE.
	Thence over rolling land.
39.60	Meandering wash, draining NE.
40.08	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.mkd.brass cap ¼S2 in N.half S.11 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base,1½ ft.high N.of cor.
48.00	Wash, drains NE.
58.65	Base of hill; wash at foot:draining SW..
	Ascend.
62.65	Top of hill,40 ft.high,bears NW. and SE.
	Descend over rolling land.
80.16	The cor.of secs.1,2,11, and 12.
	Land,broken and rolling.
	Soil, rocky; 4th rate.
	No timber.
	East on a random line bet.secs.1 and 12,

Chains.	
40.00	Set temp. ½ sec.cor.
94.16	Intersect E.bdy.of Tp. 16 lks.S.of cor.of secs.1,6,7, and 12, which is a limestone 5 x 6 x 5 ins.above ground, marked and witnessed as described by the surveyor general Thence I run S.89° 54'W.on a true line bet.secs.1 and 12,
	Over mountainous land.
2.00	Wash,drains from N.to SE.
	Ascend along steep E.slope
32.15	Top of ridge,75 ft.high bears N. and S.
42.10	Wash,80 ft.deep, drains NE. Ascend.
46.15	Top of small limestone ridge, 40 ft.high bears N. and S.
	Descend.
52.10	Large wash, 60 ft.deep, drains S.Road St.George to the Muddy bears N. and S.
54.16	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 1 in N.half, S 12 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Ascend abruptly.
61.15	Top of ridge, 50 ft.high bears NE. and SW.
	Descend.
66.17	Wash, drains SW.; thence over rolling hills.
72.16	Rld Southern road,from St.George to the Muddy, bears NE. to W.
75.15	Same road,bears SW. and W..
84.17	Same road, bears NW. and SE.
86.15	Wash drains SW., 30 ft.below cor.
94.16	The cor.of secs.1,2,11, and 12.
	Land, mountainous.
	Soil, rocky; 4th rate.

Chains.	
	No timber.
	Mountainous land 94.16 chs.
	Nov.8: At the noon hour, sky overcast; no obs.for lat. this day.
	S.0° 03'W.bet.secs.11 and 12,
	Ascending rough slope.
10.00	Wash, 30 ft.below cor., drains SE.
	Ascend.
28.00	Top of slope, 100 ft.above wash, bearing E. and W.
	Descend.
32.00	Canyon, 125 ft.deep, drains E.
	Ascend.
39.00	Top of ridge, 200 ft.above canyon, bears NE. and SW.
	Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.mkd. brass cap ¼S 11 inW.half S 12 in E.half; dig pits 18 x 1[illegible] x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
55.00	Ascend along rough slope
62.00	Top of limestone ridge, 250 ft.above ¼ sec.cor., bears NE. and SW. Descend.
66.50	Wash, drains E., 60 ft.deep.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.11,12,13, and 14, marked on brass cap T 43 S S 11 in NW. R 17 W S 12 in NE. S 13 in SE.; and S 14 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, mountainous.
	Soil, rocky; 4th rate.

Chains. No timber.

Undergrowth, scattering black brush.

Nov.8, 1909.

Nov.11, 1909: At 8 h' 44 m.a.m.l.m.t. I set off 17° 21'S. on decl.arc; 37° 03'N. on lat.arc; and determine a meridian with the solar at the cor. of secs.11,12,13, and 14. Thence I run

S.89° 58'W. on random line bet.secs.11 and 14,

40.00 Set temp. ¼ sec.cor.

80.16 Intersect N. and S.line 19 lks. S. of the cor. of secs.10, 11,14, and 15. Thence I run

S.89° 54'E. on true line bet.secs.11 and 14,

Descending

8.16 Bottom of wash, 35 ft.deep, drains N. about 5 chs.; then turns S.

Ascend..

12.15 Top of hill between bends of wash, 40 ft.high.

Descend.

16.16 Bottom of wash, 125 ft.below ridge, 2 chs.wide, 50 ft. vertical walls, drains S.

Ascend.

28.20 Top of ridge, 150 ft.high bears NW. and SE.

Descend.

32.00 Bottom of descent.

40 08 Set an iron post 3 ft.long, 1 in.dia., 36 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 11 in N.half, S 14 in S.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.

42.15 Large wash, 100 ft.deep, drains SE.

Ascend abruptly.

45.60 Top of limestone ledge, 220 ft.high bears NW. and SE.

Chains.	
	Descend over gentle south slope
80.16	The cor.of secs.11,12,13, and 14.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.16 chs.
	Nov.11: At this cor.I set off 17° 24'E.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 03' 01" N.

	N.89° 54'E.on a random line bet.secs.12 and 13,
40.00	Set temp.¼ sec.cor.
94.31	Intersect N.bdy.of Tp.27 lks.W. of the cor.of secs.7,12, 13, and 18, which is a limestone 5 x 9 x 7 ins.above ground, marked and witnessed as described by the surveyor general. Thence I run N.89° 56'W.on a true line bet.secs.12 and 13,
	Descend along S.slope of limestone ridge, running parallel to sec.line, 2 chs.N.of same.
22.30	Hollow, 40 ft.deep, drains S.
	Ascend abruptly.
26.32	Spur ridge from north, 60 ft.high.
39.31	Wash, drains SE. Ascend.
42.30	Top of ridge, 100 ft.above wash, bears SE.and NW.
54.31	Set an iron post 3 ft.long, 1 in.diam., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 in N.half, S 13 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 5½ ft.base, 1½ ft.high N.of cor.
	Thence along level table land.
68.31	Begin abrupt descent.
75.30	Wash,drains NE. Ascend abruptly.
80.29	Top of small ridge, bears N. and S.,40 ft.high.

Chains.	
84.30	Head of wash that drains 4 chs.N.,then due E.,35 ft.deep.
	Ascend.
87.30	Top of ridge bears SE. and NW.,40 ft.high.
94.31	The cor.of secs.11,12,13, and 14.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 94.31 chs.
	Nov.11, 1909.

Nov.12, 1909: At 8 h. 44 m.a.m.l.m.t.I set off 17° 37' S.on decl.arc; 37° 03'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.11,12,13, and 14. Thence I run

S.0° 03'W.bet.secs.13 and 14,

Ascending rolling hills.

11.00	Top of limestone hills, 100 ft.high bear NE. and SW.
	Descend.
18.00	Wash, 125 ft.deep, drains NE.; steep ledges of rock on sides of wash
	Ascending over rolling rocky hills.
40.00	60 ft.above wash,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor. marked on brass cap ¼ S 14 in W.half, S 13 in E.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
42.00	Ascend.
44.00	Ridge, 90 ft.high, bears E. and W.
	Descend.
61.00	Wash,75 ft.below ridge, drains E.
76.00	Limestone ledge, 70 ft.high bears E. and W.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.13,14,23, and 24, marked on

Chains.	
	brass cap T 43 S S 14 in NW. R 17 W S 13 in NE. S 24 in SE.; and S 23 in SW. quadrants; dig pits 18 x 18 x 12 ins. in each sec. 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	Corner 50 lks. W. of limestone ledge.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.00 chs.
	Nov. 12: At this cor. I set off 17° 40' S. on decl. arc; and at 11 h. 44 m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 02' 1?" N.
	S. 89° 56' E. on a random line bet. secs. 13 and 24,
40.00	Set temp. ¼ sec. cor.
94.40	Intersect E. bdy. of Tp. 19 1 lks. S. of the cor. of secs. 13, 18, 19, and 24, which is a limestone 5 x 12 x 5 ins. above ground, marked and witnessed as described by the surveyor general. Thence I run
	S. 89° 57' W. on true line bet. secs. 13 and 24,
	Descending.
2.39	Bottom of wash draining SE.
	Ascend.
16.40	Top of gypsum and limestone ridge, 70 ft. high bears N. and S.
	Descend.
30.35	Bottom of wash, 90 ft. deep, drains S. 80° E.
	Ascend.
35.42	Top of ridge, 40 ft. high bearing N. and S.
	Descend.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
40.42	Wash, 60 ft.deep, drains NE.
	Ascend.
46.39	Top of ridge, 100 ft.high, bears N. and S.:
54.40	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 13 in N.half, S 24 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Ascend over low rough hills.
65.38	Top of limestone ledge 20 ft.high bearing NW and SE.
	Descend.
89.40	Foot of descent.
93.90	Limestone ledge, bears N. and S.
94.40	The cor.of secs. 13,14,23, and 24.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 94.40 chs.
	Nov.12, 1909.

Nov.13, Cloud obscures the sun; obs.for meridian impossible.

N.89° 54'W.on random line bet.secs. 14 and 23,

40.00	Set temp.¼ sec.cor.
80.12	Intersect N. and S.line 19 lks.N. of the cor.of secs. 14,15,22, and 23. Thence I run

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

Descending.

6.60	Wash, drains NE.
24.12	Wash, 30 ft.below ridge, drains NW.; same as above.
	Ascend.
39.10	Ridge,50 ft.high, ending 2 chs.N.
	Descend.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
30.12	Box canyon, 80 ft.below ridge, 40 ft.rock walls, drains SE. Ascend.
40.06	Set an iron post 3 ft.long, 1 in.dia.26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 14 in N.half, S 23 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
42.10	Top of flat ridge, 60 ft.high, bears NW. and SE.
	Descend.
60.10	Wash, 30 ft.deep, drains SE.
	Ascend.
62.10	Top of ascent.
	Descend over small rolling hills.
80.12	The cor.of secs.13,14,23, and 24.
	Land, mountainous and rolling hills.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 62.10 chs.
	Nov.13: At this cor.I set off 17° 56'S.on decl.arc; and at 11 h. 44 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 02'17" N.

S.0° 03'W.bet.secs.23 and 24,

Descending over low rolling hills.

23.00	Wash, 200 ft.below cor., drains SE. This wash takes the drainage from several washes from N.and W.
	Ascend.
30.00	Ridge, 50 ft.high, bears NW. and SE.
	Descend.
37.00	Box canyon, 30 ft.deep, drains SE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 23 in W.half, S 24 in E.half; dig pits 18 x 18 x 12 ins.

Chains. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.

This cor.is on rock point between two box canyons, which join about 5 chs. S.E. of this point.

48.00 Box canyon, 25 ft.deep, drains NE.

Ascend.

63.00 Rocky ridge about 100 ft.high bears N. and S.

Thence along ridge.

76.00 Wash, 25 ft.deep, 100 ft.below top of hill, drains E.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.23,24,25, and 26, marked on brass cap

T 43 S S 23 in NW.

R 17 W S 24 in NE.

S 25 in SE.; and

S 26 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

This cor.is on small hill between two washes.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land 80.00 chs.

Nov.13, 1909.

Nov.14: At 8 h. 45 m.a.m.l.m.t.I set off 18° 09'S.on decl.arc; 37° 01'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.23,24,25, and 26. Thence I run

N.89° 57'E.on a random line bet.secs.24 and 25,

40.00 Set temp.¼ sec.cor.

94.43 Intersect E.bdy.of Tp. 8 lks. S. of the cor.of secs.19 24,25, and 30, which is a limestone 6 x 9 x 6 ins.

Chains.	
	above ground, marked and witnessed as described by the surveyor general. Thence I run
	S.89° 54'W.on true line bet.secs.24 and 25,
	Over rolling low hills,
20.00	Bottom of box canyon 2 chs.wide, 40 ft.deep, drains SE.
24.45	Ascend along gentle slope,
54.43	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 24 in N.half, S 25 in S.half; dig pits 18 x 18 x 12 ins' E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Cor.is about 60 ft.above wash.
60.42	Wash, 40 ft.deep, drains SE.
	Thence ascending in wash which follows line not more than 2 chs.away at any point; about 40 ft.below hill.
94.43	The cor.of secs.23,24,25, and 26.
	Land, low rolling hills and wash.
	Soil, rocky; 4th rate.
	No timber. Nov.14, 1909.
Nov.15	At 8h.45m.a.mid.M.T.I set off 18° 25'S.on decl.arc; 37° 01'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.23,24,25, and 26. Thence I run,
	S.89° 58'W.on random line bet.secs.23 and 26,
40.00	Set temp.¼ sec.cor.
80.28	Intersect N. and S.line 7 lks.S. of the cor.of secs. 22,23,26, and 27. Thence I run
	S.89°59'E.on true line bet.secs.23 and 26,
	Over gently rolling land.
12.25	Thence over level land.
27.30	Begin ascent, over gentle slope.
30.70	Top of low ridge, bearing N. and S.
40.14	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 23

Chains.	
	in W.half, S 26 in S.half; dig pits 18 x 18 x 18 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Descend gently.
62.30	Thence over level land.
68.30	Ascend gently to
80.28	The cor.of secs.23,24,25, and 26.
	Land, gently rolling and level.
	Soil, rocky; 4th rate.
	No timber.
	Nov.15, 1909.

Nov.17, 1909: At 8 h. 45 m.a.m.l.m.t.I set off 37° 01' N.on lat.arc; 18°55 ' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.23,24,25, and 26. Thence I run

S.0° 03'W.bet.secs.25 and 26,

	Descending.
4.00	Box canyon, 25 ft.deep, drains easterly.
	Thence over rolling land.
11.00	Descend.
36.00	Box canyon, 75 ft.deep, drains easterly. Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 26 in W.half, S 25 in E.half; dig pits 18 x 18 x 18 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Corner on top of ridge, bearing E. and W.
	Descend.
47.00	Bottom of gulch, 40 ft.deep, drains easterly.
	Ascend.
60.00	Top of limestone ridge, 60 ft.above gulch, bears E. and W.

SUBDIVISION OF T. 43 S., R. 17 W.

Chains.	
50.20	North side of box canyon, 300 ft.deep, drains E.
63.00	South side of same box canyon. Ascend.
65.00	Top of limestone ridge, 60 ft.above edge of box canyon; ridge bears E. and W. Thence over low rolling limestone hills.
77.00	Begin abrupt descent.
	Point for sec.cor.falls on ledge of rock at N.edge of box canyon, impossible to set post.corner; therefore at
79.70	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for witness cor.to cor.of secs.25,26,35, and 36, marked on brass cap T 43 S S 26 in NW. W C R 17 W S 25 in NE. S 36 in SE.; and S 35 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
80.00	Point for cor.of secs.25,26,35, and 36, falls on ledge; corner not set. At exact point for cor.cut a cross (X) on ledge.
	Land mountainous.
	Soil, rocky; 4th rate.
	No timber .
	Mountainous land 80.00 chs.

	From true point for cor.of secs.25,26,35, and 36, I run N.89° 54'E.on a random line bet.secs.25 and 36,
40.00	Set temp.¼ sec.cor.
94.45	Intersect E.bdy.of Tp. 33 lks. S.of the cor.of secs.25, 30, 31 and 36, which is a limestone 5 x 8 x 5 ins. above ground, marked and witnessed as described by the surveyor general.

Chains.

Nov.17: At this cor.I set off 18°58' S.on decl.arc; and at 11 h. 45 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 01'

Thence I run

S.89° 42'W.on true line bet.secs. 25 and 36,

Over rough hills along S.side of Virgin River Canyon.

18.45 Top of rock cliff 60 ft.high.bearing N. and S.

22.42 Bottom of Virgin River Canyon on E.side.

28.45 Center of Virgin River, which is 2 ft.deep, 2 chs.wide; drains from E.to S.

50.42 West side of Virgin River Canyon; top of limestone cliff 300 ft.above river.

Thence descend over rough S.slope of canyon.

54.45 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 25 in N.half, S 36 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.

64.40 Bottom of box canyon 50 ft.deep, drains S,80° E.

Ascend.

86.42 Top of small dividing ridge from north.

Descend.

90.44 Top of cliff 200 ft.high bearing N.& S.;at edge of box canyon.

94.45 Point for cor.of secs.25,26,35, and 36.

Land, mountainous.

Soil,rocks, gravel, and sand.

No timber.

Mountainous land 94.45 chs.

Nov.17, 1909.

Nov.18: At 8 h. 45 m.a.m.l.m.t.I set off 37° 01'W.on lat.arc;19°09' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.25,26,35, and

Chains.	
	and 36. Thence I run
	N.89°59'W.on random offset line bet.secs.26 and 35,
	At 4.00 chs.intersect N.edge of box canyon, 100 ft.deep; from this point west the line follows said canyon and is impassable; I therefore offset N.0° 03'E.6.00 chs.; thence I run on random offset line
	N.89° 59'W.bet.secs.26 and 35,
80.31	Intersect N. and S.line 6.14 chs.N.0° 03'E.of true point for cor.of secs.26,27,34, and 35. Thence I run
	N.89°55'E.on true offset line bet.secs.26 and 35,
	Over level rocky ground,
29.00	Small box canyon, 30 ft.deep, drains SE.
40.15½	Point for ¼ sec.cor. falls on limestone floor, impossible to set post cor.
	Set a limestone 16 x 8 x 4 ins.,in mound of stone for ¼ sec.cor., marked ¼ on N.face; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
76.31	Offset S.0° 03'W. 6 chs. to true line.
80.31	The cor.of secs.25,26,35, and 36.
	Land, level and rocky,
	Soil, rocky; 4th rate.
	No timber.
	Nov.18:At this cor.I set off 19° 12'S.on decl.arc; and at 11 h. 45 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 01' N."

	S.0° 03'W.bet.secs.35 and 36,
	Descending.
2.00	Box canyon, 1 ch.wide, 200 ft.deep, drains E.
3.00	Enter limestone ledges.
10.00	North wall of box canyon, drains E.
20.00	South wall of box canyon, 200 ft.deep, drains E.

Ascend.

Chains.

24.00 Top of limestone ridge, 60 ft. above edge of box canyon. Bears E. and W.
Descend over rough limestone hills.

40.00 Point for ¼ sec.cor. falls on ledge rock, where I cut a cross (X) at exact point; and at

40.10 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness cor.to ¼ sec.cor., marked on brass cap W C ¼, with S 35 in W.half, S 36 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

43.00 Small wash, 20 ft.deep, drains E.

46.92 Intersect Utah-Arizona Bdy.line 24.20 chs.E.of the 18 mile cor.on said boundary, which is a limestone 10 x 16 x 7 ins.above ground, marked and witnessed as described by the surveyor general.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.35 and 36, marked on brass cap,

U in N.

C C A in S.half;

T 43 S S 35 in NW. and

R 17 W S 36 in NE.quadrants; and raise a mound of stone 3½ ft.base, 3 ft.high N.of cor. Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land, 46.92 chs.. Nov.18, 1909.

Jos H. Kinnwood
U.S. Deputy Surveyor

GENERAL DESCRIPTION.

The western part of this township embraces a portion of the Beaver Dam mountains. The Virgin River Canyon extends through the SE.cor.of the township. In the northern part of secs.5 and 6 the mountains are rough

and rugged. A deep canyon draining south to the Virgin River extends through secs.17,20,29, and 32. From the E.edge of this canyon the slope is uniformly to the E.; being a tableland, scored by numerous canyons and washes.

Several of the ridges in the NE. and eastern parts of the township consist of decomposed impure gypsum and clay. This gypsum has no value owing to impurities.

There is a scant growth of black and sage brush in the NE.portion of the township; also a very scant growth of grass. A sparse growth of cedar and pinon pine is found in the NW.portion.

The Apex Mine is located in sec.6; in the past it has produced copper ore. It is not worked at the present time. I return W.½ sec.6 and NW¼sec.7 as mineral land. I found no other indications of mineral and no oil.

The Virgin River flows through sec.36; and a small spring known as Cave Spring, is found in sec.3; but no other water is to be found in the dry season of the year.

There are no settlers in the township. Santa Clara is the nearest settlement, and is situate northeasterly about five miles.

Job H. Winwood
Harry L. Chamberlin
U.S.Deputy Surveyors.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by _____

_____, United States Deputy Surveyor, to assist in running, measuring, and

arking the lines and corners described in the foregoing field notes of the survey of _____

_____

owing the respective capacities in which they acted:

_____, *Chainman.*

r list of names and final oath of assistants see book "D", *Chainman.*

T. 42 S., R. 17 W.

_____, *Moundman.*

_____, *Moundman.*

_____, *Axman.*

_____, *Axman.*

_____, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted _____

_____, United States Deputy Surveyor, in surveying all

ose parts or portions of the _____

_____

_____

_____ of the _____

_____ meridian, _____ of _____, which are represented

the foregoing field notes as having been surveyed by him and under his direction; and that said survey

s been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the

ner monuments established, according to the instructions furnished by the United States Surveyor

neral for _____

_____, *Chainman.*

_____, *Chainman.*

_____, *Moundman.*

_____, *Moundman.*

_____, *Axman.*

_____, *Axman.*

_____, *Flagman.*

_____

bscribed and sworn to before me this _____

day of _____, 19

SEAL

_____

_____

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FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oaths of deputies see book "D" T. 42 S., R. 17 W.

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

_____

United States Deputy Surveyor.

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

_____

_____

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, _____, 19

The foregoing field notes of the survey of the subdivisional lines of Township No. 43 South, Range No. 17 West of the Salt Lake Base and Meridian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin their under his contract No. 314, dated June 28, 1909, having been critically examined, and the necessary corrections and explanations made, the said field notes, and surveys they describe, are hereby approved.

Thomas Riley

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.

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BOOK A-368

C.

FILED

FEB 17 1911

FIELD NOTES

OF THE SURVEY OF THE

WEST AND NORTH BOUNDARIES

O F

TOWNSHIP NO. 42 SOUTH,

RANGE NO. 17 WEST

Of the SALT LAKE BASE AND *Meridian,*

U T A H,

AS SURVEYED BY

H. Winwood and Harry L. Chamberlin, *United States Deputy Surveyors,*

under his Contract No. 314, *dated* June 28, *1909,*

Survey commenced November 22, *1909,*

Survey completed November 29, *1909.*

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WBdy 6-00-58

N " 5-78-63

11 79 21

NAMES AND DUTIES OF ASSISTANTS.

Maurice J.McGrath,	Chainman.
Carl Fordom,	Chainman.
Samuel Reber,	Roundman.
J.Henry Graf,	Axman.
John Williamson	Flagman.

BOOK A-368

INDEX DIAGRAM.

Township 42 South, *Range* 17 West

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Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Maurice J.McGrath and Carl Fordom

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level t chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; th we will report the true distances to all notable objects, and the true lengths of all lines that we assist measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey the West and North Boundaries of Township 42 South,R. 17 W.of the S.L B.and M.,Utah.

Maurice J McGrath, Chainm

Carl Fordom, Chainm

Subscribed and sworn to before me this 22 day of November, 1909.

SEAL

Job N. Winwood
U.S.Deputy Surveyor.

WE, I, Samuel Reber and

do solemnly swear that we will well and truly perform the duties of moundman in the establishm of corners, according to the instructions given me us, to the best of our my skill and ability, in the survey the West and North Boundaries of Township 42 South,R.17 W.of the S.L B.and M.,Utah.

, Moundm

Samuel Reber, Moundm

Subscribed and sworn to before me this 22 day of November, 1909.

SEAL

Job N. Winwood
U.S.Deputy Surveyor.

WE, I, J.Henry Graf and

do solemnly swear that we will well and truly perform the duties of axman in the establishment of corn and other duties, according to instructions given me us, to the best of our my skill and ability, in the survey the west and north boundaries of Township 42 South,R.17 W.of the S.L B.and M.,Utah.

J. Henry Graf, Axm

, Axm

Subscribed and sworn to before me this 22 day of November, 1909.

SEAL

Job N. Winwood
U.S.Deputy Surveyor.

I, John Williamson, do solemnly swear that I will well and tr perform the duties of flagman according to instructions given me, to the best of my skill and ability, in survey of the west and north boundaries of Township 42 South,R. 17 W.o the S.L.B.and M.,Utah.

John Williamson, Flagm

Subscribed and sworn to before me this 22 day of November, 1909.

SEAL

Job N. Winwood
U.S.Deputy Surveyor.

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Chains. Survey commenced Nov.22, 1909, and executed with the instrument described in book "A" of this survey.

At the cor.of Tps.42 and 43 S., Rs.17 and 18 W.,established under this contract, and heretofore described, lat.37° 0'05" N.; long.113°44'07" W., I set off 37° 05'N.on lat.arc;20°07' S.on decl.arc; and at 2 h.46 m. p.m.l.m.t.determine ~~xithxthexsolar~~ a meridian with the solar, and mark a point thereof on a stone firmly set in the ground 5 chs.N.of the corner.

Nov.22,1909.

Nov.23: At 3 h.17m.a.m.l.m.t.I observe Polaris at western elongation, in accordance with 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.

At 8 h.14m. a.m.l.m.t.I lay off the azimuth of Polaris 1 °28' to the east, and mark the meridian thus determined by cutting a small groove in the stone set on which the meridian falls 0.3 ins. west of the mark determined by the solar.

At 8 h.46 m.a.m.l.m.t.I set off 37°05' N.on the lat.arc; 20°17' S.on the decl.arc; and mark a point in the meridian determined with the solar by a cross on the stone already set 5 chs.N.of my station; this mark falls 0.2 ins.west of the meridian established by the Polaris observation.

The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0 '16" E. and 0 '10" W.of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h.46m.a.m. is N.16° 30'E., the angle thus determined gives

WEST BOUNDARY T. 42 S., R. 17 W.

Chains.	
	the mag.decl.16° 30'W.
	From said township corner I run
	North bet.secs.31 and 36,
	Descending over mountainous land; through heavy cedar and pinon pine.
22.00	Bottom of canon, 250 ft.deep, drains N.40° W.
29.50	Ravine,30 ft.deep, drains west into canyon.
36.00	Ravine on side of canyon, 40 ft.deep, drains W.
	Ascending diagonally from canyon.
40.00	On top of ridge 200 ft.high,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 36 in W.half, S 31 in E.half; from which
	A pine 8 ins.dia., bears S.55° 30'W. 85 lks.dist. mkd.¼ S 36 B T
	A pine 6 ins.dia.bears S.52° E. 35 lks.dist., mkd.¼ S 31 B T Descend.
47.00	Ore road, Apex Mine to Shem, bears N.35° W. and S.35°E.
49.00	Canyon, 40 ft.deep, drains SW.
	Ascend.
54.00	Spur from East, 50 ft.high.
	Descend.
59.00	Canyon, 40 ft.deep, drains N.50° W.
	Ascend.
64.00	Spur from East, 60 ft.high.
	Descend.
68.50	Canyon, 50 ft.deep, drains N.80° W.
	Ascend.
71.00	Spur from East, 40 ft.high.
	Descend.
75.00	Ravine, 30 ft.deep, drains W.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.25,30,31, and 36, marked on

WEST BOUNDARY T. 42 S., R. 17 W.

Chains.	
	brass cap, T 42 S R 18 W S 25 in NW. T 42 S R 17 W S 30 in NE. S 31 in SE.; and S 36 in SW.quadrants; from which A pinon pine 10 ins.dia., bears N.35° 50'E. 24 lks. dist., mkd.T 42 S R 17 W S 30 B T A pinon pine, 14 ins.dia., bears S.85° 10'E. 34 lks.dist., mkd.T 42 S R 17 W S 31 B T A pinon pine, 16 ins.dia., bears S 30° 46'W. 37 lks.dist., mkd.T 42 S R 18 W S 36 BT A pinon pine 8 ins.dia., bears N.40° 35'W. 45 lks. dist., mkd.T 42 S R 18 W S 25 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pinon pine.
	Mountainous land 80.00 chs.
	Nov.23: At this cor.I set off 20° 19'S.on decl.arc; and at 11 h. 46 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 06'N.
	North bet.secs.25 and 30,
	Descending over mountainous land; through cedar and pinon pine timber; black brush undergrowth.
2.90	Steep ravine, 80 ft.deep, drains W.
	Ascend along west side of mountain, about 200 ft.above valley to the west.
17.00	Descend.
36.00	Canyon, 70 ft.deep, drains N.60° W.
40.00	Spur ridge from SE., 65 ft.high,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., mkd.on brass cap $\frac{1}{4}$ S 25 in W. half, S 30 in E.half; from which

WEST BOUNDARY T. 42 S., R. 17 W.

Chains.	
	A pinon pine 10 ins.dia., bears S.58° 30'W. 45 lks. dist., mkd. $\frac{1}{4}$ S 25 B T
	A pinon pine 8 ins.dia., bears N.15° 30'E.34 lks. dist., mkd. $\frac{1}{4}$ S 30 B T
	Descend.
50.00	Canyon 60 ft.deep, drains N.80° W.
	Ascend.
54.00	Spur fromeeast, 50 ft.high.
59.00	Ravine, 40 ft.deep, drains west.
	Thence over rolling ground,
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.19,24,25, and 30, marked on brass cap
	T 42 S R 18 W S 24 in NW.
	T 42 S R 17 W S 19 in NE.
	S 30 in SE.; and
	S 25 in SW.quadrants; from which
	A pinon pine 10 ins.dia., bears N.16° 08'W. 92 lks.dist., marked T 42 S R 18 W S 24 B T
	A pinon pine 6 ins.dia.bears N.74° E. 33 lks.dist. marked T 42 S R 17 W S 19 B T
	A pinon pine 8 ins.dia., bears S.42° 35'E. 143 lks.dist., marked T 42 S R 17 W S 30 B T
	A pinon pine 7 ins.dia., bears S.15° 47'W. 215 lks. dist., marked T 42 S R 18 W S 25 B T
	Land, mountainous and rolling.
	Soil,rocky; 4th rate.
	Timber, pine and cedar.
	Undergrowth, black brush.
	Mountainous land 80.00 chs. Nov.23, 1909.

Nov.24:Cloud obscures sun; observation impossible.
North bet.secs.19 and 24,
Ascending abrupt rocky formation on W.side of low

WEST BOUNDARY T. 42 S., R. 17 W.

Chains.	
	mountain, through scattering cedar and pinon pine.
4.00	Spur, 60 ft.high, bears NW.
	Descend abruptly.
7.00	Hollow, 100 ft.deep, drains NW.
	Ascend abruptly over series of small ravines and spurs, along west slope of ridge; through dense cedar and pinon pine, bearing E. and W.
18.00	Spur, 150 ft.high, bears NW.
	Descend abruptly.
22.50	Hollow, 75 ft.deep, drains NW.
	Ascend abruptly.
33.20	Spur, 100 ft.high bears NW.
	Descend.
35.00	Hollow, 90 ft.deep, drains NW.
	Ascend steep W.slope.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 24 in W.half, S 19 in E.half; from which A cedar 12 ins.dia., bears S.50° 42'E. 7 lks.dist. marked $\frac{1}{4}$ S 19 B T A pinon pine 8 ins.dia., bears S.61° 10'W. 30 lks. dist., marked $\frac{1}{4}$ S 24 B T
59.00	Leave dense cedar and pine; ascend through scrub sage and mahogany undergrowth,
69.50	Main ridge, 400 ft.above hollow, bears NW. and SE.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.13,18,19, and 24, marked on brass cap T 42 S R 18 W S 13 in NW. T 42 S R 17 W S 18 in NE. S 19 in SE.; and S 24 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor. Pits impracticable.

WEST BOUNDARY T. 42 S., R. 17 W.

Chains.	
	Land, mountainous.
	Soil, rocky; 3d rate.
	Timber cedar and pine.
	Undergrowth mahogany, sage, and black brush.
	Mountainous land 80.00 chs.
	Nov.24: At this cor.I set off 20° 32'S.on decl.arc; and at 11 h. 47 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.
	North bet.secs.13 and 18,
	Descending over mountainous land, on east side of spur or ridge, limestone formation; through dense undergrowth of sage, mahogany, and black brush.
7.00	Ravine, 200 ft.deep, drains NE.
	Ascend.
18.50	Spur, 100 ft.above ravine, bears NE.
	Descend abruptly.
24.25	Hollow, 150 ft.deep, drains NE.
	Ascend abruptly over slide rock.
28.06	Spur, 50 ft.high bears NE.
	Descend over rolling ground.
33.00	Hollow 60 ft.deep, drains NE.
	Ascend.
36.50	Spur, 40 ft.high bears NE.
	Descend.
40.00	Set an iron post 3 ft.long, 1 in. dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 13 in W.half, S 18 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor. Pits impracticable.
51.50	Enter scattering cedar and pine.
68.00	Ravine, 500 ft.deep, drains NE.
	Ascend.
80.00	Set an iron post 3 ft.long,3 ins.dia., 24 ins.in the

Chains.

ground, for cor.of secs.7,12,13, and 18, marked on brass cap

T 42 S R 18 W S 12 in NW.

T 42 S R 17 W S 7 in NE.

S 18 in SE.; and

S 13 in SW.quadrants; from which

A cedar 10 ins.dia., bears N.26° 30'E. 136 lks. dist., marked T 42 S R 17 W S 7 B T

A cedar 12 ins.dia., bears S.65° 30'E. 54 lks. dist.,marked T 42 S R 17 W S 18 B T

A cedar 10 ins.dia., bears S.23° 30'W. 10 lks.dist. marked T 42 S R 18 W S 13 B T

A cedar 5 ins.dia., bears N.42° 15'W. 30 lks.dist. marked T 42 S R 18 W S 12 B T

Corner is 100 ft.above ravine.

Land, mountainous.

Soil, rocky; 3d rate.

Timber, scattering cedar and pine.

Undergrowth sage, mahogany, and black brush.

Mountainous land 80.00 chs.

Nov.24,1909.

Nov.25:At 8 h. 47 m.a.m.l.m.t.I set off 20°41'S.on decl. arc; 37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,12,13, and 18.

Thence I run

North bet.secs.7 and 12,

Over mountainous land; through heavy cedar and pine, and dense undergrowth of black brush.

7.00 Ascend abruptly, over rocky surface.

15.20 Spur, 200 ft.above cor., bears NE. and SW. Descend.

18.00 Hollow, 75 ft.deep, drains E.

Ascend abruptly.

WEST BOUNDARY T. 42 S., R. 17 W.

Chains.	
22.20	Saddle in ridge 60 ft.high, bearing NE. and SW.
	Descend abruptly.
40.00	Foot of abrupt slope, 300 ft.below ridge,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 in W.half, S 7 in E.half; from which
	A cedar limb 5 ins.dia., bears S.12° 30'E. 35 lks. dist., marked ¼ S 7 B T
	A cedar 6 ins.dia., bears S.48° W. 16 lks.dist. marked ¼ S 12 B T
	Descend gradually; leave heavy cedar and pine; enter scattering cedars.
44.25	Enter wide wash in hollow, 400 ft.deep, course NE.
49.39	Road in wash from Shem to Apex Mine and to Bunkerville, bears NE. and SW.
50.75	Leave wash; ascend abruptly.
55.00	Spur, 40 ft.high bears SE.
	Descend abruptly.
58.50	Hollow, 75 ft.deep, course SE. Ascend.
60.00	Spur bears SE.
	Descend, over rolling ground.
67.00	Hollow, 75 ft.deep, course E.
74.00	Telephone line, from Apex Mine to Shem, bears NE. and SW,
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.1,6,7, and 12, marked on brass cap,
	T 42 S R 18 W S 1 in NW.
	T 42 S R 17 W S 6 in NE.
	S 7 in SE.; and
	S 12 in SW.quadrants; from which
	A cedar 12 ins.dia., bears N.47° 30'E. 140 lks. dist., marked T 42 S R 17 W S 6 B T
	A cedar 8 ins.dia., bears S.69° 00'E. 100 lks.dist.

Chains.	
	marked T 42 S R 17 W S 7 B T
	A cedar 8 ins.dia., bears S.1° 00'W. 129 lks.dist. marked T 42 S R 18 W S 12 B T
	A cedar 10 ins.dia., bears N.70° 45'W. 170 lks. dist., marked T 42 S R 18 W S 1 B T
	Land, mountainous.
	Soil, gravelly and rocky; 3d and 4th rate.
	Timber cedar and pine.
	Undergrowth, mahogany, sage and black brush.
	Mountainous land 80.00 chs.
	Nov.25: At this cor.I set off 20° 44'S.on decl.arc; and at 11 h. 47 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 09'N.
	North bet.secs.1 and 6,
	Descending gradually over rolling ground, through scattering cedar, with undergrowth of sage and black brush; gravelly soil.
5.00	Hollow , 150 ft.deep, course NE.
	Ascend over rolling ground.
23.50	Spur, 100 ft.high, projects E.
	Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 1 in W.half, S 6 in E.half; from which
	A cedar 12 ins.dia., bears S.40° 30'W. 20 lks.dist. marked ¼ S 1 B T
	A pine 14 ins.dia., bears N.75° 15'E. 38 lks.dist. marked ¼ S 6 B T
51.00	Hollow, 150 ft.deep, course NE.
	Ascend.
61.50	Spur, 90 ft.high, projects E.
	Descend gradually.

Chains.	
65.00	Hollow, 75 ft.deep, course E.
	Ascend.
77.00	Spur, projects NE.
	Descend abruptly.
80.58	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of Tps.41 and 42 S., Rs.17 and 18 W. marked on brass cap,

T 41 S in N.

R 18 W S 36 in NW.

R 17 W S 31 in NE.

R 17 W S 6 in SE.

R 18 W S 1 in SW.quadrants,

T 42 S in S.; from which

A cedar 4 ins.dia., bears N.68° E. 228 lks.dist. marked T 41 S R 17 W S 31 B T

A cedar 5 ins.dia., bears S.14° E. 41 lks.dist. marked T 42 S R 17 W S 6 B T

A cedar 8 ins.dia., bears S.34° W. 90 lks.dist. marked T 42 S R 18 W S 1 B T

A cedar 4 ins.dia., bears N.40° 30'W. 41½ lks.dist. marked T 41 S R 18 W S 36 B T

Land, mountainous and rolling.

Soil, gravelly and rocky; 3d rate.

Timber, cedar and pine.

Undergrowth, sage and black brush.

Mountainous land 80.00 chs.

Nov.25, 1909.

For general description see notes of the subdivision of this township.

NORTH BOUNDARY T. 42 S., R. 17 W.

Chains.	
	Survey commenced Nov.26 1909, and executed with the instrument described in book "A" of this survey.
	At 8 h.47m.a.m.l.m.t.I set off 20°53' S.on decl.arc;37° 10'N.on lat.arc; and determine a meridian with the solar at the cor.of Tps.41 and 42 S., Rs.16 and 17 W. heretofore described. Thence I run
	West on a random line along the N.bdy.of Tp., setting temp. ¼ sec.and sec.cors. at intervals of 40.00 chs.; and at 478.63 chs.fall 5 lks. S.of the cor.of Tps.41 and 42 S., Rs.17 and 18 W., heretofore described.
	Thence I run
	East on true line bet.secs.6 and 31,
	Ascending.
.75	Spur, bears NE.
	Descend over rolling ground.
11.88	Road in hollow 300 ft.deep draining S.,Shem to Apex Mine.
	Ascend.
15.50	Point of rocky ridge projects S., and bears N.
	Descend.
18.15	Hollow, 150 ft.deep, drains S.
	Ascend abruptly.
24.65	Top of ridge bears NE. and SW.,200 ft.high.
38.63	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 31 in N.half, S 6 in S.half; from which
	A cedar 7 ins.dia., bears N.71° E. 118 lks.dist. marked ¼ S 31 B T
	A cedar 6 ins.dia., bears S.85° E. 100 lks.dist. marked ¼ S 6 B T
	Descend over rolling land.
42.45	Wash 15 lks.wide, 3 ft.deep, in hollow 300 ft.deep, drains NE.

Chains.

44.04 Telephone line to Shem bears NE. and SW.

Ascend over rocky ground.

65.35 Top of ridge, bears NE. and SW. Descend abruptly.

73.00 Hollow, 400 ft.deep, course NE. Thence ascend abruptly through scattering cedar and pine, and black brush.

78.63 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.5,6,31, and 32, marked on brass cap,

T 41 S R 17 W in N.

S 31 in NW.,

S 32 in NE.,

S 5 in SE.; and

S 6 in SW.quadrants;and

T 42 S R 17 W in S.;from which

A pine 6 ins.dia., bears N.24° E. 59 lks.dist. marked T 41 S R 17 W S 32 B T

A cedar 4 ins.dia., bears N.62° W. 123 lks.dist. marked T 41 S R 17 W S 31 B T

A cedar 5 ins.dia., bears S.4° 30'E. 104 lks.dist. marked T 42 S R 17 W S 5 B T

No other bearing trees within limits;raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

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

Timber, cedar and pine.

Undergrowth, black brush.
Mountainous land 80.00 chs.

East between secs.5 and 32,

Ascending abruptly over rocky land; through scattering cedar.

3.00 Top of ridge, 150 ft.high bears NE. and SW.

Descend over large boulders.

8.00 Foot of descent.

30.50 Road from Shem to Bunkerville and Apex Mine bears NE.

NORTH BOUNDARY T. 42 S., R. 17 W.

Chains.	
	and SW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 32 in N.half, S 5 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ft.base, 1½ ft.high N.of cor.
43.00	Small ridge, 15 ft.high, bears N. and S.
72.65	Wood road bears N. and S.
77.00	Wash, 50 lks.wide, 2 ft.deep, drains NE.
	Thence over level land; through undergrowth.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.4,5,32, and 33, marked on brass cap T 41 S R 17 W in N. T 42 S R 17 W in S.; S 32 in NW. S 33 in NE. S 4 in SE.; and S 5 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, mountainous and level.
	Soil, gravelly; 3d rate.
	Timber, scattering cedar.
	Undergrowth sage and lightning brush.
	Mountainous land 72.65 chs.
	Nov.27: At this cor.I set off 21° 06'S.on decl.arc; and at 11 h. 48 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 10'N.

East between secs.4 and 33,

Over nearly level land; through sage and black brush.

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

NORTH BOUNDARY T. 42 S., R. 17 W.

Chains.	
	ground, for ¼ sec.cor., marked on brass cap ¼ S 33 in N.half, S 4 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
68.00	Begin abrupt ascent.
76.00	Ridge 200 ft.above ¼ sec.cor. bears N. and S.
	Descend.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.3,4,33, and 34, marked on brass cap
	T 41 S R 17 W in N.
	T 42 S R 17 W in S.
	S 33 in NW.
	S 34 in NE.
	S 3 in SE.; and
	S 4 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Land, mountainous and nearly level.
	Soil, gravelly; 3d rate.
	No timber.
	Undergrowth, sage and black brush.
	Mountainous land 12.00 chs.
	Nov.27, 1909.

Nov.29 1909: At 8 h.48m.a.m.l.m.t.I set off 37° 10'N. on lat.arc; 21° 25' S.on decl.arc; and determine a meridian with the solar at the cor.of secs.3,4,33, and 34. Thence I run

East between secs.3 and 34,

	Descending abruptly over rocky land.
8.00	Bottom of hollow, 100 ft.deep, drains SE.
	Ascend abruptly.

NORTH BOUNDARY T. 42 S., R. 17 W.

Chains.	
9.00	Conglomerate ledge bears NW. and SE.
	Descend gradually over ground sloping north.
39.00	Descend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 34 in N.half, S 3 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	Corner is on W.side of small valley.
	Thence over nearly level ground across flat which extends south; through sage and black brush.
55.00	Begin abrupt ascent.
60.00	Top of ridge, 150 ft.above foot. bears N. and S.Desc.
67.00	Ravine, drains E.
	Thence descend gently along ravine.
80.00	Set an iron post 3 ft.long, 3 ins.dia., in mound of stones 2 ft.high, for cor.of secs.2,3,34, and 35, marked on brass cap T 41 S R 17 W in N. T 42 S R 17 W in S., S 34 in NW. S 35 in NE. S 2 in SE.; and S 3 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Impossible to set post in ground.
	Corner is on E.slope near bottom of ravine,draining NE.
	Land, mountainous and nearly level.
	Soil, gravelly and rocky; 3d and 4th rate.
	Timber, few scattering cedars.
	Undergrowth sage and black brush.
	Mountainous land 65.00 chs.

NORTH BOUNDARY T. 42 S., R. 17 W.

Chains.	
	East between secs.2 and 35,
	Over broken rocky ground; through black brush,
4.00	Small ravine drains NE.
10.00	Small ravine drains N.
17.00	Enter basin or wash.
33.00	Ledge of conglomerate rock, bearing NE. and SW. at bend of basin or wash.
40.00	On S.side of valley, sloping north,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 35 in N.half, S 2 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
41.00	Enter rim rock of Santa Clara Canyon.
	Thence along rough side of Santa Clara Canyon.
55.50	Descend.
73.00	Ravine 50 ft.deep, drains N.20° E.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.1,2,35, and 36, marked on brass cap T 41 S R 17 W in N. T 42 S R 17 W in S. S 35 in NW. S 36 in NE. S 1 in SE.; and S 2 in SW.quadrants;; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Pits impracticable.
	Land, broken.
	Soil, rocky; 4th rate.
	No timber.
	Nov.29,1909: At this cor.I set off 21°27' S.on decl. arc; and at 11 h.48m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 10'N.

NORTH BOUNDARY T. 42 S., R. 17 W.

Chains.	
	East between secs.1 and 36,
	Over gently rolling land; descending.
6.25	Begin abrupt descent, over large boulders.
10.50	Foot of descent.
13.80	Cross Santa Clara River, 75 lks.wide, 1 ft.deep, course SE.
23.40	Recross Santa Clara River, course NE., 75 lks.wide, 1 ft.deep. Thence along S.edge of river.
30.50	Recross Santa Clara River, course SE., 75 lks.wide, 1 ft. deep.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 36 in N.half, S 1 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor. Pits impracticable.
46.95	Wagon road St.George to Shem bears N.60° W. and S.60° E.
	Ascend.
59.50	Ridge, 75 ft.high bears S.40° E. and N.40° W.
	Descend.
69.00	Wash, drains S. Ascend abruptly.
72.20	Top of abrupt ascent, 75 ft.above foot.
80.00	The cor.of Tps.41 and 42 S., Rs.16 and 17 W.
	Land, rolling on N.slope of Santa Clara River canyon.
	Soil, rocky; 4th rate.
	No timber.
	Scattering sage and black brush undergrowth.
	Nov.29, 1909.

For general description see notes of the Subdivision of this township.

BOUNDARIES OF T. 42 S., R. 17 W.

Lines Designated	True Bearing	Dist.	Latitudes		Departures.	
			N.	S.	E.	W.
		chs.	chs.	chs.	chs.	chs.
East bdy.sec.36	North	80.85	80.85	.....	.....	.....
East bdy.sec.25,	N.0° 03'E.	80.81	80.81	.....	07	.....
East bdy.sec.24,	N.0° 03'E.	80.93	80.93	.....	07	.....
East bdy.sec.13,	North	80.47	80.47	.....	.....	.....
East bdy.sec.12,	North	76.69	76.69	.....	.....	.....
East bdy.sec.1	N.0° 32'W.	80.83	80.83	.....	.....	.75
North bdy.	West	478.63	.....	.....	.....	478.63
West bdy.	South	480.58	.....	480.58	.....	.....
South bdy.	East	480.00	.....	.....	480.00	.....
Convergency						.55
	Totals		480.58	480.58	480.14	479.93
			480.58		479.93	
	Error in lat.and dep.		.00		.21	

Job N. Winwood
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 Job H. Winwood and Harry L. berlin, United States Deputy Surveyors, to assist in running, measuring, and ing the lines and corners described in the foregoing field notes of the survey of the west and h boundaries of Township 42 South, R. 17 W., S. L. B. & M., Utah, ng the respective capacities in which they acted:

Maurice J. McGrath, *Chainman.*

Carl Fordom, *Chainman.*

Samuel Reber, *Moundman.*

, *Moundman.*

J. Henry Graf, *Axman.*

, *Axman.*

John Williamson, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Job H. Winwood

, United States Deputy Surveyor, in surveying all parts or portions of the the west and north boundaries of Township 42 South, Range 17 West

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

Maurice J McGrath, *Chainman.*

Carl Fordom, *Chainman.*

Samuel Reber, *Moundman.*

, *Moundman.*

J. Henry Graf, *Axman.*

, *Axman.*

John Williamson, *Flagman.*

scribed and sworn to before me this 29th day of November, 1909.

SEAL

Job H. Winwood

U. S. Deputy Surveyor.

161

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Job H. Winwood, United States Deputy Surve
solemnly swear that, in pursuance of a contract received from Thomas Hull
United States Surveyor General for Utah, bearing date
28 day of June, 1909, I have well, faithfully, and truly, in n
proper person, and in strict conformity with the instructions furnished by the United States Su
General for Utah, the Manual of Surveying Instructions, and the laws
United States, surveyed all those parts or portions of the West and North Boundaries
of Township 42 South, R. 17 W. [illegible]

of the Salt Lake
Base and meridian, in the State of Utah, which are represented
foregoing field notes as having been surveyed by me, and under my direction; and I do further so
swear that all the corners of said survey have been established and perpetuated in strict accordan
the Manual of Surveying Instructions, and the special written instructions of the United States Su
General for Utah and in the specific manner described in the field notes, a
the foregoing are the original field notes of such survey.

Job H. Winwood
United States Deputy Su

Subscribed by said Job H. Winwood, and sworn to before me
this 18 day of February, 1911.

SEAL

U.S. Surveyor-General
for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 19

The foregoing field notes of the survey of the west and north boundaries of
Township No. 42 South, Range No. 17 West of the Salt Lake Base and
Meridian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin
their
under his contract No. 314, dated June 28, 1909, havin
critically examined, and the necessary corrections and explanations made, the said field notes, a
surveys they describe, are hereby approved.

United States Surveyor G

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 of

United States Surveyor G

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Page

Ex. 4/10

4—679.

BOOK A-368

FILED
FEB 17 1911

E.W.

D.

FIELD NOTES

OF THE SURVEY OF THE

S U B D I V I S I O N

And

RETRACEMENT OF EAST BOUNDARY

O F

TOWNSHIP NO. 42 SOUTH

RANGE NO. 17 WEST

desig. 52

Of the SALT LAKE BASE AND *Meridian,*

U T A H,

AS SURVEYED BY

ob H. Winwood and Harry L. Chamberlin, *United States Deputy Surveyors,*

Under their *Contract No.* 314, *dated* June 28, *19* 09,

Survey commenced November 19, *19* 09.

Survey completed December 14, *19* 09.

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closing 13-67

subs - 60-02-65

Retr E Bdy 6-00-58

BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Maurice J.McGrath,	Chainman.
John Williamson,	Chainman.
Uberto P.Eldredge,	Chainman.
Andre J.Kerr,	Chainman.
William Fawcett,	Moundman.
Jacob L.Laub,	Moundman.
Milo Canfield,	Flagman.
Elmo Adams,	Flagman.

For preliminary affidavits see book "B" T. 43 S., R. 17 W.

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BOOK A-368

INDEX DIAGRAM.

Township 42 South, *Range* 17 West

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Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

WE, _____ and _____

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

_____

_____, *Chainma*

_____, *Chainma*

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

_____

SEAL

_____

WE, _____ and _____

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

_____

_____, *Moundma*

_____, *Moundma*

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

_____

SEAL

_____

WE, _____ and _____

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

_____

_____, *Axman*

_____, *Axman*

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

_____

SEAL

_____

I, _____, 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 _____

_____, *Flagman.*

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

_____

SEAL

_____

Chains. Survey commenced Nov.19, 1909 and executed with the instrument described in book "B" of this survey.

At the cor.of secs.1,2,35, and 36 on the S.bdy.of Tp. established under this contract and heretofore described, lat.37° 04' 53" N.; long.113°38 '42 " W., I set off 37° 05'N.on lat.arc;19°27' S.on decl.arc; and at 2h.45m.p.m.l.m.t.determine with the solar a meridian, and mark a point thereof on a stone firmly set in the ground 5 chs.N.of the corner.

Nov.19, 1909.

Nov.20: At 3 h.30 m.a.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 .

At 8 h.16m.a.m.l.m.t.I lay off the azimuth of Polaris 1 °29' to the east, and mark the meridian thus determined by cutting a small groove in the stone set Nov. 19 on which the meridian falls 0.3 ins.west of the mark determined by the solar.

At 8 h.46m.a.m.l.m.t.I set off 37°05' N.on the lat.arc; 19°38' S.on the decl.arc; and mark a point in the meridian determined with the solar by a cross on the stone already set 5 chs.N.of my station; this mark falls 0.2 ins.west of the meridian established by the Polaris observation.

The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0'16 " E. and 0' 49 " W.of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h.16m.

Chains.	
	a.m.is N.16° 30'W.
	Thence I run
	N.0° 01'W.bet.secs.35 and 36,
	Over mountainous land,
1.50	Edge of ridge bearing due east.
	Descend.
3.50	Base of ridge, 50 ft.high.
	Thence across valley; through sage and black brush.
39.50	Wash, 30 lks.wide, 2 ft.deep, drains SE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.mkd.brass cap ¼S35, in W.half S 36 in E.half; and raise a mound of stone 2 ft.base 1½ ft.high W.of cor.Pits impracticable.
64.00	Base of gypsum cliffs.
	Ascend abruptly.
71.00	Top of cliffs 350 ft.high.
	Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.25,26,35, and 36, marked on brass cap T 42 S S 26 in NW. R 17 W S 25 in NE. S 36 in SE., and S 35 in SW.quadrants; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Land,rough and broken.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth sage and black brush.

	East on a random line bet.secs.25 and 36,
40.00	Set temp.¼ sec.cor.
79.98	Intersect E.bdy.of Tp. 85 lks. S.of the corner of secs.

Subdivision of T. 42 S., R. 17 W.

Chains. 25,30,31, and 36, which is a limestone 4 x 7 x 5 ins. above ground, firmly set and marked and witnessed as described by the surveyor general.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.25 and 36, marked on brass cap

T 42 S in N.

C C S 30 S 31 R 16 W in E.half;

S 36 R 17 W in SW.; and

S 25 in NW.quadrant; dig pits 24 x 18 x 12 ins.crosswise on each line N. and S.of post 3 ft.and W.of post 7 ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

I destroy all marks on the cor. of secs.25,30,31, and 36, that pertain to secs.25 and 36.

Nov.19; 1909: At this cor.I set off 19° 26'S.on decl. arc; and at 11 h. 45 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 06' N.

Thence I run

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

Along wash, crossing and recrossing.

19.98 Bottom of wash, dry, 20 lks.wide, 1 ft.deep, draining East. Ascend gently.

39.99 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 25 in N.half, S 36 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1⅛ ft.high N.of cor.

Corner is on E.slope of ridge.

41.00 Top of ridge, 60 ft.high, bearing N. and S.

Descend abruptly.

43.00 Foot of descent.

44.00 Small ravine, drains SE. Ascend.

Subdivision of T. 42 S., R. 17 W.

Chains.	
59.23	Top of ridge, 50 ft.high, bearing almost E. and W.
	Descend.
61.48	Bottom of hollow, 80 ft.deep, drains SE.
	Ascend gently.
77.48	Top of small ridge, bearing N. and S.
79.98	The cor.of secs.25,26,35, and 36.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.98 chs.
	Nov.19, 1909.

Nov.20: At 8 h. 46 m.a.m.l.m.t.I set off 19° 38'S.on the decl.arc; 37° 06'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.25,26,35, and 36. Thence I run

N.0° 01'W.bet.secs.25 and 26,

Over rolling gypsum hills, covered with black brush.

14.00	Head of dry wash, 15 lks.wide, 1 ft.deep, 50 ft.above corner; draining E.
	Ascend gently.
22.75	Top of ridge, 100 ft.high, bears NE. and SW.
	Descend.
36.00	Bottom of hollow, 30 ft.deep, drains SW.
	Ascend.
37.00	Top of small divide 20 ft.high, between two washes, draining NE. and SW. Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 26 in W.half, S 25 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth $3\frac{1}{2}$ ft.base, $1\frac{1}{2}$ ft.high W.of cor.
	In bottom of small ravine draining NE.

Chains.	
43.00	Ascend gently.
47.00	Thence over rolling country; draining NE.
65.00	Top of ridge 200 ft. above ¼ sec. cor. bears NE. and SW. Descend gently.
71.00	Hollow, 20 ft. below ridge, drains E.; Ascend.
80.00	On E. slope of knoll, Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the ground, for cor. of secs. 23, 24, 25, and 26, marked on brass cap T 42 S S 23 in NW. R 17 W S 24 in NE. S 25 in SE.; and S 26 in SW. quadrants; dig pits 18 x 18 x 12 ins. in each sec. 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor. ✓ Land, mountainous. Soil, clay, and decomposed gypsum; 4th rate. No timber. Undergrowth black brush. Mountainous land 80.00 chs. ✓ Nov. 20: At this cor. I set off 19° ✓ 40' S. on decl. arc; and at 11 ✓ h. 46 m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° ✓ 07' N.

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

40.00	Set temp. ¼ sec. cor.
80.15	Intersect E. bdy. of Tp. 161 lks. S. of the cor. of secs. 19, 24, 25, and 30, heretofore described. Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the ground, for closing cor. of secs. 24 and 25, marked on brass cap, T 42 S in N.

Chains.

C C S 19 S 30 R 16 W in E.half;
S 25 R 17 W in SW.; and
S 24 in NW.quadrant; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.

I destroy all marks on the cor.of secs.19,24,25, and 30 pertaining to secs. 24 and 25.

Thence I run

West on a true line bet.secs. 24 and 25,

Over rolling gypsum hills cut by small washes.

40.07½ Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground for ¼ sec.cor., marked on brass cap ¼ S 24 in N.half, S 25 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor. Pits impracticable.

Thence along hollow cut by innumerable small washes, draining easterly.

Ascend.

69.15 Small knoll about 50 ft.high

Descend.

76.15 Bottom of hollow 40 ft.deep, drains NE.

Ascend.

80.15 The cor.of secs.23,24,25, and 26.

Land, mountainous.

Soil rocky; 4th rate.

No timber.

Undergrowth, scattering black brush.

Mountainous land 80.15 chs.

Nov.20, 1909.

Nov.22: At 8 h.46 m.a.m.l.m.t.I set off 20°04'S.on decl. arc; 37° 07'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.23,24,25, and 26.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Thence I run
	N.0° 01'W.bet.secs.23 and 24,
	Descending into large wash draining SE.
4.00	Bottom of wash, 20 ft.below cor., 80 lks.wide, 2 ft. deep, drains SE.
	Thence ascend over rolling hills.
16.00	Base of large red sandstone bluffs 220 ft.above wash, bearing NE. and SW.
38.00	Top of west end of sandstone ridge about 200 ft.high bears NE. Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 23 in W.half, S 24 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Corner on N.slope of ridge, 30 ft.below top.
43.50	Descend abruptly over sandstone cliffs.
50.50	Bottom of ravine 250 ft.below ¼ sec.cor., drains NE.
	Ascend abruptly.
56.00	Top of ridge, 100 ft.high bearing NE.
63.00	Descend abruptly.
67.00	Descend gradually over rolling hills.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.13.14.23, and 24, marked on brass cap T 42 S S 14 in NW. R 17 W S 13 in NE. S 24 in SE., and S 23 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, mountainous.
	Soil, clay and altered gypsum, 3d rate.; rocky, 4th rate.

Subdivision of T. 42 S., R. 17 W.

Chains. No timber.

Undergrowth scattering sage and black brush.

Mountainous land 80.00 chs.

East on a random line bet.secs.13 and 24,

40.00 Set temp.$\frac{1}{2}$ sec.cor.

80.30 Intersect E.bdy.of Tp.2.59 chs.S.of the cor.of secs.13, 18,19, and 24, heretofore described.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.13 and 24, marked on brass cap

T 42 S in N.

C C S 18 S 19 R 16 W in E.half,

S 24 in SW., and

S 13 in NW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor. I destroy all marks on the cor.of secs.13,18,19, and 24 pertaining to secs.13 and 24.

Nov.22: At this cor.I set off 20° 07'S.on decl.arc;and at 11 h. 46 m.a.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 07'N.

Thence I run

West on true line bet.secs.13 and 24,

Ascending over broken country; through undergrowth.

2.50 Begin descent.

22.50 Ravine, 50 ft.deep, drains N.

29.00 Ravine drains NE. Ascend.

40.15 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 13 in N.half, S 24 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth $3\frac{1}{2}$ ft.base, $1\frac{1}{2}$ ft.high N.of cor.

61.00 Ridge, bears N.20° E. and S.20° W.

Descend.

Subdivision of T. 42 S., R. 17 W.

Chains.	
[illegible]	[illegible]
[illegible]	[illegible]
80.30	The cor.of secs.13,14,23, and 24.
	Land, rolling and broken.
	Soil, gravelly, clay, and rocky; 3d and 4th rates.
	No timber.
	Undergrowth sage and black brush.

N.0° 01'W.bet.secs.13 and 14,

Descending over rolling ground.

20.00	Meandering box canyon, 2 chs.wide, 25 ft.deep, drains NE.
36.00	Ravine, 20 ft.deep, drains NE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 14 in W.half, S 13 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
47.50	Small canyon, drains E., 30 ft.deep.
49.95	Wood road, bears E. and W.
61.50	Meandering wash 30 lks.wide, 2 ft.deep, drains E.
69.00	Ravine, 30 ft.deep; drains E.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 11,12,13, and 14, marked on brass cap T 42 S S 11 in NW. R 17 W S 12 in NE. S 13 in SE., and S 14 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, rolling.

Soil, gravelly; 3d rate.

Chains. No timber. Nov.22, 1909

Nov.29, 1909: At 8 h.48 m.a.m.l.m.t.I set off 21° 38'S. on decl.arc; 37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.11,12,13, and 14. Thence I run

East on a random line bet.secs.12 and 13,

40.00 Set temp.¼ sec.cor.

80.16 Intersect E.bdy.of Tp.3.19 chs.S.of the cor.of secs. 7,12,13, and.18, heretofore described.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.12 and 13, marked on brass cap

T 42 S in N.

C C R 16 W S 7 S 18 in E.half;

S 13 in SW.; and

S 12 in NW.quadrants; dig pits 24 x 18 x 12 ins.crosswise on each line N. and S.of post 3 ft. and W.of post 7 ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor. In cultivated land.

I destroy all marks on the cor.of secs.7,12,13, and 18 that pertain to secs.12 and 13.

Thence I run,over nearly level land.

West on a true line bet.secs.12 and 13,

Over cultivated land, belonging to John Gubler.

2.41 Leave cultivated land.

5.76 Wire fence bears N.40° E.

12.16 Wood road bears NE. and SW.

23.15 Leave level land; thence over broken land.

28.65 Wash drains N.

30.15 Wash drains N.

32.65 Wash drains NE.

Ascend.

Chains.	
36.65	Ridge between two washes, bears N. and S.
40.08	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 in N.half, S 13 in S.half;dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
48.65	Deep wash 2 chs.wide, 75 ft.deep, drains N.
	Thence along S.side of gypsum and clay cliffs, 50 ft. high.
80.16	The cor.of secs,11,12,13, and 14.
	Land, nearly level and broken.
	Soil, altered gypsum, rocky, and clay; 3d and 4th rate.
	No timber.

N.0° 01'W.bet.secs.11 and 12,

	Ascending over rolling clay hills; through scattering black brush.
9.75	Spur, 40 ft.high projects NE.
	Descend over rolling ground.
14.65	Descend abruptly.
21.00	Whitmore Wash, 300 ft.deep, course NE.
	Ascend abruptly.
24.00	Spur, 300 ft.above wash, projects NSE
	Descend over rolling land.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 11 in W.half, S 12 in E.half,dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Nov.29: At this cor.I set off 21° 27'S.on decl.arc; and at 11 h. 48 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 08'N.

Chains.	
	Descend over rolling land.
65.50	Wash, 40 lks. wide, 10 ft. deep, drains E.
78.50	Canyon, 150 ft. deep, drains SE.
	Ascend abruptly.
79.20	Top of ascent, rocky, bears E. and W.
80.00	Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the ground, for cor. of secs. 1, 2, 11, and 12, marked on brass cap T 42 S S 2 in NW. R 17 W S 1 in NE. S 12 in SE.; and S 11 in SW. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
	Land, level, but scored by deep washes.
	Soil, clay and stony; 4th rate.
	No timber. Undergrowth, black brush.

East on a random line bet. secs. 1 and 12,

40.00	Set temp. ¼ sec. cor.
80.20	Interset E. bdy. of Tp. 10 lks. N. of the cor. of secs. 1, 6, 7 and 12, heretofore described.
	Thence I run
	N. 89° 56' W. on a true line bet. secs. 1 and 12,
	Ascend over gentle slope.
24.20	Top of slope.
	Descend gentle slope, 40 ft. below top.
29.10	Top of bluff, 250 ft. high.
	Descend abruptly over boulders.
33.20	Base of bluff, bears NW. & SE; desc. through willows & asper
33.50	Road from Santa Clara to farms, bears NE. and SE.
37.00	E. bank of Santa Clara River, 1 ft. deep, flows S.
39.41	W. bank of Santa Clara River.

Subdivision T. 42 S., R. 17 W.

Chains.	
40.10	Point for ¼ sec.cor.falls in irrigation ditch flowing southeasterly. Corner not set.
40.41	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness ¼ sec.cor., marked on brass cap W C ¼, with T 42 S R 17 W S 1 in N.half, S 12 in S. half; from which
	A cottonwood tree 18 ins.dia., bears S.33° 50'E. 24.05 lchs.dist, marked W C ¼ S 12B T
	A blackwillow tree 10 ins.dia., bears N.38° 30'W. 47 lks.dist., marked W C ¼ S 1 B T
40.60	Wire fence bears N. and S.
45.20	Santa Clara River, 60 lks.wide, 1 ft.deep, flows NE.
46.20	Point of land bears N.
49.35	Bank of Santa Clara River, river flows SE.
49.45	Enter field; leave willows and aspens.
52.45	Wire fence bears NW. and SE. Leave cultivated field bearing SE., about ½ acre in field.
	Ascend rocky rolling land facing NE., through scattering black brush and creosote.
80.20	The cor.of secs.1,2,11, and 12.
	Land mountainous and gently rolling.
	Soil sandy loam, 1st rate, and rocky, 4 th.rate.
	Timber willow and aspen.
	Undergrowth scattering black brush and creosote.
	Mountainous land 36.00 chs.
	Nov.29, 1909

December 9:

Knowing from the retracement of W.bdy.of Tp.42 S., R. 16 W. that closing corners will be necessary against the N.bdy.of the township, I run

N.0° 01'W.on true line bet.secs.1 and 2,

Subdivision of T. 42 S. R.17 W.

Chains. Ascending over rocky land, through scattering black and creosote brush.

25.00 Begin abrupt ascent, bearing NW. and SE.

38.35 Top of ridge, 400 ft.above cor., bears E. and W.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap, ½ S 2 in W.half, S 1 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

Descend gradually.

50.00 Hollow, 100 ft.below ridge, drains NW. Descend.

80.78 Intersect N.bdy.of Tp. 88 lks.E.of the cor.of secs.1,2, 35, and 36, heretofore described.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.1 and 2, marked on brass cap

C C T 41 S R 17 W S 35 S36 in N.half,

S 1 in SE.; and

S 2 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.

Corner is 100 ft.below hollow.

I destroy all marks on the corner previously set for cor.secs.1,2,35, and 36, pertaining to secs.1 and 2.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Undergrowth scattering black and creosote brush.

Mountainous land 80.78 chs.

Dec.9, 1909.

Nov.23, 1909: At 8 h. 46 m.a.m.l.m.t.I set off 20° 17' S.on decl.arc; and 37° 05' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.2,3,34,

Chains.	
	and 35 on S.bdy.of Tp., heretofore described. Thence I run
	N.0° 01'W.bet.secs.34 and 35,
	Over mountainous land; ascending, through undergrowth.
2.25	Ridge, 40 ft.above sec.cor., bearing E. and W.
	Descend.
6.50	Small ravine 70 ft.deep, drains easterly.
13.25	Small wash, 30 lks.wide, 2 ft.deep, draining E.
17.00	Bottom of large dry wash, 4.00 chs.wide, 75 ft.deep, draining E.
	Ascend abruptly 200 ft.
23.50	Ridge bearing S.50° E.
	Descend over ground sloping NE: [illegible]
28.00	Dry wash drains S.80° E. Ascend.
38.75	Rim rock 100 ft.high, bears E. and W.
	Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 34 in W.half, S 35 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	This corner is on S.side of valley 50 ft.below top of rim rock.
	Thence over rough valley bottom, draining NE. into main wash.
50.00	Large wash, dry, drains E.
	Ascending.
68.00	Ridge between two valleys 150 ft.high bears E. and W.
69.00	Descend abruptly.
78.00	Wash drains E.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.26,27,34, and 35, marked on brass cap

Subdivision of T. 42 S., R. 17 W.

Chains.

T 42 S S 27 in NW.
R 17 W S 26 in NE.
S 35 in SE.; and
S 34 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, broken, mountainous.

Soil, rocky; 4th rate.

No timber. Undergrowth black brush.

Mountainous land on 70.00 chs.

East on a random line bet.secs.26 and 35,

40.00 Set temp.¼ sec.cor.

80.04 Intersect N. and S.line 14 lks.S.of the cor.of secs.25 26,35, and 36.

Nov.23,1909: At this cor.I set off 20° 19'S.on decl.arc; and at 11 h. 46 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 06'N.

Thence I run

S.89° 54'W.on true line bet.secs.26 and 35,

Ascending, over broken land.

3.54 Top of cliffs, 250 ft.high bearing NW. and SE.

Descend abruptly over gypsum cliffs,

10.04 Gulch in cliffs, 70 ft.deep, drains S.24° E.

13.04 Foot of abrupt descent.

Thence gentle descent over broken ground of altered gypsum formation.

32.00 Wash, 40 lks.wide, 2 ft.deep, drains S.

36.00 Wash, 30 lks.wide, 2 ft.deep, drains S.

40.02 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 26 in N.half, S 35 in S.half; dig pits 18 x 18 x 12ins. E. and W.of post 3 ft.dist.; and raise a mound of

Subdivision of T. 42 S., R. 17 W.

Chains.	
	earth 3½ ft.base, 1½ ft.high N.of cor.
41.00	Wash, 25 lks.wide, 2 ft.deep, drains S.80° E.
47.52	Wash, 20 lks.wide, 1 ft.deep, drains S.60° E.
	Thence along N.side of wash draining E. to
80.04	The cor.of secs.26,27,34, and 35.
	Land, broken rough gypsum formation.
	Soil, rocky; 4th rate.
	No timber.

N.0° 01'W.bet.secs.26 and 27,

	Over broken valley bottom; ascending.
8.00	Spur ridge projects E. Descend.
15.00	Wash 1 ch.wide, 2 ft.deep, drains E.
	Ascending over broken altered gypsum formation.
33.50	Ridge, 150 ft.above wash, bears NW. and SE.
	Descend.
38.50	Bottom of canyon, 70 ft.deep, drains SE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 27 in W.half, S 26 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Corner on steep NE.side of canyon, about 50 ft.from bottom.
	Ascend very steep cliffs of gypsum, 150 ft.
55.00	Top of cliffs 150 ft. above ¼ sec.cor.
	Thence over rough ground, cut by several small washes, draining easterly.
78.50	Ridge bears S.50° E.and N.50° W.
	Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.22,23,26, and 27, marked on brass cap
	T 42 S S 22 in NW.

Subdivision of T. 42 S., R. 17 W.

Chains.

R 17 W. S 23 in NE.
S 26 in SE., and
S 27 in SW. quadrants; dig pits 18 x 18 x 12 ins. in each sec. 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.

This corner is about halfway down steep south side of large ravine, gypsum formation.

Land, broken, rough; mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land on 72.00 chs. Nov. 23, 1909.

Nov. 24: At 8 h. 47 m. a.m. l.m.t. I set off 20° 29' S. on decl. arc; 37° 07' N. on lat. arc; and determine a meridian with the solar at the cor. of secs. 22, 23, 26, and 27. Thence I run

N. 89° 54' E. on a random line bet. secs. 23 and 26,

40.00 Set temp. ¼ sec. cor.

80.02 Intersect N. and S. line 2 lks. N. of cor. of secs. 23, 24, 25 and 26. Thence I run

S. 89° 55' W. on true line bet. secs. 23 and 26,

Over mountainous land; descending.

3.52 Round knoll, 70 ft. high, 6 chs. dia. at base,

18.02 Ravine, 50 ft. deep, drains S. 80° E.

Thence over rolling ground; undergrowth bears N. and S.

40.01 Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 23 in N. half, S 26 in S. half; dig pits 18 x 18 x 12 ins. E. and W. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.

Continue over rolling ground, cut by small washes draining south.

61.02 Cross ravine 150 ft. deep drains S. 70° E.

Chains.	
	Thence along S.side of ravine to
80.02	The cor.of secs.22,23,26, and 27.
	Land. broken, rolling.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth, black brush.
	N.0° 01'W.bet.secs.22 and 23,
	Descending.
3.00	Wash, 20 lks.wide, 1 ft.deep, in bottom of ravine, 40 ft.below cor., draining S.70° E.
9.50	Ridge, 100 ft.high, bears E. and W.
	Descending into canyon 150 ft.deep.
16.50	Bottom of canyon, draining SE.
19.00	Begin abrupt ascent, 100 ft., spur from NW.
21.00	Small ravine, 50 ft.deep, drains SE. into canyon. Asc.
22.00	Ridge, 40 ft.above ravine, bears S.80° E.
	Descend, over rough ground.
32.00	Bottom of deep canyon, 200 ft.below ridge, drains E. 2 chs.; then north. Ascend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 22 in W.half, S 23 in E.half; dig pits 18 x 18 x 12ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	On high round ridge, 200 ft.above canyon on south.
	Nov.24, 1909: At this cor. I set off 20° 32'S.on decl. arc, and at 11 h. 47 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.
	Thence along rough ground sloping E.
48.00	Begin abrupt descent, over large boulders, through scattering pine.
52.75	Bottom of canyon 150 ft.deep, draining N.80° E.

Chains.	
56.00	Ridge from N.80° W. 100 ft.above canyon. Descend.
57.50	Canyon, 75 ft.deep, drains S.70° E. into main canyon about 6 chs.SE.
66.00	Spur ridge from west, 60 ft.high.
	Thence along NE.slope, over large boulders;descending.
73.00	Canyon 80 ft.deep, drains E. Ascend.
78.00	Ridge, from west 80 ft.above canyon.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.14.15,22, and 23, marked on brass cap
	T 42 S S 15 in NW.
	R 17 W S 14 in NE.
	S 23 in SE., and
	S 22 in SW quadrants; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	This cor.near head of ravine draining S.70° E.
	Land, mountainous,
	Soil, rocky 4th rate.
	Timber, scattering pine and cedar.
	Mountainous land 80.00 chs.

	N.89° 55'E.on a random line bet.secs.14 and 23,
40.00	Set temp.¼ sec.cor.
79.80	Intersect N. and S.line 7 lks.N.of the cor.of secs.13, 14,23, and 24. Thence I run
	S.89° 58'W.on true line bet.secs.14 and 23,
	Over mountainous land; descending.
4.25	Ravine, 20 ft.deep, drains NE. Ascend.
11.75	Ridge, 40 ft.high bears NE. and SW. Descend.
17.00	Wash, 30 ft.deep, drains N.20° E. Ascend.
21.00	Ridge, 90 ft.high from SW.
	Descend.
25.00	Short deep wash, 20 lks.wide, 2 ft.deep, 60 ft.below

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Chains.	
	ridge, drains NE.
34.50	Large wash, drains N.75° E.
39.90	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 14 in N.half, S 23 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
41.50	Wash 60 ft.below ¼ sec.cor. drains S.80° E.
	Thence along S.side of wash.
53.50	Short wash drains north.
	Ascend.
55.50	Ridge 80 ft.high bears NE and SW. Descend.
69.00	Wash, drains NE. ; thence along S.side of wash.
70.00	Leave wash; thence along rough ridge.
79.80	The cor.of secs.14,15,22, and 23.
	Land, mountainous'
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.80 chs.

Nov.24, 1909.

Nov.25, 1909: At 8 h. 47 m.a.m.l.m.t.I set off 20° 41' S.on decl.arc; 37° 07' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.14,15,22, and 23. Thence I run

N.0° 01'W.bet.secs.14 and 15,

	Over broken, rocky, mountainous land.
1.25	Small ridge, bearing E. and SW.
	Descend over large boulders.
13.00	Small wash, 150 ft. below ridge, drains NE.
	Ascend.
15.25	Wood road on ridge, 60 ft.high, bears N.60° E.and S. 60° W.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Descend [illegible]
23.50	Ravine drains NE. to main wash, 150 ft. below ridge.
28.50	Main wash drains E.; 90 lks. wide, 2 ft. deep.
33.06	Large wash drains S.80° E.; 70 lks. wide, 1½ ft. deep.
	Ascend abruptly.
40.00	Set an iron post 3 ft. long, 1 in. dia., 18 ins. in gypsum ledged, for ¼ sec. cor., marked on brass cap ¼ S 15 in W. half, S 14 in E. half; dig pits 18 x 18 x 12 ins. N. and S. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.; raise mound of stone 6 ins. high around post. Impossible to set it over 18 ins. in the ground.
45.50	Top of steep ascent of ridge, 140 ft. high, bears E. and W.
	Descend abruptly.
53.00	Wash, 200 ft. deep, drains N.75° E.
56.50	Spur, projects NE., 90 ft. high.
	Descend.
62.60	Large hollow, 125 ft. deep, drains N.20° E.
	Ascend.
66.45	Ridge, 50 ft. high, bears N.70° E.
73.50	Large ravine 100 ft. deep, drains NE.
	Ascend.
76.35	Ridge, 40 ft. high bears N.75° E.
80.00	Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the ground, for cor. of secs. 10, 11, 14, and 15, marked on brass cap, T 42 S S 10 in NW. R 17 W S 11 in NE. S 14 in SE.; and S 15 in SW. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.00 chs.
	Nov.25, 1909: At this cor.I set off 20° 44'S.on decl. arc; and at 11 h. 47 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 08' N.
	N.89° 58'E.on a random line bet.secs.11 and 14,
40.00	Set temp.¼ sec.cor.
79.72	Intersect N. and S.line 5 lks.N.of the cor.of secs.11, 12,13, and 14. Thence I run
	West on true line bet.secs.11 and 14,
	Along low ridge; ascending.
8.72	Spur, projects NE.
12.20	Hollow, 150 ft.deep, drains NE.
39.86	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 11 in N.half, S 14 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
	Ascend gently.
53.72	Ridge, 150 ft.above ¼ sec.cor., bears NW. and SE.
	Descend over rolling land.
64.73	Draw 50 ft.deep, drains SE.
	Ascend over rolling land, gravelly soil.
74.72	Top of ridge, 100 ft.high bears NE.
	Descend abruptly.
79.72	The cor.of secs. 10,11,14, and 15.
	Land, mountainous, rolling.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.72 chs.
	Nov.25, 1909.

Subdivision of T. 42 S., R. 17 W.

Chains	
	Dec.9,1909:At 8 h. 52 m.a.m.l.m.t.I set off 22° 46'S.on decl.arc; 37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.10,11,14, and 15. Thence I run
	N.0° 01'W.bet.secs.10 and 11,
	Descending.
2.00	Ravine, drains N.20° W.
9.00	Wash,50 lks.wide, 2 ft.deep, drains E.
16.15	South edge of Whitmore Canyon, 125 ft.deep,drains E.
27.63	North edge of Whitmore Canyon; wash in bottom. Ascend.
34.50	Ridge, 90 ft.high, bears E. and W.
	Descend.
39.00	Small ravine, 70 ft.deep, drains E.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 10 in W.half, S 11 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
44.00	Begin abrupt ascent at base of rim rock, over rough conglomerate boulders.
63.00	Top of ascent, 600 ft.high. Descend over gentle slope to the north.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.2,3,10, and 11, marked on brass cap T
	T 42 S S 3 in NW.
	R 17 W S 2 in NE.
	S 11 in SE.; and
	S 10 in SW.quadrants; and raise a mound of of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Corner is just east of a small wash draining N.with broken rim rock on E. and W.sides.
	Land, mountainous, rough and broken.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Soil rocky; 4 th rate.
	No timber.
	Undergrowth scattering black brush.
	Mountainous land 80.00 chs.
	Dec.9: At this cor.I set. off22°48'S.on decl.arc; and at 11 h. 52 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 09'N.
	East on a random line bet.secs.2 and 11,
40.00	Set temp.$\frac{1}{4}$ sec.cor..
79.70	Intersect N. and S.line 7 lks.N.of the cor.of secs.1,2, 11, and 12. Thence I. run
	N.89° 57'W.on true line bet.secs. 2 and 11,
	Descend; through black brush.
2.50	Begin abrupt descent.
3.00	Wash, 20 lks.wide, in hollow 75 ft.deep, drains SE.
32.25	Spur, 170 ft.high,projects SE.
	Descend abruptly.
36.00	Wash,20 lks.wide, 2 ft.deep, in hollow 150 ft.deep, drains SE.
39.85	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 2 in N.half, S 11 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor. Pits impracticable.
44.00	Base of rim rock; ascend abruptly.Leave undergrowth.
70.45	Top of abrupt.ascent,.600 ft.high, bears N. and S.
79.70	The cor.of secs.2,3,10, and 11.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth black brush.
	Mountainous land 79.70 chs.
	Dec.9, 1909.

Chains.	
	Dec.11, 1909: At 8 h. 53 m.a.m.l.m.t.I set off 22° 58' S.on decl.arc;37° 09'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.2,3,10, and 11. Thence I run, for reasons already stated, N.0° 01'W.on true line bet.secs.2 and 3,
	Descending through scattering cedar.
29.75	Wash, 250 ft.below cor., drains NE.
	Ascend.
32.00	Knoll, 60 ft.high.
	Descend.
39.00	Gulch 90 ft.deep, drains NE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 3 in W.half, S 2 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.Pits impracticable.
41.70	Rim rock, 20 ft.above $\frac{1}{4}$ cor. bears NE. and SW.
47.40	Edge of rim rock, bears E. and SW.
55.40	Ravine drains SE., 70 ft.below rim rock.
59.40	Knoll 40 ft.high.
66.00	Wash, 40 ft.below knoll, drains E., 10 lks.wide, 1 ft. deep.
	Ascend.
70.00	Ridge, 30 ft.high, bears E. and W.
80.70	Intersect N.bdy.of Tp. 106 lks.E.of the cor.of secs.2, 3,34, and 35, heretofore described.
	Set an iron post 3 ft.long 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.2 and 3, marked on brass cap C C T 41 S R 17 W S.34 S 35.in N.half, S 2 in SE., and S 3 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high S.of cor.Pits impracticable.
	I destroy all marks on the corner previously set for cor. of secs.2,3,34, and 35, that pertain to secs.2 and 3.

Chains.	
	Land, rough and broken.
	Soil, rocky; 4th rate.
	Timber, scattering cedar.

December 1, 1909: At 8 h. 49 m.a.m.l.m.t.I set off 21° 45'S.on decl.arc; and 37° 05'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.3, 4,33, and 34 on S.bdy.of Tp., heretofore described.

Thence I run

N.0° 02'W.bet.secs.33 and 34,

Ascending.

7.50	Thence along W.side of canyon.
20.00	Cross canyon,drains S.80° E.
	Ascend.
27.00m	Ridge, 50 ft.above canyon, bears E. and W.
	Descend.
34.50	Short steep wash, 25 ft.deep, drains N.80° E.
	Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap¼ S 33 in W.half, S 34 in E.half; dig pits 18 x 18 x 18 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	This ¼ sec.cor. is on steep E.slope, 150 ft.above wash, and about 50 ft.below top of high ridge bearing N.20°E.
42.50	High ridge bearing N.20° E. and S.20° W.,50 ft.above ¼ sec.cor.
	Descend.
49.50	Thence over limestone cliff.
	Descend abruptly.
63.50	Cross deep ravine drains N.30° E. 200 ft.below ridge.
67.50	Cross canyon, 50 ft.deep drains N.80° E.
	Rough ascent.

Chains.

[illegible] Set an iron post 3 ft.long, 2 ins.dia., 16 ins.in the ground, for cor.of secs.27,28,33, and 34, marked on brass cap

T 42 S S 28 in NW.

R 17 W S 27 in NE.

S 34 in SE., and

S 33 in SW.quadrants; raise mound of earth and stone around post 8 ins.high; dig pits 18 x 18 x 18 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high N.of cor. Impossible to set post over 16 ins.in the ground.

This sec.cor.is on N.side of rough canyon or small valley about 60 ft.from top of ridge, and 150 ft.above canyon.

Land, rough and broken; mountainous.

Soil, rocky; 4th rate.

Timber, scattering scrub cedars.

Mountainous land 80.00 chs.

Dec.1: At this cor.I set off21° 47'E.on decl.arc; and at 11 h. 49 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 06'N.

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

[illegible] Set temp.; sec.cor.

[illegible] Intersect N. and S.line 11 lks.N.of the cor.of secs.26, 27,34, and 35. Thence I run

N.[illegible] [illegible]'W.on true line bet.secs.27 and 34,

Descending

[illegible] Ravine, drains S.[illegible] E.

Ascend abruptly.

[illegible] Elev. ridge [illegible] ft.above ravine, bears N.[illegible] W.and S.[illegible]

Descend abruptly.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	M.
20.00	Ravine, 4 chs.wide, 75 ft.deep, drains S.10° W.
	Ascend.
26.00	Ridge from north, 100 ft.high.
	Descend.
32.01	Bottom of descent.
36.50	Ravine, drains S.
40.00½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 27 in N.half, S 34 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
	This cor. 20 lks.NE.of dry wash.
44.00	Wash drains SE.
	Thence over broken ground.
59.76	Limestone; descend.
78.01	High ridge, 60 ft.above cor., bears NW. and SE.
80.01	The cor.of secs.27,28,33, and 34.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.01 chs.
	December 1, 1909.

Dec. 2,1909: At 8h.49m.a.m.l.m.t.I set off 21°54' S. on decl.arc; 37° 06'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.27,28,33, and 34. Thence I run

N.0° 02'W.bet.secs.27 and 28,

Ascending over mountainous land; scattering timber.

1.25	Ridge, 60 ft.above cor., bears NW. and SE.
	Descend.
8.00	Ravine, draining easterly.
20.00	Canyon 100 ft.deep, drains S.75° E.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Line intersects not far below head of same.
34.00	Spur from NW., 90 ft.high.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 28 in W.half, S 27 in E.half; from which
	A cedar 8 ins.dia., bears N.68° 45'W.53 lks.dist. marked $\frac{1}{4}$ S 28 B T
	A cedar 10 ins.dia., bears S.15° 45'E. 40 lks. dist., marked $\frac{1}{4}$ S 27 B T
	Corner near wash in bottom of canyon.
41.50	Wash, drains SE.
	Ascending along E.side of ravine draining S.
55.00	Bottom of steep cliffs of altered gypsum formation 500 ft.high.
55.90	Set a limestone 16 x 8 x 4 ins., 10 ins.in the ground, for witness point, marked W P on NW.face; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.
	Impossible to continue line further, on account of impassable cliffs.
	West on offset line, 13.23 chs.; thence [illegible], N.0° 02'W.24,10 chs. S.
80.00	At point 13.23 chs.west of true cor.point,
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for witness cor.to cor.of secs.21,22,27 and 28, marked on brass cap,
	W C T 42 S S 21 in NW.
	R 17 W S 22 in NE.
	S 27 in SE. and
	S 28 in SW.quadrants; from which
	A pinon pine 12 ins.dia., bears N.0° 20'E. 67 lks. dist., mkd. W C T 42 S R 17 W S 21 B T
	A pinon pine 12 ins.dia., bears N.61° 35'W.230 lks.dist., mkd. W C T 42 S R 17 W S 21 B T
	A pinon pine 6 ins.dia., bears S.53° 25'W. 132 lks.

Chains.	
	dist., mkd.W C T 42 S R 17 W S 28 B T
	A pinon pine 8 ins.dia.bears S.60° 45'E. 115 lks.
	dist., mkd.W C T 42 S R 17 W S 27 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Mountainous land 80.00 chs. Dec.2, 1909.
	Dec.6, 1909:
	The point for cor.of secs.21.22,27, and 28 falling in inaccessible cliffs, I proceed to the witness point set 15.90 chs.N.0° 02'W. of the ¼ sec.cor., between secs.27 and 28.
	At 8 h. 51 m.a.m.l.m.t.I set off 22° 27'S.on decl.arc; 37° 07.'N.on lat.arc; and determine a meridian with the solar at said witness point. Thence I run S.89° 55'E.on random offset line through sec.27,
79.90	Intersect N. and S.line at a point S.0° 01'E. 24.17 chs. from the cor.of secs.22.23.26, and 27.
	From said cor.of secs.22.23,26 and 27, I run N.89° 58'W.on true line bet.secs.22 and 27,
	Ascending over mountainous land.
4.00	Ravine 20 ft.above cor., drains NE. Ascend.
10.50	Ridge, 90 ft.above cor., bears NW. and SE. Descend.
15.50	Ravine, drains south, 75 ft.deep.
20.00	Canyon, 100 ft.deep, drains SE.
	Thence along S.side of hollow.
37.00	Cross hollow, draining N.80° E. Ascend.
38.00	Ridge from north 30 ft.above hollow.
39.95	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ½ sec.cor., marked on brass cap ¼ S 22 in N.half, S 27 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Rough ascent.
48.00	Ridge, 150 ft.above ¼ sec.cor., bears NE. and SW.
	Thence along rough canyon side.
58.00	Ridge bears N. and S. on E.slope of mountain 200 ft.high
	Continue rough ascent.
76.00	High narrow ridge, 150 ft.high, bears N. and S.
	Descend.
	On account of inaccessible sliffs I discontinue line, and at this point,
	Set a sandstone 18 x 9 x 4 ins., 6 ins.in ground and a mound of stone, for witness cor.to cor.of secs.21,22, 27, and 28, marked 2 notches on S. and 3 notches on E.edges, W C on NE.face; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Impossible to set stone 12 ins.in the ground.
79.90	Point for cor.of secs.21,22,27, and 28. Corner not set.
	Land, mountainous. Soil, rocky; 4th rate. No timber. Mountainous land 79.90 chs.
	Dec.6: At this witness cor.I set off 22° 29'S.on decl. arc; and at 11 h. 51 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.

	From the witness cor.to cor.of secs.21,22,27, and 28, set 13.23 chs.W.of true cor.point. I continue on offset line, in order to pass inaccessible cliffs, west 8.55 chs.; thence N.0° 02'W.
	Along W.base of inaccessible cliffs; through cedar and pine timber.
40.00	East 9.54 chs.from offset line,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness ¼ sec.cor., marked on brass cap W C ¼, with T 42 S R 17 W in N., ¼ S 21 in W., and S 22

Chains. in E.half; from which

A pinon pine 8 ins.dia., bears S.76°45'W. 116 lks. dist., mkd. W C ¼ S 21 B T

A pinon pine 16 ins.dia., bears S.89°45'E.295 lks. dist., mkd. W C ¼ S 21 B T

I return to point W.9.54 chs. on offset line; thence I run on offset

N.0° 02'W.40.00 chs.; thence

East 21.78 chs. to true point for cor.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.15,16,21, and 22, marked on brass cap

T 42 S S 16 in NW.

R 17 W S 15 in NE.

S 22 in SE.; and

S 21 in SW.quadrants; from which

A pine 8 ins.dia.bears N.22°E. 36 lks.dist. marked T 42 S R 17 W S 15 B T

A pine 6 ins.dia. bears S.58° 30'E. 40 lks.dist. marked T 42 S R 17 W S 22 B T

A pine 12 ins.dia.bears S.50° 00'W. 111 lks.dist. marked T 42 S R 17 W S 21 B T

A pine 14 ins.dia.bears N.50° W. 59 lks.dist. marked T 42 S R 17 W S 16 B T

Land, mountainous.

Soil, altered gypsum and clay; 3d rate.

Timber cedar and pine.

Mountainous land 80.00 chs. Dec.6, 1909.

Dec.8: At 8 h. 52 m.a.m.l.m.t.I set off 22° 40'S.on decl.arc; 37° 07'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.15,16,21, and 22.

Thence I run

S.89° 58'E.on a random line bet.secs.15 and 22,

Chains.	
40.00	Set temp. ¼ sec.cor.
79.72	Intersect N. and S.line 10 lks. S. of the cor.of secs.14, 15,22, and 23. Thence I run
	S.89° 58'W.on true line bet.secs.15 and 22,
	Over mountainous land; through cedar and pine timber.
23.00	Ridge 50 ft.above cor.bears NE. and SW.; thence along NE.slope of ridge.
20.72	Spur from SE. Desc. over rolling ground.
31.70	Descend abruptly; leave timber.
36.97	Hollow, 500 ft.deep, drains NE.
	Ascend abruptly.
39.86	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 15 in N.half, S 22 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
44.20	Enter scattering cedar and pine, and black brush.
	Ascend abruptly.
52.97	Spur, projects SE.
	Descend abruptly.
60.71	Hollow, 450 ft.deep, drains N.
	Ascend abruptly.
76.22	Ridge, 150 ft.above cor., bears NE. and SW.
	Descend.
79.72	The cor.of secs.15,16,21, and 22.
	Land. mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth black brush.
	Mountainous land 79.72 chs.

N.0° 02'W.bet.secs.15 and 16,

Over mountainous land; descend abruptly through cedar and pine.

Chains.	
15.00	Foot of abrupt descent bears NE. and SW.
	Leave scattering cedar and pine.
	Descend over rolling land.
40.00	Set an iron post 3 ft.long, 1 in.dia., 20 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 16 in W.half, S 15 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Cor.700 ft.below sec.cor.
	Dec.8: At this cor.I set off 22° 42'S.on d-cl.arc: and at 11 h. 52 m.a.m.l.m.t.observe the sun on the meridian the resulting lat.is 37° 08'N.
62.75	Hollow, 75 ft.deep, drains NE.
	Ascend over rolling ground.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.9,10,15, and 16, marked on brass cap T 42 S S 9 in NW. R 17 W S 10 in NE. S 15 in SE.; and S 16 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Corner at top of ascent bearing N. and W.
	Land, mountainous and rolling.
	Soil rocky and clay; 4th rate.
	Timber, scattering cedar and pine.
	Mountainous land 80.00 chs.

N.89° 58'E.on a random line bet.secs.10 and 15,

40.00	Set temp.¼ sec.cor.
79.90	Intersect N. and S.line at the cor.of secs. 10,11,14, and 15. Thence I run
	S,89°58'E.on true line bet.secs.10 and 15,

Subdivision of T. 42 S., R. 17 W.

Chains.	
	Descend over mountainous land, gravelly soil; through dense black brush and soap weed.
12.00	Bottom of hollow, 250 ft.deep, drains NE.
	Ascend along hollow.
38.75	Ridge, 50 ft.high, bears NE. and SW.
	Descend abruptly.
39.95	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap + S 10 in N.half, S 15 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
49.00	Wash, 100 ft.below ¼ sec.cor., course NE.
50.00	Hollow, 200 ft.deep, course NE.
79.90	The cor.of secs.9,10,15, and 16.
	Land, mountainous.
	Soil, altered gypsum and clay; 3d rate.
	No timber.
	Undergrowth black brush and soap weed.
	Mountainous land 79.90 chs. December 8, 1909.

Dec.10: At 8 h. 53 m.a.m.l.m.t.I set off 22° 52'S.on decl.arc;37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.9,10,15, and 16.

Thence I run

N.0° 02'W.bet.secs.9 and 10,

	Ascending over rolling ground.
3.35	Hollow, 75 ft.deep, drains NE. Ascend.
23.50	Ridge bears E. and SW., 200 ft.above hollow.
	Descend.
28.50	Wash, 90 ft.below ridge, 80 lks.wide, 2 ft.deep, drains NE.
32.50	Enter flat tableland.
37.50	Ravine 40 ft.deep, drains E.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the

Subdivision of T. 42 S., R. 17 W.

Chains	
	ground; for ¼ sec.cor., marked on brass cap ¼ S 9 in W.half, S 10 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
46.00	Leave tableland; descend.
52.50	Wash 1 ch.wide, 2 ft.deep, drains E.
58.00	Ridge from west, 50 ft.high; descend.
62.00	Wash, drains SE., 1 ch.wide, 3 ft.deep, 50 ft.below ridge. Thence along wash.
68.00	Leave wash which drains from west; ascend abruptly.
72.00	Rim rock bears W. and SE., 200 ft.above wash; descend gradually.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.3,4,9, and 10, marked on brass cap T 42 S S 4 in NW. R 17 W S 3 in NE. S 10 in SE.; and S 9 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Land, mountainous.
	Soil, rocky, gravelly, and clay.
	No timber. Undergrowth dense black brush.
	Mountainous land 80.00 chs.
	Dec.10: At this cor.I set off 22°54'S.on decl. arc; and at 11 h. 53 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 09'N.

	N.89° 58'E.on a random line bet.secs.3 and 10,
40.00	Set temp.¼ sec.cor.
79.95	Intersect N. and S.line 9 lks.S.of the cor.of secs. 2, 3,10, and 11. Thence I run
	S.39°54'W.on true line bet.secs.3 and 10,
	Over mountainous land, through dense black brush.

Chains.	
1.85	Wash, with rim rock sides 6 ft.deep, 1.3 ch.wide, drains N.
	Ascend gently.
18.08	Top of mountain, 450 ft.above ¼ sec.cor., bears NW. and SE.
	Descend.
31.95	Foot of abrupt descent.
39.97½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 3 in N.half, S 10 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
	Continue descent.
45.95	Main wash, 1 ch.wide, 5 ft.deep, drains SE.
	Ascend.
61.00	Spur, 50 ft.high from SW. Descend.
65.00	Wash drains NE.
	Thence over succession of small hollows and washes, which drain to a flat and wash about 10 chs.N.
79.95	The cor.of secs.3;4,9, and 10.
	Land.mountainous and level.
	Soil, gravelly and rocky; 4th rate.
	No timber.
	Undergrowth black brush.
	Mountainous land 79.95 chs.
	Dec.10,1909.

Dec.11: For reasons already explained I run N.0° 02'W.bet.secs.3 and 4, on true line,

Descending over rolling ground, sloping N.

7.00	Wash, 30 lks.wide, 6 ins.deep, drains easterly.
40.00	Set an iron post 3 ft.long, 1 in.dia.26 ins.in the ground for ¼ sec.cor., marked on brass cap ¼ S 4 in W.half, S 3 in E.half; and raise a mound of stone 2 ft.base,

Chains.	
	1½ ft.high W.of cor.Pits impracticable.
	Descend over gentle slope.
40.50	Wash, 80 lks.wide, 1 ft.deep, drains E.
55.63	N.edge of basin; ascend abruptly over ledges.
57.13	Top of abrupt ascent.
	Thence over boulders of conglomerate rock; asc.gradually
69.03	Top of ascent, 500 ft.high, bears NE. and SW.
	Descend over gentle slope.
80.63	Intersect N.bdy.of Tp.118 lks.E.of corner of secs.3,4, 33, and 34, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.3 and 4, marked on brass cap
	T 41 S R 17 W S 33 S 34 in N.half,
	S 3 in SE.; and
	S 4 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high S.of cor.Pits impracticable.
	I destroy all marks on the old corner that pertain to secs.3 and 4.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.63 chs.
	Dec.11, 1909.

Nov.30,1909: At 8 h. 49 m.a.m.l.m.t.I set off 21°35'S. on decl.arc; 37° 05'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.4,5,32, and 33 on S.bdy.of Tp., heretofore described.

Thence I run

N.0° 03'W.bet.secs.32 and 33,

Descend.

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Chains.

10.00 Wash, 50 ft.below cor., 20 lks.wide, 3 ft.deep, drains east.

29.00 Ascend.

37.00 Top of ridge, 125 ft.high bears E. and W.

Descend.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 32 in W.half, S 33 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

On north slope of ridge.

Begin abrupt descent.

46.00 Hollow, draining west, 300 ft.below ridge.

56.00 Ascend, 150 ft. to top of ridge bearing E. and W.

58.00 Descend, through scattering timber.

60.00 Ravine, 80 ft.deep, drains E. Ascend.

68.00 Ridge, 100 ft.high, from east.

75.50 Old wood road bears E. and W.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.28,29,32, and 33, marked on brass cap

T 42 S S 29 in NW.

R 17 W S 28 in NE.

S 33 in SE.; and

S 32 in SW.quadrants; from which

A cedar 8 ins.dia., bears S.56° W. 66 lks.dist. marked T 42 S R 17 W S 32 B T

A pine 6 ins.dia.bears N.5° 45'E. 82 lks.dist., marked T 42 S R 17 W S 28 B T

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

Land, mountainous.

Soil, gravelly 3d rate.

Timber, scattering cedar and pine.

Chains. Mountainous land 80.00 chs.

Nov.30: At this cor. I set off 21°38'S. on decl. arc; and at 11 h. 49 m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 06'N.

Dec.2, 1909: At the cor. of secs. 28, 29, 32, and 33 I set off 21° 56'S. on decl. arc; and at 11 h. 49m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 06'N.

Thence I run

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

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

80.15 Intersect N. and S. line 2 lks. N. of cor. of secs. 27, 28, 33, and 34. Thence I run

N. 89° 59'W. on true line bet. secs. 28 and 33,

Descending over mountainous land.

18.15 Canyon, 200 ft. deep, drains SE.

Ascend.

27.15 Ridge 120 ft. high bears NE. and SW. Descend.

40.07½ In hollow, 50 ft. below ridge draining NE.

Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 28 in N. half, S 33 in S. half; dig pits 18 x 18 x 12 ins. E. and W. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.

Ascend.

56.65 Top of ridge 100 ft. high bearing NE. and SW.

Descend.

64.15 Old wood road bears NE. and SW.

Ascend gradually.

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

Land, mountainous.

Chains.	
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.15 chs.
	Dec.2, 1909.

Nov.30, 1909:

N.0° 03'W.bet.secs.28 and 29

	Descending; through cedar and pine timber.
6.00	Wash 4 ft.below cor., drains NE., 20 lks.wide, 1 ft. deep; ascend.
22.00	Small ridge bearing E. and SW. Descend through cedar and pine.
35.00	Large valley which slopes NE.; 70 ft.deep.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 29 in W.half, S 28 in E.half; from which
	A pine 10 ins.dia.bears S.73° 55'W. 114 lks.dist. marked ¼ S 29 P T
	A cedar 16 ins.dia.bears N.36° 40'E. 40 lks.dist. marked ¼ S 28 B T
	Ascend.
45.00	Small ridge, 5 ft.above valley, extending E. and SW.
51.00	Ravine 60 ft.deep, drains NE.
	Ascend.
57.00	Ridge, 50 ft.high bears NE. and SW. Descend.
65.00	Ravine 50 ft.deep, drains NE.
65.00	Ridge, 60 ft. high, bearing N., comes from west.
	Leave cedar and pine.
	Thence along west slope of ridge into main valley.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.20,21,28, and 29, marked on brass cap
	"

Chains.

T 42 S S 20 in NW.

R 17 W S 21 in NE.

S 28 in SE.; and

S 29 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar and pine.

Mountainous land 80.00 chs. Nov.30, 1909.

Dec.13, 1909:At 8 h. 54 m.a.m.l.m.t. I set off 23° 07'S. on decl.arc;37° 07'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.20,21,28,and 29. Thence I run

S.89° 59'E.on a random line bet.secs.21 and 28,

40.00 Set temp.¼ sec.cor.

66.97 Fall 2.1lks.S.of witness cor. of secs.21,22,27, and 28, set 13.23 chs.west of true cor.point, at bottom of inaccessible cliffs.

Thence I run,measurements counted from true cor.point,

West on true line bet.secs.21 and 28,

Over very rough ground, draining N.

26.00 Wash, 100 ft.below witness cor., drains N.40° W.

30.20 Wood road bears NE. and SW.

40.10 Set an iron post 3 ft.long, 1 in.dia., 36 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 21 in N.half, S 28 in S.half; dig pits 18 x 18 x 12 ins. E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft .high N.of cor.

43.50 Wash, in bottom of canyon draining N.

Ascend through scattering cedars.

59.00 Ridge, 200 ft.high bears NE. and SW.

Chains.	
	Descend.
71.00	Canyon 100 ft.below ridge, draining northerly.
80.20	The cor.of secs.20,21,28, and 29.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 80.20 chs.
	Dec.13: At this cor.I set off 23° 08'S.on decl.arc; and at 11 h. 54 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.

Harry L. Chamberlin
U. S. Deputy Surveyor

Dec.6, 1909: At 8 h. 51 m.a.m.l.m.t.I set off 22° 27'S. on decl.arc; 37° 07'N.on.lat.arc; and determine a meridian with the solar at the cor.of secs.20,21,28, and 29. Thence I run

N.0° 03'W.bet.secs.20 and 21,

Descending.

14.00	Ravine 100 ft.below cor., drains N.60° E.
26.00	Wash, 20 lks.wide, 1 ft.deep, drains E.
32.00	Wash, 30 lks.wide, 6 ins.deep, drains E.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 20 in W.half, S 21 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Thence over rolling ground, draining to the east.
52.00	Begin rough ascent.
59.50	Steep ravine, drains E.
	Ascend.
73.00	High ridge bears NE. and SW.
	Descend abruptly to valley.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.16,17,20, and 21, marked on

Chains. brass cap,

T.42 S S 17 in NW.

R 17 W S 16 in NE.

S 21 in SE., and

S 20 in SW. quadrants; dig pits 1' x 1' x 12 ins. in each sec. 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.

Land, rolling.

Soil, rocky; 4th rate.

Timber, scattering pine and cedar.

Dec. 6: At this cor. I set off. 22° 38' S. on decl. arc; and at 11 h. 51 m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 07'.

Jobe H. Kinnwood
U.S. Deputy Surveyor

Dec. 13:

East on a random line bet. secs. 16 and 21,

40.00 Set temp. ¼ sec. cor.

80.20 Intersect N. and S. line at the cor. of secs. 15, 16, 21, and 22. Thence I run

West on a true line bet. secs. 16 and 21,

Descending through scattering cedar and pine.

12.20 Foot of abrupt descent bears NE. and W.

Descend over rolling land.

34.60 Hollow, 400 ft. deep, course NE. Ascend.

40.10 Set an iron post 3 ft. long, 1 in. dia., 20 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 16 in N. half, S 21 in S. half; from which

A pine 8 ins. dia. bears N. 64° W. 217 lks. dist. marked ½ S .16 B T

A cedar 10 ins. dia. bears S. 41° 30' E. 77 lks. dist. marked ½ S 21 B T

50.20 Ridge bears NE. and S.

Chains.	
	Descend, abruptly.
58.70	Hollow, 300 ft.deep, drains NE.
	Ascend over rolling ground.
73.70	Spur, bears N.
	Ascend abruptly; through dense black brush undergrowth.
80.20	The cor.of secs.16,17,20, and 21.
	Land, mountainous and rolling.
	Soil, gravelly and rocky; 4th rate.
	Timber, pine and aspen.
	Undergrowth dense black brush.
	Mountainous land 80.20 chs.

Dec.13, 1909.

Harry L. Chamberlin
U.S. Deputy Surveyor

Dec.6, 1909:

N.0° 03'W.bet.secs.16 and 17

	Descend; through scattering timber.
6.00	Bottom of ravine drains NE.
	Ascend.
11.70	Spur, bears E.and W.; 200 ft.high.
	Descend,
25.00	Shallow wash, 50 lks.wide, 1 ft.deep.
	Ascend.
38.00	Spur, bears E.
	Leave timber.
	Descend to small flat.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 17 in W.half, S 16 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor. Pits impracticable.
	Corner is on NW.slope of small knoll at base of same.
50.00	Canyon, 50 ft.deep, drains E.
	Ascend.
65.00	Rim rock bears E. and W.

Chains.

Descend gradually; through scattering timber.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 8,9,16, and 17, marked on brass cap

T 42 S S 8 in NW.
R 17 W S 9 in NE.
S 16 in SE.; and
S 17 in SW.quadrant; from which

A cedar 8 ins.dia.bears N.50° 30'W. 197 lks.dist. marked T 42 S R 17 W S 8 B T

A cedar stump 3 ft.high, 18 ins.dia., bears N.79° 39'E. 197 lks.dist., marked T42S R17W S8 BT

A cedar.8 ins.dia., bears S.31° 25'E. 213 lks.dist. marked T 42 S R 17 W S 16 B T

A cedar 10 ins.dia.bears S.35° 06'W.110 lks.dist. marked T 42 S R 17 W S 17 B T

Land, mountainous.

Soil, rocky and gravelly; 4th rate.

Timber cedar and pine.

Mountainous land 80.00 chs.

Dec.6, 1909.

Job H. Winwood
U.S. Deputy Surveyor

Dec.14, 1909: At 8 h. 55 m.a.m.l.m.t.I set off 23°11'S. on declarc; 37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.8,9,16,and 17. Thence I run

East on a random line bet.secs.9 and 16,

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

80.18 Intersect N. and S.line 18 lks. N.of the cor.of secs.9, 10,15, and 16. Thence I run

N.89° 52'W.on a true line bet.secs.9 and 16,

Chains.	
	Descending over rolling mountains through dense black brush.
11.00	Wash, drains NE., 50 ft.below cor.
	Ascend abruptly.
36.00	Top of abrupt bluff, 300 ft.high, faces S.
40.09	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 9 in N.half, S 16 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
	Descend abruptly over S.slope of bluff.
52.00	Foot of abrupt descent.
	Descend gently over rolling ground.
70.00	Wash, 250 ft.below bluff, drains SE.
	Ascend over rolling ground.
80.18	The cor.of secs.8,9,16, and 17.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Undergrowth dense black brush.
	Mountainous land 80.18 chs.
	Dec.14: At this cor.I set off 23° 12'S.on decl.arc; and at 11 h. 55 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 08'N.

Harry L. Chamberlin
U.S. Deputy Surveyor

Dec.10, 1909.—At 8 h. 53 m.a.m.l.m.t.I set off 22° 52' S.on decl.arc; 37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.8,9,16, and 17. Thence I run

N.0° 03'W.bet.secs.8 and 9,

Descend.

3.60 Wash, 30 ft.below cor., drains E.

Chains.

4.20 Rim rock, 25 ft.above wash.

Descend gently across flat.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in W.half, S 9 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

Descend.

45.00 Wash, 40 lks.wide, 2 ft.deep; drains E.

Ascend.

51.00 Bench bears E. and W.; thence over level land.

58.00 Base of ridge.

Ascend ridge.

66.00 Top of ridge, 150 ft.above wash, bears E. and W.

Descend.

73.00 Wash, 30 lks.wide, 1 ft.deep, drains SE.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.4,5,8, and 9, marked on brass cap,

T 42 S S 5 in NW.,

R 17 W S 4 in NE.

S 9 in SE., and

S 8 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Mountainous land 80.00 chs.

Dec.10: At this cor.I set off 22° 54'S.on decl.arc; and at 11 h. 53 m.a.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 09'N.

Job H. Winnwood

U.S.Deputy Surveyor.

Drains.

Dec.14:

S.89° 52'E.on a random line bet.secs.4 and 9,

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

80.17 Intersect N. and S.line 16 lks.S.of the cor.of secs.3, 4.9, and 10.

Thence I run

N.89° 59'W.on true line bet.secs.4 and 9,

Over mountainous land;ascending.

15.17 Knoll 40 ft.high.

Descend.

19.17 Foot of descent; thence across rolling land.

22.17 Ascend.

40.08½ On N.slope of ridge,

Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 4.in N.half, S 9 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.

Thence along ridge.

57.17 Top of small ridge, bears E.

Descend.

61.15 Wash, 25 lks.wide, 6 ins.deep, drains NE.

Ascend.

70.18 Ridge from NW., 50 ft.high. Descend.

72.17 Wash, drains NE.

Ascend along gentle slope.

74.17 Top of ridge, bears N. and S.

Descend.

78.18 Small hollow, drains S., heads 3 chs.N.

Ascend.

80.17 The cor.of secs.4,5,8, and 9.

Land, mountainous.

Soil, rocky; 4th rate.

No timber.

Chains. Mountainous land 80.17 chs.

Dec.14, 1909.
Harry L. Chamberlin
U.S. Deputy Surveyor

Dec.10: For reasons already explained I run
N.0° 03'W.bet.secs.4 and 5, on true line,
Ascending through sage and black brush.

2.50 Top of ridge, 20 ft.above sec.cor. Descend gradually down Camp Spring Flat.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 5 in W.half, S 4 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

56.50 Wood road, bears NW. and SE., in hollow

80.67 Intersect N.bdy.of Tp.102 lks.E.of the cor.of secs.4,5, 32 and 33, heretofore described.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.4 and 5, marked on brass cap,

C C T 41 S R.17 W S 32 S 33 in N.half,
S 4 in SE.; and
S 5 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high S.of cor.Pits impracticable.

I destroy all marks on the corner previously set that pertain to secs.4 and 5,

Land, level.

Soil, gravelly and clay; 3d rate.

No timber.

Undergrowth, black brush and sage.

Dec.10, 1909.

Chains. Nov.30, 1909: At 8 h. 49 m.a.m.l.m.t.I set off 21° 35' S.on decl.arc; 37° 05'N.on lat.arc; and determine a meridian with the solar at the point for cor.of secs. 5,6,31. and 32 on S.bdy.of Tp.

On account of inaccessible canyon to the north, I triangulate as follows:

Set a flag on line N.0° 03'W.on N.edge of canyon, and measure a base S.89° 57'W.17.55 chs.; from west end of base flag bears N.39° 51'E.; from flag west end of base bears S.39° 51'W.; therefore distance is 17.55 x cotang.39° 54', or 17.55 x 1.19599 which equals

20.99 N.edge of canyon,900 ft.deep, draining E.

Ascend.

30.00 Spur from west, 300 ft.above edge of canyon.

40.00 Set an iron post 3 ft.long,.1 in.dia., 26 ins.in the ground for ¼ sec.cor., marked on brass cap ¼ S 31 in W.half, S 32 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

44.88 Small wash, 50 lks.wide, 1 ft.deep, drains E., in canyon draining E. Ascend.

50.25 Top of limestone ridge, 300 ft.high, bears E. and W.

Descend.

54.25 Ravine, 200 ft.deep, drains NE. Ascend.

59.00 Top of limestone spur from west, 200 ft.high.

Descend.

65.25 Box canyon, 150 ft.deep, drains E.

Timber on N.slope of canyon.

Ascend.

73.00 Limestone ridge from west, 100 ft.high.

Descend.

76.50 Box canyon, 90 ft.deep, drains E.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.29,30,31, and 32, marked on

Chains. brass cap

T 42 S S 30 in NW.

R 17 W S 29 in NE.

S 32 in SE.; and

S 31 in SW. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, scattering pine and cedar.

Mountainous land 80.00 chs.

Nov. 30: At this cor. I set off 21°38' S. on decl. arc; and at 11 h. 49 m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 06' N.

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

40.00 Set temp. ¼ sec. cor.

79.95 Intersect N. and S. line at the cor. of secs. 28, 29, 32, and 33. Thence I run

West on true line bet. secs. 29 and 32,

Over rocky, mountainous land.

4.50 Ravine 30 ft. deep, drains NE.

Ascend.

31.25 Limestone ridge, 500 ft. above ravine, bears N. and S.

Descend.

38.75 Ravine 100 ft. deep, drains NE. Ascend.

39.97½ Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 29 in N. half, S 32 in S. half; dig pits 18 x 18 x 12 ins. E. and W. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.

50.00 Ridge from north, 200 ft. high. Descend.

57.00 Ravine 100 ft. deep, drains N.

Chains.	
	Ascend.
67.50	Limestone ridge, 300 ft.high bears NE. and SW.
	Descend abruptly.
74.50	Canyon 100 ft.deep, drains NE.
79.95	The cor.of secs.29,30,31, and 32.
	Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Mountainous land 79.95 chs. Nov.30, 1909.

Dec.1: Sky overcast;obs.for meridian impossible.

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

40.00	Set temp.$\frac{1}{4}$ sec.cor.
79.95	Intersect W.bdy.of Tp. 5 lks.N.of the cor.of secs. 25, 30,31, and 36, heretofore described.

Thence I run

N.89° 58'E.on a true line bet.secs.30 and 31,

Ascending through dense cedar and pine,and undergrowth.

6.00	Ridge, 150 ft.high bears N. and S.
	Descend.
15.00	Canyon 100 ft.deep, drains southerly. Ascend.
22.00	Main ridge, bearing N. and S., 300 ft.above canyon.
	Descend into,basin sloping NE.
	Leave cedar and pine, bearing N. and S.
39.95	Falls on solid limestone floor; impossible to set iron post.
	Set a limestone 20 x 7 x 4 ins. in mound of stone for $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on N.face; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
	Corner is 400 ft.below ridge.
	Ascend.
69.00	Spur from SW.; 250 ft.high; descend.
79.95	The cor.of secs.29,30,31, and 32.
	Land, mountainous.

Chains.	
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Dense undergrowth of black brush, manzanita and service-berry.
	Dec.1: At this cor.I set off 21° 47'S.on decl.arc; and at 11 h. 49 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 06'N.
	N.0°.03'W.bet.secs.29 and 30,
	Ascending over rough ground along W.side of canyon;
	through scattering cedar and pine.
7.15	Ridge, 300ft.high, bears NE. and SW.
	Descend abruptly, through undergrowth bearing NE.and SW.
21.13	Bottom of canon, 300 ft.below top of ridge, drains N. 80° E.
26.10	Steep ravine on side of canyon, drains E.
36.13	Steep ravine 40 ft.deep, drains E. Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 30 in W.half, S 29 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Descend diagonally along mountain side sloping E.
50.15	Foot of descent.
71.62	Ravine 100 ft.deep, drains E.
	Ascend along E.side of high mountain.
80.00	Set an iron post 3 ft.long, 1 in.dia. 24 ins.in the ground, for cor.of secs.19,20,29, and 30, marked on brass cap
	T 42 S S 19 in NW.
	R 17 W S 20 in NE.
	S 29 in SE.; and
	S 30 in SW.quadrants; dig pits 18 x 1° x 12 ins.in each sec.5⅓ ft.dist.; and raise a moundof

Chains.	
	earth 4 ft.base, 2 ft.high W.of cor.
	Corner in quite dense growth of juniper bushes.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber scattering cedar and pine.
	Undergrowth juniper, chaparral and black brush.
	Mountainous land 80.00 chs. December 1, 1909.
	Dec.2, 1909: At 8 h. 49 m.a.m.l.m.t. I set off 21° 54'S. on decl.arc; 37° 07'N. on lat.arc; and determine a meridian with the solar at the cor.of secs.19,20,29 and 30. Thence I run
	East on a random line bet.secs.20 and 29,
40.00	Set temp. ¼ sec.cor.
80.00	Intersect N. and S.line at the cor.of secs.20,21,28, and 29. Thence I run ascending over mountainous land
	West on a true line bet.secs.20 and 29,
3.00	Spur, projects N.; 50 ft.high.
	Descend.
9.50	Wash drains N.25° E.
	Ascend gently through scattering cedars.
22.00	Wash, drains N.60° E. Ascend.
32.00	Begin abrupt ascent.
38.00	Perpendicular cliffs of limestone and conglomerate rock, 75 ft.high, bearing NE. and SW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 14 ins.in the ground, for ½ sec.cor., marked ¼ S 20.in N.half of brass cap, S 29 in S.half; raise mound of stone 12 ins.high around post; and mound of stone 2 ft.base, 1½ ft.high N.of cor. Impossible to set post over 14 ins.in the ground.
	Continue abrupt ascent.
44.00	Thence over nearly level land; through scattering

Chains.	
	growth of cedar and juniper.
61.50	Canyon,125 ft.deep, drains NE. Ascend.
80.00	The cor.of secs.19,20,29, and 30.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering pine and cedar.
	Undergrowth juniper.
	Mountainous land 80.00 chs.
	Dec.2: At this cor.I set off21° 5E'S.on decl.arc; and at 11 h. 49 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.
	S.89° 58'W.on a random line bet.secs.19 and 30,
40.00	Set temp.¼ sec.cor.
79.90	Intersect W.bdy.of Tp. 2 lks. S. of the cor.of secs.19, 24,25, and 30, heretofore described. Thence I run N.89° 59'E.on true line bet.secs.19 and 30,
	Ascending abruptly along W.side of mountain, over ledges and through pine and cedar timber.
25.90	High ridge; 500 ft.above sec.cor. bears N. and S.
	Descend.
39.90	Set an iron post 3 ft.long, 1 in.dia., 15 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 19 in N.half, S 30 in S.half; and raise a mound of stone 11 ins.high around post; and mound of stone 2 ft.base 1½ ft.high N.of cor. Impossible to set post over 15 ins.in the ground.
	This corner is on ground sloping gently to the E.
41.90	Ravine 30 ft.deep, drains NE.
	Ascend.
46.70	Ridge,50 ft.high, bears NE. and SW.
	Descend abruptly.
64.90	Ravine 230 ft.below ridge, drains NE.
	Ascend.

Chains.	
75.90	Ridge,200 ft.high bears N.20°E. and S.20 ° W.
79.90	The cor.of secs.19,20,29, and 30.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber pine and cedar.
	Mountainous land 79.90 chs.
	December 2, 1909.

Dec.8, 1909: At 8 h. 52 m.a.m.l.m.t.I set off 22° 40'S. on decl.arc; 37° 07'N.on 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,

Over mountainous land through dense undergrowth and scattering scrub cedars.

15.00	Top of small level ridge or plateau bearing NE. and S.
22.00	Wash 50 ft.belowplateau,20 lks.wide,,drains NE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 19 in W.half, S 20 in E.half; and raise amnound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Descend.
45.00	Wash, 80 ft.below ¼ sec.cor., 30 lks.wide, 1 ft.deep, drains E.
	Ascend.
50.00	Spur, 50 ft.high from West.
	Descend.
54.00	Enter flat.
60.00	Leave flat; ascend.
73.00	Spur, 30 ft.high from west.
	Descend.
75.00	Wash, 20 lks.wide, 1 ft.deep, drains E.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.17,18,19, and 20, marked on brass cap

Subdivision of T. 42 S., R. 17 W.

Chains.

T 42 S S 18 in NW.
R 17 W S 17 in NE.
S 20 in SE.; and
S 19 in SW.quadrants; from which
A cedar 8 ins.dia.bears N.56° 06'W. 40 lks.dist.
marked T 42 S R 17 W S 18 B T
A cedar 8 ins.dia.bears N.61° 46'W. 98 lks.dist.,
marked T 42 S R 17 W S 18 B T
No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable. √
Land, mountainous.
Soil, rocky; 4th rate.
Timber, scattering cedar.
Undergrowth juniper, mountain mahogany and black brush.
Mountainous land 80.00 chs.
Dec.8: At this cor.I set off 22° 42'S.on decl.arc; and at 11 h. 52 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.

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

40.00 Set temp.¼ sec.cor.

79.89 Intersect N. and S.line 5 lks.S.of the cor.of secs.16, 17,20, and 21. Thence I run
S.89° 58'W.on true line bet.secs.17 and 20,
Descending over mountainous land,through scattering timber and undergrowth.

9.90 Wash 40 lks.wide, 2 ft.deep, drains NE.
Ascend.

15.89 Spur, 60 ft.high, from N.
Descend.

19.90 Wash,40 lks.wide, 1½ ft.deep, drains SE.
Ascend.

27.90 Spur, from N.

Chains.	
	Descend.
32.89	Wash 30 lks.wide, 1 ft.deep, drains SE.
	Ascend abruptly.
37.79	Top of small round knoll.
39.945	In small draw 50 ft.below top of knoll; drains SE.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ½ S 17 in N.half, S 20 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
	Ascend abruptly.
51.09	Top of high ridge 400 ft.above ¼ sec.cor. bears N. and S.; limestone formation; ridge 500 ft.high.
	Descend.
69.90	Wash 25 lks.wide, 6 ins.deep, drains N.
	Ascend.
72.49	Short spur, 40 ft.high, runs out at 8 chs.N.
	Descend.
75.49	Wash, drains N.
79.89	The cor.of secs.17,18,19, and 20.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering pine and scrub cedar.
	Undergrowth black brush.
	Mountainous land 79.89 chs.
	Dec.8, 1909.

Dec.9: At 8 h. 52 m.a.m.l.m.t.I set off 37° 07'N. on lat.arc; 22° 47'S.on d cl.arc; and determine a meridian with the solar at the cor.of secs.17,18,19, and 20. Thence I run

S.89° 59'W.on random line bet.secs.18 and 19,

40.00	Set temp.¼ sec.cor.
79.85	Intersect W.bdy.of Tp. 2 lks.S.of the cor.of secs.13, 18, 19, and 24, heretofore described. Thence I run

Chains.	
	East on true line bet.secs.18 and 19,
	Descending, over mountainous land, through undergrowth.
4.00	Small ravine, 50 ft.deep, drains N.60° E.
	Ascend.
6.50	Small spur, 20 ft.high from SW.
10.30	Spur ridge, 25 ft.high bears NE.
	Descend.
13.00	Wash, 15 lks.wide, 1 ft.deep, drains NE.; 40 ft.below ridge. Ascend.
20.00	Small spur, 20 ft.above wash, from SW.
	Descend.
39.85	On flat, 200 ft.below spur,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 18 in N.half, S 19 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Ascend.
44.00	Small spur 25 ft.above ¼ sec.cor., bears N. and S.
	Descend.
48.00	Wash, 30 ft.below spur, 50 lks.wide, 2 ft.deep, drains NE.
	Ascend; through scattering cedars.
56.00	Spur, from SW. 60 ft.above wash.
	Thence over rolling ground; ascending.
79.85	80 ft.above spur,
	The cor.of secs. 17,18,19, and 20.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	Timber, scattering cedars.
	Undergrowth black brush.
	Mountainous land 56.00 chs.
	Dec.9: At this cor.I set off 22° 48'S.on decl.arc; and at 11 h. 52 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 07'N.

Chains.	
	N.0° 03'W.bet.secs. 17 and 18
	Descending over mountainous land; through scattering cedar and pine timber; through dense undergrowth.
3.20	Hollow, 100 ft.deep, drains NE.
	Ascend over rolling land.
16.00	Spur, 80 ft.above hollow, bears NE. and SW.
	Descend over rolling ground.
25.75	Thence down hollow, 150 ft.deep, course N.
40.00	Set an iron post 3 ft.long, 1 in.dia., 20 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 18 in W.half, S 17 in E.half; from which
	A cedar 5 ins.dia., bears S.81° W. 35 lks.dist. marked ¼ S 18 B T
	A cedar 10 ins.dia.bears N.45° 45'E. 67 lks.dist. marked ¼ S 17 B T
44.25	Leave hollow; ascend over rolling ground.
45.00	Spur, 50 ft.above hollow, bears NE.
	Descend over rolling ground.
57.00	Bottom of hollow, 150 ft.deep, drains NE.
	Ascend.
68.00	Ridge 100 ft.above hollow, bears N. and SW.
	Descend along steep W.slope
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.7,8,17, and 18, marked on brass cap
	T 42.S S 7 in NW.
	R 17 W S.8 in NE.
	S 17 in SE.; and
	S 18 in SW.quadrants; from which
	A pine 8 ins.dia., bears N.53° 15'E. 18 lks.dist. marked T 42 S R 17 W S 8 B T
	A cedar 10 ins.dia., bears S.20° 15'E. 31.5 lks. dist., marked T 42 S R 17 W S 17 B T
	A cedar, 7 ins.dia.bears S.30° 15'W. 114 lks.dist. marked T 42 S R 17 W S 18 B T

Chains. A pine 14 ins.dia., bears N.54° 30'W. 50 lks.dist. marked T 42 S R 17 W S 7 B T

Land, mountainous.

Soil, rocky, gravelly and clay; 3d and 4th rate.

Timber, cedar and pine.

Undergrowth black brush.

Mountainous land 80.00 chs.

Dec.9, 1909.

Dec.11, 1909: At 8 h. 53 m.a.m.l.m.t.I set off 22° 58' S.on decl.arc;37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,8,17, and 18. Thence I run

N.89° 58'E.on a random line bet.secs.8 and 17,

40.00 Set temp.¼ sec.cor.

79.80 Intersect N. and S.line 3 lks.S.of the cor.of secs.8,9, 16, and 17. Thence I run

S.89°.57'W.on true line bet.secs.8 and 17,

Ascending,through cedar and pine timber, and undergrowth.

6.00 Small ridge, 30 ft.above cor. bears N. and S.

Descend.

10.00 Ravine, drains NE.,60 ft.deep.

Ascend.

13.00 Small spur, 50 ft.high from SW.

Descend.

16.00 Enter flat.

20.00 Ascend.

30 00 Spur, 400 ft.above flat,bears N. and S.

Descend.

39.90 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in N.half, S 17 in S.half; from which

Chains.	
	A pine 16 ins.dia., bears N.55° 20'E. 108 lks.dist. marked $\frac{1}{4}$ S 8 B T
	A cedar 10 ins.dia.bears S.48° 55'E. 42 lks.dist. marked $\frac{1}{4}$ S 17 B T
	Corner 200 ft.below top of spur.
44.00	Wood road bears N. and S.
	Descend.
45.00	Wash 50 lks.wide, 2 ft.deep, drains NE.
	Ascend.
50.00	Spur, 40 ft.above wash, bears N. and S.
60.00	Wash, 2 ft.deep, 50 lks.wide, 60 ft.below top of spur, drains NE.; ascend.
78.00	Ridge 30 ft.high bears NE. and S. Descend.
79.80	The cor.of secs.7,8,17, and 18.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth black brush.
	Mountainous land 79.80 chs.
	Dec.11: At this cor.I set off 22°.59'S.on decl.arc; and at 11 h. 53 m.a.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 08'N.
	West on a random line bet.secs.7 and 18,
40.00	Set temp.$\frac{1}{2}$ sec.cor.
79.80	Intersect W.bdy.of Tp. 7 lks.S.of the cor.of secs.7,12, 13, and 18, heretofore described. Thence I run S.89° 57'E.on true line bet.secs.7 and 18,
	Descending gradually, through cedar and pine timber.
19.80	Hollow, 300 ft.deep, drains SE.
	Ascend,
39.80	On top of ridge, 400 ft.high, bearing SE. and W., Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap, $\frac{1}{4}$ S 7 in N.half, S 18 in S.half; from which

Chains.	
	A cedar 6 ins.dia., bears S.30° 30'E. 127 lks.dist. marked $\frac{1}{4}$ S 18 B T
	A pine 14 ins.dia.bears N.1° W. 128 lks.dist. marked $\frac{1}{4}$ S 7 B T ✓
	Descend abruptly.
51.80	Hollow, 350 ft.deep, course NE.
	Ascend.
60.80	Ridge, 200 ft.above hollow, bears NE. and S.
	Descend abruptly.
78.30	Hollow, 150 ft.deep, drains NE.
	Ascend abruptly.
79.80	The cor.of secs.7,8,17, and 18.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine .
	Mountainous land 79.80 chs. ✓

Dec.11, 1909.

Dec.13: At 8 h. 54 m.a.m.l.m.t. I set off 23° 07'S.on decl.arc; 37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,8,17, and 18.

Thence I run

N.0° 03'W.bet.secs.7 and 8,

Descending over mountainous land over rocky steep W. slope; through scattering cedar and pine.

5.50	Hollow, 200 ft.deep, drains NE.
	Ascend, over rolling ground.
25.00	Spur, 125 ft.high bears NE. and SW.
	Descend abruptly.
28.00	Ravine 150 ft.deep, drains NE.
	Ascend, over rolling ground.
36.00	Spur, 50 ft.high bears NE.and SW.
	Descend abruptly.

Chains.

38.00 Hollow, 150 ft.deep, drains NE.

Ascend abruptly.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 7 in W.half, S 8 in E.half; from which

A pine 6 ins.dia.bears N.12° W. 75 lks.dist., mkd. ¼ S 7 B T

A pine 8 ins.dia.bears S.89° E. 89 lks.dist. mkd. ¼ S 8 B T

49.00 Ridge, 100 ft.high, bears NE. and SW.

Descend along west slope of ridge.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.5,6,7, and 8, marked on brass cap

T 42 S S 6 in NW.

R 17 W S 5 in NE.

S 8 in SE.; and

S 7 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, scattering cedar and pine.

Mountainous land 80.00 chs.

Dec.13: At this cor.I set off 23° 08'S.on decl.arc; and at 11 h. 54 m.a.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 09'N.

N.89° 57'E.on a random line bet.secs.5 and 8,

40.00 Set temp.¼ sec.cor.

79.83 Intersect N. and S.line 12 lks.N.of the cor.of secs. 4, 5,8, and 9. Thence I run

N.89° 58'W.on true line bet.secs.5 and 8,

Ascending.

Chains.	
12.00	Ridge, 100 ft. above cor., bears N. and S.
	Descend.
26.25	Base of ridge; thence across flat which drains N.
26.85	Wood road, bears N. and S.
39.91½	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 5 in N. half, S 8 in S. half; and raise a mound of stone 2 ft. base, 1½ ft. high N. of cor. Pits impracticable.
	Ascend over broken ground.
50.00	Top of ascent, 100 ft. high, bears N. and S.
	Thence over rolling ground.
57.00	Enter scattering cedar and pine.
	Descend.
71.57	Hollow, 200 ft. below ridge, drains NE.
	Ascend abruptly.
74.00	Top of abrupt ascent, 90 ft. above hollow, bears NE. and SW.
	Descend gradually.
79.83	The cor. of secs. 5, 6, 7, and 8.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Mountainous land 79.83 chs.
	Dec. 13, 1909.

Dec. 14: At 8 h. 55 m. a.m. l.m.t., I set off 23° 10' S. on decl. arc; 37° 09' N. on lat. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 7, and 8.

Thence I run

N. 89° 57' W. on random line bet. secs. 6 and 7,

40.00	Set temp. ¼ sec. cor.

Chains.	
79.74	Intersect W.bdy.of Tp. 7 lks.S.of the cor.of secs.1.6,7, and 12, heretofore described.
	Thence I run
	N.89° 54'E.on a true line bet.secs.6 and 7,
	Descending, through scattering cedars.
2.50	Telephone line to Apex Mine bears NE. and SW.
10.99	Road, Shem to Apex Mine, bears N. and S.
39.74	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 6 in N.half, S 7 in S.half; from which
	A cedar 12 ins.dia.bears N.53° 30'W. 59.5 lks.dist. marked ¼ S 6 B T
	A cedar 10 ins.dia., bears S.66° 30'W. 125 lks. dist., marked ¼ S 7 B T
40.24	Road from Shem to Bunkerville, bears NE. and SW.
42.05	Wash, in hollow, 150 ft.deep, drains NE.; wash 15 lks. wide, 4 ft.deep.
	Ascend over rolling ground.
61.99	Ridge, 200 ft.high, bears NE. and SW.
	Descend.
70.99	Hollow, 350 ft.deep, drains NE.
	Ascend.
79.74	The cor.of secs.5.6.7, and 8.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	Timber, scattering cedar.
	Mountainous land 70.69 chs.
	Dec.14: At this cor.I set off 23° 12'S.on decl.arc; and at 11 h. 55 m.a.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 09'N.

Chains.	
	For reasons already explained I run
	N.0° 03'W.on true line bet.secs.5 and 6,
	Descending gently.
20.71	Wash, drains NE.
36.71	Main wagon road from Shem to Bunkerville bears NE. and SW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 6 in W.half, S 5 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Ascend.
43.96	Spur ridge 100 ft.above ¼ sec.cor., bears NE. and SW.
	Descend.
59.81	Large basin,about 5 chs.wide, drains SW.
	Ascend abruptly.
72.06	Top of knoll or rim rock, 150 ft.above basin, bears NE. and W.
	Descend.
80.71	Intersect N.bdy.of Tp.41 29 chs.E.of the cor.of secs.5,6, 31, and 32, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.5 and 6 marked on brass cap
	C C T 41 S R 17 W S 31 S 32 in N.half,
	S 5 in SE., and
	S 6 in SW.quadrants; from which
	A pine 4 ins.dia., bears S.61°15'W. 22 lks.dist. marked T 42 S R 17 W S 6 B T
	A cedar 5 ins.dia.bears S.4° 30'E. 104 lks.dist. marked T 42 S R 17 W S 5 B T
	I destroy all marks on the corner set for secs.5,6,31, and 32 that pertain to secs.5 and 6.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber cedar and pine.

Chains. Mountainous land 80.71 chs.

Dec.14, 1909.

Job H. Winwood
U. S. Deputy Surveyor

GENERAL DESCRIPTION.

This township is nearly all mountainous. The soil is poor and can be classed as 4th rate, with the exception of a strip about two hundred feet wide along each side of the Santa Clara River, in secs.1 and 12. This strip is generally rich loam, which produces good crops with irrigation. Grazing is poor over the entire township.

In the southwestern portion are rough mountains of limestone formation, with a general trend to the north. These mountains are covered with a sparse growth of pine and cedar, principally of scrub growth. The undergrowth is black brush, serviceberry, and manzanita.

In the central and southeastern portions are mountains of impure gypsum and clay, scored by numerous ravines and washes. Cottonwood, willow and some maple are found along the Santa Clara River.

There are no mines in this township; and no indications of oil were seen.

The only water to be found in this township in the dry season of the year is in the Santa Clara River, There are no settlers in the township.

From the description of the Shebit Indian Reservation its SE.cor. would be some place near the corner for secs.13,14,23, and 24, and, according to its topographical description, it probably extends five miles west from this corner.

The small tracts of cultivated land along the Santa Clara River are irregular in the extreme; the parties

who lay claim to these tracts are as follows:

In Sec.1, on left bank of river going down stream: Geo.Tobler, and Albert Graff, about 10 acres; Renso Leavitt, 10 acres; Harmon Gubler, 10 acres; Will Gray, 1 acre; Hafen Bros. 10 acres.

On right bank of river, going down stream: Chris Stuckie 10 acres; Ern Reber, 16 acres; Jake Buchem,1 acre; Tillie Reber, 8 acres; Fritz Reber, 10 acres; John Bauman, 4 acres; Sam Whitmer, 15 acres; J.S.Stuckie, 5 acres; John Gubler,2 acres.

In sec.12:and 13,John Gubler, 2 acres.

The parties named are reported residents of Santa Clara village. None of the tracts have any improvements upon them except an occasional wire fence, generally in poor condition. The acreage given is approximate only. Nearly all the land can be rated as second class.

Job W. Winnewood

Harry L. Chamberlin

U.S.Deputy Surveyors.

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Page

Retracement of West Boundary T. 42 S., R. 16 W.

Knowing from the discrepancy disclosed by the intersection of the line between secs.25 and 36 with the E. boundary of the township that said East boundary is out of limit in measurement, I retrace said E.boundary as follows:

Survey commenced Nov.20, 1909, and executed with the instrument described in book "A" of this survey.

At 8 h. 46m.a.m.l.m.t.I set off 19 38'S.on decl.arc; 37° 05'N.on lat.arc; and determine a meridian with the solar at the closing cor.of Tp.42 S., Rs.16 and 17 W. heretofore described.

Thence I run

North on retracement line bet.secs.31 and 36,

40.00 Find no trace of ¼ sec.cor., after diligent search.

40.30 Intersect the ¼ sec.cor., which is a limestone 5 x 8 x 5 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

80.00 Find no trace of the cor.of secs.25,30,31, and 36, after diligent search.

80.85 Intersect the cor.of secs.25,30,31, and 36, heretofore described.

The course of this line is therefore north and the distance 80.85 chs.

North on retracement line bet.secs.25 and 30,

40.00 Find no trace of ¼ sec.cor.after diligent search.

40.30 Fall 4 lks.W.of ¼ sec.cor., which is a burnt sandstone 6 x 10 x 4 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

80.00 Find no trace of cor.of secs.19,24,25 and 30, after diligent search.

80.81 Fall 8 lks.W.of the cor.of secs.19,24,25, and 30, which

Chains. is a sandstone 6 x 10 x 5 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

The course of this line is therefore N.0° 03'E. and the distance 80.81 chs.

Nov.20: At the cor.of secs.19,24,25, and 30, I set off 19° 40'S.on decl.arc; and at 11 h. 46 m.a.m.l.m.t. observe the sun on the meridian; the resulting lat.is 37° 07'N.

Thence I run

North on retracement line bet.secs.19 and 24,

40.00 Find no trace of ¼ sec.cor.after diligent search.

40.40 Fall 4 lks.W.of ¼ sec.cor., which is a yellow sandstone 5 x 8 x 6 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

80.00 Find no trace of cor.of secs.13,18,19, and 24, after diligent search.

80.93 Fall 6 lks.W.of the cor.of secs.13,18,19, and 24, which is a gray sandstone 5 x 10 x 6 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

The course of this line is therefore N.0° 03'E. and the distance 80.93 chs.

North bet.secs.13 and 18 on retracement line,

40.00 Find no trace of ¼ sec.cor.

40.22 Intersect the ½ sec.cor., which is a yellow sandstone 5 x 14 x 8 ins.above ground, firmly set and mkd.and witnessed as described by the surveyor general.

Chains.

80.00 Find no trace of the cor.of secs.7,12,13, and 18 after diligent search.

80.47 Intersect the cor.of secs.7,12,13, and 18, which is a yellow sandstone 4 x 12 x 7 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

The course of this line is therefore north and the distance 80.47 chs.

Nov.20, 1909.

Nov.22: At 8 h. 46 m.a.m.l.m.t.I set off 20 04'S.on decl.arc;37° 08'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,12,13, and 18.

Thence I run

North on retracement line bet.secs.7 and 12,

38.34½ Intersect the ¼ sec.cor., which is a yellow sandstone 5 x 10 x 4 ins.above gr und, firmly set and marked and witnessed as described by the surveyor general.

76.69 Intersect the cor.of secs.1,6,7, and 12, which is a white sandstone 6 x 14 x 4 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

The course of this line is therefore north and the distance 76.69 chs .

North on retracement line bet.secs.1 and 6,

40.42 Fall 37½lks.E.of ¼ sec.cor., which is a red sandstone 5 x 10 x 6 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.

80.83 Fall 75 lks.E.of the cor.of Tps.41 and 42 S., Rs.16 and 17 W., which is a red sandstone 24 x 12 x 10 ins., f in mound of stone, marked and witnessed as described

b

by the surveyor general. The course of this line is therefore N.0°32'W.80.83 chs. Nov.22, 1909.

For general description see notes of the subdivision of this township.

Job W. Winwood
U.S.Deputy Surveyor.

Volume
#
R0368

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Job H. Winwood and Harry L. Chamberlin, United States Deputy Surveyors to assist in running, measuring, and king the lines and corners described in the foregoing field notes of the survey of the Subdivi- n of Tps. 42 and 43 S., R. 17 W. of the S.L.B.& M., Utah, ring the respective capacities in which they acted:

Uberto P. Eldredge, *Chainman.*

Andre J. Kerr, *Chainman.*

Jacob L. Laubhan, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Elmo Adams, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Harry L. Chamberlin, United States Deputy Surveyor, in surveying all parts or portions of the subdivision of Townships 42 and 43 South, Range ast of the Salt Lake and meridian, State of Utah, which are represented foregoing field notes as having been surveyed by him and under his direction; and that said survey een in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the monuments established, according to the instructions furnished by the United States Surveyor al for Utah.

Uberto P. Eldredge, *Chainman.*

Andre J. Kerr, *Chainman.*

Jacob L. Laubhan, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Elmo Adams, *Flagman.*

ibed and sworn to before me this 14th y of December, 1909

SEAL

Harry L. Chamberlin

U.S. Deputy Surveyor.

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Harry L. Chamberlin, United States Deputy Surveyor solemnly swear that, in pursuance of a contract received from Thomas Hull United States Surveyor General for Utah, bearing date of 28 day of June, 1909, I have well, faithfully, and truly, in my proper person, and in strict conformity with the instructions furnished by the United States Surv General for Utah, the Manual of Surveying Instructions, and the laws of United States, surveyed all those parts or portions of the Subdivision of Townships 4 and 43 South, Range 17 West

of the Salt Lake Bas and meridian, in the State of Utah, which are represented in foregoing field notes in books "B" & "D" as having been surveyed by me, and under my direction; and I do further sole swear that all the corners of said survey have been established and perpetuated in strict accordance the Manual of Surveying Instructions, and the special written instructions of the United States Surv General for Utah and in the specific manner described in the field notes, and the foregoing are the original field notes of such survey.

Harry L. Chamberlin
United States Deputy Surv

Subscribed by said Harry L. Chamberlin, and sworn to before me this 13th day of March, 1911

Martin Voetsch
County Clerk - Baraga Coun
Michig

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

, 1

The foregoing field notes of the survey of

executed by
under his contract No. , dated , 19 , having critically examined, and the necessary corrections and explanations made, the said field notes, an surveys they describe, are hereby approved.

United States Surveyor Ge

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 offi

United States Surveyor Ge

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Job H. Winwood and Harry L. Chamberlin, United States Deputy Surveyors to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the Subdivision of Tps. 42 and 43 S., R. 17 W., of the S.L.B.& M., Utah showing the respective capacities in which they acted:

Maurice J. McGrath, *Chainman.*

John Williamson, *Chainman.*

William Fawcett, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Milo Canfield, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Job H. Winwood

, United States Deputy Surveyor, in surveying all the parts or portions of the Subdivision of Townships 42 and 43 South, Range West; and the retracement of the West Boundary T. 42 S., R. 16

of the Salt Lake and meridian, State of Utah, 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 proper monuments established, according to the instructions furnished by the United States Surveyor General for Utah

Maurice J. McGrath, *Chainman.*

John Williamson, *Chainman.*

William Fawcett, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Milo Canfield, *Flagman.*

Subscribed and sworn to before me this 14th day of December, 1909

SEAL

Job H. Winwood

U.S. Deputy Surveyor.

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Job H. Winwood, United States Deputy Surveyo
solemnly swear that, in pursuance of a contract received from Thomas Hull
United States Surveyor General for Utah, bearing date o
28 day of June, 1909, I have well, faithfully, and truly, in my
proper person, and in strict conformity with the instructions furnished by the United States Surv
General for Utah, the Manual of Surveying Instructions, and the laws o
United States, surveyed all those parts or portions of the subdivision of Townships
and 43 South, Range 17 West; and the retracement of West Bdy. T. 42
S., R. 16 W.

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

in books "B" & "D"

Job H. Winwood
United States Deputy Surv

Subscribed by said Job H. Winwood, and sworn to before me
this 18 day of February, 1911

SEAL

U.S. Surveyor-General
for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 1

The foregoing field notes of the survey of the subdivisional lines of Townshi
No. 42 South, Range No. 17 West; and the retracement of the West Bou
ry of Township 42 S., R. 16 W. of the Salt Lake Base and Meridian,
Utah,

executed by Job H. Winwood and Harry L. Chamberlin
under their contract No. 314, dated June 28, 1909, having
critically examined, and the necessary corrections and explanations made, the said field notes, ar
surveys they describe, are hereby approved.

United Stat[illegible]rveyor Ge

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 off

United States Surveyor Ge

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BOOK A-368

FILED
MAR 6 1911

E.

FIELD NOTES

OF THE SURVEY OF THE

EAST AND WEST BOUNDARIES

O F

TOWNSHIP NO. 41 SOUTH, diary 5

RANGE NO. 17 WEST

Of the Salt Lake Base and *Meridian*,

Utah,

AS SURVEYED BY

R. Harrod and Harry L. Chamberlin, *United States Deputy Surveyors*, their
er his Contract No. 314, *dated* June 28, 1909,
ey commenced March 13, 1910,
rvey completed March 17, 1910.

6—101

E. Bdy 6-13-11
W. Bdy 6-13-11
1226 24

Chaining 0-0-25
Chaining 2-00
2-25

BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Jesse M.Churchill	Chainman.
Ceth D.Peacock,	Chainman.
Josiah Leavitt,	Moundman.
Josiah H.Leavitt,	Flagman.

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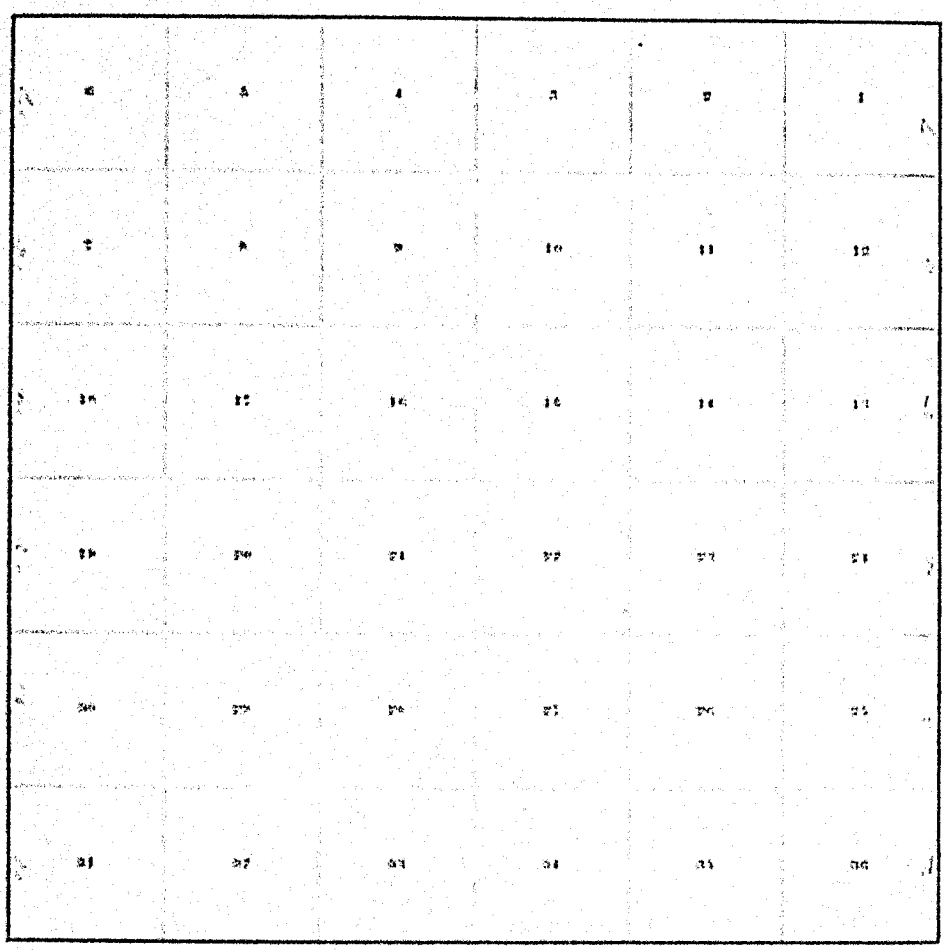
BOOK A-368

INDEX DIAGRAM.

Township ..... , *Range* .....



Meanders Page .....

PRELIMINARY OATHS OF ASSISTANTS.

We, Jesse M. Churchill and Ceth D. Peacock

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; t we will report the true distances to all notable objects, and the true lengths of all lines that we assis measuring, to the best of our skill and ability, and in accordance with instructions given us, in the surve E. and W. Bdys. T. 41 S., R. 17 W.; and S. and W. Bdys. T. 41 S., R. 18 W. of S.L.B. and M. Utah.

Jesse M. Churchill, Chainm

Ceth D. Peacock, Chainm

Subscribed and sworn to before me this 13th day of March, 1910

SEAL

Job H. Winwood

U.S. Deputy Surveyor.

~~We~~, I, Josiah Leavitt and

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundmen in the establishm of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the surve the E. and W. Bdys. T. 41 S., R. 17 W.; and S. and W. Bdys. T. 41 S., R. 18 or the S.L.B. and M., Utah.

Josiah Leavitt, Moundm

, Moundm

Subscribed and sworn to before me this 13th day of March, 1910

SEAL

Job H. Winwood

U.S. Deputy Surveyor.

We, and

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

, Axm

, Axm

Subscribed and sworn to before me this day of , 19

SEAL

I, Josiah H. Leavitt, do solemnly swear that I will well and tr perform the duties of flagman according to instructions given me, to the best of my skill and ability, in survey of the E. and W. Bdys. T. 41 S., R. 17 W.; and S. and W. Bdys. T. 41 S R. 18 W. of the S.L.B. and M., Utah.

Josiah H. Leavitt, Flagm

Subscribed and sworn to before me this 13th day of March, 1910

SEAL

Job H. Winwood

U.S. Deputy Surveyor.

6—151

Survey commenced March 13, 1910, and executed with a Keuffel & Esser transit, No.18325, with Smith solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

The instrument was examined, tested on the true meridian at Salt Lake City, found correct, and was approved by the Surveyor General for Utah, March 7, 1910.

I examine the adjustments of the transit and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications, resulting from solar observations made during a.m.and p.m. hours, with a meridian determined by observations on Polaris, I proceed as follows:

At the cor.of Tps.41 and 42 S., Rs.16 and 17 W., heretofore described; lat.37° 10'N.; long.113° 37' 37" W.; I set off 37° 10'N.on lat.arc; 2°-57'S.on decl.arc; and at 4 h. 10 m.p.m.l.m.t., determine with the solar a meridian, and mark a point thereof on a stone firmly set in the ground 5 chs.N.of the cor.

At 7 h. 59 m. p.m.l.m.t.I observe Polaris at western elongation, in accordance with 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.

March 13, 1910.

March 14: At 7 h. 40 m.a.m.l.m.t., I lay off the azimuth of Polaris 1° 28'to the east, and mark the meridian thus determined by cutting a small groove in the stone set March 13, on which the meridian falls 0.4 ins. east of the mark determined by the solar.

Chains. At 8 h. 10 m.a.m.l.n.t.I set off 37° 10'N.on the lat. arc; 2° 41'S.on the decl.arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs.N.of my station; this mark falls 0.3 ins.east of the meridian established by the Polaris observation.

The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0'21" west and 0' 16" east of the meridian established by the Polaris observations; therefore, I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h. 10 m. a.m. is N.16° 30'W.; the angle thus determined gives the mag.decl. 16° 30'E.

From the Tp.cor.already described I run

North bet.secs.31 and 36.

Over nearly level sandy land; scattering undergrowth.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 36 in W.half; S 31 in E.half; dig pits 18 x 18 x 12 ins.W. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.

78.00 Small sand ridge.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground,for cor.of secs.25,30,31 and 36,marked on brass cap,

T 41 S in N.

R 17 W S 25 in NW.

R 16 W S 30 in NE.

S 31 in SE.; and

S 36 in SW.quadrants; dig pits 18 x 18 x 12 ins. in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, nearly level.

Soil, loose, sandy; 3d rate.

No timber.

Chains. Undergrowth sage and black brush.

North bet.secs.25 and 30,

Over nearly level land; through scattering undergrowth.

36.00 Wash, 40 ft.deep, 4 chs.wide, drains S.40° W. Ascend.

Point for ¼ sec.cor.falls in wash where it is liable to be destroyed by floods; therefore at

38.65 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness ¼ sec.cor., marked on brass cap W C, with ¼ S 25 in W.half, S 30 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

Witness cor.is on small ridge on W.side of wash.

40.00 Point for ¼ sec.cor.falls in bend of wash from NE.to SE. corner not set.

Thence over level, sandy land.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.19,24,25, and 30, marked on brass cap

T 41 S in N.

R 17 W S 24 in NW.

R 16 W S 19 in NE.

S 30 in SE.; and

S 25 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, nearly level.

Soil, sandy; 3d rate.

No timber.

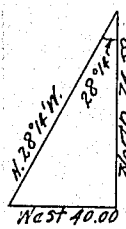
Undergrowth scattering sage and lightning brush.

March 14: At this cor.I set off 2° 38'S.on decl.arc; and at 0 h. 10 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 12'N.

Chains.	
	North bet.secs.19 and 24,
	Over nearly level sandy ground.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 24 in W.half, S 19 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	Thence over nearly level ground and sand drifts.
49.00	Ravine, 30 ft.deep, drains S.60° E.
55.00	Small ravine, 20 ft.deep, drains S.40° E.
56.00	Begin gentle ascent.
68.50	Small ridge from NW.
	Descend abruptly 75 ft.to narrow wash.
71.00	Gulch, 75 ft.deep, drains SE.
	Ascend.
	Point for cor.of secs.13,18,19, and 24 falls on almost perpendicular red sandstone mountains, over which it is impossible to chain; therefore at
73.91	Set an iron post 3 ft.long, 3 ins.dia., in mound of stone 2 ft.high, for witness cor.to cor.of secs.13, 18,19, and 24, marked on brass cap, T 41 S in N. R 17 W S 13 in NW. W C R 16 W S 18 in NE. S 19 in SE.; and S 24 in SW.quadrants;and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
80.00	Point for cor.of secs.13,18,19, and 24; corner not set.
	Land, nearly level and mountainous.
	Soil, sandy and rocky; 3d and 4th rate.
	No timber.
	Mountainous land on 31.00 chs.
	It being impossible to chain north on this line, on account of high steep red sandstone bluffs; therefore

EAST BOUNDARY. T. 41 S., R. 17 W.

Chains	
	I triangulate as follows:
	I return to the ¼ sec.cor.bet.secs.19 and 24, and set a flag north on top of abrupt mountains bearing NE. and SW. and measure a base west 40.00 chs.; from the west end of base the flag bears N.28° 14'E.; from the flag the west end of base bears S.28° 14'W.; therefore the distance is cotang.28° 14' x base, or 1.86239 x 40.00 equals 74.50 chs., or 34.50 chs.from the point for cor. of secs.13,18,19, and 24, and on line bet.secs.13 and 18
34.50	Top of abrupt mountain, bearing NE. and SW., 1000 ft. high; ascend rocky ground; through scattering cedar and pine. Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 13 in W.half, S 18 in E.half; from which A pine 8 ins.dia.bears N.36° E. 107 lks.dist.mkd. ¼ S 18 B T A pine 8 ins.dia.bears N.87° W. 98 lks.dist., mkd. ¼ S 13 B T
58.00	Canyon 800 ft.deep, drains SE.
	Ascend abruptly.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.7,12,13, and 18, marked on brass cap T 41 S in N. R 17 W S 12 in NW. R 16 W S 7 in NE. S 18 in SE.; and S 13 in SW.quadrants; from which A pine 14 ins.dia.bears N.64° E. 48 lks.dist.mkd. T 41 S R 16 W S 7 B T A pine 12 ins.dia.bears S.74° E. 23 lks.dist.,mkd. T 41 S R 16 W S 18 B T



EAST BOUNDARY T. 41 S., R. 17 W.

Chains.	
	A pine 10 ins.dia., bears S.81° W. 53 lks.dist., marked T 41 S R 17 W S 13 B T
	A pine 9 ins.dia.bears N.7° 30'W. 80 lks.dist., mkd. T 41 S R 17 W S 12 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Mountainous land 80.00 chs.
	March 14, 1910.
	March 15: At 8 h. 09m.a.m.l.m.t.I set off 2° 17'S.on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs. 7,12,13, and 18. Thence I run
	North bet.secs.7 and 12,
	Ascending gradually, through dense cedar and pine,sandy soil with undergrowth of serviceberry and black brush, over mountainous land.
2.00	Ridge,250ft.high bears NW. and SE.
	Descend gradually.
17.00	Hollow 300 ft.below top of ridge, drains NE.
	Ascend over rocky land.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 in W.half, S 7 in E.half; from which
	A pine 6 ins.dia.bears N.41° W. 40 lks.dist.mkd. ¼ S 12 B T
	A pine 5 ins.dia., bears S.81° E. 17 lks.dist., mkd.¼ S 7 B T
43.63	Ridge, 350 ft.above hollow, bears NW. and SE.
	Descend abruptly.
63.00	Hollow, 400 ft.below top of ridge drains NE.
	Ascend abruptly.

EAST BOUNDARY T. 41 S., R. 17 W.

Chains.	
73.58	Rocky ridge 250 ft.high, bears SW and NE.
	Descend abruptly.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in stone mound, for cor.of secs.1,6,7, and 12, marked on brass cap
	T 41 S in N.
	R 17 W S 1 in NW.
	R 16 W S 6 in NE.
	S 7 in SE.; and
	S 12 in SW.quadrants; from which
	A pine 10 ins.dia., bears N.24° 30'E. 41 lks.dist. marked T 41 S R 16 W S 6 B T
	A pine 12 ins.dia., bears S.73° E. 61 lks.dist. marked T 41 S R 16 W S 7 B T
	A pine 6 ins.dia.bears S.18° 45'W. 36 lks.dist. marked T 41 S R 17 W S 12 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Impossible to set post in ground.
	Land, mountainous.
	Soil, rocky and sandy; 4th and 3d rates.
	Timber, cedar and pine.
	Undergrowth, service berry and black brush.
	Mountainous land 80.00 chs.

North bet.secs.1 and 6,

	Descending abruptly over mountainous land, over sandstone ledges; through dense cedar and pine, with undergrowth of black brush.
3.00	Ravine 160 ft.deep, drains NE.; ascend.
12.00	Small spur, 50 ft.high from SW.
	Descend along canyon, 300 ft.deep;draining NE.
20.00	Leave canyon. Ascend abruptly.

Chains.	
30.20	Spur, 200 ft.high, bears E.
	Descend abruptly along E.slope.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 1 in W.half, S 6 in E.half; from which
	A cedar 4 ins.dia., bears N.24° E. 57 lks.dist. marked ¼ S 6 B T
	A cedar 12 ins.dia.bears S.10° W. 108 lks.dist. marked ¼ S 1 B T
	Ascend.
48.50	Spur, 200 ft.high bears NE. and SW.
	Descend abruptly.
54.75	Hollow, 600 ft.deep, drains NE.
	Ascend abruptly.
70.00	Spur, 300 ft.high, bears NE. and SW.
	Descend abruptly.
76.00	Foot of abrupt descent bears NE. and SW.
	Leave cedars and pines.
80.00	Wash 15 lks.wide, 6 ft.deep, drains NW.; 400 ft.below top of spur.
83.00	Enter scattering cedar and pine.
93.11	Intersect 8th Standard Parallel South 25 lks.E.of the standard cor.of Tps.40 S., Rs.16 and 17 W., which is a sandstone 8 x 6 x 12 ins.above ground, firmly set and marked and witnessed as described by the surveyor general.
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for closing cor.of Tp.41 S., Rs.16 and 17 W. marked on brass cap T 40 S in N.
	R 17 W S 36 in NW.
	R 16 W S 31 in NE quadrant;
	C C R 16 W S 6 R 17 W S 1 in S.half; from which
	A cedar 10 ins.dia., bears S.39° 15'E. 56 lks.dist. marked T 41 S R 16 W S 6 B T.

Chains. A cedar 6 ins.dia., bears S.61° 25'W. 75 lks.dist. marked T 41 S R 17 W S 1 B T

Land, mountainous.

Soil rocky; 4th rate.

Timber, cedar and pine.

Undergrowth, black brush.

Mountainous land 93.11 chs.

March 15, 1910.

For general description see notes of the subdivision of this township.

Chains.

Volume
#
R0368

Survey commenced March 16, 1910, and executed with the instrument described in the survey of the E.bdy.of this township, this book.

At 8 h. 09 m.a.m.l.m.t.I set off 1° 54'S.on decl.arc; 37° 10'N.on lat.arc; and determine a meridian with the solar at the cor.of Tps.41 and 42 S.,Rs.17 and 18 W., heretofore described. Thence I run

North bet.secs.31 and 36,

Descend over mountainous land; through scattering cedar and pine timber.

2.10 Hollow, 70 ft.deep, drains E.

Ascend, over rolling ground.

10.00 Spur, 80 ft.high projects.E.

Descend over rolling land.

23.40 Hollow, 150 ft.deep, drains SE.

Ascend abruptly.

28.25 Spur, 100 ft.high,projects SE.

Descend abruptly.

32.40 Hollow, 175 ft.deep, drains SE.

Ascend abruptly.

39.50 Spur, 90 ft.high bears NW. and SE.

Descend over rolling land.

40.00 Set an iron post 3 ft.long, 1 in.dia, 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 36 in W.half, S 31 in E.half; from which

A cedar 10 ins.dia.bears N.40° 45'E. 26 lks.dist. marked ¼ S 31 B T

A cedar 8 ins.dia.bears N.43° 45'W. 86 lks.dist. marked ¼ S 36 B T

53.30 Hollow, 150 ft.deep, drains SE.

Ascend over rolling land.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.25,30,31, and 36, marked on brass cap

WEST BOUNDARY T. 41 S., R. 17 W.

Chains.

T 41 S in N.

R 18 W S 25 in NW.

R 17 W S 30 in NE.

S 31 in SE.; and

S 36 in SW. quadrants; from which

A cedar 7 ins.dia.bears N.76° 15'E. 126 lks.dist. marked T 41 S R 17 W S 30 B T

A cedar 4 ins.dia.bears S.69° 45'E. 194 lks.dist. marked T 41 S R 17 W S 31 B T

A cedar 4 ins.dia.bears S.11° 45'W. 79 lks.dist. marked T 41 S R 18 W S 36 B T

A cedar 8 ins.dia.bears N.34° 30'W. 136 lks.dist. marked T 41 S R 18 W S 25 B T

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar and pine.

Mountainous land 80.00 chs.

North bet.secs.25 and 30,

Over mountainous land; through scattering cedar and pine; rocky soil, with undergrowth of serviceberry and black brush.

39.50 Ridge, 200 ft.above cor.; bears NW. and SE.

Descend along rocky E.slope.

40.00 Set an iron post 3 ft..long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 25 in W.half, S 30 in E.half; from which

A pine 8 ins.dia., bears S.44° W. 75 lks.dist. marked ¼ S 25 B T

A pine 6 ins.dia.bears S.21° 30'E. 43 lks.dist. marked ¼ S 30 B T

Corner 100 ft.below top of ridge.

Descend, over rocky ground.

Chains.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.19,24,25, and 30, marked on brass cap

T 41 S in N.

R 18 W S 24 in NW.

R 17 W S 19 in NE.

S 30 in SE.; and

S 25 in SW.quadrants; from which

A cedar 14 ins.dia.bears S.29° E. 53 lks.dist. marked T 41 S R 17 W S 30 B T

A cedar 8 ins.dia.bears S.53° W. 98 lks.dist. mkd. T 41 S R 18 W S 25 B T

A cedar 6 ins.dia., bears N.3° W. 88 lks.dist., marked T 41 S R 18 W S 24 B T

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

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar and pine.

Undergrowth serviceberry and black brush.

Mountainous land 80.00 chs .

March 16: At this cor.I set off 1° 50'S.on decl.arc; and at 0 h. 09'p.m.l.m.t.observe the sun on the meridian the resulting lat.is 37° 12'N.

North bet.secs.19 and 24,

Descending over rocky mountainous land; through scattering cedar and pine, with undergrowth of black brush.

2.45 Hollow, 400 ft.deep, drains E.

Ascend over rolling E.slope of ridge.

24.40 Spur, projects E.

Descend, over rolling land.

Chains.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 24 in W.half, S 19 in E.half; from which

A cedar 5 ins.dia., bears N.55° 48'W. 10 lks.dist. marked ¼ S 24 B T

A cedar 8 ins.dia.bears N.58° 50'E. 23 lks.dist. marked ¼ S 19 B T

47.25 Hollow, 150 ft.deep, drains NE.

Ascend over rolling land.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.13,18,19, and 24, marked on brass cap

T 41 S in N.

R 18 W S 13 in NW.

R 17 W S 18 in NE.

S 19 in S.; and

S 24 in SW.quadrants; from which

A cedar stump 12 ins.dia., 3 ft.high bears N.31° E.81 lks.dist., marked T 41 S R 17 W S 18 B O

A cedar stump 12 ins.dia., 1½ ft.high bears S.9° 35'E.100 lks.dist., marked T41S R17W S 19 B O

A cedar 8 ins.dia., bears N.32° 15'W. 156 lks.dist. marked T 41 S R 18 W S 13 B T

No other bearing trees within limits; raise a mound of stone 3 ft.base, 1½ ft.high W.of cor.Pits impracticable.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, scattering cedar and pine.

Undergrowth black brush.

Mountainous land 80.00 chs.

North bet.secs.13 and 18,

Chains.

Over rolling land; through scattering cedar and dense black brush; ground rocky.

15.40 Wash, 20 lks.wide, 7 ft.deep, drains SE.

Descend over rolling land.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 13 in W.half, S 18 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

40.60 Telephone line bears NW. and SE., from St.George to Acoma.

65.75 Road to Acoma, bears NW. and SE.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.7,12,13, and 18, marked on brass cap

T 41 S in N.

R 18 W S 12 in NW.

R 17 W S 7 in NE.

S 13 in SE.; and

S 13 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable!

Land, rolling.

Soil, rocky; 4th rate.

Timber, scattering cedar

Undergrowth black brush.

March 16, 1910.

March 17:At 8 h. 09 m.a.m.l.m.t.I set off 1° 30'S. on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,12,13, and 18.

Thence I run

North bet.secs.7 and 12,

Descending over rocky land; through dense black brush.

Chains.	
1.50	Wash, 30 lks.wide, 3 ft.deep, drains SE.
	Ascend.
8.00	Ascend abruptly over sandstone ledge, 40 ft.high.
10.00	Leave ledge.
14.95	Spur bearing west.
	Descend; through scattering cedar and pine.
18.50	Hollow, 75 ft.deep, drains SW.
	Ascend, over rocky land; undergrowth scattering.
40.00	300 ft.above hollow,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 12 in W.half, S 7 in E.half; from which
	A cedar 4 ins.dia., bears N.7° E. 85 lks.dist. marked $\frac{1}{4}$ S 7 B T
	No bearing tree available for sec.12; raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor. Pits impracticable.
	Ascend over series of sandstone ledges and boulders.
70.00	Top of abrupt spur, bears W., 400 ft.above $\frac{1}{4}$ sec.cor.
	Descend gradually; leave scattering cedar; enter dense black brush, bears E. and W.
77.50	Hollow, 150 ft.deep, drains SW.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.1,6,7, and 12, marked on brass cap
	T 41 S in N.
	R 18 W S 1 in NW.
	R 17 W S 6 in NE.
	S 7 in SE.; and
	S 12 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.Pits impracticable.
	Land, mountainous.
	Soil, rocky; 4th rate.

WEST BOUNDARY T. 41 S., R. 17 W.

Chains.	
	Timber, scattering cedar.
	Undergrowth, black brush.
	Mountainous land 80.00 chs.

North bet.secs.1 and 6,

	Ascending over rocky mountainous land; through dense black brush.
1.50	Spur, 100 ft.high, projects SW.
	Descend gradually.
11.00	Hollow, 300 ft.deep, drains SW.
	Ascend.
25.00	Spur, 275 ft.high, bears NE. and SW.
	Descend.
27.75	Hollow, 250 ft.deep, drains SW.
	Ascend.
37.00	Spur, 300 ft.high, bears SW. and NE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 1 in W.half, S 6 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
41.75	Hollow, 200 ft.deep, drains SW.
	Ascend.
47.50	Main ridge, 350 ft.high, bears NW. and SE.
	Descend abruptly.
56.00	Hollow, 250 ft.deep, drains NE.
	Ascend abruptly.
58.75	Top of abrupt ascent, bears NE. and SW.
	Ascend gradually.
65.00	Spur, 200 ft.high, bears NE.
	Descend abruptly over sandstone ledges.
75.00	Foot of abrupt descent, bears NE. and SW.
80.38	Hollow, 50 ft.deep, drains NE.

WEST BOUNDARY T. 41 S., R. 17 W.

Chains.	
	Ascend over rolling ground.
83.00	Spur, 60 ft.high bears NE.
	Descend over rolling ground.
86.43	Hollow, 75 ft.deep, drains NW.
	Ascend over rolling ground;through scattering cedars.
90.00	Spur, 70 ft.high, projects NW.
	Descend.
93.61	Intersect 8th Stand.Parallel South 21 lks.E.of the standard cor.of Tp.40 S., Rs.17 and 18 W., which is a sandstone 6 x 12 x 5 ins.above ground, firmly set and marked and witnessed as described by the surveyor general. Set temp.closing cor.for Tp.41 S., Rs.17 and 18 W., which was afterward made permanent at 93.13 chs. which point is 2.00 chs.E.of the re-established stand. cor.of T.40 S., Rs.17 and 18 W., hereinafter described Said closing corner established as follows:

Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for closing cor.of Tp.41 S., Rs.17 and 18 W. marked on brass cap,

T 40 S in N.

R 18 W S 36 in NW.

R 17 W S 31 in NE.quadrants;

C C R 17 W S 6 R 18 W S 1 in S.half;from which

A cedar 12 ins.dia.bears S.11° 45'E. 63 lks.dist. marked T 41 S R 17 W S 6 B T

A cedar 10 ins.dia.bears S.40° W. 92 lks.dist. marked T 41 S R 18 W S 1 B T

Land, mountainous.

Soil, rocky; 4th rate.

Timber, scattering cedar.

Undergrowth black brush.

Mountainous land 93.13 chs. March 17, 1910.

For general description see notes of the subdivision of this township.

LATITUDES, DEPARTURES, AND CLOSING ERRORS.

Lines	Designated	True Bearing	Dist.	Latitudes, N.	Latitudes, S.	Departures, E.	Departures, W.
			chs.	chs.	chs.	chs.	chs.
East	Boundary	North	493.11	493.11	.....	.....	.....
North	Boundary	West	478.20	.....	.....	.....	478.20
West	Boundary	South	493.13	.....	493.13	.....	.....
South	Boundary	East	478.63	.....	.....	478.63	.....
	Convergency						.55
	T o t a l s			493.11	493.13	478.63	478.75
					493.11		478.63
	Error in lat. and dep.				.02		.12

Job W. Winwood
U.S. Deputy Surveyor.

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Page

FINAL OATH OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

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

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

.....

showing the respective capacities in which they acted:

....., *Chainman.*

"C list of names and final oath of assistants see book "H" ..... *Chainman.*

41 S., R. 18 W. ..... *Moundman.*

..... *Moundman.*

..... *Axman.*

..... *Axman.*

..... *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted .....

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

.....

.....

..... of the .....

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

..... *Chainman.*

..... *Chainman.*

..... *Moundman.*

..... *Moundman.*

..... *Axman.*

..... *Axman.*

..... *Flagman.*

.....

Subscribed and sworn to before me this .....
day of ....., 190 }

SEAL

[illegible]

FINAL OATH OF [illegible]

I. _____, United States Deputy Surveyo
solemnly swear that, in pursuance of a contract received from _____
United States Surveyor General for _____, bearing date
_____ day of _____, 190 , I have well, faithfully, and truly, in my
proper person, and in strict conformity with the instructions furnished by the United States Sur
General for _____, the Manual of Surveying Instructions, and the laws
United States, surveyed all those parts or portions of _____

For final oath of deputy see book "H" T.43 S., R. 18 W.

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

_____
United States Deputy Sur

Subscribed by said _____, and sworn to before me
this _____ day of _____, 190

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 191

The foregoing field notes of the survey of the East and West Boundaries of T
ship No. 41 South, Range No. 17 West of the Salt Lake Base and Meri
ian, Utah.

executed by their Job H. Winwood and Harry L. Chamberlin
under his contract No. 314, dated June 28, 1909, havi
critically examined, and the necessary corrections and explanations made, the said field notes, a
surveys they describe, are hereby approved.

Thomas Reed
United States Surveyor G

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 o

_____
United States Surveyor G

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Page

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Page

4—679.

Ex. v. J.F.

BOOK A-368

E.W.

FILED
MAR 8 1911

F.

FIELD NOTES

OF THE SURVEY OF THE

SUBDIVISION

OF

TOWNSHIP NO. 41 SOUTH,

RANGE NO. 17 WEST

Of the SALT LAKE BASE AND *Meridian,*

UTAH,

AS SURVEYED BY

Mo. H. Winwood and Harry L. Chamberlin, *United States Deputy Surveyors,*

Under their *Contract No.* 314, *dated* June 28, *19*09,

Survey commenced March 14, *19*10.

Survey completed March 28, *19*10.

6—151

60-58-08 closing 1-16

NAMES AND DUTIES OF ASSISTANTS.

Jesse A. Churchill,	Chainman.
Seth D. Peacock,	Chainman.
Roger W. Jeanup,	Chainman.
Royal H. Blake,	Chainman.
Josiah Leavitt,	Rounderman.
Arthur H. Bentley,	Rounderman.
Josiah H. Leavitt,	Flagman.
Sidney Leavitt,	Flagman.

BOOK A-368

INDEX DIAGRAM.

Township 41 South, *Range* 17 W.

6	64	5	47	4	35	3	23	2	12	1					
63		62		46		34		22		11					
7	61	8	45	9	32	10	21	11	10	12					
60		59		44		31		20		9					
18	58	17	43	16	31	15	19	14	7	13					
57		56		42		29		18		6					
19	55	20	41	21	28	22	17	23	5	24					
54		53		40		27		17		4					
30	52	29	39	28	27	27	16	26	4	25					
51		50		38		26		15		3					
31	49	32	36	33	25	34	14	35	2	36					

Meanders Page .....

6—151

PRELIMINARY OATHS OF ASSISTANTS.

We, Jesse M. Churchill and Ceth D. Peacock

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will l
chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the san
we will report the true distances to all notable objects, and the true lengths of all lines that we
measuring, to the best of our skill and ability, and in accordance with instructions given us, in the s
the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S. L. B. & M., Ut

Jesse M. Churchill, Cho

Ceth D. Peacock, Cho

Subscribed and sworn to before me this 13th day of March, 1910

SEAL

Job F. Winwood
U. S. Deputy Surveyor.

We, ~~I~~, Josiah Leavitt ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establ
of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the s
the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S. L. B. & M., Ut

Josiah Leavitt, Mou

, Mou

Subscribed and sworn to before me this 13th day of March, 1910

SEAL

Job F. Winwood
U. S. Deputy Surveyor

We, and

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

,

,

Subscribed and sworn to before me this day of , 19

SEAL

I, Josiah H. Leavitt, do solemnly swear that I will well an
perform the duties of flagman according to instructions given me, to the best of my skill and ability
survey of the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S. L. B.
Utah.

Josiah H. Leavitt, Fl

Subscribed and sworn to before me this 13th day of March, 1910

SEAL

Job F. Winwood
U. S. Deputy Surve

4—151

BOOK A-368

INDEX DIAGRAM.

Township ....., *Range* .....

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Meanders Page .....

6—151

PRELIMINARY OATHS OF ASSISTANTS.

We, Roger W. Jessup and Royal H. Blake

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will leve chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; we will report the true distances to all notable objects, and the true lengths of all lines that we ass measuring, to the best of our skill and ability, and in accordance with instructions given us, in the surv the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S.L.B.& M., Uta

Roger W. Jessup, Chain

Royal H. Blake, Chain

Subscribed and sworn to before me this 14th day of March, 1910

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

We, I, Arther R. Bentley and

do solemnly swear that we will well and truly perform the duties of moundman in the establish of corners, according to the instructions given me to the best of my skill and ability, in the surv the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S.L.B.& M., Uta

Arther R. Bentley, Mound

, Mound

Subscribed and sworn to before me this 14th day of March, 1910

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

We, I, Rd. A. Morris Jr. and

do solemnly swear that we will well and truly perform the duties of axmen in the establishment of co and other duties, according to instructions given me to the best of my skill and ability, in the surv the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S.L.B.& M., Uta

Rd. A. Morris Jr., Axm

, Axm

Subscribed and sworn to before me this 14th day of March, 1910

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

I, Sidney Leavitt, do solemnly swear that I will well and t perform the duties of flagman according to instructions given me, to the best of my skill and ability, in survey of the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S.L.B.& Utah.

Sidney Leavitt, Flagm

Subscribed and sworn to before me this 14th day of March, 1910

Harry L. Chamberlin
U.S. Deputy Surveyor.

SEAL

4-191

Survey commenced March 14, 1910, and executed with the instrument described in book "A" of this survey.

I examine the adjustments of the transit and correct the level and collimation errors; then to test the solar apparatus by comparing its indications resulting from solar observations made during a.m. and p.m. hours with a meridian determined by observations on Polaris, I proceed as follows:

At the cor. of secs. 1, 2, 35, and 36 on the S. bdy. of the Tp., heretofore described; lat. 37° 10' N.; long. 113° 38' 43" W., I set off 37° 10' N. on lat. arc; 2° 33' N. on decl. arc; and at 4 h. 10 m. p.m. l.m.t., determine with the solar a meridian, and mark a point thereof, on a stone firmly set in the ground 5 chs. N. of the cor.

At 7 h. 56 m. p.m. l.m.t. I observe Polaris at western elongation, in accordance with 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.

March 14, 1910.

March 15: At 7 h. 21 m. 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 in the stone set March 14, on which the meridian falls 0.3 ins. E. of the mark determined by the solar.

At 8 h. 09 m. a.m. l.m.t. I set off 37° 10' N. on the lat. arc; 2° 17' N. on the decl. arc; and mark a point in the meridian determined with the solar by a cross on the stone already set 5 chs. N. of my station; this mark falls 0.4 ins. E. of the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.m. observations defines positions for meridians respectively about 0' 16" W.

Chains.	
	and 0' 21" E. of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.
	The magnetic bearing of the true meridian at 8 h. 0 m. a.m. is N.16° 30'W.; the angle thus determined gives the mag. decl. 16° 30'E.
	From the sec. cor. already described I run N.0° 01'W. bet. secs. 35 and 36,
	Descending over limestone ledges.
10.00	Thence along top of W. edge of Santa Clara River Canyon; canyon 200 ft. deep.
17.50	Leave W. edge of canyon, bearing NE. and SE.
19.50	Small ridge, bears NE. and S.
23.75	S. edge of Santa Clara River Canyon, course E.
25.00	Santa Clara River, 70 lks. wide, 1 ft. deep, course E.
26.00	Road from St. George to Shem bears W. and SE.
27.25	N. edge of Santa Clara River Canyon.
31.50	Small knoll, 40 ft. high.
35.50	Telephone line from St. George to Shem and Acoma, bears NW. and SE.
39.00	Wash, 20 lks. wide, 1 ft. deep, drains SE.
40.00	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 35 in W. half, S 36 in E. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor. Pits impracticable.
	From this cor. a monument of the Shebit Indian Reservation boundary bears S.23° 13'W. 37.61 chs.; this monument is a mound of rock on a boulder 10 x 20 x 8 ft. high; it is on the S. side of Santa Clara River Canyon, near the Knight Farm.
47.00	Wood road, bears NW. and SE.
	Ascend gently over slightly rolling ground.
77.00	Alkali basin, drains SE.
80.00	Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the

Chains.	
	ground for cor.of secs.25,26,35, and 36, marked on brass cap
	T 41 S S 26 in NW.
	R 17 W S 25 in NE.
	S 36 in SE., and
	S 35 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist., and raise a mound of earth 4 ft. base, 2 ft. high W.of cor.
	Land, mountainous.
	Soil, rocky, gravel, and sand; 4th rate.
	No timber. Undergrowth black brush and sage.
	Mountainous land 80.00 chs.
	East on a random line bet.secs.25 and 36,
40.00	Set temp.¼ sec.cor.
80.02	Intersect E.bdy.of Tp.5 lks.S.of the cor.of secs.25,30, 31, and 36, heretofore described. Thence I run S.89° 58'W.on true line bet.secs.25 and 36,
	Over nearly level land.
3.00	E.edge of wash, 60 ft.deep, drains S.
10.00	West edge of wash.
40.01	Set an iron post 3 ft.long, 1 in.dia , 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 25 in N.half, S 36 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
45.03	Wash, 10 lks.wide, 10 ft.deep, drains S.
	Thence across sandy ground, covered with black brush and sage, bearing N. and S.
62.02	Edge of small gypsum basin, draining SE. Descend.
70.00	Base of basin. Thence across basin to
80.02	The cor.of secs.25,26,35, and 36.
	Land level and broken.
	Soil, sandy and gravelly; 4th rate.

Chains.	
	No timber. Undergrowth, black brush and sage.
	March 15: At the noon hour sky overcast; observation for lat. impossible.
	N.0° 01'W. bet.secs. 25 and 26,
	Over nearly level land.
2.10	Ascend abruptly, 75 ft.
5.50	Top of abrupt ascent; thence over rolling ground; ascending.
17.50	Top of rolling ascent; thence over nearly level land.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 26 in W.half, S 25 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.23,24,25, and 26, marked on brass cap, T 41 S S 23 in NW. R 17 W S 24 in NE. S 25 in SE., and S 26 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.5½ ft.dist.; and raise a mound of earth 4 ft .base, 2 ft.high W.of cor.
	Land, level.
	Soil, sandy; 4th rate.
	No timber. Undergrowth, black brush and sage.
	N.89° 58'E.on a random line bet.secs.24 and 25,
40.00	Set temp.¼ sec.cor.
80.02	Intersect E.bdy.of Tp.9 lks.N.of the cor.of secs.19,24, 25, and 30, heretofore described. Thence I run N.89° 58'W.on true line bet.secs.24 and 25,
	Ascending over rolling land; through undergrowth of black brush and sage.
19.02	Top of hill, bearing N. and S., 100 ft.high.

Chains.	
36.02	Foot of hill.
36.51	Ravine, 30 ft.deep, drains S.
40.01	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 24 in N.half, S 25 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
53.52	Wash, 30 lks.wide, 3 ft.deep, drains S.
57.52	Wash, 20 lks.wide, 2 ft.deep, drains S.
63.53	Wash, 30 lks.wide, 4 ft.deep, drains S.
	Thence over nearly level land.
80.02	The cor.of secs.23,24,25, and 26.
	Land, rolling, and almost level.
	Soil, sandy; 3d rate.
	No timber.
	Undergrowth black brush and sage.

March 15, 1910.

March 16: At 8 h.09 m.a.m.l.m.t.I set off 1° 53'S.on decl.arc; and 37° 12'N.on lat.arc; and determine a meridian with the solar; at cor.of secs.23,24,25 & 26. Thence I run

N.0°01'W.bet.secs.23 and 24;

Over nearly level sandy land.

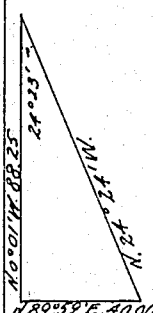
25.00	Short wash, 15 lks.wide, 2 ft.deep, drains E.
36.50	Small wash, drains SE., 30 lks.wide, 3 ft.deep.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 23 in W.half, S 24 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
41.50	Wash, 50 lks.wide, 3 ft.deep, drains SE.
	Ascend gently.
52.00	Thence along west side of wash, which drains S.
63.00	Thence along E.side of ridge bearing N. and S.
	Point for cor.of secs.13,14,23, and 24 falls in inac-

Chains	
	cessible red sandstone cliffs; therefore at
69.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for witness cor.to cor.of secs.13,14,23, and 24, marked on brass cap
	T 41 S S 14 in NW.
	W C R 17 W S 13 in NE.
	S 24 in SE.; and
	S 23 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Corner 300 ft.above ¼ sec.cor.
80.00	Point for cor.of secs.13,14,23, and 24; corner not set.
	Land, slightly rolling.
	Soil, sandy; 3d rate.
	No timber.
	Undergrowth sage and black brush.

	From a point S.0° 01'E.0.41 chs.from witness cor.for cor.of secs.13,14,23, and 24, I run on offset line S.89° 58'E.on a random line bet.secs.13 and 24,
40.00	Set temp.¼ sec.cor.
80.08	Fall 5.78 chs.S.of the witness cor.for cor.of secs.13, 18,19, and 24, heretofore described.
	Thence I run
	West on offset line 11.42 chs.S.of true line,
	Over mountainous land; through sage and black brush.
10.00	Spur from NW., 100 ft.high; descend.
21.00	Wash, 1 ch.wide,3 ft.deep, drains SE., 125 ft.below top of spur. Ascend.
29.00	Spur, 90 ft.high from north.
40.04	N.0°.ofW.from offset line, 6.86 chs.on sandstone floor.
	Set an iron post 3 ft.long, 1 in.dia., in mound of stone, 26 ins.high, marked on brass cap,
	T 41 S R 17 W S 13 W C ¼ in N.half;
	S 24 in S.half;and raise a mound of stone 2 ft.base

Chains.	
	1½ ft.high N.of cor.
	Witness cor.is 4.55 chs.South of true ¼ sec.cor.point.
46.00	Wash, 40 lks.wide, 3 ft.deep, drains south. Ascend.
58.00	Spur from north 90 ft.high.
64.00	Wash, 100 ft.below spur, 30 lks.wide, 2 ft.deep. drains south.
69.00	Spur, 60 ft.high, projects S.
76.00	Wash, 50 ft.below spur, drains S.
80.08	To point S.0° 01'E.0.41 chs.from witness cor.to cor.of secs.13,14,23, and 24.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	No timber.
	Undergrowth sage and black brush.
	Mountainous land 80.08 chs.
	March 16: At noon hour sky overcast obs.for lat.impossible.

To continue the line north between secs.13 and 14, it being impossible to chain, I lay off a base N.89°59' E.40.00 chs.from ¼ sec.cor.between secs.23 and 24, and set a flag N.0° 01'W. on red mountains. From the E.e end of base flag bears N.24° 24'W.; from flag east end of base bears S.24° 24'E.; therefore the distance is cotang.24° 23' x 40.00, or 2.2066 x 40.00, which equals 88.25 chs. I measure back S.0° 01'E.8.25 chs. and at



40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 14 in W.half, S 13 in E.half; from which

A pine 10 ins.dia.bears N.20° E. 42 lks.dist. mkd. ¼ S 13 B T

A pine, 12 ins.dia., bears S.17° E. 102 lks.dist.

Chains.	
	mkd. $\frac{1}{4}$ S 13 B T
	No bearing trees within limits for sec.14; raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.
	I continue my line N.0°01'W.bet.secs.13 and 14,ascending abruptly.
48.25	Divide, 200 ft.above $\frac{1}{4}$ sec.cor., bears NE. and SW.
	Descend abruptly.
52.00	Hollow, 500 ft.deep, drains SW.
	Ascend abruptly.
72.00	Crown of W.slope of spur, projecting N., 400 ft.high.
	Descend abruptly.
76.80	Hollow, 150 ft.deep, drains SW.
	Ascend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in mound of stone, for cor.of secs.11,12,13, and 14, marked on brass cap,
	T 41 S S 11 in NW.
	R 17 W S 12 in NE.
	S 13 in SE., and
	S 14 in SW.quadrants; from which
	A pine 10 ins.dia.bears N.20° E. 42 lks.dist.,mkd. T 41 S R 17 W S 12 B T
	A pine, 12 ins.dia.bears S.17° E. 102 lks.dist.mkd. T 41 S R 17 W S 13 B T
	A pine 8 ins.dia.bears S.27° W. 103 lks.dist.,mkd. T 41 S R 14 W S 14 B T
	A pine, 12 ins.dia., bears N.65° W. 63 lks.dist. mkd.T 41 S R 17 W S 11 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber cedar and pine.
	Mountainous land 80.00 chs.
	March 16, 1910.

Chains.	
	March 17:At 8 h. 09m.a.m.l.m.t.I set off 1° 30'S.on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.11,12,13, and 14. Thence I run
	East on a random line bet.secs.12 and 13,
40.00	Set temp.¼ sec.cor.
80.20	Intersect E.bdy.of Tp. 4 lks.S., of the cor.of secs. 7, 12,13, and 18, heretofore described. Thence I run
	S.89° 58'W.on true line bet.secs.12 and 13,
	Ascending abruptly; over mountainous land; through dense cedarandpinetimber.
14.55	Ridge, 300 ft.high, bears NW. and SE.
20.00	Hollow,200 ft.deep, drains SE.
24.70	Ridge, 200 ft.high bears NW. and SE. Descend.
40.10	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for ¼ sec.cor., marked on brass cap ¼ S 12 in N.half, S 13 in S.half; from which
	A pine 10 ins.dia.bears N.68° W. 109 lks.dist. marked ¼ S 12 B T
	A pine 10 ins.dia.bears S.66° W. 41 lks.dist.mkd. ¼ S 13 B T
	Corner in hollow, 300 ft.below ridge, drains NW.
	Ascend.
56.20	Spur, 300 ft.high, bears N.and SE. Descend,abruptly.
65.45	Hollow, 150 ft.deep, drains SE.
	Ascend.
68.55	Spur, 200 ft.high, projects SE.
	Descend.
75.70	Hollow, 100 ft.deep, drains SW.
	Ascend.
78.26	Spur, 70 ft.high, projects S. Descend.
79.70	Hollow, 75 ft.deep, drains SW. Ascend.
80.20	THe cor.of secs. 11,12,13, and 14.
	Land, mountainous.

Chains: Soil, rocky; 4th rate.
Timber, pine and cedar.
Mountainous land 80.20 chs.
March 17: At this cor. I set off 1° 27' S. on decl. arc; and at 10 h. 09 m. p.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 14' N.

N. 0° 01' W. bet. secs. 11 and 12,
Ascending over rolling tableland; through dense cedar and pine timber.

40.00 Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 11 in W. half, S 12 in E. half; from which
A pine 16 ins. dia. bears S. 68° 40' E. 48 lks. dist. marked ¼ S 12 B T
A cedar 10 ins. dia., bears N. 45° 10' W. 87 lks. dist. marked ¼ S 11 B T

56.00 Edge of tableland. Descend.

70.00 Ridge 100 ft. below tableland, bears NE. and SW.

70.56 Top of steep slope; descend along E. slope of gulch.
77.00 Gulch 200 ft. deep, drains NE.
80.00 Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the ground, for cor. of secs. 1, 2, 11, and 12, marked on brass cap
T 41 S S 2 in NW.
R 17 W S 1 in NE.
S 12 in SE.; and
S 11 in SW. quadrants; from which
A pine 10 ins. dia. bears S. 25° 40' W. 24 lks. dist. marked T 41 S R 17 W S 11 B T
A pine 8 ins. dia. bears N. 48° 55' W. 39 lks. dist. marked T 41 S R 17 W S 2 B T
A pine 10 ins. dia., bears S. 46° 20' E. 67 lks. dist. marked T 41 S R 17 W S 12 B T

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Chains.	
	A cedar 8 ins.dia.bears N.71° 25'E. 57 lks.dist.
	mkd.T 41 S R 17 W S 1 B T
	Land, mountainous and rolling.
	Soil, sandy loam and rocky; 3d and 4th rate.
	Undergrowth, serviceberry, chapparral, and black brush.
	Timber, pine and cedar.
	Mountainous land, 24.00 chs. March 17, 1910.
	March 30, 1910: At 8 h.08m.a.m.l.m.t.I set off 0 °19' E. S. on decl.arc;37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.1,2,11, and 12. Thence I run
	N.89° 58'E.on a random line bet.secs.1 and 12,
40.00	Set temp.¼ sec.cor.
80.20	Intersect E.bdy.of Tp.at the cor.of secs.1,6,7, and 12, heretofore described. Thence I run
	S.89° 58'W.on true line bet.secs.1 and 12,
	Descending over mountainous land; through cedar and pine and undergrowth of black brush.
0.40	Ravine, 150 ft.deep, drains NE. Ascend.
8.68	Small ridge 60 ft.high, bears N. and S.
	Descend.
11.20	Ravine, 100 ft.deep, drains N.
	Ascend.
16.63	Ridge, 580 ft.high bears N. and S.
	Descend.
23.20	Wash, 30 lks.wide, 2 ft.deep, drains N.
	Ascend.
26.20	Small spur, 100 ft.high bears N. and S.
	Descend.
28.20	Gulch 200 ft.deep, drains N.
	Ascend.
31.20	E.edge of spur, bears N. and S.

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Chains.	
32.49	W.edge of spur, descend.
40.10	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 1 in N.half, S 12 in S.half; from which A pine 8 ins.dia.bears N.7° 15'W. 83 lks.dist. marked ¼ S 1 B T A pine 10 ins.dia.bears S.52° 30'E. 84 lks.dist. marked ¼ S 12 B T
40.70	Gulch 200 ft.deep, drains NW.
45.20	Spur ridge, 250 ft.high comes from S. and ends 8 chs.N. Descend.
58.20	Ravine drains N., 200 ft.deep. Ascend.
73.20	Ridge, 225 ft.high, bears N. and S. Descend.
77.20	Gulch, 250 ft.deep, drains north. Ascend.
80.20	The cor.of secs.1,2,11, and 12. Land, mountainous. Soil, rocky and gravelly; 4th rate. Timber, cedar and pine. Undergrowth black brush. Mountainous land 80.20 chs. March 20:At this cor.I set off 0°15 'S. on decl.arc; and at 0 h.08 m.p.m. l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.

N.0° 01'W.on true line bet.secs.1 and 2,

	Descend along E.slope of ridge.
8.00	Bottom of small basin, 100 ft.below cor., drains E. Ascend.
13.36	Spur ridge, 50 ft.high, bears E. and W. Descend.

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Chains.	
23.57	Ravine, 50 ft.deep, drains SE.
	Ascend.
26.37	Small knoll, 40 ft.high.
	Descend.
31.37	Ravine, 75 ft.deep, drains NE.
35.20	Small spur ridge, 50 ft.high.
	Thence along side of main ridge bearing N. and S.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec. cor., marked on brass cap ¼ S 2 in W.half, S 1 in E.half; from which
	A cedar 8 ins.dia.bears S.74° 25'W. 71 lks.dist. marked ¼ S 2 B T
	A cedar 6 ins.dia.bears S.61° 40'E. 14 lks.dist. marked ¼ S 1 B T
45.32	North side of small spur, 40 ft.high, ends 2 chs.E.
57.75	Ravine, 75 ft.deep, drains NE. Ascend.
60.75	Ridge on S.side of slope to N., 100 ft.high.
75.00	Begin ascent of spur, bearing NW. and SE.
93.18	Intersect Eighth St.Par.S., 20 lks.E.of the standard cor.of secs.35 and 36, which is a sandstone 6 x 8 x 8 above ground, marked and witnessed as described by the surveyor general.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound, for closing cor.of secs.1 and 2, marked on brass cap,
	T 40 S R 17 W S 35 S 36 C C in N.half,
	S 1 in SE.; and
	S 2 in SW.quadrant; from which
	A pine 9 ins.dia.bears S.2° 45'E. 56 lks.dist. marked T 41 S R 17 W S 1 B T
	A cedar 10 ins.dia.bears S.61° 25'W. 26 lks.dist. marked T 41 S R 17 W S 2 B T
	Impossible to set post in ground.

Chains.	
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth, black brush.
	Mountainous land 93.18 chs.
	March 20, 1910. Harry L. Chamberlin U.S. Deputy Surveyor
	March 20, 1910: At 8 h. 08 m. a.m.l.m.t. I set off 37° 10' N. on lat.arc; 0° 19' S. on decl.arc; and determine a meridian with the solar at the cor.of secs.34 and 35, on S.bdy.of Tp., heretofore described.
	Thence I run N.0°01'W.bet.secs.34 and 35,
	Ascending over mountainous land; through undergrowth.
2.50	Top of ridge, 50 ft.high, bears E. and W.
	Descend.
22.00	Bluffs of Santa Clara River, bear SE. and N.
31.00	Ravine, 30 ft.deep, drains E.
40.00	Set an iron post 3 ft .long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 34 in W.half, S 35 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Corner 20 ft.below bluffs.
41.50	Small ridge, or break of Santa Clara River, bears NE. and SW.
47.00	Bluffs of Santa Clara River, bear NW. and SE.
	Descend 200 ft.
52.50	Santa Clara River, 60 lks.wide, 1 ft.deep, flows NE.
55.00	Wagon road to Santa Clara bears NE. and W.
	Ascend.
56.75	North bluffs of Santa Clara River, 150 ft.high.
70.80	Telephone line to Acoma from St.George, bears E. and W.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the

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Chains.	
	ground, for cor.of secs.26,27,34, and 35, marked on brass cap T 41 S S 27 in NW. R 17 W S 26 in NE.: S 35 in SE.; and S 34 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, mountainous, and level.
	Soil, rocky and loam; 4th and 2d rate.
	No timber.
	Undergrowth, black brush.
	Mountainous land 56.75 chs.
	East on a random line bet.secs.26 and 35,
40.00	Set temp.¼ sec.cor.
79.86	Intersect N. and S.line 2 lks. N.of the cor.of secs. 25,26,35, and 36. Thence I run N.89°59'W.on true line bet.secs.26 and 35,
	Over nearly level land; through undergrowth.
5.86	West edge of circular basin, 10 chs.dia., 50 ft.deep, drains SE.
15.46	Four-wire fence, East Bdy.Indian Reservation,bears N.& S.
20.80	East bank of wash.
22.86	Wash drains S.; ascend 25 ft.
24.11	Bank of wash
	Thence over level sandy soil.
39.93	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 26 in N.half, S 35 in S.half; dig pits 18 x 18 x 12 ins. N.and W.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high N.of cor.
74.36	Wood road bears NE. and SW.
79.86	The cor.of secs.26,27,34, and 35.
	Land, level.

Chains.	
	Soil, sandy; 3d rate.
	No timber.
	Undergrowth black brush.
	March 20: At this cor. I set off 0 °15' S. on the decl. arc; and at 0 h. 08m. p.m. l.m.t. observe the sun on the meridian; the resulting lat. is 37° 11'N.
	N. 0° 01'W. bet. secs. 26 and 27,
	Over level sandy country; through undergrowth.
31.80	Wood road bears NW. and SE.,
40.00	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 27 in W. half, S 26 in E. half; dig pits 18 x 18 x 12 ins. N. and S. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
	Corner 75 ft. above sec. cor.
	Ascend gently.
80.00	Set an iron post 3 ft. long, 2 ins. dia., 24 ins. in the ground, for cor. of secs. 22, 23, 26, and 27, marked on brass cap T 41 S S 22 in NW. R 17 W S 23 in NE. S 26 in SE.; and S 27 in SW. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
	Corner about 125 ft. above ¼ sec. cor.
	Land, level.
	Soil, sandy; 4th rate.
	No timber.
	Undergrowth black and sage brush.

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Chains.	
	S.89° 59'E.on random line bet.secs.23 and 26,
40.00	Set temp.¼ sec.cor.
79.90	Intersect N. and S.line 4 lks.N.of the cor.of secs.23 24,25, and 26. Thence I run
	N.89° 57'W.on true line bet.secs.23 and 26,
	Over level land; through undergrowth.
15.45	Four-wire fence, E.Bdy.Indian Reservation,bears N. & S.
39.95	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 23 in N.half, S 26 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
79.90	The cor.of secs.22,23,26, and 27.
	Land, level.
	Soil, sandy and gravelly; 3d and 4th rates.
	No timber.
	Undergrowth black and sage brush.
	March 20, 1910.

March 21: At 8 h.07 m.a.m.l.m.t.I set off 0° 5'N.on decl. arc;37° 12'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.22,23,26, and 27.

Thence I run

N.0° 01'W. bet.secs.22 and 23

Ascending gently over sandy land, covered with sage and black brush undergrowth.

40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 22 in W.half, S 23 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
56.50	Small sand knoll 25 ft.high.
	Descend.
56.75	Beginning of swale or basin, draining SW.
74.00	Leave basin.

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Chains.	
	Ascend.
75.30	Top of bench bears E. and W., 25 ft.high.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.14.15.22. and 23; marked on brass cap T 41 S S 15 in NW. R 17 W S 14 in NE. S 23 in SE.; and S 22 in SW.quadrants; and raise a mound of stone 3 ft.base, 1½ ft.high W.of cor.Pits impracticable. At base of red sandstone mountains,5 chs.N.
	Land, level.
	Soil, sandy; 3d rate.
	No timber. Undergrowth, sage and black brush.
	S.89° 57'E.on a random line bet.secs.14 and 23,
40.00	Set temp.¼ sec.cor.
40.02	On account of red sandstone bluffs E.of this point,over which it is impossible to chain, I offset as follows: S.0° 01'E.11.00 chs.; thence S.89°57'E.on random offset line,
80.04	Fall 7 lks.S.of the witness cor.to corner of secs.13, 14.23. and 24. Thence I run
	West on true offset line, ascending.
2.00	Spur.40 ft.high projects S. Descend.
15.00	Wash, 25 ft.deep, drains S.
15.50	Wire fence, four wires, E.Bdy.Shebit Indian Reservation.
24.50	E.edge of wash.
25.00	Wash, 20 ft.deep, drains S.
26.00	West edge of wash.
	Thence along level ground.
35.75	E.edge of wash.
36.50	West edge of wash.
40.02	I offset N.0° 01'W.to true line, 11.00 chs.

Chains.

Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 14.in N.half, S 23 in S.half; and raise a moundof stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.

March 21: At this cor.I set off 6° 08'N,on decl.arc; and at 0 h. 07 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 13'N.

Thence over rolling land; through undergrowth.

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

Land, mountainous and rolling.

Soil, rocky and sandy; 4th and 3d rate.

No timber. Undergrowth black brush.

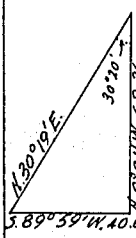
Mountainous land 40.00 chs.

N.0° 01'W.bet.secs.14 and 15,

Ascending gradually along foot of abrupt ledges.

5.00 Base of red bluffs, over which it is impossible to chain, owing to ledges and cliffs; therefore I triangulate as follows:

Set a flag on line N.0° 01'W.on high mountain about 900 ft.above corner. I return to the cor.of secs.14,15,22 and 23, and measure a base S.89° 59'W. 40.00 chs.,from which the flag bears N.30° 19'E.; from the flag, the west end of base bears S.30° 19'W.; I compute the distance as follows: cotan.30° 20' x 40.00, or 1.70901 x 40.00, equals 68.36.



40.00 Point for ¼ sec.cor.falls in impassable ledges; cor.not set.

68.36 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness point, marked on brass cap W P; from which

A pine 6 ins.dia.bears N.76° W. 45 lks.dist., marked W P B T; no other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high

Chains.	
	W.of cor. Pits impracticable.
75.00	Ridge, 100 ft.high, bears NE. and SW.
	Descend abruptly along rocky spur.
78.62	Spur, 50 ft.high, projects N.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.10,11,14, and 15, marked on brass cap,
	T 41 S S 10 in NW.
	R 17 W S 11 in NE.;
	S 14 in SE.; and
	S 15 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, few scattering pines and cedars.
	Undergrowth, black brush.
	Mountainous land 80.00 chs. March 21, 1910.

March 22: At 8 h. 07 m.a.m.l.m.t.I set off 0° 29' N.on decl.arc; ;37° 14' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.10,11,14, and 15. Thence I run

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

40.00	Set temp.¼ sec.cor.
80.19	Intersect N. and S.line at S.cor.secs.11,12,13,and 14; thence I run
	S.89°59'W.on a true line bet.secs.11 and 14,
	Ascending abruptly; through timber and undergrowth.
0.89	Spur, 40 ft.high, projects S. Descend.
8.59	Hollow, 400 ft.below spur, drains SW.
	Ascend abruptly over rocky slope.
16.68	Ridge, 400 ft.above hollow, bears N. and S. Descend.
24.19	Hollow, 500 ft.below ridge, drains NW.
	Ascend abruptly.

Chains.	
31.40	Spur, projects N., 250 ft.high.
40.09½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 11 in N.half, S 14 in S.half;from which,
	A cedar 10 ins.dia., bears N.47° E. 63 lks.dist. marked ¼ S 11 B T
	A pine, 8 ins.dia.bears S.81 lks.dist., marked ¼ S 14 B T
49.28	Hollow, 150 ft.deep, drains NW. Ascend.
51.99	Spur, 150 ft.above hollow, projects N. Descend.
56.19	Hollow, 500 ft.deep, drains N.
61.01	Spur, 500 ft.above hollow, projects NW. Descend abruptly.
71.19	Hollow, 500 ft.below spur, drains NW.
	Ascend over sandstone ledges and boulders.
80.19	The cor.of secs.10,11,14, and 15, on spur, projects NW.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine. Undergrowth black brush.
	Mountainous land 80.19 chs.
	March 22: At noon hour sky overcast;obs.for lat.impossible.

N.0° 01'W.bet.secs.10 and 11,

Descending over mountainous land; through undergrowth.

20.00	Canyon, 600 ft.below sec.cor., drains SW.
	Ascend abruptly.
30.00	Top of abrupt ascent.
40.00	On steep slope to east. Deep canyon 4 chs.E., draining S.for about 10 chs., then SW.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 10 in W.half, S 11 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.

Chains.	
	Ascend.
46.35	Top of ridge, 200 ft.high, bears NE. and SW.
	Descend through cedar and pine, bearing NE. and NW.
70.00	Hollow, 100 ft.deep, drains NE. Ascend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.2,3,10, and 11, marked on brass cap, T 41 S S 3 in NW. R 17 W S 2 in NE. S 11 in SE.; and S 10 in SW.quadrants; from which A pine 16 ins.dia., bears N.77° 50'W. 103 lks.dist. marked T 41 S R 17 W S 3 B T A cedar 8 ins.dia.bears N.60° 05'E. 124 lks.dist. marked T 41 S R 17 W S 2 B T A pine, 9 ins.dia., bears S.59° 20'E. 70 lks.dist. marked T 41 S R 17 W S 11 B T A cedar 10 ins.dia.bears S.30° 10'W. 87 lks.dist. marked T 41 S R 17 W S 10 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine. Undergrowth, black brush.
	Mountainous land 80.00 chs. March 22, 1910.

March 23: At 8 h.07 m.a.m.l.m.t.I set off 0° 52'N.on decl.arc; 37° 14' N.on lat.arc; and determine a meridian with the solar at the cor.of secs.2,3,10 and 11. Thence I run

N.89°59'E.on a random line bet.secs.2 and 11,

40.00	Set temp.$\frac{1}{4}$ sec.cor.
80.00	Intersect N. and S.line 51lks.N.of cor.secs.1,2,11, and 12; thence I run
	West on a true line bet.secs.2 and 11,

Ascending over mountainous land; through timber and undergrowth.

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Chains.	
3.00	Ridge, 300 ft.high, bears N. and S.
	Descend along ravine.
31.30	Mouth of small ravine, draining NE.
	Thence along gentle slope.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.,marked on brass cap ¼ S 2 in N.half, S. 11 in S.half; from which
	A pine, 15 ins.dia., bears N.34° 20'W. 135 lks.dist. marked ¼ S 2 B T
	A pine 8 ins.dia.bears S.41° 30'W. 95 lks.dist. marked ¼ S 11 B T
	Thence over flat.
46.00	Foot of ridge; ascend.
53.29	Ridge, 125 ft.high, bears N. and S. Descend.
58.50	Ravine, 100 ft.deep, drains N. Ascend.
63.75	Ridge, 30 ft.high, bears N. and S. Descend.
69.25	Ravine, 30 ft.deep, drains SW. Ascend.
73.24	Spur, 40 ft.high bears N. and S. Descend.
77.00	Foot of descent; thence across flat.
80.00	The cor.of secs.2,3,10, and 11.
	Land, mountainous and level.
	Soil, rocky,and sandy loam; 4th and 2d rate.
	Timber, cedar and pine.
	Undergrowth, black brush.
	Mountainous land 71.00 chs.
	March 23; 1910: At this cor.I set off 0° 56'N.on decl.a arc; and at 0 h. 07 m. p.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 14'N.

N.0° 01'W.on true line bet.secs.2 and 3,

Ascending over mountainous land; through dense undergrowth.

7.00	Ridge, 30 ft.high, bears E. and W. Descend.

Chains.	
19.00	Ravine, 150 ft.deep, drains NE. Ascend.
29.00	E.end of ridge, 40 ft.high Descend.
36.50	Ravine 40 ft.deep, drains SE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 3 in W.half, S 2 in E.half; from which A cedar 5 ins.dia.bears N.57° E. 37 lks.dist. marked ¼ S 2 B T A cedar 6 ins.dia.bears S.89° 50'W. 8 lks.dist. marked ¼ S 3 B T Ascend.
45.00	Top of small ridge, bearing E. and W., 50 ft.high. Descend.
50.00	Ravine, 75 ft.deep, drains E. Ascend.
78.00	High ridge, 200 ft.above ravine, bears N. and S. Thence along E.slope
88.00	Top of high ridge, along W.crest.
93.10	Intersect 8th St.Par.S., 22 lks.E.of the standard cor. of secs.34 and 35, heretofore described. Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.2 and 3, marked on brass cap, T 40 S R 17 W C C S 34 S 35 in N.half; S 2 in SE.; and S 3 in SW.quadrants; from which A pine, 8 ins.dia.bears S.1°35'E. 112 lks.dist. marked T 41 S R 17 W S 2 B T A cedar 12 ins.dia.bears S.18° 50'W. 45 lks.dist. marked T 41 S R 17 W S 3 B T Land, mountainous. Soil, rocky and gravelly; 4th rate. Timber, cedar and pine; scattering. Undergrowth, dense black brush. Mountainous land 93.10 chs. March 23, 1910.

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
	March 21, 1910: At 8 h. 07 m.a.m.l.m.t., I set off 37° 10'N.on lat.arc; 0° 5'N.on decl.arc; and determine a meridian with the solar at the cor.of secs.3.4,33, and 34 on S.bdy.of Tp., heretofore described. Thence I run
	N.0° 02'W.bet.secs.33 and 34,
	Ascending over mountainous land.
9.00	Spur, bears NE., 150 ft.high. Descend gradually.
32.00	Begin abrupt descent.
37.00	Hollow, 250 ft.deep, drains E.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground,for ½ sec.cor.. marked on brass cap ¼ S 33 in W.half, S 34 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Ascend abruptly.
42.50	Top of slope bears E. and W.. 300 ft.high.
	Descend abrupt rocky slope.
66.00	Foot of slope.
69.44	Road, Shem to St.George, bears SE. and NW.
69.56	South gable Indian Agent's house bears N.73° 10'W.
	Belfry of Indian School house bears N.76° 57'W.
69.99	Wire fence bears NW. and SE.
70.38	Irrigation ditch bears NW. and SE.
70.88	Enter lucern field.
74.56	South gable of Indian Agent's house bears S.88° 02'W.
	Belfry of Indian School house bears S.84° 06'W.
75.00	Leave lucern field.
79.50	Santa Clara River, 50 lks.wide, 1 ft.deep, course SE.
79.85	Bank of Santa Clara River 15 ft.high bears SE.
80.00	Set an iron post 3 ft.long,2 ins.dia.,24 ins.in the ground,for cor.of secs.27,28.33, and 34, marked on brass cap,
	T 41 S S 28 in NW.
	R 17 W S 27 in NE.

Chains.

S 34 in SE., and

S 33 in SW.quadrants;and raise a mound of stone 2 ft.base,1½ ft.high W.of cor.Pits impracticable. Indians'houses designated for future reference as No.1, No.2,and No.3, bear from this cor.as follows:

Center of house No.1 bears N.14° 10'W.

Center of house No.2 bears N.41° 30'W.

Center of house No.3 bears S.74° 30'E.

Church belfry bears N.54° 45'W.

S.chimney of Presbyterian Mission House bears N.44°13'W.

Land, mountainous and level.
Soil, rocky and loam; 4th and 1st rate.
No timber.
Mountainous land 66.00 chs.

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

40.00 Set temp.¼ sec.cor.

80.14 Intersect N. and S.line 5 lks.N.of the cor.of secs.26, 27,34, and 35. Thence I run

N.89° 58'W.on true line bet.secs.27 and 34,

Over nearly level land; through scattering black brush.

9.14 Wash 150 lks.wide, 10 ft.deep, drains S.

Thence over level land.

40.07 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground,for ¼ sec.cor., marked on brass cap ¼ S 27 in N.half, S 34 in S.half;and raise a mound of stone 2 ft. base,1½ ft.high N.of cor.Pits impracticable. Ascend.

52.14 Top of ascent; begin descent over steep S.slope.

78.84 Telephone line, St.George to Acoma, bears NW. and SE.

80.14 The cor.of secs.27,28,33, and 34.
Land, nearly level and mountainous.
Soil, rocky and sandy; 4th rate.
No timber.
Undergrowth black brush.
Mountainous land 28.00 chs.
March 21: At this cor.I set off 0° 08'N.on decl.arc;

and at 0 h. 07 m.p.m.l.m.t..observe the sun on the

Chains.	
	meridian; the resulting lat.is 37° 11'N.
	N.0° 02'W.bet.secs.27 and 28,
	Ascending abruptly over rocky mountainous land; through scattering black and lightning brush .
0.50	Telephone line, St.George to Acoma, bears NW. and SE.
13.92	Ridge, 200 ft.high, bears NE. and SW., north edge of Santa Clara River Canyon.
	Descend over rocky N.slope.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 28 in W.half, S 27 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.Pits impracticable.
49.00	Foot of rocky slope, bearing E. and W.
	Descend gradually.
56.00	Wash, 10 lks.wide, 6 ft.deep, drains SE.
	Ascend gradually.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 21,22,27, and 28, marked on brass cap T 41 S S 21 in NW. R 17 W S 22 in NE. S 27 in SE.; and S 28 in SW.quadrants; dig pits 18 x 18 x 12 ins.in each sec.$5\frac{1}{2}$ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.
	Land, mountainous.
	Soil, rocky and sandy loam; 4th and 2d rate.
	No timber.
	Undergrowth black and lightning brush.
	Mountainous land 49.00 chs.
	S.89° 58'E.on a random line bet.secs. 22 and 27,
40.00	Set temp.$\frac{1}{4}$ sec.cor.

Chains.	
80.25	Intersect N. and S.line 5 lks. S.of the cor.of secs.22, 23,26, and 27. Thence I run
	West on true line bet.secs.22 and 27,
	Over level land; through sage and lightning brush,
1.88	Wood road bears N. and S.
19.00	E.edge of wash.
19.75	Wash, 20 ft.deep, drains SE. Ascend.
21.25	W.edge.of wash. Enter scattering cedar.
40.12½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 22 in N.half, S 27 in S.half; from which
	A cedar 8 ins.dia.bears S.89° 30'W. 18 lks.dist. marked ¼ S 27 B T
	A cedar 10 ins.dia.bears N.41° 15'E. 88 lks.dist. marked ¼ S 22 B T
48.95	Leave scattering cedar.
	Thence over gently rolling land to
80.25	The cor.of secs.21,22,27, and 28.
	Land, level.
	Soil, sandy; 3d rate.
	Timber, scattering cedar.
	Undergrowth sage and lightning brush.
	N.0° 02'W.bet.secs.21 and 22.
	Ascending gradually; through dense black and lightning brush.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 21 in W.half, S 22 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	A lone cedar 14 ins.dia.bears S.74° 30'E. 149 lks. dist., marked ¼ S 22 B T
61.00	Ascend abrupt rocky slope bearing E. and W.

Chains.	
62.00	Top of abrupt ascent. Ascend gradually over rocky ground.
77.00	Descend abruptly over rocky ground 150 ft. to
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.15,16,21, and 22, marked on brass cap T 41 S S 16 in NW. R 17 W S 15 in NE. S 22 in SE.; and S 21 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Land, nearly level and mountainous.
	Soil, sandy loam and rocky; 1st and 4th rate.
	No timber.
	Undergrowth black and lightning brush.
	Mountainous land 19.00 chs.
	March 21, 1910.

March 22: At 8 h. 07 m.a.m.l.m.t.I set off 0° 29'N.on decl.arc;, 37° 13'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.15,16,21, and 22. Thence I run

East on a random line bet.secs.15 and 22,

40.00	Set temp.¼ sec.cor.
80.20	Intersect N. and S.line 2 lks.S.of the cor.of secs.14, 15,22, and 23; Thence I run
	S.89° 59'W.on true line bet.secs.15 and 22,
	Ascend abruptly over mountainous land.
3.50	Spur,projects S., 50 ft.high.
	Descend gradually over rocky ground; through dense black brush.
40.10	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the

Chains.	
	ground, for ¼ sec.cor., marked on brass cap ¼ S 15 in N.half, S 22 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
46.25	Wash, 25 lks.wide, 10 ft.deep, drains SE.
	Ascend over rolling ground to
80.20	The cor.of secs.15,16,21, and 22.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	No timber.
	Undergrowth black brush.

N.0° 02'W.bet.secs. 15 and 16,

Ascending over mountainous land; through black brush.

20.00	Ascend over series of sandstone ledges and boulders; enter scattering cedar and pine.
40.00	Point for ¼ sec.cor.falls in ledges, corner cannot be set; therefore at
56.90	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone, for witness cor.to ¼ sec.cor., marked on brass cap W C ¼, with S 16 in W.half, and S 15 in E.half; from which
	A pine 14 ins.dia.bears N.5° 30'E. 25 lks.dist. marked ¼ S 15 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
64.90	Ridge bears NE. and SW.
	Descend gradually.
77.00	Hollow, 300 ft.below ridge, drains NE.
	Ascend abruptly, 125 ft.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound, for cor.of secs.9,10,15, and 16, marked on brass cap,

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.

T 41 S S 9 in NW.
R 17 W S 10 in NE.
S 15 in SE.; and
S 16 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
Impossible to set post in ground.
A cedar 10 ins.dia. bears S.15° E. 45 lks.dist. marked T 41 S R 17 W S 15 B T
No other bearing trees within limits.
Land, mountainous.
Soil, rocky and sandy; 4th rate.
Timber, scattering cedar and pine.
Undergrowth black brush.
Mountainous land 80.00 chs.
March 22: At the noon hour sky overcast; obs.for lat. impossible.

N.89° 59'E.on a random line bet.secs.10 and 15,

40.00 Set temp.¼ sec.cor.

80.10 Intersect N. and S.line 3 lks.N.of the cor.of secs.10, 11,14, and 15. Thence I run

West on true line bet.secs.10 and 15,

Descending over mountainous land; through timber.

11.18 Hollow, 600 ft.deep, drains NW.

Ascend abruptly.

16.43 Spur, 500 ft.high projects NW.

Descend abruptly.

24.18 Hollow, 400 ft.deep, drains SW.

Ascend abruptly.

32.18 Spur, 150 ft.high, projects SW.

Descend abruptly.

34.43 Hollow, 300 ft.deep, drains SW.

40.05 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the

Chains.	
	ground, for ¼ sec.cor., marked on brass cap ¼ S 10 in N.half, S 15 in S.half; from which
	A pine 7 ins.dia.bears N.1° W. 72 lks.dist.marked ¼ S 10 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
	Ascend abruptly.
42.69	Spur, 700 ft.high projects SW.
	Descend abruptly over ledges.
54.18	Hollow, 900 ft.deep, drains SW.
	Ascend over ledges and sandstone boulders.
67.67	Leave sandstone boulders and ledges.
	Ascend abruptly.
71.68	Spur, 250 ft.high projects NE.
	Descend abruptly.Enter dense cedar and pine, bearing N. and S.
73.59	Hollow, 400 ft.deep, drains NE.
	Ascend abruptly.
80.10	The cor.of secs.9, 10,15, and 16.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Mountainous land 80.10 chs.
	March 22, 1910.

	March 23: At 8 h. 07 m.a.m.l.m.t.I set off 0° 58'N.on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.9,10,15, and 16.
	Thence I run
	N.0° 02'W.bet.secs.9 and 10,
	Ascending abruptly over sandstone ledges; through dense cedar and pine timber.
4.70	Spur, 250 ft.high, projects NE.

Chains.	
	Descend abruptly over ledges.
11.00	Hollow, 400 ft.deep, drains NE.
	Ascend abruptly.
17.00	Spur, 400 ft.high projects E.
	Descend abruptly.
20.00	Hollow, 300 ft.deep, drains E.
	Ascend.
26.65	Spur, 250 ft.high, projects E.
	Descend abruptly.
30.50	Hollow, 600 ft.deep, drains E.
	Ascend 75 ft.to
35.00	Spur, projects E., 250 ft.high.
	Descend.
37.20	Hollow, 100 ft.deep, drains SE.
	Ascend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 9 in W.half, S 10 in E.half; from which
	A pine 6 ins.dia.bears N.13° 30'W. 30 lks.dist. marked $\frac{1}{4}$ S 9 B T
	A pine 12 ins.dia.bears S.31° E. 45 lks.dist. marked $\frac{1}{4}$ S 10 B T
51.25	Spur, projects SE., 200 ft.above hollow.
	Descend.
64.00	Hollow, 150 ft.deep, drains E.
	Ascend.
69.00	S.side of mesa, 50 ft.above hollow, bears E. and W.
72.00	N.side of mesa, bears E.3 chs., thence ridge turns north. Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground for cor.of secs.3,4,9, and 10, marked on brass cap,
	T 41 S S 4 in NW.
	R 17 W S 3 in NE.

Chains.

S 10 in SE.; and
S 9 in SW.quadrants; from which
A pine 10 ins.dia., bears N.4° 25'W. 31 lks.dist.
marked T 41 S R 17 W S 4 B T
A pine 8 ins.dia.bears N.39° 55'E. 26 lks.dist.
marked T 41 S R 17 W S 3 B T
A pine 10 ins.dia.bears S.17° 30'E. 82 lks.dist.
marked T 41 S R 17 W S 10 B T
A cedar 8 ins.dia.bears S.35° 10'W. 56 lks.dist.
marked T 41 S R 17 W S 9 B T
Corner on W.slope, 150 ft.below mesa.
Land, mountainous.
Soil, rocky; 4th rate.
Timber, cedar and pine.
Mountainous land 80.00 chs.

East on a random line bet.secs. 3 and 10,

40.00 Set temp.$\frac{1}{2}$ sec.cor.

80.00 Intersect N. and S.line 2 lks.N.of cor.secs.2,3,10, and 11. Thence I run

N.89°59'W.on true line bet.secs.3 and 10,
Ascending over mountainous land; through cedar and pine timber.

2.00 Small ridge bears N. and S., 25 ft.high
Descend gradually.

30.00 Hollow 200 ft.deep, drains NE.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 3 in N.half, S 10 in S.half; from which
A pine 4 ins.dia., bears S.46° 30'E. 17 lks.dist.
marked $\frac{1}{4}$ S 10 B T
A pine, 6 ins.dia., bears N.38° 10'E. 27 lks.dist.
marked $\frac{1}{4}$ S 3 B T.
Ascend.

Chains.	
43.68	Ridge, 40 ft.high bears NE. and SW.
	Descend.
49.00	Gulch 25 ft.deep, drains NE.
	Ascend.
56.40	Ridge, 200 ft.high, bears N. and S.
	Descend.
69.00	Gulch, 100 ft.deep, drains N.
	Ascend.
73.00	Ridge, 75 ft.high, bears N. and S.
80.00	The cor.of secs.3,4,9, and 10.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Mountainous land 80.00 chs.

March 23, 1910: At the cor.of secs.3,4,9, and 10, at 0h. 07m p.m.l.m.t.I set off 0° 56'N.on decl.arc; and observe the sun on the meridian; the resulting lat.is 37° 14'N.

Thence I run

N.0° 02'W.on true line bet.secs.3 and 4,

Gradually descending along W.slope of hollow; through timber.

8.00	Wash, in hollow, 50 lks.wide, 2 ft.deep, drains NE., 25 ft.below cor.
	Ascend.
12.00	Knoll, 40 ft.high.
	Descend, along hollow.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 4 in W.half, S 3 in E.half; from which

A cedar 6 ins.dia.bears S.14° 40'E. 52 lks.dist. marked ¼ S 3 B T

Chains.

A pine 10 ins.dia.bears N.27° 35'W. 24 lks.dist. marked $\frac{1}{4}$ S 4 B T

60.00 Ascend, over rolling ground; through heavy timber.

70.00 Abrupt break in sandstone cliffs bearing NE. and SW.

Leave timber.

93.16 Intersect Eighth Standard Parallel South 26 lks.E. of the standard cor.of secs. 33 and 34, heretofore described.

Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound, for closing cor.of secs.3 and 4, marked on brass cap

C C T 40 S R 17 W S33 S 34 in N.half,

S 3 in SE.; and

S 4 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high S.of cor.Pits impracticable.

Corner is on steep west slope of red sandstone mountains, 200 ft.below abrupt break. Impossible to set post 24 ins.in ground.

Land, mountainous.

Soil, rocky and sandy loam; 4th and 2d rate.

Timber, cedar and pine.

Mountainous land, or heavily timbered 93.16 chs.

March 23, 1910.

Harry L. Chamberlin
U.S. Deputy Surveyor

March 24, 1910: At 8 h. 07 m.a.m.l.m.t.I set off 1° 16' N.on decl.arc; 37° 10'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.4,5,32, and 33 on S.bdy.of Tp., heretofore described.

Thence I run

N.0° 03'W.bet.secs.32 and 33,

Over rolling land; through dense undergrowth.

0.90 Wash, 5 ft.deep, 10 lks.wide, drains NE.

Ascend, over rolling land.

Chains.	
8.00	Wash, 10 ft.deep, 20 lks.wide, drains NE.
	Ascend.
30.95	Spur, 50 ft.high, projects W.
	Descend over rolling rocky ground; through scattering cedars.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 32 in W.half, S 33 in E.half; from which
	A cedar 4 ins.dia.bears S.68° 30'W. 70 lks.dist. marked ¼ S 32 B T
	A cedar 8 ins.dia.bears N.86° E. 39 lks.dist. marked ¼ S 33 B T
52.50	Hollow, 300 ft.deep, drains E.
	Ascend abruptly.
55.00	Spur, 100 ft.high, projects NE.
	Descend over rolling ground.
55.70	Road to Apex Mine and Shem, bears NE. and SW.
60.00	Hollow, 100 ft.deep, drains easterly.
	Ascend.
62.30	Spur, projects E., 50 ft.high. Descend.
64.80	Hollow, 50 ft.deep, drains E.
	Ascend over rolling ground.
78.00	Begin abrupt ascent.
80.00	Set an iron post 3 ft. long, 2 ins.dia., 24 ins.in mound of stone for cor.of secs.28,29,32, and 33, marked on brass cap
	T 41 S S 29 in NW.
	R 17 W S 28 in NE.
	S 33 in SE., and
	S 32 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable. Impossible to set post in ground.
	Corner 100 ft.above hollow.

Chain . S.chimney of Presbyterian Mission house bears N.85°15'E.
Church belfry bears N.86° 56'E.
House No.1 bears N.87° 51'E.
House No.2 bears N.88° 41'E.
House No.3 bears S.88°22'E.
Land, mountainous.
Soil, rocky; 4th rate.
Timber, scattering cedars.
Undergrowth black brush.
Mountainous land 80.00 chs.

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

40.00 Set temp.¼ sec.cor.

80.00 Intersect N. and S.line at the cor.of secs.27.28.33, and 34. Thence I run

West on a true line bet.secs.28 and 33,

Descending.

0.15 Enter bed of Santa Clara River; stream 60 lks.wide, 1 ft.deep, flows SE.

Thence along stream; scattering cottonwoods along banks.

15.20 Leave creek bed.

18.10 Wire fence bears NE. and SW.;enter wheat field.

22.90 Wire fence bears NE.and SW.;leave field;enter plowed land.

27.00 Leave plowed land; enter alfalfa.

31.00 Leave alfalfa.

32.06 Wire fence bears SE. and NW.

36.10 Wire fence bears NE. and SW.

39.20 Wire fence bears NW. and SE.Leave cultivated land.

40.00 Set an iron post 3 ft.long, 1 in.dia.,26 ins.in the ground,for ¼ sec.cor.,marked on brass cap ¼ S 28 in N.half,S 33 in S.half;and raise a mound of stone 2 ft. base, 1½ ft.high N.of cor.Pits impracticable.

40.50 Road from St.George to Shem and Acoma,bears NW.and SE.

Chains.	
42.50	South end of stable on line, bears N.
43.50	Indian jail bears N.40 lks.
44.00	Leave level land; begin ascent.
48.00	Top of point of mesa, bears N.
56.40	Indian graveyard in hollow, bears S.about 1.25 chs.
	Descend over rolling ground.
57.25	Hollow, 200 ft.deep, drains NE.
	Road in hollow, bears NE. and SW.
	Ascend abruptly to
80.00	The cor.of secs.28,29.32, and 33.
	Land, rolling and nearly level.
	Soil, rocky and sandy loam; 4th and 2d rate.
	Timber, few cottonwoods.
	March 24: At this cor.I set off 1° 19'N.on decl.arc; and at 0 h. 07 m.p.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37° 11'N.

N.0° 03'W.bet.secs.28 and 29.

	Ascending abruptly over mountainous land; over steep rocky E.slope.
8.50	Spur, 150 ft.high, projects NE.
	Descend abruptly over E.slope; through scattering cedars.
16 00	Foot of abrupt descent, 300 ft.below spur; ascend abruptly.
29.00	Top of spur, projects NE., 200 ft.high. Descend.
	House bears E.16 chs.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 29 in W.half, S 28 in E.half; from which
	A cedar 4 ins.dia.bears N.74° W. 33 lks.dist., mkd. ¼ S 29 B T
	No other bearing trees within limits; raise a mound of

Chains.	
	stone 2 ft.base, 1½ ft.high W.of cor.
	From ¼ sec.cor.smelter stack bears N.13° 39'W.
	Chimney of office building bears N.28° 22'W.
	Descend abruptly; leave scattering cedars.
41.80	Telephone line from St.George to Acoma and Shem bears NW. and SE.
42.00	Road bears NW. and SE.
42.80	Head gate of irrigation ditch flowing SE., on N.side of Santa.Clara River, 1 ch.wide, average depth 1 ft., flows SE.
45.20	Ascend abruptly over lava boulders.
48.57	Smelter stack bears N.69° 29'W.
	Chimney of office building bears N.89° 12'W.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.20,21,28, and 29, marked on brass cap,
	T 41 S S 20 in NW.
	R 17 W S 21 in NE.
	S 28 in SE., and
	S 29 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, mountainous.
	Soil.rocky; 4th rate.
	Timber, scattering cedars.
	Mountainous land 80.00 chs.
	East on a random line bet.secs.21 and 28,
40.00	Set temp.¼ sec.cor.
79.96	Intersect N. and S.line 3 lks.N.of the cor.of secs.21,22, 27 and 28.
	Thence I run
	S.89° 59'W.on true line bet.secs.21 and 28,

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Chains.	
	Ascending over mountainous land; through undergrowth.
32.00	Wash 8 lks.wide, 2 ft .deep, course SE.
36.00	Foot of abrupt ascent bears SE. and NW.
39.98	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for ¼ sec.cor., marked on brass cap ¼ S 21 in N.half, S 28 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Ascend abruptly over rocky land.
72.50	Ridge, 150 ft.above wash, bears NW. and SE.
	Descend.
79.96	The cor.of secs.20.21.28. and 29.
	Land, mountainous and nearly level.
	Soil, rocky; 4th rate; and sandy loam 2d rate.
	No timber.
	Undergrowth lightning brush.
	Mountainous land 43.96 chs. March 24, 1910.

March 25: At 8 h. 06 m.a.m.l.m.t., I set off 1° 40'E.on decl.arc; 37° 12'E.on lat.arc; and determine a meridian with the solar at the cor.of secs.20.21.28. and 29

Thence I run

N.0° 03'W.bet.secs.20 and 21,

	Ascending over mountainous land and lava boulders; through scattering undergrowth.
16.00	Ridge, bears NW.and SE., 50 ft.high.
	Descend over lava boulders.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 20 in W.half, S 21 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Thence over level land; sandy loam.
53.70	Ascend E.slope of ridge, over lava boulders.

Chains.	
80.00	Set an iron post 3 ft.long. 2 ins.dia., 24 ins.in the ground; for cor.of secs.16.17.20, and 21, marked on brass cap T 41 S S 17 in NW. R 17 W S 16 in NE. S 21 in SE.; and S 20 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, mountainous and level.
	Soil, rocky and sandy loam; 4th and 2d rate.
	No timber.
	Undergrowth, scattering black and lightning brush.
	Mountainous land 66.30 chs.
	N.89° 59'E.on random line bet.secs.16 and 21,
40.00	Set temp.¼ sec.cor.
79.87	Intersect N. and S.line at the cor.of secs.15.16.21, and 22. Thence I run
	S.89° 59'W.on true line bet.secs.16 and 21.
	Descending over rolling land;through scant undergrowth.
26.67	Wash 15 lks.wide, 3 ft.deep, drains SE. Ascend.
29.67	Knoll, 30 ft.high, bears W.5 chs., and NW.10 chs.
39.93½	Set an iron post 3 ft.long. 1 in.dia.. 26 ins.in the ground, for ½ sec.cor., marked on brass cap ½ S 16 in N.half, S 21 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Descend over rolling rocky slope.
72.87	Wash 4 lks.wide, 1 ft.deep, drains SE.
	Ascend gradually.
74.37	Begin abrupt ascent,bearing N. and S.;over lava boulders,
79.87	The cor.of secs.16.17,20, and 21.
	Land,mountainous.

Chains	
	Soil, rocky and sandy ; 4th and 3d rate.
	No timber.
	Undergrowth black and lightning brush.
	March 25: At this cor.I set off 1° 43'N.on decl.arc; and at 0 h. 06 m.p.m.l.m.t., observe the sun on the meridian; the resulting lat.is 37.° 13'N.
	N.0° 03'W.bet.secs.16 and 17,
	Ascending abruptly over lava boulders; through scattering undergrowth.
4.00	Top of ridge, bears NW. and SW.
	Thence along top; descending.
10.75	Descend along E.slope, over lava boulders.
34.10	Wire fence bears E. and W.
39.25	Hollow, 300 ft.deep, drains NW.
	Ascend along slope.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 17 in W.half, S 16 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Post is in canyon known as Jacob's Twist: and is part of Shebit Indian Reservation.
	Ascend over rolling land.
54.50	Spur,projects SE.
64.75	Hollow, 300 ft.below spur, drains SE.
	Ascend abruptly.
72.00	Top of abrupt ascent bears NE. and SW.
	Ascend gradually.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 8,9,16, and 17, marked on brass cap T 41 S S 8 in NW. R 17 W S 9 in NE.

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Chains.	
	S 16 in SE.; and
	S 17 in SW.quadrants; from which
	A cedar 8 ins.dia.bears N.76° 30'W. 225 lks.dist.
	marked T 41 S R 17 W S 8 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, mountainous.
	Soil, rocky and sandy; 4th and 3d rates.
	Undergrowth scattering black and lightning brush.
	No timber.
	Mountainous land 80.00 chs.
	N.89° 59'E.on random line bet.secs.9 and 16,
40.00	Set temp.¼ sec.cor.
80.00	Intersect N. and S.line 3 lks.N.of the cor.of secs.9,10, 15, and 16. Thence I run
	West on true line bet.secs.9 and 16,
	Ascending abruptly, over mountainous land; through scattering cedars and undergrowth.
1.75	Spur, 250 ft.high, projects NE.
	Descend abruptly.
6.90	Hollow, 300 ft.deep, drains NE.
	Ascend abruptly.
12.83	Ridge bears NW. and SE., 500 ft.high.
	Point for ¼ sec.cor.will fall in rocky hollow, where it would be impossible to perpetuate corner; therefore at
36.53	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone, for ¼ sec.cor., marked on brass cap W C ¼ S, 9 in N.half, S 16 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable. Impossible to set post in ground.
40.00	Point for ¼ sec.cor.in hollow,draining S.Corner not set

Chains.	
	Ascend abruptly.
49.00	Spur, 100 ft.high, projects S.
	Descend abruptly.
62.50	Hollow, 75 ft.deep, drains SW.
	Ascend abruptly.
65.00	Top of abrupt ascent. Ascend gradually.
70.00	Spur, 50 ft.high, projects S.
	Descend.
80.00	The cor.of secs.8,9,16, and 17.
	Land, mountainous.
	Soil, rocky; 4th.rate.
	Timber, scattering cedars.
	Undergrowth, black brush.
	Mountainous land 80.00 chs.

March 25, 1910.

March 26: At 8 h. 06 m.a.m.l.m.t.I set off 37° 14'N.on lat.arc 2° 03'N.on decl.arc; and determine a meridian with the solar at the cor.of secs.8,9,16, and 17.

Thence I run through dense brush and scattering cedars.

N.0° 03'W.bet.secs.8 and 9,

Ascending gently over rolling mesa; over lava boulders;

8.00	Ridge, bears NE. and SW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in W.half, S 9 in E.half; from which
	A cedar limb 5 ins.dia., bears S.3° 45'E. 80 lks. dist.,marked ¼ S 9 B T
	A cedar 5 ins.dia., bears S.28° 45'W. 136 lks.dist. marked ¼ S 8 B T
43.50	Hollow, 100 ft.deep, drains SW.
	Ascend over rolling ground.
70.00	Begin abrupt ascent.
77.92	Top of abrupt ascent, 150 ft.high, bears NE. and SW.

Chains.	
	Descend gradually.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of sec .4,5,8, and 9, marked on brass cap,
	T 41 S S 5 in NW.
	R 17 W S 4 in NE.
	S 9 in SE.; and
	S 8 in SW.quadrants; from which
	A cedar 8 ins.dia.bears N.63° 15'E. 55 lks.dist. marked T 41 S R 17 W S 4 B T
	A cedar 4 ins.dia., bears S.42° 30'E. 99 lks.dist. marked T 41 S R.17 W S 9 B T
	A cedar 5 ins.dia.,.bears S.54° 15'W. 83 lks.dist. marked T 41 S R.17 W S 8 B T
	A cedar 7 ins.dia., bears N.71° 45'W.61 lks.dist. marked T 41 S R 17 W S 5 B T
	Land, mountainous.
	Soil, rocky and sandy; 4th and 3d rates.
	Timber cedars.
	Undergrowth, black brush.
	Mountainous land 80.00 chs.
	East on a random line bet.secs.4 and 9,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
80.00	Intersect N. and S.line at the cor.of secs.3,4,9, and 10. Thence I run
	West on true line bet.secs.4 and 9,
	Descending over mountainous land; through cedar and pine timber.
3.00	Hollow, 50 ft.deep, drains N.
	Ascend.
11.50	Top of sandstone bluffs, bearing N. and S.
	Descend. Leave timber, bearing N. and S.

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Chains.	
13.18	Begin abrupt descent, over sandstone cliffs.
25.00	Foot of abrupt descent.
	Thence along side of spur.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 4 in N.half, S 9 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Ascend 100 ft.
42.40	Ridge, 500 ft.above gulch bears NE. and SW.
	A gorge 400 ft.deep 10 chs.S., and one 300 ft.deep, 8 chs.N.
	Descend along spur of sandstone bluffs.
68.50	Bottom of gulch, 75 ft.deep, drains N.
	Ascend.
70.00	West edge of gulch.
	Thence over level land.
80.00	The cor.of secs.4,5,8, and 9.
	Land, mountainous and level.
	Soil, rocky; 4th rate.
	Timber cedar and pine.
	Mountainous land 70.00 chs.
	March 26, 1910: At the noon hour sky overcast; obs.for lat.impossible.

N.0° 03'W.bet.secs.4 and 5, on true line,

Descending over gently rolling land; through dense black brush; through scattering cedars.

34.00	Descend abruptly, over lava flow.
38.00	Hollow, 150 ft.deep, drains NW.
	Leave cedars.
	Ascend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 5 in

Chains.	
	W.half, S 4 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
41.00	Top of abrupt ascent, 150 ft.above bottom, bears E. and W.
	Thence over gently rolling land.
60.75	Descend abruptly.
69.00	Hollow, 150 ft.deep, drains W.
	Ascend abruptly.
71.50	Top of ascent, bears E. and W.
	Descend over rolling ground.
93.04	Intersect Eighth Stand.Par.South, 28 lks.E.of the stand. cor.of secs.32 and 33, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in mound of stone, for closing cor.of secs.4 and 5, marked on brass cap
	C C T 40 S R 17 W S 32 S 33 in N.half,
	S 4 in SE.; and
	S 5 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high S.of cor.Pits impracticable.
	Impossible to set post 24 ins.in the ground.
	Land, mountainous.
	Soil, rocky and sandy; 4th and 3d rates.
	Timber, scattering cedar.
	Undergrowth, black brush.
	Mountainous land 93.04 chs.

March 26, 1910.

Job H. Winwood
U.S.Deputy Surveyor

March 24, 1910: At 8 h. 07 m.a.m.l.m.t.I set off 37° 10' N.on lat.arc; 1° 16'N.on decl.arc; and determine a meridian with the solar at the cor.of secs.5,6,31, and 32, on S.bdy.of Tp., heretofore described. Thence I run;

[illegible] 03'W.

Chains.	
	N.0° 03'W.bet.secs.31 and 32,
	Descending; through scattering cedar.
7.70	Ravine, 60 ft.deep, drains NE.
	Ascend.
8.90	Top of spur, projects NE., Descend.
17.20	S.bank of wash, 2 ft.deep, drains NE.
18.00	Bottom of wash.
19.50	North bank of wash.
22.00	Old wood road, bears NE. and SW.
32.00	Ridge bears NE. and SW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.,marked on brass cap ¼ S 31 in W.half, S 32 in E.half; from which A cedar stump 2 ft.high, 18 ins.dia., bears S.79° 30'E. 28 lks.dist., marked ¼ S 32 B 0 No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
48.75	Telephone line to Apex Mine bears NE. and SW.
51.40	Wash, 50 lks.wide, 2 ft.deep, drains NE.
	Ascend 200 ft.
53.30	Red sandstone rim rock bears NE. and SW.
	Descend.
60.35	Road, Apex Mine to Shem,bears NE. and SW.
70.00	Small ridge, bears E. and W. Descend 100 ft.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 29,30,31, and 32, marked on brass cap T 41 S S 30 in NW. R 17 W S 29 in NE. S 32 in SE.; and S 31 in SW.quadrants; from which A cedar 24 ins.dia., bears N.36° 55'W. 33 lks.dist. marked T 41 S R 17 W S 30 B T No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

Chains.	
	Corner at west side of wash draining N.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar.
	Mountainous land 80.00 chs.
	East on a random line bet.secs.29 and 32,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
79.96	Intersect N. and S.line at the cor.of secs.28,29,32, and 33. Thence I run
	West on true line bet.secs.29 and 32,
	Ascending over mountainous land,through undergrowth.
7.96	Ridge, bears NW. and SE., 120 ft.high.
14.96	Bottom of draw, 100 ft.deep, drains S.
	Asc nd.
35.96	Ridge, 150 ft.high bears NE. and SW.
	Descend.
39.98	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 29 in N.half, S 32 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor.Pits impracticable.
43.46	Camp Spring outlet, draining north. The spring issues 7 chs.S.from this point; water slightly alkaline.
	Ascend.
47.45	Small ridge: bears N. and S.; descend.
49.97	Wash, 20 lks.wide. 1 ft.deep, drains NE.
54.31	Road, from Apex Mine to Shem , bears NE. and SW.
55.41	Telephone line to Apex Mine bearsNE. and SW.
	Ascend 75 ft.
61.21	Ridge, bears N. and S.
	Descend.
65.21	Ravine, 50 ft.deep, drains S.
	Ascend.
69.96	Ridge, 100 ft.high bears NE. and S.

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Chains.	
	Descend.
79.16	Wash, 40 lks.wide, 1 ft.deep, drains NE.
79.96	The cor.of secs.29,30,31, and 32.
	Land, mountainous.
	Soil, rocky; and gravelly; 4th rate.
	No timber.
	Undergrowth, black brush.
	Mountainous land 79.96 chs.
	March 24, 1910: At this cor.I set off 1° 19'N.on decl. arc; and at 0 h. 07 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37°11'N.

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

40.00	Set temp.$\frac{1}{2}$ sec.cor.
78.52	Intersect W.bdy.of Tp.13 lks.N. of the cor.of secs.25, 30,31, and 36, heretofore described. Thence I run N.89° 54'E.on true line bet.secs.30 and 31,
	Ascending over rolling rocky mountains; through scattering cedars and dense black brush.
13.50	Ridge, 100 ft.high, bears N. and SW.
	Descend over rolling ground.
32.30	Hollow, 175 ft. deep, drains NE.
	Ascend over rolling ground.
38.52	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 30 in N.half, S 31 in S.half; from which
	A cedar 5 ins.dia., bears N.70° E. 112 lks.dist. marked $\frac{1}{4}$ S 30 B T
	A cedar 12 ins.dia.bears S.23° E. 22 lks.dist. marked $\frac{1}{4}$ S 31 B T
54.00	Spur, 90 ft.high projects N.
	Descend over rolling ground.
65.00	Hollow, 100 ft.deep, drains N. Ascend.
76.00	Ridge, 70 ft.high bears NE. and SW.

Chains.	
78.52	The cor.of secs.29,30,31, and 32.
	Land, mountainous.
	Soil, rocky and clay; 4th rate.
	Timber, scattering cedars.
	Undergrowth dense black brush.
	Mountainous land 78.52 chs.

N.0° 03'W.bet.secs.29 and 30,

	Along wash.
2.00	Ascend; through scattering cedar and black brush.
3.35	Ridge, 40 ft.high, bears NE. and SW.
	Descend.
14.35	Wash, drains NE., 30 lks.wide, 1 ft.deep.
	Ascend.
29.10	Ridge, 60 ft.high bears NE. and SW.
	Descend.
35.80	S.edge of small ravine, 30 ft.deep, drains NE.;2 chs. wide.
40.00	On S.side of small wash, draining E.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 30 in W.half, S 29 in E.half; from which
	A cedar 14 ins.dia.bears N.8° 30'E. 106 lks.dist. marked ¼ S 29 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
72.25	Wash, drains NE., 30 lks.wide, 5 ft.deep.
	Ascend 20 ft.;thence over level land.
76.60	N.edge of level land; descend.
79.32	Telephone line from St.George to Acoma and Shem, bears NW. and SE.
79.70	Road from St.George to Shem and Acoma bears NW. and SE.

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.19,20,29, and 30, marked on brass cap T 41 S S 19 in NW. R 17 W S 20 in NE. S 29 in SE.; and S 30 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, broken.
	Soil, rocky; 4th rate.
	Timber, few scatttering cedars;
	Undergrowth, black brush.
	March 24, 1910.
	March 25: At 8 h. 06 m.a.m.l.m.t.I set off 1° 40'N.on decl.arc; and 37° 12'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.19,20,29 and 30. Thence I run
	East.on a random line bet.secs.20 and 29,
40.00	Set temp.¼ sec.cor.
79.93	Intersect N. and S.line 2 lks.N.of cor.secs.20,21,28, and 29. Thence I run
	N.89° 59'W.on true line bet.secs.20 and 29,
	Descending over basalt; mountainous land; through undergrowth.
20.00	Smelter ditch bears N. and S.
23.70	Wire fence bears N. and S.
23.85	Telephone line, St.George to Gunlock, bears N. and S.
24.20	Road from St.George to Gunlock bears N. and S.
25.65	Santa Clara River, 1 ch .wide, 1 ft.deep, course S.
30.15	Leave river wash.
	Ascend bluffs.
32.70	Top of bluffs, 75 ft.high.
	Descend 20 ft. along flat.

Chains.	
39.96½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 20 in N.half, S 29 in S.half; dig pits 18 x 18 x 12 ins.E. and W.of post 3 ft.dist.; and raise a mound of earth 3½ft.base, 1½ ft.high N.of cor.
	Ascend.
62.65	Small ridge, 20 ft.high, from high mountains north.
	Descend.
74.25	Wash, 60 lks.wide, 4 ft.deep, 15 ft.below ridge.,drains SE.
79.93	The cor.of secs.19,20,29, and 30.
	Land, mountainous.
	Soil, rocky, sandy and gravelly; 4th and 3d rates.
	No timber.
	Undergrowth, black brush.

S.89° 54'W.on a random line bet.secs.19 and 30,

40.00	Set temp.¼ sec.cor.
78.48	Intersect W.bdy.of Tp. 4 lks. N. of the cor.of secs.19, 24,25, and 30, heretofore described. Thence I run N.89° 52'E.on true line bet.secs.19 and 30,
	Descending over rolling land; through scattering timber and undergrowth.
26.40	Wash, 15 lks.wide, 4 ft.deep, drains NE.
	Ascend abruptly.
27.90	Rocky knoll, 40 ft.high, bears N.50 lks. and S.150 lks.
	Descend over rolling ground.
38.48	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in a mound of stone for ¼ sec.cor., marked on brass cap ¼ S 19 in N.half, S 30 in S.half; from which
	A cedar 8 ins.dia.bears S.50° E. 36 lks.dist., mkd. ¼ S 30 B T

Chains	
	A cedar 14 ins.dia., bears N.12° W. 195 lks.dist. marked ¼ S 19 B T
74.48	Telephone line from St.George to Acoma and Shem bears NW. and SE.
78.00	Wagon road to Acoma, bears NW. and SE.
78.48	The cor.of secs.19,20,29, and 30.
	Land, rolling.
	Soil, rocky and sandy, with some clay; 4th and 3d rate.
	Timber, scattering cedar and pine.
	Undergrowth, black brush and lightning brush.
	March 25: At this cor.I set off 1° 43'N.on decl.arc; and at 0 h. 06 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 12'N.
	N.0° 03'W.bet.secs.19 and 20,
	Over level land.
2.00	Wash, 50 lks.wide, 6 ft.deep, drains E.
	Ascend.
10.55	Top of red sandstone bluffs, 500 ft.high bearing NW. and SE. Descend over gentle slope to N.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 19 in W.half, S 20 in E.half; dig pits 18 x 18 x 12 ins.N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
	In hollow draining W. Ascend gently.
50.00	Small ridge, 25 ft.above corner, bears E. and W.
61.50	Wood road bears NW. and SE.
	Thence along ridge, bearing N. and S.; through scattering timber.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.17,18,19, and 20, marked on brass cap,
	T 41 S S 18 in NW.

Chains.

R 17 W S 17 in NE.
S 20 in SE.; and
S 19 in SW.quadrants; from which
A pine 12 ins.dia.bears S.31° 10'W. 83 lks.dist.
marked T 41 S R 17 W S 19 B T
A pine 6 ins.dia.bears N.44° E. 124 lks.dist.
marked T 41 S R 17 W S 17 B T

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

Land, level and broken.

Soil, rocky and sandy; 4th and 3d rate.

Timber, scattering cedar and pine.

S.89° 59'E.on random line bet.secs.17 and 20,

40.00 Set temp.¼ sec.cor.

79.94 Intersect N. and S.line 20 lks. S. of the cor.of secs. 16,17,20, and 21. Thence I run

S.89° 52'W.on true line bet.secs.17 and 20,

Ascending abruptly over lava boulders.

1.75 Top of abrupt ridge, bearing NE. and SW. 30 ft.high.

Descend gradually over lava boulders; through black and lightning brush.

20.47 Telephone line , St.George to Gunlock bears NW. and SE.

29.60 Center of Santa Clara River, 60 lks.wide,1 ftdeep, course SE.; 300 ft.below sec.cor.

29.64 Enter lucern field; wire fence bears NE.and SW. Woodbury, Farm.

32.70 Leave lucern field.

33.00 Wagon road to Gunlock bears N. and S.

Ascend abruptly over rocky slope bearing NE. and SW.

39.97 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in stone

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
	mound., for ¼ sec.cor., marked on brass cap ¼ S 17 in N.half, S 20 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Impossible to set post in the ground.
	Corner is 100 ft.above river.
45.00	Enter scattering cedars.
56.00	Begin abrupt ascent over sandstone ledges.
79.50	Ridge, 300 ft.above ¼ sec.cor., bears N. and S.
79.94	The cor.of secs.17,18,19, and 20.
	Land level, and broken.
	Soil, rocky and gravelly and rich loam; 4th and 1st rate.
	Timber, scattering cedars.
	March 25, 1910.

March 26: At 8 h. 06 m.a.m.l.m.t.I set off 37° 13'N.on lat.arc; 2° 03'N.on decl.arc; and determine a meridian with the solar at the cor.of secs.17,18,19, and 20. Thence I run

S.89° 52'W.on random line bet.secs.18 and 19.

40.00	Set temp.¼ sec.cor.
78.43	Intersect W.bdy.of Tp. 16 lks.S.of the cor.of secs.13, 18,19, and 24 heretofore described. Thence I run
	N.89° 59'E.on true line bet.secs.18 and 19,
	Over rolling ground; descending through scattering cedar and black brush.
5.75	Road to Acoma , bears NW. and SE.
18.50	Telephone line from St.George to Acoma and Shem bears NW. and SE.
31.00	Hollow, 75 ft.deep, drains SE.
	Ascend over rocky ledges.
36.50	Crest of rocky ledges, 150 ft.above hollow, bearing NW. and SE.
	Descend gradually .

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
38.43	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 18 in N.half, S 19 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
39.40	Ravine 100 ft.below ¼ sec.cor., drains S. Ascend.
41.00	Spur from north, 50 ft.high; descend.
44.50	Ravine 75 ft.deep, drains SW. Ascend.
48.00	Spur from N. 100 ft.high; descend.
50.00	Ravine, 30 ft.deep, drains S. Ascend.
58.00	Ridge,150 ft.high, bears N. and S. Descend.
65.00	Hollow,50 ft.deep, drains S. Ascend.
70.00	Road bears N. and S.
78.43	The cor.of secs.17,18,19, and 20.
	Land,mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber,scattering cedar. Undergrowth black brush. Mountainous land 78.43 chs.

N.0° 03'W.bet.secs.17 and 18,

Along west slope of ridge; through pine and cedar timber, andblack brush undergrowth.

40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 18 in W.half, S 17 in E.half; from which
	A scrub pine 10 ins.dia.bears N.57° 28'E. 28 lks. dist., marked ¼ S 17 B T
	A scrub pine 9 ins.dia.bears S.80° 30'W. 86 lks. dist., marked ¼ S 18 B T
	Main sandstone ledge is 8 chs.E.of cor.
	Ascend 20 ft.
44.00	Beginning of level rocky ledge sloping W.
50.74	End of ledge; descend 40 ft.
55.17	Wash, drains SW., 30 ft.deep, 40 lks.wide.
	Begin abrupt ascent.
67.54	Top of ridge, 250 ft.high, bears NW. and SE.
	Thence over ledges; descend 300 ft.

Chains.	
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.7,8, 17, and 18, marked on brass cap T 41 S S 7 in NW. R 17 W S 8 in NE. S 17 inSE.; and S 18 in SW.quadrants; from which A pine 12 ins.dia.bears N.30° 15'W. 19 lks.dist. marked T 41 S R 17 W S 7 B T A pine 6 ins.dia.bears S.40° W. 101 lks.dist., marked T.41 S R 17 W S 18 B T No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable. Land, mountainous. Soil, rocky and sandy; 4th rate. Timber cedar and pine. Undergrowth, black brush. March 26, 1910: At the noon hour sky overcast; obs.for lat.impossible.

N.89° 52'E.on a random line bet.secs.8 and 17,

40.00	Set temp.¼ sec.cor.
79.91	Intersect N. and S.line 30 lks. N.of the cor.of secs.8, 9, 16, and 17. Thence I run N.89° 55'W.on true line bet.secs.8 and 17, Descending over lava and sandstone rock; through dense black brush.
12.28	Descend abruptly over lava formation, bearing NE. and SW.
20.59	Hollow, 300 ft.deep, drains SW.
29.00	Telephone line to Gunlock bears N. and S.

Chains.	
30.00	E.side of Santa Clara River bed.
32.40	Center of stream 1.00 ch.wide, 1 ft.deep, flows S.
33.93	West bank of river bed.
34.90	Road, Gunlock to Santa Clara bears N. and S.
	Ascend over rocky ground.
39.95½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in N.half, S 17 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Pits impracticable.
65.00	Ascend abruptly; through scattering cedar and pine.
76.25	Rocky ridge, 400 ft.above ¼ sec.cor., bears N. and S.
	Descend abruptly 100 ft.
79.91	The cor.of secs.7,8,17, and 18.
	Land, level and mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber scattering cedar and pine.
	Undergrowth black brush.
	Mountainous land 78.91 chs.

S.89° 59'W.on random line bet.secs.7 and 18,

40.00	Set temp.¼ sec.cor.
78.29	Intersect W.bdy.of Tp. 9 lks.N.of the cor.of secs.7,12, 13, and 18, heretofore described. Thence I run N.89° 55'E.on true line bet.secs.7 and 18,
	Descending over rocky ground; through dense black brush. and scattering cedars.
5.75	Wash, 25 lks.wide, 3 ft.deep, drains SE.
8.00	Base of abrupt sandstone ledges bearing NW. and SE.
12.29	Top of ledges, 200 ft.high bearing NW. and SE.
	Descend over rocky rolling ground.
33.50	Leave scattering cedars.
38.39	Hollow, 350 ft.below abrupt descent; drains N.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 7 in

Chains.	
	N.half, S 18 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Ascend.
54.00	Spur, 40 ft.high, from south .
60.00	Spur projects N.
72.30	Begin abrupt descent.
78.29	The cor.of secs.7,8,17, and 18.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber, scattering cedars.
	Undergrowth, black brush.
	Mountainous land 78.29 chs.
	March 26, 1910.

March 28, 1910: At 8 h. 05 m.a.m.l.m.t. I set off 2° 50' N.on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,8,17, and 18. Thence I run

N.0° 03'W.bet.secs.7 and 8,

Descending along side of sandstone bluffs; through scattering undergrowth.

23.20	Begin abrupt descent, 100 ft.
25.00	Foot of bluffs; continue descent.
27.00	Wash, 40 lks.wide, 10 ft.deep, drains NE.
	Ascend.40 ft.to level ground; thence gradual ascent
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 7 in W.half, S 8 in E.half; dig pits 18 x 18 x 12 ins. N. and S.of post 3 ft.dist.; and raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
45.00	Top of slope bearing E. and W.
	Descend.
68.60	Begin abrupt descent.

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
79.80	Wash, 100 lks.wide, 20 ft.deep at bottom; drains SE.
80.00	Set an iron post 3 ft.long 2 ins.dia., 24 ins.in the ground, for cor.of secs.5,6,7, and 8, marked on brass cap T 41 S S 6 in NW. R 17 W S 5 in NE. S 8 in SE.; and S 7 in SW.quadrants; from which A pine 10 ins.dia.bears S.20° 40'W. 28 lks.dist. marked T 41 S R 17 W S 7 B T A pine 8 ins.dia.bears S.80° 10'E. 48 lks.dist. marked T 41 S R 17 W S 8 B T
	No other bearing, trees within limits; raise a mound of stone 2 ft.base 1½ ft.high W.of cor.
	Land, mountainous and level.
	Soil, rocky and sandy; 3d and 4th rate.
	Timber, scattering pine and cedar.
	Mountainous land 72.00 chs.

	S.89° 55'E.on a random line bet.secs. 5 and 8,
40.00	Set temp.¼ sec.cor.
79.92	Intersect N. and S.line 7 lks.S.of the cor.of secs. 4, 5,8, and 9. Thence I run N.89° 58'W.on true line bet.secs.5 and 8,
	Descending gradually through scattering cedars and dense black brush.
10.00	Leave cedars.
25.79	Descend abruptly 150 ft.to Santa Clara River.
32.50	East bank of Santa Clara River.
33.10	West bank of Santa Clara River.Thence along river bottom.
34.25	Road to Santa Clara from Gunlock bears N. and S.
37.50	West bank of Santa Clara River bottom,bearing N. and S.

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
	Ascend over rocky and sandy ground.
37.75	Telehone line, from Gunlock to Santa Clara bears N.and S. Enter scattering cedar and pine.
39.96	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for ¼ sec.cor., marked on brass cap ¼ S 5 in N.half, S 8 in S.half; from which
	A cedar 5 ins:dia.bears N:13° 30'E. 10 lks.dist. marked ¼ S 5 B T
	A pine 16 ins.dia.bears S.52° W. 108 lks.dist. marked ¼ S 8 B T
70.00	Ridge, 200 ft.above ¼ sec.cor., bears NW. and SE. Desc:
79.92	The cor.of secs.5,6,7, and 8, 100 ft.below ridge.
	Impossible to set ¼ sec:cor.post in ground.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber, scattering cedar and pine.
	Mountainous land 79:92 chs.
	March 28, 1910: At this cor.I set off 2° 53'N. on decl. arc; and at 0 h. 05 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.

	S.89° 55'W.on random line bet.secs.6 and 7,
40.00	Set temp.¼ sec.cor.
78.19	Intersect W.bdy.of Tp. 12 lks.S.of the cor.of secs.1,6, 7, and 12, heretofore described. Thence I run
	East on true line bet.secs.6 and 7,
	Ascending over mountainous land; through dense black brush.
5.90	Ridge, bears NW. and SE., 250 ft.high.
	Descend abruptly; through scattering cedar and pines.
14.00	Foot of abrupt descent bears NW. and SE. Descend gradually.
19.00	Hollow, 400 ft.below ridge, drains SE.
	Ascend.

SUBDIVISION OF T. 41 S., R. 17 W.

Chains.	
25.00	Spur, 100 ft.high projects SE.
	Descend over sandy soil.
31.00	Hollow, 150 ft.deep, drains SE.
38.19	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for ¼ sec.cor., marked on brass cap ¼ S 6 in N.half, S 7 in S.half ; from which
	A pine 6 ins.dia.bears S.57° 20'E. 60 lks.dist. marked ¼ S 7 B T
	A pine 18 ins.dia.bears N.2° 50'W. 72 lks.dist. marked ¼ S 6 B T
39.40	Spur, projects S., 100 ft.above hollow.
	Descend over rocky sandy soil; through dense cedar and pines bearing N. and S.
77.44	Hollow, 400 ft.below spur, drains SE.
	Ascend over series of ledges; timber becomes scattering.
78.19	The cor.of secs.5,6,7, and 8.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber,cedar and pine.
	Mountainous land 78.19 chs.
	Impossible to set ¼ sec.cor.post in ground.

N.0° 03'W.on true line bet.secs.5 and 6,

	Ascending over mountainous land, over rocky ledges; through scattering cedars and pines.
7.00	Top of ridge, 100 ft.above corner bears NW. and SE.
	Descend over gentle N.slope.
40.00	Set an iron post, 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 6 in W.half, S 5 in E.half; from which
	A cedar 9 ins.dia.bears S.66° 40'E. 89 lks.dist. marked ¼ S 5 B T
	A pine 6 ins.dia.bears S.14° 50'W. 33 lks.dist.

Chains.	
	marked $\frac{1}{4}$ S 6 B T
	Corner at N.side of sandstone ledge 20 x 50 x 6 ft.above ground.
51.50	Wash, 1 ch.wide, 10 ft.deep, drains NE.
52.50	N.edge of wash; thence over rocky ledges.
81.50	S.side of big wash, 100 ft.deep, drains SE.
88.50	N.side of big wash.
93.00	Intersect Eighth Standard Parallel South, 20 lks.E.of the standard cor.of secs.31 and 32, heretofore described,
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.5 and 6, marked on brass cap,
	C C T 40 S R 17 W S 31 S 32 in N.half,
	S 5 in SE.; and
	S 6 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high S.of cor. Pits impracticable.
	Land. mountainous and broken.
	Soil, rocky and sandy; 4th rate.
	Timber, cedar and pine.
	Mountainous land 93.00 chs. March 28, 1910.
	Harry L. Chamberlin
	U.S. Deputy Surveyor

GENERAL DESCRIPTION.

This township contains a variety of land, ranging from level to mountainous; and the soil ranges from rocky to sandy loam.

The northeastern portion of the township consists of rugged red sandstone mountains, which are cut by numerous deep canyons. These mountains contain considerable timber, consisting of scrub cedar and pine. The grazing is fairly good; but water is scarce.

water is scarce.

The Santa Clara River flows through the western portion of the township from north to south; thence southeast. For practically the entire distance the river flows through a canyon from 40 to 200 ft.deep, the capping of which is basalt flow. Along the river there are three Indian farms: The Woodbury, comprising fifty acres in the S.½ of sec.17; the Conger, comprising forty acres in the S.½ of sec.28; and the Knight, comprising 70 acres in the S.½ of sec.35. At the Shebit Indian Agency in the NE.¼ of sec.33, there are several small tracts of land cultivated by the Indians. On the level bench above the Santa Clara, in secs.16,21,27, and 28 there is a tract of land embracing 800 or 1000 acres, the soil of which is a sandy loam, which, if cultivated and watered would produce generous crops. The remainder of the township is sandy, gravelly, or rocky; and is not suitable for agricultural purposes; but grazing is fairly good over most of the township.

The larger portion of the Shebit Indian Reservation is embraced in this township, the east boundary of which is established by a wire fence extending north to the base of the red mountains; thence westerly to a deep canyon known as Jacob's Twist; thence south from said point as per description furnished by the Indian Agent. There are about 150 Indians on the reservation. The only white people in the township are the Indian AGent and family and the family in charge of the Presbyterian Mission, located at the Agency.

Camp Spring, located in the northern part of section 32 , is the only known spring in the township; its water is alkaline; but is used for watering stock.

The wagon road from Shem to Acoma is not now passable, owing to washouts in the Bull Valley Mts.about two-

twenty miles west.

Shem is an abandoned town, where a dismantled smelter is located. It has no inhabitants; and there are no houses remaining. The smelter was used in reducing the ore from the Apex Mine, located in T.43 S., R. 17 W.; but it has not been operated for several years. When in operation supplies were hauled in partly by traction engines from Acoma, Nevada, which is the nearest railroad point. The town is located in secs.28 and 29. We found no trace of mineral in this township.

Job N. Winwood
Harry L. Chamberlin
U.S. Deputy Surveyors.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by _____

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

_____

showing the respective capacities in which they acted:

For list of names and final oath of assistants see book "J", *Chainman.*

T. 41 S., R. 18 W., *Chainman.*

_____, *Moundman.*

_____, *Moundman.*

_____, *Axman.*

_____, *Axman.*

_____, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted _____

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

_____

_____

_____ of the _____

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

_____, *Chainman.*

_____, *Chainman.*

_____, *Moundman.*

_____, *Moundman.*

_____, *Axman.*

_____, *Axman.*

_____, *Flagman.*

_____

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

_____

SEAL

_____

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FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oaths of deputies see book "J" T. 41 S., R. 18 W.

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

_____

United States Deputy Survey

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

SEAL

_____

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 1912.

The foregoing field notes of the survey of the subdivisional lines of Township No. 41 South, Range No. 17 West of the Salt Lake Base and Meridian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin, their under his contract No. 314, dated June 28, 1909, having bee critically examined, and the necessary corrections and explanations made, the said field notes, and th surveys they describe, are hereby approved.

_____

United States Surveyor Genera

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

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BOOK A-368

FILED
MAR 1911

G.

FIELD NOTES

RE
OF THE SURVEY OF THE

EIGHTH STANDARD PARALLEL SOUTH

THROUGH

RANGE NO. 17 WEST

Of the SALT LAKE BASE AND *Meridian,*

UTAH

AS SURVEYED BY

H.Winwood and Harry L.Chamberlin, *United States Deputy Surveyor*s,

their
per his Contract No. 314, *dated* June 28, 1909.

Survey commenced March 17, 1910.

Survey completed March 19, 1910.

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BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Jesse M.Churchill,	Chainman.
Ceth D.Peacock,	Chainman.
Walter A.Stumm,	Chainman.
Roger W.Jessup,	Chainman.
Josiah Leavitt,	Moundman.
Rd.A.Morris Jr.,	Moundman.
Josiah H.Leavitt,	Flagman.

BOOK A-368

INDEX DIAGRAM.

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Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

We, Jesse M. Churchill, Ceth D. Peacock, Walter A. Stumm, and Roger W. Jessup 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 resurvey of the Eighth Standard Parallel South, through R. 17 W., S.L.B.& M., Utah.

Jesse M. Churchill, Chainman
Ceth D Peacock, Chainman
Walter A. Stumm, Chainman
Roger W. Jessup, Chainman
Job H. Winnewood
U.S. Deputy Surveyor.

Subscribed and sworn to before me this 17 day of March, 1910.

SEAL

We, I, Josiah Leavitt 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 me to the best of our skill and ability, in the resurvey of the Eighth Standard Parallel South, through R. 17 W., S.L.B.& M., Utah.

Josiah Leavitt, Moundman
____, Moundman
Job H. Winnewood
U.S. Deputy Surveyor.

Subscribed and sworn to before me this 17 day of March, 1910.

SEAL

We, I, Rd. A. Morris Jr. and ____ do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given me, to the best of our skill and ability, in the resurvey of the Eighth Standard Parallel South, through R. 17 W., S.L.B.& M., Utah.

Rd. A. Morris Jr., Axman
____, Axman
Job H. Winnewood
U.S. Deputy Surveyor.

Subscribed and sworn to before me this 17 day of March, 1910.

SEAL

I, Josiah H. Leavitt, 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 resurvey of the Eighth Standard Parallel South, through R. 17 W., S.L.B. M., Utah.

Josiah H. Leavitt, Flagman
Job H. Winnewood
U.S. Deputy Surveyor.

Subscribed and sworn to before me this 17 day of March, 1910.

SEAL

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Having instructions independent of, but in connection with this contract No.314, pertaining to the possible resurvey of the Eighth Stand.Par.S., through R. 17 W.; and, knowing that the original survey of same had been examined and not approved; also that its accuracy was doubtful after reputed corrections had been made, I decide to begin the survey of said standard through R.17 W. without retracing any part thereof.

Survey commenced March 17, 1910, and executed with a Keuffel & Esser transit, No.18325, the horizontal limb having two double verniers placed opposite to each other, and reading to single minutes of arc.

The instrument was examined, tested on the true meridian at Salt Lake City, found correct, and was approved by the Surveyor-General for Utah, March 7, 1910.

I begin at the standard cor.of Tp.40 S., Rs.16 and 17 W. heretofore described, lat.37° 15'N.; long.113° 37'37" W. At a point 2.51 ft.south at 7 h. 44 m. p.m.l.m.t. I observe Polaris at western elongation, in accordance with instructions in the Manual, and mark the line thus determined, by a tack driven in a wooden peg set in the ground 5 chs.N.of my station.

March 17, 1910.

March 18: At 7 h. 38 m.a.m.l.m.t. I lay off the azimuth of Polaris 1° 28' to the east, and mark the true meridian thus determined, by cutting a mark on a stone firmly set in the ground east of the point established last night; the magnetic bearing of said true meridian is N.16° 30'W., which gives the mag.decl.16° 30'E.

At this station I turn off from the meridian an angle of 89° 58', toward the west, and run

N.89° 58'W.on the secant S.of sec.36

Descending gradually through scattering cedars.

Chains.	
18.85	Enter wash, 4 ft.deep, draining NW. Leave cedars.
20.00	Leave wash; Ascend gradually.
39.85	Spur, projects N. Descend.
	Difference bet.measurement of 40.02 chs. by two sets of chainmen is 4 lks.; position of middle point
	By 1st set 40.00 chs.
	By 2d set 40.04 chs.; the mean of which is
40.02	N.1.13 ft.from the secant,
	Intersect the $\frac{1}{4}$ sec.cor. set by Deputy Clark, which is a sandstone 6 x 8 x 6 ins.above ground, mkd.SC$\frac{1}{4}$ on N. face,with mound of stone N.of corner.
42.50	Hollow, 90 ft.deep, drains N. Ascend.
50.85	Spur, 100 ft.high, projects N.
	Descend abruptly through scattering cedars.
55.85	Hollow, 150 ft.deep, drains NE. Ascend abruptly.
78.00	Ridge,200 ft.above hollow,bears N. and S. Desc.abruptly.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 6 lks.; position of middle point
	By 1st set 79.97 chs.
	By 2d set 80.03 chs.; the mean of which is
80.00	Intersect the St.cor.of secs.35 and 36, set by Deputy Clark, which is a sandstone 6x8x8 ins.above ground,poorly set and mkd.;I destroy all trace of it, and in exact place Set an iron post 3 ft.long,3 ins.dia.,24 ins.in the ground for stand.cor.of secs.35 and 36, mkd.on brass cap
	S C in N. T 40 S S 35 in NW.; and R 17 W S 36 in NE.quadrants; from which
	A pine 8 ins.dia.bears N.52° E. 82 lks.dist. mkd. T 40 S R 17 W S 36 B T
	A pine 15 ins.dia.bears N.52° 45'W. 17 lks.dist. marked T 40 S R 17 W S 35 B T
	Land, mountainous.
	Soil, sandy and rocky; 3d and 4th rates.
	Timber, cedar and pine.
	Mountainous land 80.00 chs.

RESURVEY EIGHTH STANDARD PARALLEL SOUTH, THROUGH R. 17 W.

Chains.	
	N.89° 59'W.on the secant through sec.35,
	Descending abruptly over mountainous land; through scattering cedar and pine.
1.50	Foot of abrupt descent, bearing N. and S.
	Descend gradually over sandy land.
13.50	Hollow, 150 ft.below sec.cor. drains NE.
	Ascend over rocky land.
16.70	Spur, projects S.
	Descend.
18.25	Draw, 40 ft.deep, drains SE.
	Ascend abruptly.
23.65	Sandstone ledge bears N.and S.
	Ascend abruptly.
25.00	Ridge, 75 ft.high bears N. and S.
	Descend gradually.
38.00	Begin abrupt descent.
38.60	Hollow, 75 ft.deep, drains NE.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 4 lks.; position of middle point
	By 1st set 40.02 chs.
	By 2d set 39.98 chs.; the mean of which is 40.00
40.00	0.88 ft.S.of secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground and mound of stone, for ¼ sec.cor., marked on brass cap, S 35 ¼ in N.half; from which
	A cedar 14 ins.dia., bears N.52° 30'E. 27 lks.dist. mkd.S C ¼ S 35 B T
	A cedar 18 ins.dia., bears S.69° E.33 lks.dist. mkd.S.C ¼ S 2 B T.
	The old st.¼ sec.cor. set by Deputy Clark, a sandstone 16 x 8 x 8 ins., 11 ins.in the ground, marked and witnessed as described by the surveyor general bears S. 43°30'E.54 lks.dist., I destroy all trace of it.

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 17 WEST.

Chains.	
49.75	Spur, projects SE.
	Descend, abruptly.
55.00	Foot of abrupt descent bearing NW. and SE.
	Wash 40 lks.wide, 4 ft.deep, drains SE.
	Ascend gradually.
72.75	Begin abrupt ascent, bearing N. and S.
79.50	Top of ridge,200ft.high bearing N. and S.
	Descend abruptly.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 10 lks.; positinn of middle point,
	By 1st set 80.05 chs.
	By 2d set 79.95 chs.; the mean of which is
80.00	The old stand.cor.of secs.34 and 35, as set by Deputy Clark, a sandstone 18 x 8 x 6 ins., 12 ins.in ground mkd.and witnessed as described by the surveyor general, bears S.89° 36'E. 142 lks.dist. I destroy it,
	S.I.51 ft.from the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground and mound of stone, for stand.cor.of secs.34 and 35, marked on brass cap
	S C in N.
	T 40 S S 34 in NW., and
	R 17 W S 35 in NE.quadrant; from which
	A cedar 6 ins.dia.bears N.57° 15'E. 20 lks.dist. marked T 40 S R 17 W S 35 B T.
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Impossible to set post in ground, required distance.
	Land, mountainous.
	Soil, rocky and sandy; 3d and 4th rates.
	Timber cedar and pine, scattering.
	Mountainous land 80.00 chs.

RESURVEY OF EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 17 WEST.

Chains.	
	N.89° 59'W.on the secant along sec.34,
	Descending abruptly, over mountainous land; through scattering cedar and pine.
4.50	Foot of abrupt descent, bearing N. and S.
10.00	Camp Hollow, 500 ft.below t op of ridge, drains NE.
14.50	Begin abrupt ascent, bearing N. and S.
17.00	Spur, projects N.
	Descend.
22.00	Hollow, 150 ft.deep, drains NE.
	Ascend abruptly.
29.40	Ridge, bears S. and NE.
	Descend abruptly.
37.10	Hollow, 200 ft.below top of ridge, drains N.
	Ascend abruptly.
39.65	Spur, projects N.
	Descend abruptly.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 5 lks.; position of middle point
	By 1st set 39.97½ chs.
	By 2d set 40.02½; chs.;the mean of which is
40.00	The witness cor.for ¼ sec.cor., as set by Deputy Clarke, bears S.88° 38'E. 42 lks.dist., a sandstone 22 x 9 x6 16 ins.in the ground, mkd.and witnessed as described by the surveyor general. I destroy it, and
	S.1.89 ft.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for stand.¼ sec.cor., marked on brass cap, S ¼ 34 in N.half, from which
	A pine 9 ins.dia.bears N.31° E. 37 lks.dist. mkd.S C ¼ S 34 B T
	A pine 10 ins.dia., bears S. 75° 26'E.105 lks.dist. mkd.S C ¼ S 3 B T
43.00	Hollow, 400 ft.below spur, drains NE.
	Ascend abruptly.

Chains.

68.69 Ridge, bears N. and S. 450 ft.high.

Descend abruptly.

Difference bet.measurement of 80.00 chs.by two sets of chainmen is 12 lks.; position of middle point

By 1st set 79.94 chs.

By 2d set 80.06 chs.; the mean of which is

80.00 Witness cor.of stand.cor.of secs.33 and 34, as set by Deputy Clark, a sandstone 18 x 10 x 10 ins., 12 ins. in ground, marked and witnessed as described by the surveyor general, bears S.89° 52'E. 4.58 chs.dist.I destroy all trace of it, and

S.2.01 ft.from the secant,

Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in mound of stone, for stand.cor.of secs.33 and 34, marked on brass cap,

S C in N.

T 40 S S 33 in NW.; and

R 17 W S 34 in NE.quadrants; from which

A pine 10 ins.dia., bears N.20° E. 11 lks.dist. marked T 40 S R 17 W S 34 B T

No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor. Impossible to set post in ground.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, scattering cedar and pine.

Mountainous land 80.00 chs.

March 18, 1910.

March 18: At a point N.2.01 ft.from the stand.cor.of secs.33 and 34, lat.37° 15' N.; long.113°40'55" W., at 7h.40m.p.m.l.m.t. I observe Polaris at western elongation, in accordance with instructions in the Manual, and mark the line thus determined by a tack

Chains.	
	driven in a wooden peg set in the ground 5 chs.N.of my station.
	March 19: At 7 h. 38 m.a.m.l.m.t.I lay off the azimuth of Polaris 1° 28' to the east, and mark the true meridian thus determined by cutting a mark on a stone firmly set in the ground east of the point established last night;the magnetic bearing of said true meridian is N.16° 30'W., which gives the mag.decl.16° 30'E.
	West on the secant, through sec.33,
	Descending abruptly, through scattering cedar and pine.
12.00	Hollow, 240 ft.deep, drains SW. Ascend abruptly.
22.00	Spur, 100 ft.high, projects SW. Descend abruptly.
37.00	Foot of abrupt descent; descend gradually over sandy land.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 4 lks.; position of middle point,
	By 1st set 39.98 chs.
	By 2d set 40.02 chs.; the mean of which is
40.00	Old stand.$\frac{1}{4}$ sec.cor., as set by Deputy Clark, a sandstone 20 x 8 x 8 ins., 15 ins.in the ground, marked and witnessed as described by the surveyor general, bears S.86°06'E. 132 lks.dist.I destroy all trace of it
	Set an iron post 3 ft.long, 1 in dia.,26 ins.in a mound of stone for stand.$\frac{1}{4}$ sec.cor., mkd.on brass cap S $\frac{1}{4}$ 33 in N.half. Impossible to set post in ground.
	A cedar 12 ins.dia., bears N.86° W. 164 lks.dist.
	mkd.S C $\frac{1}{4}$ S 33 B T
	A pine, 11 ins.dia., bears S.72° W. 135 lks.dist.
	mkd.S C $\frac{1}{4}$ S 4 B T
	Descend gradually.
41.50	Wash,10 lks.wide, 3 ft.deep, drains NW.
54.85	Leave scattering cedar and pine.
66.15	Descend abruptly. Basalt ledge,10 ft.high, bears NE.& SE.
66.25	Descend gradually over lava boulders.
	Difference bet.measurement of 80.00 chs.by two sets of

Chains.	
	chainmen is 9 lks.; position of middle point
	By 1st set 80.04½ chs.
	By 2d set 79.95½ chs.; the mean of which is
80.00	The old stand.cor.of secs.32 and 33, as set by Deputy Clark, a granite 16 x 6 x 6 ins., 10 ins.in the ground marked and witnessed as described by the surveyor general, bears S.85° 38'E. 118 lks.dist., I destroy all trace of it; and
	S.1.51 ft.from the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in a mound of stone for stand.cor.of secs.32 and 33, marked on brass cap,
	S C in N.
	T 40 S S 32 in NW.; and
	R 17 W S 33 in NE.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable. Impossible to set post in the ground.
	Land, mountainous.
	Soil, rocky and sandy; 4th and 3d rates.
	Timber, scattering cedar and pine.
	Mountainous land 80.00 chs.
	S.89° 59'W.on the secant through sec.32,
	Descending gradually over lava bench; through dense black brush.
9.50	Draw, 40 ft.deep, drains NW. Descend gradually.
13.75	Telephone line, St.George to Gunlock,bears NW. and SE.
21.75	Road, Gunlock to Shem, bears NE. and SW.
21.85	Enter Santa Clara River Wash, 5 ft.deep, drains S.
	Enter scattering cottonwood timber.
26.75	Santa Clara River, 1 ft.deep, 60 lks.wide, drains S.
31.75	Leave Santa Clara River Wash.

RESURVEY OF EIGHTH STANDARD PARALLEL SOUTH, THROUGH R. 17 WEST.

Chains.	
	Ascend gradually.
32.70	Begin abrupt ascent, bearing N. and S.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 4 lks.; position of middle point
	By 1st set 40.02 chs.
	By 2d set 39.98 chs.; the mean of which is
40.00	The old st.¼ sec.cor. as set by Deputy Clark, which is a sandstone 18 x 12 x 10 ins., 12 ins.in the ground, mkd.and witnessed as described by the surveyor general, bears N.82° 52'E. 136 lks.dist., I destroy it, and
	0.88 ft.S.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in a mound of stone, for stand.¼ sec.cor., marked on brass cap
	S ¼ 32 in N.half; and raise a mound of stone 2 ft.base 1½ ft.high N.of cor.Pits impracticable. Impossible to set post in the ground.
41.25	Spur, 50 ft.high, projects SE.
	Descend over rolling land.
64.00	Hollow, 75 ft.deep, drains SE.
	Ascend over rolling land.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 6 lks.; position of middle point,
	By 1st set 80.03 chs.
	By 2d set 79.97 chs.; the mean of which is
80.00	The old stand. sec.cor., as set by Deputy Clark, which is a sandstone 18 x 12 x 5 ins., 12 ins.in the ground, marked and witnessed as described by the surveyor general, bears N.72° 32'E. 136 lks.dist. I destroy it and
	On the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for stand cor.of secs.31 and 32, marked on brass cap
	S C in N.,
	T 40 S S 31 in NW.

RESURVEY OF EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 17 W.

Chains.	
	R17W S32in NE.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
	Land, mountainous and rolling.
	Soil, rocky and sandy; 4th and 3d rate.
	Timber, cedar and pine and cottonwood; scattering.
	Undergrowth dense black brush.
	Mountainous land, or land covered with dense black brush 80.00 chs.
	S.89° 58'W.on the secant S.of sec.31,
	Descending over rolling land; through dense black brush and scattering cedar and scattering cactus.
5.45	Wash, rocky, 25 lks.wide, 12 ft.deep, drains SE.
	Ascend over rolling land.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 3 lks.; position of middle point
	By 1st set 40.01½ chs.
	By 2d set 39.98½ chs.; the mean of which is
40.00	The old stand.¼ sec.cor., as set by Deputy Clark, a sandstone 20 x 8 x 6 ins., 15 ins.in the ground, marked and witnessed as described by the surveyor general, bears N.74° 35'E. 157 lks.dist., I destroy all trace of it, and
	N.1.13 ft.from the secant,
	Set an iron post 3 ft.long,1 in.dia.,26 ins.in the ground, for st.¼sec.cor.,marked on brass cap, S ¼ 31 in N.half; from which
	A pine 5 ins.dia., bears N.28° W.171 lks.dist., mkd.S C ¼ S 31 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
58.75	Wash 8 lks.wide, 2 ft.deep; drains SE.

RESURVEY OF EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 17 W.

Chains.

Ascend over rolling land.

Difference bet.measurement of 80.00 chs.by two sets of chainmen is 4 lks.; position of middle point,

By 1st set 80.02 chs.

By 2d set 79.98 chs.; the mean of which is

80.00 The old stand.cor.of Tp.40 S., Rs.17 and 18 W., as set by Deputy Clark, heretofore described, bears N.75° 05' E. 185 lks.dist. I destroy all trace of it, and N.2.51 ft.from the secant,

Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground and mound of stone for stand.cor.of Tp.40 S., Rs.17 and 18 W. ,marked on brass cap

T 40 S in N.

R 18 W S 36 in NW.; and

R 17 W S 31 in NE.quadrants; from which

A cedar 6 ins.dia.bears N.57° 30'E. 136 lks.dist. marked T 40 S R 17 W S 31 B T

No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.

Land,rolling.

Soil, sandy; 3d rate.

Timber, scattering cedar.

Undergrowth, dense black brush, and scattering cactus.

March 19, 1910.

For general description see notes of the subdivision of this township.

Job H. Kinwood

U.S.Deputy Surveyor.

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Page

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Job H.Winwood and Harry L.Chamlin, United States Deputy Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the resurvey of the Eighth Standard Parallel South, through R. 17 W., S.L.B.& M., Utah, showing the respective capacities in which they acted:

Jesse M.Churchill, Ceth D.Peacock, *Chainman.*

Walter A.Stumm, Roger W.Jessup, *Chainman.*

Josiah Leavitt, *Moundman.*

, *Moundman.*

Rd.A.Morris Jr., *Axman.*

, *Axman.*

Josiah H.Leavitt, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Job H.Winwood, United States Deputy Surveyor, in surveying all parts or portions of the resurvey of the Eighth Standard Parallel South through Range 17 West, of the Salt Lake Base and meridian, State of Utah, 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 corners and monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

Jesse M Churchill, *Chainman.*

Ceth D. Peacock, *Chainman.*

Josiah Leavitt, *Moundman.*

Walter A. Stumm, Chainman ~~Moundman.~~

Rd A Morris Jr., *Axman.*

Roger W Jessup, Chainman. ~~Axman.~~

Josiah H Leavitt, *Flagman.*

Subscribed and sworn to before me this 19 day of March, 1910.

SEAL

Job H. Winwood

U.S. Deputy Surveyor.

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Job H. Winwood, United States Deputy Surve
solemnly swear that, in pursuance of a contract received from Thomas Hull
United States Surveyor General for Utah, bearing date
28 day of June, 1909, I have well, faithfully, and truly, in
proper person, and in strict conformity with the instructions furnished by the United States Su
General for Utah, the Manual of Surveying Instructions, and the laws
United States, surveyed all those parts or portions of the resurvey of the Eighth
Standard Parallel South, through Range 17 West

of the Salt Lake
Base and meridian, in the State of Utah, which are represented
foregoing field notes as having been surveyed by me, and under my direction; and I do further so
swear that all the corners of said survey have been established and perpetuated in strict accordan
the Manual of Surveying Instructions, and the special written instructions of the United States Su
General for Utah and in the specific manner described in the field notes, a
the foregoing are the original field notes of such survey.

Job H. Winwood
United States Deputy Su

Subscribed by said Job H. Winwood, and sworn to before ~~me~~
this 18 day of February, 1911.

SEAL

U.S. Surveyor-General
for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24,

The foregoing field notes of the survey of the Eighth Standard Parallel So
through Range No. 17 West of the Salt Lake Base and Meridian, Uta

executed by Job H. Winwood and Harry L. Chamberlin
under his contract No. 314, dated June 28, 1909, havin
critically examined, and the necessary corrections and explanations made, the said field notes, a
surveys they describe, are hereby approved.

United States Surveyor Ge

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 off

United States Surveyor Ge

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FILED
MAR 8 1911

BOOK A-368

H.

FIELD NOTES

OF THE SURVEY OF THE

SOUTH AND WEST BOUNDARIES

OF

TOWNSHIP NO. 41 SOUTH,

RANGE NO. 18 WEST

Of the SALT LAKE BASE AND *Meridian,*

U T A H.

AS SURVEYED BY

[illegible] H. Sinwood and Harry L. Chamberlin, *United States Deputy Surveyors*

[illegible]er his Contract No. 314, *dated* June 28, 1909.

[illegible]ey commenced March 27, 1910.

[illegible]ey completed April 1, 1910.

4—111

S Bdy 5-77-52
W Bdy 6-12-83 Closing 4.60

BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Jesse M.Churchill	Chainman.
Ceth D.Peacock,	Chainman.
Josiah Leavitt,	Moundman.
Josiah H.Leavitt.	Flagman.

For preliminary affidavits see book "E" T.41 S., R. 17 W.

Volume
#
R0368

BOOK A-368

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Township ----------, *Range* ----------

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Meanders Page ----------

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PRELIMINARY OATHS OF ASSISTANTS.

WE, _____ and _____

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

_____

_____, *Chainma*

_____, *Chainma*

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

_____

SEAL

_____

WE, _____ and _____

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

_____

_____, *Moundma*

_____, *Moundma*

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

_____

SEAL

_____

WE, _____ and _____

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

_____

_____, *Axma*

_____, *Axma*

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

_____

SEAL

_____

I, _____, do solemnly swear that I will well and trul
perform the duties of flagman according to instructions given me, to the best of my skill and ability, in th
survey of _____

_____, *Flagman*

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

_____

SEAL

_____

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SOUTH BOUNDARY T. 41 S., R. 18 W.

Survey commenced March 27, 1910, and executed with the instrument described in book "G" of this survey.

I examine the adjustments of the transit and correct the level and collimation errors; then, to test the solar apparatus, by comparing its indications resulting from solar observations made during a.m. and p.m. hours with a meridian determined by observations on Polaris, I proceed as follows:

At the cor. of Tps. 41 and 42 S., Rs. 17 and 18 W., heretofore described, lat. 37° 10' 07" N.; long. 113° 44' 07" W., I set off 2° 34' N. on decl. arc; 37° 10' N. on lat. arc; and at 4 h. 06 m. p.m. l.m.t. determine with the solar a meridian; and mark a point thereof on a stone firmly set in the ground 5 chs. N. of the cor.

At 7 h. 05 m. p.m. l.m.t. I observe Polaris at western elongation, in accordance with 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.

March 27, 1910.

March 28: At 7 h. 40 m. a.m. l.m.t. I lay off the azimuth of Polaris 1° 28' to the east, and mark the meridian thus determined by cutting a small groove in the stone set March 27, on which the meridian falls 0.2 ins. E. of the mark determined by the solar.

At 8 h. 05 m. a.m. l.m.t. I set off 37° 10' N. on the lat. arc; 2° 50' N. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of my station; this mark falls 0.3 ins. E. of the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.m. observations defines positions for meridian respectively about 0' 11" W. and

SOUTH BOUNDARY T. 41 S., R. 18 W.

Chains.	
	0' 16" E. of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.
	The magnetic bearing of the true meridian at 7 h. 35 m. a.m. is N. 16° 30'W.; the angle thus determined gives the mag. decl. 16° 30'E.
	From the township corner already described I run
	West between secs. 1 and 36,
	Over mountainous land; through scattering timber and dense undergrowth.
1.00	Small hollow, 40 ft. deep, drains NE.
	Ascend.
5.35	Ridge, from north, 60 ft. high.
	Descend.
9.00	Hollow, 30 ft. deep, drains SE.; then
	Ascend abruptly.
14.40	Top of abrupt ascent, 150 ft. above hollow; thence over level land.
16.40	Descend.
30.75	Wash, 50 ft. below top of ascent, 20 lks. wide, 5 ft. deep, drains NE.
33.00	Foot of abrupt ascent, 300 ft. below top.
	Ascend abruptly.
39.90	Top of abrupt ascent.
40.00	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., marked on brass cap $\frac{1}{4}$ S 36 in N. half, S 1 in S. half; from which
	A cedar 4 ins. dia., bears S. 56° 40'E. 33 lks. dist. marked $\frac{1}{4}$ S 1 B T
	A cedar 4 ins. dia., bears N. 63° 30'E. 72 lks. dist. marked $\frac{1}{4}$ S 36 B T
53.00	Ledge, 20 ft. high, bears N. and S.
54.00	Ledge, 15 ft. high, bears NE.

SOUTH BOUNDARY T. 41 S., R. 18 W.

Chains.	
60.75	Ledge, 20 ft.high bears NE.
71.75	Spur, 300 ft.above ¼ sec.cor., projects SE. Ascend.
78.45	Hollow, 100 ft.deep, drains SE.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in stone mound for cor.of secs.1,2,35, and 36, marked on brass cap T 41 S S 35 in NW. R 18 W S 36 in NE. R 18 W S 1 in SE.; and T 42 S S 2 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Land, mountainous.
	Soil, rocky and gravelly; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush and some scrub oak.
	Mountainous land 80.00 chs.
	Impossible to set sec.cor.post in the ground.
	West bet.secs.2 and 35,
	Ascending abruptly; through dense undergrowth.
14.00	Top of abrupt ascent, 600 ft.above cor.; ascend gently through cedar and pine timber, bearing N. and S.
18.75	Ridge, 200 ft.above abrupt ascent, bears NW. and SE. Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia.26 ins.in the ground for ¼ sec.cor., marked on brass cap ¼ S 35 in N.half; S 2 in S.half; from which A pine 8 ins.dia.bears S.4° 15'W. 49 lks.dist. marked ¼ S 2 B T A pine 6 ins.dia.bears N.26° 35'W. 101 lks.dist. marked ¼ S 35 B T
	Corner set at side of sandstone boulder 10 x 14 x 4 ft. above ground; and is 350 ft.below top of ridge.
	Continue descent.

Chains.	
48.00	Main wash, 250 ft.below ¼ sec.cor., 30 lks.wide, 3 ft. deep; ascend.
70.70	Spur, projects S.80° E., 250 ft.above wash.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.2,3,34, and 35, marked on brass cap,
	T 41 S S 34 in NW.
	R 18 W S 35 in NE.
	R 18 W S 2 in SE.; and
	T 42 S S 3 in SW.quadrants; from which
	A cedar 4 ins.dia., bears N.59° 45'E. 9 lks.dist. marked T 41 S R 18 W S 35 B T
	A pine 4 ins.dia.bears S.29° 25'E. 79 lks.dist. marked T 42 S R 18 W S 2 B T
	A cedar 5 ins.dia.bears N.66° 30'W. 104 lks.dist. marked T 41 S R 18 W S 34 B T
	A pine 6 ins.dia., bears S.60° 45'W. 67 lks.dist. marked T 42 S R 18 W S 3 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth dense black brush and serviceberry.
	Mountainous land 80.00 chs.
	March 28: At this cor.I set off 2° 53'N.on decl.arc; and at 0 h. 05 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 10'N.

	West between secs.3 and 34,
	Descending through dense undergrowth.
3.80	Ravine, 50 ft.deep, drains SE.
	Ascend abruptly.
21.50	Ledge 60 ft.high, bears N. and S.
36.50	Top of abrupt ascent; begin gradual ascent through

SOUTH BOUNDARY T. 41 S., R. 18 W.

Chains.	
	heavy timber, bears N. and S.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 34 in N.half, S 3 in S.half; from which
	A pine 6 ins.dia.bears N.15° 30'E. 71 lks.dist. marked ¼ S 34 B T
	A pine 7 ins.dia.bears S.30° 45'E. 47 lks.dist. marked ¼ S 3 B T
	¼ cor. 400 ft.above sec.cor.
	Ascend abruptly.
45.87	Main spur from high mountains to the south, 200 ft.above ¼ sec.cor., bears NE. and SW.
	Descend abruptly.
62.00	Canyon, 350 ft.below top of spur, drains N.
	Ascend.
70.63	Spur, from SE., 300 ft.high.
	Descend.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in stone mound, for cor.of secs.3,4,33, and 34, marked on brass cap,
	T 41 S S 33 in NW.
	R 18 W S 34 in NE.
	R 18 W S 3 in SE.; and
	T 42 S S 4 in SW.quadrants;
	Impossible to set post in ground.
	A pine 12 ins.dia.bears S.31° 30'W. 44 lks.dist. marked T 42 S R 18 W S 4 B T
	A pine 6 ins.dia.bears N.21° 20'W. 19 lks.dist. marked T 41 S R 18 W S 33 B T
	A pine, 10 ins.dia.bears N.69° 05'E. 45 lks.dist. marked T 41 S R 18 W S 34 B T
	A pine 10 ins.dia.bears S.31° 05'E. 43 lks.dist. marked T 42 S R 18 W S 3 B T
	Corner is on S.side of heavily timbered ravine 250 ft. below ridge, draining NW.

SOUTH BOUNDARY T. 41 S., R. 18 W.

Chains	
	Land, mountainous.
	Soil, rocky and sandy loam; 4th and 3d rate.
	Timber, cedar and pine.
	Undergrowth, dense black brush, chaparral; and scrub oak .
	Mountainous land 80.00 chs.
	March 28, 1910.
	March 29: At 8 h. 05 m.a.m.l.m.t. I set off 3° 13'N.on decl.arc; 37° 10'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.3,4,33, and 34.
	Thence I run
	West between secs.4 and 33,
	Ascending along NEslope of spur, from SE.; through timber and dense undergrowth.
10.00	Spur, 100 ft.above cor., projects NW.
	Descend, abruptly.
20.00	Main canyon, 400 ft.below spur, drains NW.
	Ascend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 33 in N.half, S 4 in S.half; from which
	A pine 8 ins.dia., bears S.40° 05'W. 62 lks.dist. marked ¼ S 4 B T
	A pine 8 ins.dia. bears N.24° 20'E. 55 lks.dist. marked ¼ S 33 B T
	Ascend.
42.00	Spur, from south, 300 ft.high.
	Descend.
58.50	Canyon, 300 ft. deep, drains NE.
	Ascend.
77.50	Spur, from SW., 500 ft.above canyon; descend 60 ft. into head of ravine draining NE.

SOUTH BOUNDARY OF T. 41 S., R. 18 W.

Chains.	
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.4,5,32, and 33, marked on brass cap T 41 S S 32 in NW. R 18 W S 33 in NE. R 18 W S 4 in SE.; and T 42 S S 5 in SW.quadrants; from which A yellow fir 18 ins.dia., bears S.36° 30'E. 29 lks.dist. marked T 42 S R 18 W S 4 B T A yellow fir 24 ins.dia., bears S.84° 30'W. 5 lks. dist., marked T 42 S R 18 W S 5 B T A pine, 9 ins.dia.bears N.10° W. 56 lks.dist. mkd. T 41 S R 18 W S 32 B T A yellow fir 16 ins.dia.bears N.69° 40'E. 98 lks. dist., marked T 41 S R 18 W S 33 B T Corner at head of ravine draining NE. Land, mountainous. Soil, rocky; 4th rate. Timber, cedar, pine, and yellow fir. Undergrowth, dense black brush. Mountainous land 80.00 chs. March 29: At this cor.I set off 3° 17'N.on decl.arc; and at 0 h. 05 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 10'N.
	West bet.secs.5 and 32, Ascending abruptly through timber, and scattering undergrowth.
5.00	Spur, 200 ft.above cor., projects NE.
	Descend.
14.00	Ravine, 250 ft.below spur, course N.
	Ascend.
23.50	Spur, 200 ft.high, projects NE.

Chains.	
	Ascend
30.30	Main ridge, 150 ft.high bears NW. and SE.
	Descend abruptly along SW.slope of ridge.
38.00	Cliffs, 100 ft.high bear N. and S.
40.00	Point for ¼ sec.cor.falls in slide rock at base of perpendicular cliffs; impossible to set permanent cor.
43.54	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for witness ¼ sec.cor., marked on brass cap W C ¼ S 32 in N.half, S 5 in S.half; from which
	A yellow fir 28 ins.dia., bears S.63° W. 39 lks. dist., marked ¼ S 5 B T
	A yellow fir 28 ins.dia.bears N.32° 30'W.45 lks. dist., marked ¼ S 32 B T
	Corner 500 ft.below main ridge.,
	Ascend.
48.80	Rocky spur,50 ft.high, from south.
	Descend over rocky ledges along slope of spur .
63.00	Canyon, 350 ft.deep, drains N.
	Ascend abruptly
73.50	Small spur, 100 ft.high projects N.
	Descend abruptly into ravine 400 ft.deep,draining N.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.5,6,31, and 32, marked on brass cap
	T 41 S S 31 in NW.
	R 18 W S 32 in NE.
	R 18 W S 5 in SE.; and
	T 42 S S 6 in SW.quadrants; from which
	A pine 6 ins.dia.bears S.12° E. 11 lks.dist. marked T 42 S R 18 W S 5 B T
	A pine 7 ins.dia., bears N.46° E. 18 lks.dist. marked T 41 S R 18 W S 32 B T
	A pine 5 ins.dia.bears S.67° 40'W. 25 lks.dist. marked T 42 S R 18 W S 6 B T

SOUTH BOUNDARY T. 41 S., R. 18 W.

Chains.

A pine 5 ins.dia.bears N.80° 50'W. 36 lks.dist. marked T 41 S R 18 W S 31 B T

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar, pinon pine, and yellow pine.

Undergrowth, scattering black brush.

Mountainous land 80.00 chs.

March 29, 1910.

March 30: At 8 h. 05 m.a.m.l.m.t.I set off 3° 37'N.on decl.arc; 37° 10'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.5,6,31, and 32.

Thence I run

West bet.secs.6 and 31

Ascending over broken mountainous land; through timber and undergrowth.

2.00 Hollow, drains N.

11.35 Spur, 150 ft.above cor., from south extends north; then west.

Descend abruptly.

31.00 Ravine, 500 ft.below spur, drains westerly.

Thence along south slope of ridge.

40.00 Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ½ sec.cor., marked on brass cap ¼ S 31 in N.half, S 6 in S.half; from which

A pine 20 ins.dia.bears S.86° 10'E. 137 lks.dist. marked ¼ S 6 B T

A cedar 8 ins.dia.bears N.32° 15'W. 100 lks.dist. marked ¼ S 31 B T

Descend gradually.

69.00 Ravine, 100 ft.below ¼ sec.cor., drains northwesterly.

77.82 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of Tps.41 and 42 S., Rs.18 and 19 W. marked on brass cap,

SOUTH BOUNDARY T. 41 S., R. 18 W.

Chains.

T 41 S in N.half,

T 42 S in S.half,

R 19 W S 36 in NW.

R 18 W S 31 in NE.

S 6 R 18 W in SE.

S 1 R 19 W in SW.quadrants; from which

A cedar 6 ins.dia., bears N.47° 20'W. 48 lks.dist.
marked T 41 S R 19 W S 36 B T

A cedar 16 ins.dia., bears N.79° 30'E. 30 lks.dist.
marked T 41 S R 18 W S 31 B T

A cedar 9 ins.dia.bears S.23° 50'E. 45 lks.dist.
marked T 42 S R 18 W S 6 BT

A cedar 9 ins.dia.bears S.52° 15'W. 74 lks.dist.
marked T 42 S R 19 W S 1 B T

Land, mountainous.

Soil; rocky; 4th rate.

Timber cedar and pine.

Undergrowth black brush.

Mountainous land 77.82 chs.

March 30, 1910.

For general description see notes of the subdivision of this township.

WEST BOUNDARY T. 41 S., R. 18 W.

Chains.	
	Survey commenced March 30, 1910; and executed with the instrument described in book "C" of this survey.
	From the cor.of Tps.41 and 42 S., Rs.18 and 19 W., I run North bet.secs.31 and 36,
	Descending through scattering timber and dense black brush.
5.50	Hollow, 50 ft.deep, drains NW.
	Leave timber. Ascend.
9.60	Spur,50 ft.high, projects SW.
	Descend.
11.50	Ravine, 40 ft.deep, drains SW.
	Ascend.
15.50	Spur from SE., 50 ft.high; descend abruptly.
30.75	Ravine, 60 ft.deep, drains W.
	Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 36 in W.half, S 31 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
48.90	Spur, 100 ft.high, projects SW.
55.00	Spur, 50 ft.high, projects NW.
	Descend.
58.20	Hollow, 40 ft.deep, drains NW.
	Ascend.
63.25	Spur, projects NW., 300 ft.high.
	Descend.
73.25	Ravine, 75 ft.deep, drains NW.
	Ascend.
77.20	Spur, 100 ft. high, projects NW. Descend through scattering cedar and pine.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.25,30,31, and 36, marked on brass cap,

Chains.	
	T 41 S in N. R 19 W S 25 in NW. R 18 W S 30 in NE. S 31 in SE.; and S 36 in SW.quadrants; from which
	A cedar 8 ins.dia.bears N.4° 25'W. 146 lks.dist. marked T 41 S R 19 W S 25 B T
	A cedar 14 ins.dia., bears S.12° 55'W. 164 lks. dist., marked T 41 S R 19 W S 36 B T
	A cedar 10 ins.dia.bears S.48° 15'E. 83 lks.dist. marked T 41 S R 18 W S 31 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.
	Mountainous land 80.00 chs.
	North bet.secs.25 and 30,
	Ascending through scattering timber and dense undergrowth.
0.50	Ravine, 40 ft.deep, drains W.
	Ascend.
3.00	Spur from east, 40 ft.high; descend.
10.00	Ravine, 75 ft.deep, drains west; ascend.
13.25	Spur from east, 40 ft.high; descend.
23.00	Main wash, 40 lks.wide, 2 ft.deep, 150 ft.below spur, drains W.
40.00	Set an iron post 3 ft. long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S.25 in W.half, S 30 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

WEST BOUNDARY T 41 S., R. 18 W.

Chains.	
45.00	Begin abrupt ascent.
58.30	Top of abrupt ascent; ascend gradually through cedar and pine timber, bearing E. and W.
62.00	Spur from NE., 500 ft.above wash; descend.
72.00	Ravine, 400 ft.below top of spur, drains W.
	Ascend 300 ft.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.19,24,25, and 30, marked on brass cap
	T 41 S in N.
	R 19 W S 24 in NW.
	R 18 W S 19 in NE.
	S 30 in SE.; and
	S 25 in SW.quadrants; from which
	A pine 8 ins.dia., bears N.17° 25'W. 120 lks.dist. marked T 41 S R 19 W S 24 B T
	A cedar 7 ins.dia.bears N.29° E. 70 lks.dist. marked T 41 S R 18 W S 19 B T
	A pine 14 ins.dia.bears S.30° 50'E. 126 lks.dist. marked T 41 S R 18 W S 30 B T
	A pine 14 ins.dia., bears S.81° 40'W. 79 lks.dist. marked T 41 S R 19 W S 25 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth,dense black brush.
	Mountainous land 80.00 chs.
	March 30: At the noon hour sky was overcast; no observation for lat.this day.
	March 30, 1910.

Chains.	
	March 31; 1910: At 8 h. 04 m.a.m.l .m.t.I set off 4° 00' N.on decl.arc; 37° 12'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.19,24,25, and 30. Thence I run
	North bet.secs.19 and 24,
	Ascending through cedar and pine timber and dense black brush.
5.00	Spur from east, 200 ft.above cor.; descend.
20.00	Ravine 400 ft.below spur, course W.
	Ascend.
37.75	Spur, from east, 500 ft.above ravine; descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor.,. marked on brass cap ¼ S 24 in W.half, S 19 in E.half; from which,
	A pine 12 ins.dia.bears S.68° 45'E. 12 lks.dist. marked ¼ S 19 B T
	A pine 10 ins.dia.bears S.86° 10'W. 63 lks.dist. marked ¼ S 24 B T
54.00	Ravine, 500 ft.below spur, projects W. Ascend.
75.00	Ridge, 100 ft.high, bears E. and W.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.13,18,19, and 24, marked on brass cap,
	T 41 S in N.
	R 19 W S 13 in NW.
	R 18 W S 18 in NE.
	S 19 in SE.; and
	S 24 in SW.quadrants; from which
	A pine 6 ins.dia.bears N.37° 50'E. 54 lks.dist. marked T 41 S R 18 W S 18 B T
	A pine 8 ins.dia., bears S.82° 25'E. 44 lks.dist. marked T 41 S R 18 W S 19 B T
	A pine 5 ins.dia., bears N.55° 25'W. 42 lks.dist. marked T 41 S R 19 W S 13 B T

Chains.	
	A cedar 14 ins.dia., bears S.32° 20'W. 74 lks.dist. marked T 41 S R 19 W S 24 B T
	Land, mountainous; very rough.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth, dense black brush.
	Mountainous land 80.00 chs.
	March 31: At this cor.I set off 4° 03'N.on decl.arc; and at 0 h. 04 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 13'N.
	North bet.secs.13 and 18,
	Descending over rocky ground; through cedar and pine timber; and dense black brush.
10.00	Ravine, 150 ft.below cor., drains W.
	Ascend.
16.00	Main ridge, bearing E. and NW., 250 ft.high; descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in a mound of stone for ¼ sec.cor., marked on brass cap ¼ S 13 in W.half, S 18 in E.half; from which
	A cedar 8 ins.dia.bears N.12° 25'W. 39 lks.dist. marked ¼ S 13 B T
	A cedar 10 ins.dia., bears N.64° 20'E. 28 lks.. dist., marked ¼ S 18 B T
52.25	Hollow, 400 ft.below ridge, drains NE.
	Ascend.
54.50	Spur, 50 ft.high, projects NE.
	Descend.
62.00	Hollow, 150 ft.deep,, drains NE.
	Ascend.
65.00	Spur, projects NE., 50 ft.high; descend.
72.25	Main canyon, 300 ft.deep, with wash in bottom 25 lks. wide, 4 ft.deep, drains W.
	Ascend.

Chains.

77.30 Spur, projects W., 45 ft.high; descend 35 ft.

80.00 Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.7,12,13, and 18, marked on brass cap

T 41 S in N.

R 19 W S 12 in NW.

R 18 W S 7 in NE.

S 18 in SE.; and

S 13 in SW.quadrants; from which

A cedar 8 ins.dia.bears N.33° 35'E. 40 lks.dist. marked T 41 S R 18 W S 7 B T

A cedar, 10 ins.dia., bears S.87° 50'E. 102 lks. dist., marked T 41 S R 18 W S 18 B T

A cedar 12 ins.dia., bears S.84° 35'W. 73 lks.dist marked T 41 S R 19 W S 13 B T

No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar and pine.

Undergrowth, dense black brush.

Mountainous land 80.00 chs.

March 31, 1910.

April 1, 1910: At 8 h. 04 m.a.m.l.m.t.I set off 4° 23'N on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.7,12,13, and 18. Thence I run

North bet.secs.7 and 12

Descending through cedar and pine timber and dense black brush.

0.75 Ravine, 50 ft.deep, drains SW.

Ascend.

WEST BOUNDARY T. 41 S., R. 18 W.

Chains	
8.00	Spur, 60 ft.high, bears SW.
	Descend.
10.50	Hollow, 50 ft.deep, drains west.
	Ascend.
19.50	Spur, projects W., 70 ft.high.
	Descend.
25.75	Ravine, 60 ft.deep, drains west.
34.00	Spur, from S.80° E., 80 ft.high;
	Descend.
36.00	Ravine, 50 ft.deep, drains west. Ascend.
	Leave timber, bearing E. and W.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone for ¼ sec.cor., marked on brass cap ¼ S 12 in W.half, S 7 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Impossible to set post required distance in ground.
47.50	Spur, 70 ft.high, projects W.
	Descend.
48.50	Hollow, 30 ft.deep, drains W.
	Ascend.
50.50	Main ridge from SE., 65 ft.high, runs out about 80 chs. to west.
	Descend abruptly.
78.00	Ravine, 400 ft.below ridge, drains northerly.
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for cor.of secs.1,6,7, and 12, marked on brass cap,
	T 41 S in N.
	R 19 W S 1 in NW.
	R 18 W S 6 in NE.
	S 7 in SE.; and
	S 12 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Cor.on W.side of small ravine draining N.

Chains	
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth, dense black brush.
	Mountainous land 80.00 chs.
	April 1, 1910: At this cor.I set off 4° 26'N.on decl. arc; and at 0 h. 04 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37°14'N.

North bet.secs.1 and 6,

	Descending through dense black brush, over rocky ground.
7.00	Spur, projects NE.
	Descend abruptly.
13.00	Ravine, 300 ft.below cor., drains NW.
	Ascend.
25.00	Spur, 25 ft.high, projects NW.
	Descend.
28.00	Ravine, 40 ft.deep, drains west.
	Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 1 in W.half, S 6 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
41.75	Ridge, bears E. and W., 150 ft.high.
	Descend.
52.75	S.edge of main wash, 200 ft.below ridge.
56.80	N.edge of main wash, 4 ft.deep.drains W.
	Ascend.
63.90	Ridge, 100 ft.high bears E. and W.
	Descend.
67.80	Foot of ridge, 90 ft.below top.
	Thence over level land.
80.10	Ascend abruptly.

WEST BOUNDARY T. 41 S., R. 18 W.

Chains.
92.83 Intersect N.bdy.of Tp. 4.60 chs.E.of the standard cor.of Tp.40 S., Rs.18 and 19 W., heretofore described.

Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for closing cor.of Tp.41 S., Rs.18 and 19 W. marked on brass cap,

T 40 S in N.

R 19 W S 36 in NW.

R 18 W S 31 in NE.

C C in S. half,

S 6 R 18 W in SE.

S 1 R 19 W in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high S.of cor.Pits impracticable.

Corner is 350 ft.above flat, and halfway up long S.slope of high ridge to the north, which bears E. and W.

Land, mountainous, and level.

Soil, rocky; 4th rate.

No timber.

Undergrowth dense black brush.

Mountainous land, or land covered with dense undergrowth 92.83 chs.

April 1, 1910.

BOUNDARIES T. 41 S., R. 18 W.

Lines Designated	True Bearing	Dist.	Latitudes,		Departures.	
		chs.	N. chs	S. chs.	E. chs.	W. chs.
East Boundary	North	493.13	493.13	.....	.....	.....
North Boundary	West	477.40	.....	.....	.....	477.40
West Boundary	South	492.83	.....	492.83	.....	.....
South Boundary	East	477.82	.....	.....	477.82	.....
Convergency						.55
	T o t a l s		493.13	492.83	477.82	477.95
Error in lat.and dep.			492.83		477.82	
			0.30		0.13	

BOUNDARIES OF T. 41 S., R. 18 W.

For general description see notes of the subdivision of this township.

Job H. Winwood
U.S. Deputy Surveyor.

Volume
#
R0368

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Job H.Winwood and Harry L. Aberlin, United States Deputy Surveyors, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the E.and W.Bdys. T. 41 S., R. 17 W.; and S.and W.Bdys.T.41 S., R. 18 W.of the S.L.B.& M. Meridian, showing the respective capacities in which they acted:

Jesse M.Churchill, *Chainman.*

Ceth D.Peacock, *Chainman.*

Josiah Leavitt, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Josiah H.Leavitt, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Job H.Winwood, United States Deputy Surveyor, in surveying all the parts or portions of the East and West Boundaries of Township 41 South, Range 17 East; and South and West Boundaries of Township 41 South, Range 18 East; of the Salt Lake Base and meridian, State of Utah, 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 proper monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

Jesse M. Churchill, *Chainman.*

Ceth D Peacock, *Chainman.*

Josiah Leavitt, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Josiah H Leavitt, *Flagman.*

Subscribed and sworn to before me this 1st day of April, 1910

SEAL.

Job H. Winwood
U.S.Deputy Surveyor.

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Job H. Winwood, United States Deputy Survey
solemnly swear that, in pursuance of a contract received from Thomas Hull
United States Surveyor General for Utah, bearing date
28 day of June, 1909, I have well, faithfully, and truly, in m
proper person, and in strict conformity with the instructions furnished by the United States Su
General for Utah, the Manual of Surveying Instructions, and the laws
United States, surveyed all those parts or portions of the East and West Boundaries o
Township 41 South, Range 17 West; and South and West Boundaries of
Township 41 South, Range 18 West

of the Salt Lake
Base and meridian, in the State of Utah, which are represented
in books "E" and "H"
foregoing field notes as having been surveyed by me, and under my direction; and I do further sol
swear that all the corners of said survey have been established and perpetuated in strict accordanc
the Manual of Surveying Instructions, and the special written instructions of the United States Su
General for Utah and in the specific manner described in the field notes, an
the foregoing are the original field notes of such survey.

Job H. Winwood
United States Deputy Sur

Subscribed by said Job H. Winwood, and sworn to before me
this 18 day of February, 1911.

SEAL

Thomas Hull
U. S. Surveyor-General
for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 191

The foregoing field notes of the survey of the South and West Boundaries of
Township No. 41 South, Range No. 18 West of the Salt Lake Base and
Meridian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin
their
under his contract No. 314, dated June 28, 1909, having
critically examined, and the necessary corrections and explanations made, the said field notes, an
surveys they describe, are hereby approved.

Thomas Hull
United States Surveyor Gen

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 offic

United States Surveyor Gen

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BOOK A-368

8A.

FILED
MAR 8 1911

I.

FIELD NOTES

OF THE SURVEY OF THE

EIGHTH STANDARD PARALLEL SOUTH

THROUGH

RANGES 18 and 19 WEST

Of the SALT LAKE BASE AND *Meridian,*

U T A H,

AS SURVEYED BY

H. Winwood and Harry L. Chamberlin, *United States Deputy Surveyors*

ler their *Contract No.* 314, *dated* June 28, 1909.

vey commenced April 2, 1910., XXX

vey completed April 3, 1910., XXX

R 18 W 6-00-00'

R 19 W 1-00-00'

NAMES AND DUTIES OF ASSISTANTS.

Jesse M.Churchill,	Chainman.
Ceth D.Peacock,	Chainman.
Walter A.Stumm,	Chainman.
Roger Jessup,	Chainman.
Josiah Leavitt,	Moundman.
Josiah H.Leavitt,	Flagman.

BOOK A-368

INDEX DIAGRAM.

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PRELIMINARY OATHS OF ASSISTANTS.

We, Jesse M. Churchill, Ceth D. Peacock, Walter A. Stumm and Roger J. Jessup,
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level
chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; t
we will report the true distances to all notable objects, and the true lengths of all lines that we assist
measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey
the Eighth Standard Parallel South, through Rs.18 and part of 19 W.
S.L.B.& M., Utah.

Jesse M. Churchill, Chainm
Ceth D. Peacock, Chainm
Walter A. Stumm. Chain
Roger Jessup, Chain
Job H. Winwood
U.S. Deputy Surveyor.

Subscribed and sworn to before me this 1st
day of April, 1910.

SEAL

~~We~~, I, Josiah Leavitt and

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundmen in the establishm
of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the survey
the Eighth Stand.Par.South, through Rs.18 and part of 19 W.S.L.B.& M
Utah.

Josiah Leavitt, Moundm
....., Moundm

Subscribed and sworn to before me this 1st
day of April, 1910.

Job H. Winwood
U.S. Deputy Surveyor.

SEAL

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

..... Axme
..... Axme

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

.....
.....

SEAL

I, Josiah H. Leavitt, do solemnly swear that I will well and tru
perform the duties of flagman according to instructions given me, to the best of my skill and ability, in t
survey of the Eighth Stand.Par.South, through Rs.18 and part of 19 W.,
L.B.& M., Utah.

Josiah H. Leavitt, Flagma

Subscribed and sworn to before me this 1st
day of April, 1910.

Job H. Winwood
U.S. Deputy Surveyor.

SEAL

6—151

Chains. Survey commenced April 1, 1910, and executed with the instrument described in book "G" of this survey.

I begin at the standard cor. of Tp. 40 S., Rs. 17 and 18 W., heretofore described.

At a point 2.51 ft. south of said standard cor. in lat. 37° 15' N., & long. 113° 44' 07" W., at 6 h. 45 m.p.m. l.m.t. I observe Polaris at western elongation, in accordance with Manual of Instructions, and mark the line thus determined by a tack driven in a wooden peg set in the ground 5 chs. N. of my station.

Apr. 2: At 7 h. 34 m.a.m. I lay off the azimuth of Polaris 1° 28' to the east, and mark the true meridian thus determined by cutting a mark on a stone firmly set in the ground east of the point established last night; the magnetic bearing of said true meridian is N. 16° 30' W., which gives the mag. decl. 16° 30' E.

At this station, 2.51 ft. S. of the stand. Tp. cor., I turn off from the meridian an angle of 89° 58' toward the west, and run

N. 89° 58' W. on the secant south of sec. 36,

Ascending abruptly through scattering timber and dense undergrowth.

29.25 Main ridge, bears NW. and SE.

Descend along N. slope of ridge.

Difference between measurement of 40.00 chs. by two sets of chainmen is 6 lks.; position of middle point

By 1st set 39.97 chs.

By 2d set 40.03 chs.; the mean of which is

40.00 N. 1.13 ft. from the secant,

Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for standard $\frac{1}{4}$ sec. cor., marked on brass cap, S 36 $\frac{1}{4}$ in N. half; from which

A cedar 8 ins. dia., bears S. 87° W. 45$\frac{1}{2}$ lks. dist.

mkd. S C $\frac{1}{4}$ S 1 B T

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains.	
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
44.50	Spur, projects NW. Descend gradually.
49.60	Hollow, 85 ft.deep, drains NW. Ascend gradually.
52.50	Spur, projects N. Descend gradually.
60.50	Hollow, 150 ft.deep, drains SW.
63.50	Spur, projects SW.
	Descend.
65.50	Hollow, 75 ft.deep, drains SW. Ascend.
74.35	Spur, projects SW. Descend gradually.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 10 lks.; position of middle point
	By 1st set 79.95 chs.
	By 2d set 80.05 chs.; the mean of which is
80.00	On the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for standard cor.of secs.35 and 36, marked on brass cap
	T 40 S S 35 in NW.
	R 18 W S 36 in NE.quadrants; from which
	A pine, 8 ins.dia.bears N.70° E. 116 lks.dist. marked T 40 S R 18 W S 36 B T
	A pine 10 ins.dia.bears N.27° 15'W. 130 lks.dist. marked T 40 S R 18 W S 35 B T
	Land, mountainous.
	Soil, gravelly; 3d rate.
	Timber, cedar and pine.
	Undergrowth, black brush.
	Mountainous land 80.00 chs.

	N.89° 59'W.on the secant through sec.35,
	Descending over mountainous land; through scattering cedars and dense black brush.
4.00	Hollow, 300 ft.deep, drains SW.

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains.	
	Ascend, through dense cedar and pinon pine, bearing N. and S.
11.00	Spur, projects SW., 75 ft.high. Descend.
17.70	Hollow, 50 ft.deep, drains SW. Ascend abruptly.
19.90	Spur, 60 ft.high, projects S.
21.25	Hollow, 75 ft.deep, drains S. Leave dense cedar and pine; enter scattering Joshua trees and cedar. Ascend.
31.50	Spur, projects SE. Descend.
34.25	Draw, 40 ft.deep, drains SE.
	Difference between measurement of 40.00 chs.by two sets of chainmen is 4 lks.; position of middle point
	By 1st set 40.02 chs.
	By 2d set 39.98 chs.: the mean of which is
40.00	S.0.88 ft.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for standard $\frac{1}{4}$ sec.cor., marked on brass cap S 35 $\frac{1}{4}$ in N.half; from which
	A cedar tree 12 ins.dia., bears N.77° W. 55 lks. dist., marked S C $\frac{1}{4}$ S 35 B T
	A Joshua tree, 6 ins.dia.bears S.35° E. 48 lks. dist., marked S C $\frac{1}{4}$ S 2 B T
43.50	Spur, 75 ft.high, projects S. Descend.
46.35	Hollow, 75 ft.deep, drains SE. Ascend.
51.76	Ridge, 60 ft.high, bears NE. and SW.
	Descend over rolling land.
53.50	Hollow, 40 ft.deep, drains SW. Ascend.
60.75	Spur, projects NE. Descend.
66.25	Hollow, 50 ft.deep, drains N. Ascend.
74.40	Spur, 60 ft.above hollow, projects NW.
79.90	Descend abruptly over sandstone ledges, bearing NW. and SE.
	Difference between measurement of 80.00 chs.by two sets of chainmen is 12 lks.; position of middle point

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains.	
	By 1st set 79.94 chs.
	By 2d set 80.06 chs.; the mean of which is
80.00	S.1.51 ft.from the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in mound of stone for standard cor.of secs.34 and 35, marked on brass cap
	T 40 S S 34 in NW.
	R 18 W S 35 in NE.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
	Land, mountainous and rolling.
	Soil, gravelly; 3d rate.
	Timber, cedar and pine.
	Undergrowth, black brush.
	Mountainous land 80.00 chs.
	N.89° 59'W.on the secant through sec.34,
	Descending over mountainous land; through scattering Joshua trees.
2.10	Begin abrupt descent, bearing NW. and SE.
5.80	Foot of abrupt descent.
	Descend over rolling land.
11.00	Enter scattering cedars.
26.00	Wash, 30 lks.wide, 4 ft.deep, drains SE.
27.00	Telephone line from Shem to Acoma bears NW. and SE.
29.60	Spur, projects SE. Descend.
34.25	Wash, 60 lks.wide, 5 ft.deep, drains SE.
	Ascend over rolling land.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 3 lks.; position of middle point
	By 1st set 39.98½ chs.
	By 2d set 40.01½ chs.; the mean of which is
40.00	S.1.89 ft.from the secant,
	Set an iron post, 3 ft.long, 1 in.dia., 26 ins.in the

Chains.	
	ground, for standard $\frac{1}{4}$ sec.cor., marked on brass cap S 34 $\frac{1}{4}$ in N.half; from which
	A cedar 10 ins.dia., bears N.33° 45'E. 37 lks.dist. marked S C $\frac{1}{4}$ S 34 B T
	A cedar 14 ins.dia., bears S.9° 30'W. 188 lks.dist. marked S C $\frac{1}{4}$ S 3 B T
43.80	Wood road bears NW. and SE.
59.25	Begin abrupt ascent, bearing NW. and SE.
68.50	Ridge, 100 ft.high, bears NW. and SE.
	Descend over rolling land.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 12 lks.; position of middle point
	By 1st set 80.06 chs.
	By 2d set 79.94 chs.; the mean of which is
80.00	S.2.01 ft.from the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for standard cor.of secs.33 and 34, marked on brass cap,
	T 40 S S 33 in NW.
	R 18 W S 34 in NE.quadrants; from which
	A cedar 6 ins.dia., bears N.21° 30'E. 90 lks.dist. marked T 40 S R 18 W S 34 B T
	A cedar 5 ins.dia.bears N.28° W. 115 lks.dist. marked T 40 S R 18 W S 33 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and Joshua; scattering.
	Mountainous land 80.00 chs.
	West on the secant through sec.33,
	Descending over rolling land; through scattering timber and dense undergrowth.
22.10	Hollow, 75 ft.deep, drains S.

Chains.	
	Ascend.
32.00	Crown of spur, 125 ft.high, projects S.
	Descend abruptly.
36.90	Foot of abrupt descent, bears NW. and SE.
	Descend gently, over rolling land.
37.40	Wagon road from Shem to Acoma, bears NW. and SE.
39.85	Wash, 10 lks.wide, 4 ft.deep, drains SE.
	Ascend over rolling land.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 5 lks.; position of middle point
	By 1st set 40.02½ chs.
	By 2d set 39.97½ chs.; the mean of which is
40.00	S.1.89 ft.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for standard ¼ sec.cor., marked on brass cap S 33 ¼ in N.half; from which
	A cedar 12 ins.dia., bears N.86° 0'W. 672 lks.dist. marked S C ¼ S 33 B T
	A cedar 9 ins.dia., bears S.85° E. 193 lks.dist. marked S C ¼ S 4 B T
48.00	Limestone hill, 40 ft.high, bears NW. 50 lks, SE. 1 ch.
	Descend over rolling land.
56.00	Hollow, 75 ft.deep, drains NW.
	Ascend over rolling land.
64.00	Begin abrupt ascent, foot of ridge, bearing NW. and SE.
76.50	Top of abrupt ascent; ascend gradually.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 10 lks.; position of middle point
	By 1st set 80.05 chs.
	By 2d set 79.95 chs.; the mean of which is
80.00	S.1.51 ft.from the secant,
	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in the ground, for standard cor.of secs.32 and 33, marked on brass cap,

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains.

T 40 S S 32 in NW.

R 18 W S 33 in NE. quadrants; from which

A cedar 6 ins. dia., bears N. 60° W. 18 lks. dist.

marked T 40 S R 18 W S 32 B T

A cedar 7 ins. dia. bears N. 46° 45' E. 153 lks. dist.

marked T 40 S R 18 W S 33 B T

Land, mountainous and rolling.

Soil, rocky; 4th rate.

Timber, scattering cedar, pine, and Joshua trees.

Undergrowth, dense black and match brush.

Mountainous land 63.85 chs.

April 2, 1910.

April 3:

S. 89° 59' W. on the secant through sec. 32,

Descending over rocky limestone mountains; through scattering timber and undergrowth.

4.95 Abrupt descent bears NE. and SW.

7.15 Foot of abrupt descent. Wash, 20 lks. wide, 5 ft. deep, drains SW.

Ascend abruptly.

9.85 Limestone ledge, bears NE. and SW.

Thence over nearly level land; through dense undergrowth bearing N. and S.

17.85 Foot of limestone ledges, bearing NW. and SE.

31.85 Descend over rolling land.

Point for ¼ sec. cor. will fall in wash, where it cannot be made permanent; I therefore set witness cor. as follows:

Difference bet. measurement of 38.83 chs. by two sets of chainmen is 4 lks.; position of middle point

By 1st set 38.81 chs.

By 2d set 38.85 chs.; the mean of which is

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains.	
38.83	S.0.88 ft.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone, for witness cor.to $\frac{1}{4}$ sec.cor., marked on brass cap W C $\frac{1}{4}$ S 32 in N.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor. Pits impracticable. Impossible to set post required distance in the ground.
40.00	Falls in wash, 125 lks.wide, 10 ft.deep, drains SW., in hollow, 400 ft.deep, draining SW.
	Corner cannot be set. Ascend.
47.35	Spur, projects S. Descend abruptly.
53.65	Hollow, 125 ft.deep, drains S. Ascend.
58.65	Spur, projects S.
	Begin abrupt descent, bearing NW. and SE.
67.15	Foot of abrupt descent. Thence over rolling land.
76.60	Hollow, 200 ft.deep, drains S.
	Ascend over rolling land.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 6 lks.; position of middle point
	By 1st set 80.03 chs.
	By 2d set 79.97 chs.; the mean of which is
80.00	On the secant,
	Set an iron post 3 ft.long, 3 ins.dia.,24 ins.in mound of stone for stand.cor.of secs.31 and 32,mkd.on brass cap,
	T 40 S S 31 in NW.
	R 18 W S 32 in NE.quadrants; from which
	A cedar 8 ins.dia.bears N.35° E. 116 lks.dist., mkd.T 40 S R 18 W S 32 B T
	A cedar 10 ins.dia., bears N.76° W. 78 lks.dist. mkd.T 40 S R 18 W S 31 B T
	Impossible to set post required distance in the ground.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and Joshua trees.

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains	
	Undergrowth, dense black brush.
	Mountainous land, or land covered with dense undergrowth
	80.00 chs.
	S.89° 58'W.on the secant through sec.31,
	Descending over mountainous land; through scattering cedar and Joshua trees and dense undergrowth.
3.65	Foot of abrupt ascent, bears NW. and SE.
11.75	Spur, projects SW.; 200 ft.high. Descend abruptly.
15.35	Hollow, 300 ft.deep, drains SW.
	Ascend.
20.80	Ridge, bears NW. and SE.; 300 ft.high.
	Descend abruptly over SE.slope of mountain; over limestone.
28.15	Foot of abrupt descent, bears NW. and SE.
37.40	Small wash in hollow, 400 ft.below ridge, drains SE.
	Ascend.
36.75	Spur, 60 ft.high, projects SW.
	Descend over rolling land.
39.00	Hollow, 75 ft.deep, drains SW.
	Ascend over rolling land.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 4 lks.; position of middle point
	By 1st set 40.02 chs.
	By 2d set 39.98 chs.; the mean of which is
40.00	N.1.13 ft.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for standard $\frac{1}{4}$ sec.cor., marked on brass cap S $\frac{1}{4}$ 31 in N.half; from which
	A cedar 8 ins.dia.bears N.40° E. 24 lks.dist. marked S C $\frac{1}{4}$ S 31 B T
	A cedar 8 ins.dia.bears S.5° E. 31 lks.dist. marked S C $\frac{1}{4}$ S 6 B T

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 18 W.

Chains.

50.50 Spur, 100 ft.high, projects SE.

Descend abruptly.

54.60 Hollow, 200 ft.deep, drains SE. Ascend abruptly.

62.00 Ridge, 125 ft.high, bears NW. and SE.

Descend over steep SW.slope.

70.65 Descend abruptly.

79.60 Hollow, 50 ft.deep, drains S.

Ascend abruptly.

Difference between measurement of 80.00 chs.by two sets of chainmen is 4 lks.; position of middle point

By 1st set 80.02 chs.

By 2d set 79.98 chs.; the mean of which is

80.00 N.2.51 ft.from the secant,

Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in mound of stone for standard cor.of Tp.40 S., Rs.18 and 19 W. marked on brass cap,

T 40 S in N.

R 19 W S 36 in NW.; and

R 18 W S 31 in NE.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.

Impossible to set post required distance in ground.

Land, mountainous and rolling.

Soil, gravelly; 3d rate.

Timber, scattering cedar and Joshua.

Undergrowth dense black brush.

Mountainous land, or land covered with dense undergrowth 80.00 chs.

April 3, 1910.

For general description see notes of the subdivision of T. 41 S., R. 18 W.

EIGHTH STANDARD PARALLEL SOUTH THROUGH R. 19 W.

Chains.	
	April 3, 1910.
	From a point 2.51 ft.S.of the Stand.cor.of Tp.40 S., Rs. 18 and 19 W.,
	N.89° 58'W.on the secant through sec.36,
	Descending abruptly over mountainous land; through dense black brush and cactus and scattering Joshua and cedar trees.
1.00	Spur,30 ft.high, projects S.
	Continue abrupt descent
6.20	Foot of abrupt descent, bearing NW. and SE.
	Difference bet.measurement of 40.00 chs.by two sets of chainmen is 4 lks.; position of middle point
	By 1st set 40.02 chs.
	By 2d set 39.98 chs.; the mean of which is
40.00	N. 1.13 ft.from the secant,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for standard $\frac{1}{4}$ sec.cor., marked on brass cap, S $\frac{1}{4}$ 36 in N.half; dig pits 18 x 18 x 12 ins.E. and W. of post 3 ft.dist.; and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft.high N.of cor.
54.00	Hollow, 300 ft.below spur, drains SW.
	Ascend.
66.50	Spur, 60 ft.high, projects SW.
	Descend.
73.50	Hollow, 75 ft.deep, drains SW.
	Ascend.
75.50	Spur,50 ft.high, projects SW.
	Descend.
78.00	Hollow, 100 ft.deep, drains SW.
	Ascend.
	Difference bet.measurement of 80.00 chs.by two sets of chainmen is 8 lks.; position of middle point,
	By 1st set 79.96 chs.
	By 2d set 80.04 chs.; the mean of which is

Chains.
80.00

Set an iron post 3 ft. long, 3 ins. dia., 24 ins. in the ground, and mound of stone, for stand. cor. of secs. 35 and 36, marked on brass cap,

T 40 S. S 35 in NW.

R 19 W S 36 in NE. quadrants; and raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.

Impossible to set post in ground, required distance.

Land, mountainous.

Soil, gravelly; 3d rate.

Timber, scattering Joshua and cedar.

Undergrowth dense black brush and cactus.

Mountainous land 80.00 chs.

April 3, 1910.

Job H. Winwood

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 Job H. Winwood and Harry L. Chamlin, United States Deputy Surveyors, to assist in running, measuring, and ing the lines and corners described in the foregoing field notes of the survey of the Eighth ndard Parallel South, through R. 18 and part of 19 W., S. L. B. & M., h,
ing the respective capacities in which they acted:

Jesse M. Churchill, Ceth D. Peacock, *Chainman.*

Walter A. Stumm, Roger Jessup, *Chainman.*

Josiah Leavitt, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Josiah H. Leavitt *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Job H. Winwood

, United States Deputy Surveyor, in surveying all
parts or portions of the Eighth Standard Parallel South, through Range 18
part of Range 19 West

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

Jesse M. Churchill, *Chainman.*

Ceth D. Peacock, *Chainman.*

Josiah Leavitt, *Moundman.*

Walter A. Stumm, *Chainman.*

Roger Jessup, *Chainman.*

, *Axman.*

Josiah H. Leavitt, *Flagman.*

cribed and sworn to before me this 3
day of April, 1910.

SEAL

Job H. Winwood
U.S. Deputy Surveyor.

51

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Job H. Winwood, United States Deputy Surve
solemnly swear that, in pursuance of a contract received from Thomas Hull
United States Surveyor General for Utah, bearing date
28 day of June, 19 09 I have well, faithfully, and truly, in m
proper person, and in strict conformity with the instructions furnished by the United States Su
General for Utah; the Manual of Surveying Instructions, and the laws
United States, surveyed all those parts or portions of the Eighth Standard Parallel
South, through Range 18 West and part of Range 19 West

of the Salt Lake
Base and meridian, in the State of Utah, which are represented
foregoing field notes as having been surveyed by me, and under my direction; and I do further so
swear that all the corners of said survey have been established and perpetuated in strict accordan
the Manual of Surveying Instructions, and the special written instructions of the United States Su
General for Utah and in the specific manner described in the field notes, a
the foregoing are the original field notes of such survey.

Job H. Winwood
United States Deputy Su

Subscribed by said Job H. Winwood, and sworn to before me
this 18 day of February, 1911.

SEAL

U.S. Surveyor-General
for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24,

The foregoing field notes of the survey of the Eighth Standard Parallel Sout
through Range 18 and part of 19 West of the Salt Lake Base and Me
ian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin
under his contract No. 314, dated June 28, 1909, havin
critically examined, and the necessary corrections and explanations made, the said field notes, a
surveys they describe, are hereby approved.

United States Sur... G

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 of

United States Surveyor G

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Page

4—679.

BOOK A-368

FILED
MAR 8 1911

J.

FIELD NOTES

OF THE SURVEY OF THE

SUBDIVISION

OF

TOWNSHIP NO. 41 SOUTH,

RANGE NO. 18 WEST,

Of the SALT LAKE BASE AND *Meridian,*

UTAH,

AS SURVEYED BY

Cb H. Winwood and Harry L. Chamberlin, *United States Deputy Surveyors,*

Under his Contract No. 314, *dated* June 28, 1909.

Survey commenced March 29, 1910.

Survey completed April 12, 1910.

6—151

anke 60-54-66 closing 5-93

BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Jesse M.Churchill,	Chainman.
Ceth D.Peacock,	Chainman.
Roger W.Jessup,	Chainman.
Royal H.Blake,	Chainman.
Josiah Leavitt,	Moundman.
Arther R.Bentley,	Moundman.
Josiah H.Leavitt,	Flagman.
Sidney Leavitt,	Flagman.

For preliminary affidavits see book "F" T.41 S., R. 17 W.

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BOOK A-368

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Meanders Page..... .....

PRELIMINARY OATHS OF ASSISTANTS.

We, _____ and _____

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

_____

_____, *Chai*

_____, *Chai*

Subscribed and sworn to before me this _____
day of _____, 190

SEAL

We, _____ and _____

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

_____

_____, *Mound*

_____, *Mound*

Subscribed and sworn to before me this _____
day of _____, 190

SEAL

We, _____ and _____

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

_____

_____, *Axm*

_____, *Axm*

Subscribed and sworn to before me this _____
day of _____, 190

SEAL

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

_____, *Flagm*

Subscribed and sworn to before me this _____
day of _____, 190

SEAL

Survey commenced March 29, 1910, and executed with the instrument described in book "A " of this survey.

I examine the adjustments of the transit, and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications resulting from solar observations made during a.m.and p.m. hours, with a meridian determined by observations on Polaris; I proceed as follows:

At the cor.of secs.1,2,35, and 36 on S.bdy.of Tp.,heretofore described, lat.37° 10' 07" N.; long.113° 44' 07" W., I set off 37° 10'N.on lat.arc; 3° 21'N.on decl.arc; and at 4h 05 m.p.m.l.m.t.determine with the solar a meridian and mark a point thereof on a stone firmly set in the ground 5 chs.N.of the cor.

At 6 h. 57 m.p.m.l.m.t.I observe Polaris at western elongation, in accordance with 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.

March 29, 1910.

March 30: At 7 h. 05 m.a.m.l.m.t.I lay off the azimuth of Polaris 1° 28' to the east; and mark the meridian thus determined by cutting a small groove in the stone set March 29, on which the meridian falls 0.3 ins. west of the mark determined by the solar.

At 8 h. 05 m.a.m.l.m.t., I set off 37° 10'N.on lat.arc; 3° 37'N.on decl.arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs.N.of my station; this mark falls 0.2 ins.west of the meridian established by the Polaris observation.

The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0' 16" east

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	and 0 ' 11" west of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.
	The magnetic bearing of the true meridian at 7 h. 35 m. a.m. is N.16° 30'W.; the angle thus determined gives the mag.decl.16° 30'E.
	From the sec.cor.already described I run N.0° 01'W.bet.secs.35 and 36,
	Ascending gradually along rocky E.slope of mountains; through scattering sagebrush, cedars, and junipers.
5.00	Descend abruptly along rocky side of canyon draining east.
20.00	Bottom of canyon, 500 ft.deep.
	Ascend abruptly over slide rock along north side of canyon.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 35 in W.half, S 36 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
42.82	Top of mountain, 100 ft.above ¼ sec.cor.; 700 ft.above bottom of canyon, bears E. and W.
	Descend abruptly.
62.00	Bottom of canyon, 400 ft.below top of mountain, drains E.
	Ascend spur of mountain 50 ft.high, which bears from west.
65.00	Descend 50 ft.
67.00	North branch of canyon, 50 ft.below top of spur, drains east.
68.00	Cross small spur of mountain from west.
68.50	Wash, 30 lks.wde, 3 ft.deep, in bottom of canyon draining E.
	Ascend abruptly over slide rock.

Chains.	
78.00	Descend limestone ledges, bearing E. and NW.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in mound of stone, for cor.of secs.25,26,35, and 36, marked on brass cap T 41 S S 26 in NW. R 18 W S 25 in NE. S 36 in SE.; and S 35 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Impossible to set post in ground .
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar .
	Undergrowth sage and juniper.
	Mountainous land 80.00 chs.

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

40.00	Set temp.¼ sec.cor.
79.96	Intersect E.bdy.of Tp.18 1ks. S.of the cor.of secs.25 30,31, and 36, heretofo e described. Thence I run S.89° 52'W.on true line bet.secs.25 and 36,
	Over level land, with scattering cedar and undergrowth.
7.00	Wash, 2 chs.wide, 1½ ft.deep, drains S.
	Ascend.
24.50	Knoll, 40 ft.high, bears N. and S.
	Descend.
31.75	Wash, 20 1ks.wide, 1 ft.deep, drains NE.
	Ascend.
35.00	Spur ridge, 30 ft.high bears NE. and SW. Descend.
39.98	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 25 in N.half, S 36 in S.half; from which

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	A cedar, 5 ins.dia., bears N.40° 15'E. 67 lks.dist. marked ¼ S 25 B T
	A cedar 4 ins.dia.bears S.7° 00'W. 35 lks.dist. marked ¼ S 36 B T
	Corner is in small ravine 20 ft.deep, draining NE. Asc.
50.00	Spur, 50 ft.high, projects N.
	Descend.
54.00	Swale or hollow, 30 ft.deep, drains N.
	Leave scattering cedar.
	Ascend abruptly 600 ft.to sec.cor., over rocky ledges.
79.96	The cor.of secs.25,36,35, and 36.
	March 30: At the noon hour sky overcast; observation for latitude impossible.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber; scattering cedar.
	Undergrowth black and serviceberry brush.

N.0° 01'W.bet.secs.25 and 26

	Over rocky ground with ledges, along E.slope of mountains; through scattering cedar and dense undergrowth.
	[illegible] of black brush.
	Descend abruptly.
24.00	Ravine, 400 ft. deep drains E.
	Ascend abruptly.
32.80	Spur from NW., 300 ft.above ravine; thence along E. slope of spur.
39.00	Begin abrupt descent.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 26 in W.half, S 25 in E.half; from which
	A pine.26 ins.dia.bears S.62° 50'W. 63 lks.dist. marked ¼ S 26 B T

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	A cedar, 12 ins.dia., bears N.8° 00'E. 156 lks.dist. marked ¼ S 25 B T
50.00	Deep canyon, draining E.; 300 ft.deep. Ascend.
60.00	Spur from west, 250 ft.high.
	Descend.
67.00	Canyon, 200 ft.deep, drains E.
	Ascend.
77.00	Ridge, 200 ft.high, bears NW. and SE.
80.00	On N.slope of ridge.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound for cor.of secs.23,24,25, and 26, marked on brass cap,
	T 41 S S 23 in NW.
	R 18 W S 24 in NE.
	S 25 in SE.; and
	S 26 in SW.quadrants; from which
	A pine 14 ins.dia. bears S.45° E. 20 lks.dist. marked T 41 S R 18 W S 25 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Impossible to set post in ground.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.
	March 30, 1910.

March 31: At 8 h. 05 m.a.m.l.m.t.I set off 4° 00'N.on decl.arc;37° 12'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.23,24,25, and 26. Thence I run

N.89° 52'E.on a random line bet.secs.24 and 25,

40.00	Set temp.¼ sec.cor.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
80.00	Intersect E.bdy.of Tp. 18 lks.N.of the cor.of secs. 19, 24,25, and 30, heretofore described. Thence I run West on true line bet.secs.24 and 25,
	Ascending abruptly over mountainous land; through scattering cedar and pine and black brush.
9.50	Spur of ridge from south.
	Descend abruptly.
18.35	Hollow, 200 ft.deep, drains NE.
	Ascend over rolling land.
35.00	Spur, 200 ft.high , projects NE.
	Descend.
39.00	Hollow, 75 ft.deep, drains NE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 24 in N.half, S 25 in S.half; from which
	A cedar 8 ins.dia.bears S.54° W. 11 lks.dist. marked ¼ S 25 B T
	A cedar 12 ins.dia., bears N.16° W. 94 lks.dist. marked ¼ S 24 B T
	Ascend.
47.25	Spur, 200 ft.above hollow, projects N.
	Descend.
52.00	Hollow, 75 ft.deep, drains NW.
	Ascend over rolling land.
65.00	Begin abrupt ascent.
80.00	The cor.of secs. 23,24,25, and 26, on ridge.
	Land, mountainous, and rolling.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth black brush.
	March 31:, 1910: At this cor.I set off 4° 02 'W.on decl. arc; and at 0 h. 04 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 12'N.

Chains.	
	N.0° 01'W.bet.secs.23 and 24,
	Descending abruptly; through dense undergrowth.
13.50	Hollow, 700 ft.below ridge, drains E.
	Ascend abruptly.
34.00	Spur, 600 ft.high, projects E.
	Descend along E.slope.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 23 in W.half, S 24 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Descend over rocky ground.
76.00	Canyon, 700 ft.below spur, drains E.
	Ascend through cedar and pine, bearing NE. and NW.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 13,14,23, and 24, marked on brass cap,
	T 41 S S 14 in NW.
	R 18 W S 13 in NE.
	S 24 in SE.; and
	S 23 in SW.quadrants; from which
	A cedar stump 10 ins.dia.,2ft.high bears N.56° 20'W. 126 lks.dist., marked T 41 S R 18 W S 14BT
	A cedar 12 ins.dia.bears S.34° 25'E. 134 lks.dist. marked T 41 S R 18 W S 24 B T
	A cedar 14 ins.dia., bears S.53° 10'W. 156 lks. dist., marked T 41 S R 18 W S 23 B T
	A cedar 10 ins.dia.bears N.13°50'E. 15 lks.dist., marked T 41 S R 18 W S 13 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth dense black and serviceberry brush.
	Mountainous land 80.00 chs.
	March 31, 1910.

Chains.	
	April 1, 1910: At 8 h. 04 m.a.m.l.m.t.I set off 4° 23' N.on decl.arc; 37° 12'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.23,24,25, and 26. Thence I run
	East on a random line bet.secs. 13 and 24,
40.00	Set temp.¼ sec.cor.
80.14	Intersect E.bdy.of Tp. 9 lks.S.of the cor.of secs.13,18, 19, and 24. Thence I run
	S.89° 56'W.on true line bet.secs.13 and 24,
	Over mountainous land; through cedar and pine timber and dense undergrowth.
2.15	Sandstone break, 25 ft.high, bears NW. and SE.
	Descend.
7.17	Depression or valley between knoll and sandstone break. drains SE. Ascend.
12.10	Top of small knoll, 4 chs.long, 60 ft. high bearing NW. and SE.
15.18	Begin ascent, along E.slope of high ridge.
40.07	On east slope of ridge, bearing NW. and SE.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 13 in N.half, S 24 in S.half; from which
	A pine 12 ins.dia.bears N.9° 10'W. 52 lks.dist. marked ¼ S 13 B T
	A pine 6 ins.dia.bears S.64° 35'W. 42 lks.dist. marked ¼ S 24 B T
45.34	Ridge, bears NW. and SE. Descend.
56.15	Hollow, 150 ft.deep, drains SE.
	Ascend.
66.15	Top of ridge, 100 ft.high, bearing NW. and SE.
	Descend.
72.14	Base of ridge.
75.15	Ravine, 40 ft.deep, drains S.
80.14	The cor.of secs. 13,14,23, and 24.
	Land, mountainous.

Chains.	
	Soil, rocky and gravelly; 4th rate.
	Timber, cedar and pine.
	Undergrowth dense black brush.
	Mountainous land 80.14 chs.

N.0° 01'W.bet.secs.13 and 14,

	Ascending; through scattering cedar and pine.
15.21	Enter landslide delta.
20.00	Small wash, 20 ft.deep, drains E.
	Ascend; through dense undergrowth, bearing E. and W.
27.00	Spur ridge, 50 ft.high bears E. and W.
29.00	Wash, 30 lks.wide, 3 ft.deep, drains E.;40 ft.below spur.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 14 in W.half, S 13 in E.half; from which
	A cedar 7 ins.dia.bears S.26° 15'E. 112 lks.dist. marked $\frac{1}{4}$ S 13 B T
	A cedar 5 ins.dia., bears S.0° 45'W. 28 lks.dist. marked $\frac{1}{4}$ S 14 B T
	Apr.1, 1910: At this cor.I set off 4° 26'N.on decl.arc; and at 0 h. 04 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37°12'
40.50	Small spur or ridge, 3 chs.E., bears N. and S.
50.70	Spur, 70 ft.high bears E. and W. Descend.
59.70	Wash, 50 lks.wide, 3 ft.deep, drains NE., 150 ft.below spur. Ascend.
71.00	Enter flat, bearing E. and W., 200 ft.above wash.
79.00	Leave flat, bears NE. and SW.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.11,12,13, and 14, marked on brass cap
	T 41 S S 11 in NW.
	R 18 W S 12 in NE.
	S 13 in SE.; and

Chains.	
	S 14 in SW.quadrants; from which
	A cedar 10 ins.dia.bears N.15° 45'E., 25 lks.dist. marked T 41 S R 18 W S 12 B T
	A cedar 12 ins.dia.bears S.33° 44'E. 6 lks.dist. marked T 41 S R 18 W S 13 B T
	A cedar 10 ins.dia.bears S.55° 55'W. 120 lks.dist. marked T 41 S R 18 W S 14 B T
	A cedar 10 ins.dia.bears N.67° 15'W. 80 lks.dist. marked T 41 S R 18 W S 11 B T
	Land, mountainous.
	Soil, rocky, gravelly, and clay; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.
	Mountainous land 80.00 chs.
	N.89° 56'E.on a random line bet.secs.12 and 13,
40.00	Set temp.¼ sec.cor.
80.20	Intersect E.bdy.of Tp. 10 lks.N.of the cor.of secs.7, 12,13, and 18, heretofore described. Thence I run West on a true line bet.secs.12 and 13,
	Over nearly level land; through black brush undergrowth.
8.90	Wagon road from Shem to Acoma, bears NW. and SE.
19.40	Telephone line from Shem to Acoma bears NW.and SE.
	Ascend.
26.95	Small ridge, 45 ft.high, bears N. and S.
	Enter cedars, bearing N. and S.
	Descend.
38.80	Hollow, 35 ft.deep, drains SE.
40.10	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 in N.half, S 13 in S.half; from which
	A cedar 10 ins.dia.bears N.70° 40'E. 94 lks.dist. marked ¼ S 12 B T

SUBDIVISION OF T. 41 S., R. 18 W.

Chains	
	A cedar 12 ins.dia.bears S.50° 05'W. 135 lks.dist. marked $\frac{1}{4}$ S 13 B T
	Ascend along SW.slope of spur; leave cedar, scattering.
60.66	Brow of spur, or small flat, bearing NE. and SW.Descend.
69.00	Hollow 20 ft.deep, drains NE. Ascend.
	Thence over flat.
78.30	Leave flat bearing NE. and SW. Descend.
80.20	The cor.of secs.11,12,13, and 14.
	Land, mountainous.
	Soil, rocky, gravelly and clay; 4th rate.
	Timber, scattering cedar.
	Undergrowth black brush.
	April 1, 1910.

April 4, 1910: Sky overcast; sun not visible.

N.0° 01'W.bet.secs.11 and 12,

Descending over mountainous land; through undergrowth.

5.00	Ravine, 100 ft.deep, drains NE.
	Ascend.
10.15	Small spur ridge bears NE. and SW., 60 ft.high.
	Descend.
15.35	Gulch, 75 ft.deep, drains SE.
	Ascend.
20.75	Spur, projects E., 40 ft.high.
	Descend.
22.14	Wash, 30 ft.deep, 1 ch.wide, drains SE. Ascend.
25.64	Small spur, projects E., 25 ft.high.
	Descend.
30.83	Wash, 30 lks.wide, 1 ft.deep, drains SE.
	Ascend.
36.08	Top of small hill.
38.09	Begin descent; through cedars, bearing E. and W.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 11 in W.half, S 12 in E.half; from which
	A cedar 8 ins.dia.bears S.52° 30'W. 48 lks.dist. marked ¼ S 11 B T
	A cedar 8 ins.dia.bears N.53° 45'E. 72 lks.dist. marked ¼ S 12 B T
52.00	Bottom of hill, 200 ft.below top; thence across flat; leave cedars.
56.00	Road from Shem to Acoma, bears NW. and SE.
60.00	Wash, 40 lks.wide, 4 ft.deep, drains SE.
	Pahcoon Water Tank bears west 4 chs.
	Pahcoon Spring bears N.30° W. 10 chs.
	Ascend through cedars, bearing NE. and NW.
70.00	Telephone line, from Shem to Acoma, bears NW. and SE.
75.00	Small wash 20 ft.deep, drains SE.into Valley.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.1,2,11, and 12, marked on brass cap
	T 41 S S 2 in NW.
	R 18 W S 1 in NE.
	S 12 in SE.; and
	S 11 in SW.quadrants; from which
	A cedar 8 ins.dia.bears N.71° 40'W. 40 lks.dist. marked T 41 S R 18 W S 2 B T
	A cedar 9 ins.dia., bears N.39° 35'E. 76 lks.dist. marked T 41 S R 18 W S 1 B T
	A cedar 8 ins.dia., bears S.71° 50'E. 73 lks.dist. marked T 41 S R 18 W S 12 B T
	A cedar 4 ins.dia., bears S.47° 00'W. 41 lks.dist marked T 41 S R 18 W S 11 B T
	Land, level and mountainous.
	Soil, rocky and gravelly; 4th rate.
	Timber, cedar and pine.
	Undergrowth, black brush.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	Mountainous land 52.00 chs.
	East on a random line bet.secs.1 and 12,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
80.06	Intersect E.bdy.of Tp. at the cor.of secs.1,6,12, and 12, heretofore described. Thence I run
	April 4, 1910: At this cor.I set off 5° 36'N.on decl.arc; and at 0 h. 03 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.
	Thence I run
	West on true line bet.secs.1 and 12,
	Descending through dense black brush.
20.00	Abrupt cliffs bearing NW. and SE. on E.side of deep hollow.
27.00	Bottom of hollow, 300 ft.deep, drains SW.
30.00	Begin ascent.
39.90	Top of ridge, 250 ft.high, bears NW. and SE.
40.03	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 1 in N.half, S 12 in S.half; and raise a mound of stone 2 ft.base, 1$\frac{1}{2}$ ft.high N.of cor.Pits impracticable.
44.50	Gulch, 150 ft.deep, drains S.
	Ascend.
49.13	Ridge, 125 ft.high, bears N. and S.
	Descend.
54.50	Wash, 75 ft.below ridge, drains SW.
	Ascend.
56.75	Spur ridge, 40 ft.high, bears N. and S.
	Descend.
65.70	Wash, drains S. Ascend.
67.00	Small spur, 30 ft.high, projects S.
	Descend.
79.30	Small draw, 20 ft.deep.
	Ascend.

Chains.	
80.06	The cor.of secs.1,2,11, and 12.
	Land, mountainous.
	Soil,rocky and gravelly; 4th rate.
	Timber, none.
	Mountainous land 80.06 chs.
	N.0° 01'W.on true line bet.secs.1 and 2,
	Ascending, through cedar and pine timber and black brush undergrowth.
5.00	Knoll or spur, 40 ft.high bears NW. and SE.
	Descend.
8.50	Wash, 30 ft.deep, drains SE. Ascend.
21.87	Knoll or spur, 25 ft.high, bears NW. and SE.
	Descend.
27.85	Wash, drains SE. Ascend.
29.80	Spur, bears E. and W., 100 ft.high. Descend.
37.88	Wash, drains E.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 2 in W.half, S 1 in E.half; from which
	A cedar 4 ins.dia., bears S.19° 25'E. 51 lks.dist. marked ¼ S 1 B T
	A cedar, 12 ins.dia., bears S.40° W. 120 lks.dist. marked ¼ S 2 B T
	Line parallels hollow to ¼ sec.cor.; it is 3 to 4 chs. E.of line.
48.00	S.end of spur, 100 ft.high [illegible], Descend.
60.00	Hollow, 40 ft.deep, drains E.
	Ascend.
85.00	Spur, 100 ft.high,projects SW. Descend abruptly to
87.00	Hollow, drains westerly.
93.20	Intersect the Eighth Standard Parallel S. 190 lks.E.of

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	the standard cor.of secs.35 and 36, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.1 and 2, marked on brass cap,
	C C T 40 S R 18 W S 35 S 36 in N.half,
	S 1 in SE.; and
	S 2 in SW.quadrants; from which
	A pine 12 ins.dia., bears S.25° 30'E. 31 lks.dist. marked T 41 S R 18 W S 1 B T
	A cedar 6 ins.dia.bears S.33° W. 53 lks.dist. marked T 41 S R 18 W S 2 B T
	Land, mountainous.
	Soil, rocky, gravelly and clay; 4th rate.
	Timber cedar and pine.
	Undergrowth black brush. April 4, 1910.
	Harry L. Chamberlin U.S. Deputy Surveyor
	April 4, 1910: Sky overcast; observation on sun impossible.
	N.0° 01'W.bet.secs.34 and 35,
	Ascending through scattering timber and black brush undergrowth.
11.50	Top of spur, 200 ft.high, projects E.from main ridge.
	Descend.
17.25	Hollow, 150 ft.deep, drains SE.
	Ascend.
31.25	Top of spur, 175 ft.high, projects E.from main ridge.
	Descend.
38.00	Hollow, 200 ft.deep, drains E.
	Ascend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 36 ins.in the

Chains.	
	ground for ¼ sec.cor., marked on brass cap ¼ S 34 in W.half, S 35 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
	Ascend.
43.50	Top of spur, projecting E., 300 ft.high.
	Descend.
50.75	Hollow, 200 ft.deep, drains E.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in mound of stone for cor.of secs. 26,27,34, and 35, marked on brass cap, T 41 S S 27 in NW. R 18 W S 26 in NE. S 35 in SE.; and S 34 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable. Impossible to set post in ground.
	Corner is 25 ft.below apex of ridge on E.slope.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering pines.and cedar.
	Undergrowth black brush.
	Mountainous land on 80.00 chs.

	East on a random line bet.secs.26 and 35,
40.00	Set temp.¼ sec.cor.
79.93	Intersect N. and S.line at the cor.of secs.25,26,35, and 36. Thence I run
	West on a true line bet.secs.26 and 35,
	Ascending over mountainous land; through undergrowth.
4.90	Top of ridge 75 ft.high bearing NW. and SE.
	Enter timber, bearing NW. and SE.
	Descend over limestone ledges.
9.93	Hollow, 150 ft.deep, drains SE.
	Ascend abruptly; through dense timber bears E. and W.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
29.45	Begin gradual ascent, over sandstone formation.
33.93	Top of ridge, 700 ft.high bears N. and S.
	Descend abruptly over large sandstone boulders.
39.96½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.i n stone mound for ¼ sec.cor., marked on brass cap ¼ S 26 in N.half, S 35 in S.half; from which
	A pine 8 ins.dia., bears N.36° 10'W. 12 lks.dist. marked ¼ S 26 B T
	A pine 6 ins.dia.bears S.43° 00'E. 39 lks.dist. marked ¼ S 35 B T
	Corner is on W.slope of ridge among exposed ledges of red sandstone.
	Descend abruptly over sandstone ledges; through dense cedar and scrub oak.
59.93	Valley 200 ft.below ridge, drains S.
79.93	The cor.of secs.26,27.34. and 35.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth; scrub oak.
	Mountainous land 79.93 chs.

N.0° 01'W.bet.secs.26 and 27,

	Descending along east slope of mountain projecting south over rolling ground, covered with juniper and sage brush undergrowth.
34.25	Top of mountain bearing NE. and SW.
	Enter timber. bears NE. and NW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ½ sec.cor., marked on brass cap ¼ S 27 in W.half, S 26 in E.half ; from which
	A pine 8 ins.dia.bears N.58° 45'E. 98 lks.dist. marked ¼ S 26 B T

Chains.

A pine 8 ins.dia.bears S.29° 55'W. 171 lks.dist. marked $\frac{1}{4}$ S 27 B T

Corner is about 75 ft.below top of ridge on W.slope.

65.00 Spur, 60 ft.high, projects W.

Descend along west slope of mountain, over rolling ground.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound for cor.of secs.22,23,26, and 27, marked on brass cap

T 41 S S 22 in NW.

R 18 W S 23 in NE.

S 26 in SE.; and

S 27 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor. Pits impracticable. Impossible to set post in ground.

Corner on W.slope of main ridge bearing nearly N. and S., and 100 ft.below crest.

Land, mountainous.

Soil, rocky; 4th rate.

Timber cedar and pine.

Undergrowth, juniper, sage and black brush.

Mountainous land 80.00 chs.

April 5, 1910.

April 6, 1910: At 8 h.03 m.a.m.l.m.t.I set off 6° 18'N. on decl.arc; 37° 12'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.22,23,26 and 27. Thence I run

East on a random line bet.secs. 23 and 26,

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

80.00 Intersect N. and S.line 2 lks. S of the cor.of secs. 23,24,25, and 26. Thence I run

S,89° 59'W.on a true line bet.secs.23 and 26,

Descending abruptly over limestone ledges; through

Chains.	
	scattering cedar and pine.
7.00	Hollow, 600 ft.deep, drains N. Ascend abruptly. over series of limestone ledges.
20.52	Spur, 800 ft.high projects N.
	Descend abruptly.
32.00	Hollow, 700 ft.below top of spur, drains NE.
	Ascend abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap, ¼ S 23 in N.half, S 26 in S.half ;from which
	A pine 16 ins.dia.bears S.31° E. 20 lks.dist. marked ¼ S 26 B T
	A pine 6 ins.dia.bears N.56° W. 115 lks.dist. marked ¼ S 23 B T
45.63	Spur, 500 ft.above hollow, projects NE.
	Descend abruptly.
55.00	Hollow, 400 ft.below top of spur, drains NE.
	Ascend abruptly.
62.00	Top of mountain, 300 ft.high; descend through dense cedar and pine timber, bearing N. and S.
70.00	Hollow, 300 ft.below top of mountain, drains N.for 10 chs.; thence toward the E.
	Ascend E.slope of mountain; through scattering timber.
75.40	Top of ridge bears N. and S.
	Descend.
80.00	The cor.of secs. 22,23,26, and 27.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Mountainous land 80.00 chs.

N.0° 01'W.bet.secs.22 and 23,

Descending abruptly over rough rocky ground; along W. slope of mountain; through undergrowth; and scatter-

Chains.	
	ing cedars.
10.75	S.side of wash.
13.50	Wash, 4 ft.deep, drains NW.
18.00	N.side of wash.
	Ascend.
20.00	Top of spur, 50 ft.high projects W.from main ridge.
	Descend.
26.00	Wash, 3 ft.deep drains W.
28.00	North side of wash.
	Ascend.
29.50	Top of spur, 40 ft.high bears W.from main ridge.
	Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins. in mound of stone, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 22 in W.half, S 23 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.Impossible to set post in ground.
	Apr.5: At this cor.I set off5° 58'N.on decl.arc; and at 0 h. 03 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 12'N.
	Corner is on W.slope of mountain 100 ft.above valley.
	Descend gradually along W.slope; over rough rocky ground.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 14,15,22, and 23, marked on brass cap
	T 41 S S 15 in NW.
	R 18 W S 14 in NE.
	S 23 in SE.; and
	S 22 in SW.quadrants; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.
	A cedar 5 ins.dia.bears S.3° 00'W. 31 lks.dist.
	marked T 41 S R 18 W S 22 B T
	No other bearing trees within limits.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, few scattering cedars.

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Chains.	
	Undergrowth juniper and sage brush.
	Mountainous land, 80.00 chs.

	N.89° 59'E.on a random line bet.secs.14 and 23,
40.00	Set temp.$\frac{1}{2}$ sec.cor.
80.04	Intersect N. and S.line 7 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 mountainous land parallel to gulch 3 chs.S.of line draining E.;through scattering cedar and pine and undergrowth.
6.00	Begin abrupt ascent.
10.05	Top of abrupt ascent; ascend gradually.
20.00	Begin abrupt ascent.
32.00	Top of abrupt ascent; ascend gradually.
35.06	Ridge, 600 ft.high bears N. and S. Descend.
40.02	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 14 in N.half, S 23 in S.half; from which
	A pine 8 ins.dia., bears S.15° 40'E. 36 lks.dist. marked $\frac{1}{4}$ S 23 P T
	A pine, 10 ins.dia.bears N.31° 40'E. 27 lks.dist. marked $\frac{1}{4}$ S 14 B T
45.04	Ravine, 60 ft.deep, drains N.
	Ascend.
51.00	Ridge, 300 ft.high bears N. and S.
	Descend.
59.39	Timbered hollow, slopes N.20° W.
	Ascend.
68.79	Ridge, 200 ft.above sec.cor., bears N. and S.
	Descend.
80.04	The cor.of secs. 14,15,22, and 23.
	Land, mountainous.
	Soil, rocky; 4th rate; and sandy; 3d rate.

Chains.	
	Timber, cedar and pine.
	Undergrowth, black brush and scrub oak.
	Mountainous land 80.04 chs.
	April 5, 1910.

April 6: At 8 h. 03 m.a.m.l.m.t.I set off 6° 18'N.on decl.arc; 37° 13'N.on lat.arc; and determine a meridian with the solar at the cor.of secs. 14,15,22, and 23. Thence I run

N.0° 01'W.bet.secs.14 and 15,

Ascending over rolling land; through scattering cedars and pines and black brush.

5.00	Small spur ridge from E.
	Descend.
37.00	Wash drains NW.40 lks.wide, 1 ft.deep.
	Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 15 in W.half, S 14 in E.half; from which
	A cedar 14 ins.dia.bears S.55° 40'W. 151 lks.dist. marked ¼ S 15 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Descend gently.
56.00	Wash, 30 ft.deep, drains NW.
	Ascend.
58.00	Small ridge 100 ft. high bears NW. and SE.
	Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.10,11,14, and 15, marked on brass cap
	T 41 S S 10 in NW.
	R 18 W S 11 in NE.
	S 14 in SE.; and

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Chains.	
	S 15 in SW. quadrants;; from which
	A cedar 5 ins. dia., bears S. 3° W. 31 lks. dist.,
	marked T. 41 S. R 18 W. S 15 B T
	No other bearing trees within limits; raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
	Land, rolling.
	Soil, sandy and rocky; 3d rate.
	Timber, cedars and pine.
	Undergrowth black brush.
	S. 89° 58' E. on a random line bet. secs. 11 and 14,
40.00	Set temp. ¼ sec. cor.
80.05	Intersect N. and S. line 5 lks. S. of the cor. of secs. 11, 12, 13, and 14. Thence I run
	West on a true line bet. secs. 11 and 14,
	Descending over mountainous land; through black brush undergrowth.
3.00	Ravine, 50 ft. deep, drains NE. Ascend.
10.00	Small spur, 60 ft. high, projects NE.
	Descend.
16.90	Wash, 70 ft. deep, drains NE.
	Ascend.
22.00	Top of spur, 40 ft. high, projects NE.
	Descend.
26.75	Wash, drains NE.
	Ascend.
38.75	Brow of knoll, 300 ft. above wash.
	Ascend.
40.02½	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 11 in N. half, S 14 in S. half; and raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.

Chains.	
	Corner is on N.slope of knoll near top.
45.00	Enter cedars, bearing N. and S.
57.04	Main ridge, 150 ft.above knoll, bears N. and S.
	Descend.
62.00	Base of ridge; leave cedars; bearing N. and S.
	Thence over rolling ground.
80.05	The cor.of secs.10,11,14, and 15.
	Land, mountainous and rolling.
	Soil, rocky, gravelly and clay; 4th and 3d rate.
	Timber, cedars.
	Undergrowth, black brush.
	Mountainous land 62.00 chs.
	April 6: At this cor.I set off 6° 21'N.on decl.arc; and at 0 h. 03 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.

N.0° 01'W.bet.secs.10 and 11,

	Ascending through dense undergrowth, over mountainous land; through scattering cedars.
2.26	Low ridge from NE., 20 ft.high. S.end of flat.
36.00	N.end of flat, sloping NW.
	Descend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 10 in W.half, S 11 in E.half; from which
	A cedar 6 ins.dia.bears N.24° 45'W. 90 lks.dist. marked ¼ S 10 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
50.75	Ravine 150 ft.deep, drains E.
	Ascend.
54.50	Spur or ridge, 80 ft.high, from NW. projects SE.2 chs. then ends.

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Chains.	
	Descend.
56.00	Ravine, 70 ft.deep, drains SE.
	Ascend through cedars.
67.10	Top of spur 200 ft.high bears NW. and SE.
	Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 26 ins.in the ground, for cor.of secs. 2,3,10, and 11, marked on brass cap
	T 41 S S 3 in NW.
	R 18 W S 2 in NE.
	S 11 in SE.; and
	S 10 in SW.quadrants; from which
	A cedar 8 ins.dia.bears S.62° 10'E. 93 lks.dist. marked T 41 S R 18 W S 11 B T
	A cedar 7 ins.dia.bears S.31°15'W. 246 lks.dist. marked T 41 S R 18 W S 10 B T
	A cedar 5 ins.dia.bears N.46° 45'E. 112 lks.dist. marked T 41 S R 18 W S 2 B T
	A cedar 6 ins.dia.bears N.45° 25'W. 93 lks.dist. marked T 41 S R 18 W S 3 B T
	Land, mountainous, and level.
	Soil, rocky and sandy; 4th and 3d rate.
	Timber, scattering cedars.
	Undergrowth black brush.
	Mountainous land 46.26 chs.

	East on a random line bet.secs.2 and 11,
40.00	Set temp. ¼ sec.cor.
80.15	Intersect N. and S.line 14 lks.N.of the cor.of secs.1, 2,11, and 12. Thence I run
	N.89°54'W.on true line bet.secs.2 and 11,
	Over nearly level land; through undergrowth, dense.
0.65	Small knoll, 30 ft.high, comes from N.
15.85	Telephone line from Shem to Acoma, bears NW. and SE.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
18.90	Main wash, 1 ch.wide, 2 ft.deep, drains SE.
22.70	Wagon road from Shem to Acoma bears NW. and SE.
37.90	Small ridge 60 ft.above wash, bears N. and S.
38.90	Wash from SW., 50 ft.deep, 1 ch.wide, drains NE.
40.07½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 2 in N.half, S 11 in S.half; from which A cedar 12 ins.dia.bears N.16° 05'E. 101 lks.dist. marked ¼ S 2 B T A cedar, 14 ins.dia.bears S.17° 35'W. 54 lks.dist. marked ¼ S 11 B T Thence over broken land, cut by small washes, draining to the north.
66.60	Knoll runs out 3 chs.N.; 30 ft.high;150 ft.above ¼ cor. Descend.
74.15	Hollow, small, drains NE.; 40 ft.below cor. Ascend.
80.15	The cor.of secs.2,3,10, and 11. Land,level and broken. Soil, rocky and sandy; 4th and 3d rate. Timber cedar and pine. Undergrowth black brush.

N.0° 01'W.bet.secs. 2 and 3,on true line,

	Descending.
4.00	Wash, drains NW.
11.40	Side of small spur, from SE.; wash 2 chs.W.
18.00	Wash, drains NE.
29.80	Wagon road from Shem to Acoma, bears NW. and SE.
35.50	Main wash or hollow, 80 lks.wide, 2 ft.deep, 200 ft.below cor., drains SE.
36.00	Foot of ridge, bears NW. and SE. Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	ground, for ¼ sec.cor., marked on brass cap ¼ S 3 in W.half, S 2 in E.half; from which.
	A cedar 10 ins.dia., bears N.44° 30'E. 32 lks.dist. marked ¼ S 2 B T
	A cedar 8 ins.dia.bears N.83° 20'W. 42 lks.dist. marked ¼ S 3 B T
	On top of ridge, 100 ft.high, bearing NW. and SE.
42.00	Descend abruptly.
44.00	Base of ridge; thence over level land.
48.00	Old wood road bears NW. and SE.
50.00	Telephone line from Shem to Acoma bears NW. and SE.
61.00	Wash 4 ft.deep, 30 lks.wide,, drains SE.
80.00	Red sandstone break bearing NW. and SE.
	Ascend over bluffs to
93.25	Intersect Eighth Stand.Par.South, 170 lks.E.of the St. cor.of secs. 34 and 35, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs. 2 and 3, marked on brass cap,
	C C T 40 S R 18 W S 34 S 35 in N.half,
	S 2 in SE.; and
	S 3 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high S.of cor.Pits impracticable.
	Land, mountainous and level.
	Soil, rocky and gravelly; 4th rate.
	Timber, scattering cedar.
	Mountainous land 57.25 chs.

April 6, 1910.

Job H. Winwood Jr
U. S. Deputy Surveyor

April 5, 1910: At 8 h. 03 m.a.m.l.m.t. I set off 5° 55' N.on decl.arc; 37° 10'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.3,4,33, and 34 on S.bdy.of Tp., heretofore described.

Chains.	
	Thence I run
	N.0° 02'W.bet.secs.33 and 34,
	Ascending abruptly through dense cedar and pine and serviceberry undergrowth.
6.82	Top of mountain, 200 ft.above cor., projects N.
	Descend abruptly over rough rocky ground.
11.30	Bottom of descent, 150 ft.below top.
	Ascend along top of divide bearing N. and S.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 33 in W.half, S 34 in E.half; from which
	A pine 8 ins.dia.bears S.56° 35'W. 10 lks.dist. marked ¼ S 33 B T
	A pine 8 ins.dia .bears S.66° 50'E. 16 lks.dist. marked ¼ S 34 B T
	Descend gradually along top of divide; over rough rocky ground.
60.00	Low pass on top of divide.
	Begin gradual ascent.
68.97	Top of main mountain 300 ft.above ¼ sec.cor.,bears S.& NW.
	Descend abruptly 400 ft., through dense cedar and pine timber, and oak underbrush, bearing E. and W.
80.00	Point for cor.of secs.27,28,33, and 34 falls in steep gully filled with loose boulders, where it is impossible to set permanent corner. Set temp.cor.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth,serviceberry and scrub oak.
	Mountainous land 80.00 chs.

	East on a random line bet.secs. 27 and 34,
40.00	Set temp.¼ sec.cor.
80.00	Intersect N. and S.line 11 lks.S.of the cor.of secs.26,

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	27,34, and 35,
	April 5: At this cor.I set off 5° 58'N.on decl.arc; and at 0 h. 03 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 11'N.
	Thence I run
	S.89° 55'W.on true line bet.secs. 27 and 34,
	Over mountainous land; through cedar and pine and undergrowth.
1.00	Top of mountain bearing N. and S.
	Descend abruptly along west slope of mountain.
31.00	Hollow, 300 ft.below top of mountain, drains S.
	Ascend.
32.18	E.side of ridge bearing N. and S.
	Ascend.
36.00	Top of ridge, 75 ft.high.
	Leave timber; descend.
40.00	In hollow, 40 ft.deep, draining N.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 27 in N.half, S 34 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor.
	Corner at base of E.slope of knoll. Ascend.
48.00	Top of knoll, 150 ft.high.
	Ascend E.side of mountain; through undergrowth and cedar and pine timber; over limestone ledges.
80.00	The temp. cor.of secs.27,28,33, and 34.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth, scrub oak, sage and black brush.
	Mountainous land 80.00 chs.

From point for cor.of secs.27,28,33, and 34, I run

N.0° 02'W.bet.secs.27 and 28.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	Ascending, from steep rocky gulch; through timber
0.50	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for witness cor.to cor.of secs.27,28,33, and 34, marked on brass cap T 41 S S 28 in NW. R 18 W S 27 W C in NE. S 34 in SE.; and S 33 in SW.quadrants; from which A pine 14 ins.dia.bears N.25° 15'E. 52 lks.dist. mkd. W C T 41 S R 18 W S 27 B T A pine 12 ins.dia.bears S.75° 20'E. 61 lks.dist. mkd.W C T 41 S R 18 W S 27 B T A cedar 10 ins.dia.bears S.65° 45'W. 21 lks.dist. mkd.W C T 41 S R 18 W S 28 B T A cedar 16 ins.dia.bears N.45° 08'W. 61 lks.dist. mkd.W C T 41 S R 18 W S 28 B T
	Corner on side of mountain.
30.00	Ridge, 70 ft.high projects W.
	Descend.
40.00	In bottom of hollow, 50 ft.deep, draining NE.,
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 28 in W.half, S 27 in E.half; from which A pine 8 ins.dia.bears N.22° 00'E. 85 lks.dist. marked ¼ S 27 B T A cedar 10 ins.dia.bears N.60° 30'W. 55 lks.dist. marked ¼ S 28 B T
	Ascend; through dense undergrowth.
47.25	Small wash, 3 ft.deep, drains NE.
51.25	Top of spur, 70 ft.high projects NE.
56.00	Hollow, 50 ft.deep, drains NE.
	Ascend.
59.75	Spur, 75 ft.high, projects NE. from main ridge to the West.
	Descend.

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Chains.

62.75 Wash, 4 ft.deep, drains NE.

Descend gradually.

80.00 Set an iron post 3 ft.long,2 ins.dia. 24 ins.in mound of stone for cor.of secs.21,22,27, and 28, marked on brass cap

T 41 S S 21 in NW.

R 18 W S 22 in NE.

S 27 in SE.; and

S 28 in SW.quadrants; from which

A cedar 8 ins.dia.bears N.47° 30'E. 83 lks.dist., marked T 41 S R 18 W S 22 B T

A cedar 18 ins.dia.bears S.71° 45'E. 28 lks.dist. marked T 41 S R 18 W S 27 B T

A cedar 10 ins.dia.bears S.67° 05'W. 26 lks.dist. marked T 41 S R 18 W S 28 B T

A cedar 12 ins.dia., bears N.48° 35'W. 47 lks.dist. marked T 41 S R 18 W S 21 B T

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar and pine.

Undergrowth, sage, serviceberry, and scrub oak.

Mountainous land 80.00 chs.

April 5, 1910.

April 6: At 8 h. 03 m.a.m.l.m.t.I set off 6° 18'N.on decl.arc; 37° 12'N.on dlat.arc; and determine a meridian with the solar at the cor.of secs.21,22,27, and 28. Thence I run

N.89° 55'E.on a random line bet.secs. 22 and 27,

40.00 Set temp.¼ sec.cor.

80.15 Intersect N. and S.line 12 lks.N.of cor.of secs.22,23, 26, and 27. Thence I run

West on true line bet.secs.22 and 27,

[illegible] Descending, over mountainous land; through undergrowth.

[illegible] Hollow, [illegible] ft.deep, drains NW.

Ascend.

[illegible] Spur, [illegible] ft.high, bears NW. and SE.

Descend abruptly.

[illegible] Hollow, [illegible] ft.deep, drains NW.to main valley.

Ascend.

[illegible] Spur, [illegible] ft.high from SE.

Descend.

[illegible] Hollow, [illegible] ft.deep, drains W.

[illegible] Set an iron post [illegible] ft.long, 1 in.dia., [illegible] ins.in the ground, for ½ sec.cor., marked on brass cap ½ [illegible] in N.half, [illegible] in S.half; and raise a mound of stone [illegible] ft.base, 1½ ft.high N.of cor.Pits impracticable.

Ascend gradually.

[illegible] Descend abruptly [illegible] ft.to flat,from ridge projecting NW.

[illegible] Leave flat; ascend over rolling ground.

[illegible] The cor.of secs.21,22,27, and 28.

Land, mountainous.

Hill, rocky; 4th rate.

No timber.

Undergrowth scrub oak, juniper, and [illegible].

[illegible] Cor.of secs.21 and 22.

Ascending abruptly; through cedar and pine timber and dense undergrowth.

[illegible] Top of ridge, [illegible] ft.high, projects W.

Descend.

[illegible] South side of wash, [illegible] ft.deep, draining E.

[illegible] Bottom of wash.

Ascend.

[illegible] Top of spur , [illegible] ft.high , projects NE.South side.

Chains.	
37.00	N.side of ridge.
	Descend abruptly along N.side of spur,
40.00	In bottom of wash, draining E. and then SE. 90 lks.wide 8 ft.deep.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 21 in E.half, S 22 in E.half; from which
	A pine 8 ins.dia.bears S.31° 00'W. 59 lks.dist. marked ¼ S 21 P T
	A pine, 10 ins.dia.bears N.67° 30'E. 81 lks.dist. marked ¼ S 22 P T
	Ascend.
49.50	Top of mountain, 800 ft.high bears NW. and SE.
	Descend abruptly over stony ground.
68.00	Foot of abrupt descent; ascend gradually to
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound, for cor.of secs.15,16,21, and 22, marked on brass cap,
	T 41 S S 16 in NW.
	R 18 W S 15 in NE.
	S 22 in SW.; and
	S 21 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Impossible to set post in ground.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth black brush, sage and juniper.
	Mountainous land 80.00 chs.
	April 6: At this cor.I set off 6° 21'E.on decl.arc; and at 0 h. 03 m.p.m.l.m.t.observe the sun on the meridian the resulting lat.is 37° 13'N.

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Chains.	
	East on a random line bet.secs.15 and 22,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
80.17	Intersect N. and S.line 3 lks.S.of the cor.of secs. 14, 15,22, and 23. Thence I run
	S.89° 59'W.on true line bet.secs.15 and 22,
	Descending abruptly; through dense sage and black brush.
10.67	Foot of abrupt descent, 250 ft.below cor.;descend gradually.
12.17	Hollow, 150 ft.deep, drains NW.; wash, 1 ch.wide, 4 ft. deep, in hollow.
	Ascend gradually.
17.69	Top of ridge bears NW. and SE., 200 ft.high.
	Descend gradually over rolling ground.
40.08$\frac{1}{2}$	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap$\frac{1}{4}$ S 15 in N.half, S 22 in S.half; and raise a mound of stone 2 ft.base, 1$\frac{1}{2}$ ft.high N.of cor.Pits impracticable.
42.17	Enter flat; thence descend gradually over rolling ground.
51.15	Top of spur, 80 ft.below flat, 50 ft.high ,projects NW.
	Descend.
54.67	Foot of descent.
56.62	Hollow, 50 ft.deep, with small wash in bottom, 2 ft. deep, drains NW.
	Ascend.
64.19	Ridge, 50 ft.high bears N. and S.
	Descend.
68.10	Small wash, 2 ft.deep, drains NW.
	Thence over rolling ground, to
80.17	The cor.of secs.15,16, 21, and 22.
	Land, mountainous.
	Soil, gravelly and rocky; 3d rate.
	No timber,
	Undergrowth sage and black brush.

April 6, 1910.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains	
	April 7, 1910:At 8 h 02m a.m.l.m.t.I set off 6° 41'N. on decl.arc;37° 15'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.15,16,21, and 22. Thence I run
	N.0° 02'W.bet.secs.15 and 16,
	Descending gently over rolling slope.
22.50	Gulch, 50 ft.deep, with wash in bottom 1 ft.deep,drains NW.
	Ascend; through dense sage and black brush., bearing E. and W.
33.50	Top of spur, 50 ft.high, projects SE.: ends to the NW. at 7 chs.
	Descend.
39.25	Wash, 20 lks.wide, 3 ft.deep, in bottom of hollow, 50 ft.deep, drains NW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 16 in W.half, S 15 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Corner on S.slope, near bottom of hollow.
	Ascend.
43.50	Top of ascent; thence over level land.
74.00	Descend gradually.
77.00	Hollow, 25 ft.deep, drains NW.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.9,10,15, and 16, marked on brass cap
	T 41 S S 9 in NW.
	R 18 W S 10 in NE.
	S 15 in SE.; and
	S 16 in SW.quadrants; from which
	A cedar 4 ins.dia.bears S.20° W. 34 lks.dist.mkd.
	T 41 S R 18 W S 16 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracti-

Chains.	
	cable.
	Land, rolling.
	Soil, gravelly and sandy loam; 3d and 2d rate.
	No timber.
	Undergrowth black brush with some juniper.
	N.89° 59'E.on a random line bet.secs.10 and 15,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
80.08	Intersect N. and S.line 4 lks.N.of the cor.of secs. 10,11,14, and 15. Thence I run
	N.89° 59'W. on true line bet.secs.10 and 15,
	Over nearly level land; through dense undergrowth.
32.08	Small spur, 20 ft.high, projects NW.
	Descend.
32.53	Small wash, drains N.
40.04	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 10 in N.half, S 15 in S.half; from which
	A cedar 14 ins.dia.bears S.2° 40'E. 89 lks.dist. marked $\frac{1}{4}$ S 15 B T
	A cedar 6 ins.dia.bears N.11° 15'W. 45 lks.dist. marked $\frac{1}{4}$ S 10 B T
40.13	E.edge of main wash, 4 ft.deep, drains NW.
40.38	W.edge of main wash.
49.83	Small spur, 20 ft.high bears N1 and S.
	Descend.
66.83	Wash, 30 lks.wide, 3 ft.deep, drains N.
69.08	Knoll, 20 ft.high.
	Thence over level land.
80.08	The cor.of secs. 9,10,15, and 16.
	Land, nearly level.
	Soil, gravelly and sandy loam; 3d rate.
	Timber, few scattering cedars.
	Undergrowth, black brush, sagebrush, juniper, and Josh-

SUBDIVISION OF T. 41 S., R. 18 W.

Chains	ua brush.
	N.0° 02'W.bet.secs.9 and 10,
	Over nearly level land; through dense undergrowth.
16.00	Small knoll, 25 ft.high.
24.00	Small wash, drains NW.
	Ascend.
38.53	Ridge, 200 ft.above main wash, bears NW. and SE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 9 in W.half, S 10 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
[illegible]	April 7, 1910: At this cor.I set off 6° 44'N.on decl. arc; and at 0 h. 02 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.
69.90	S.side of main wash, 3 ft.deep, draining NW.
70.30	N.side of main wash.
	Ascend 30 ft.
	Edge of sagebrush and black brush flat.
	Descend over gentle slope to
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.3,4,9, and 10, marked on brass cap,
	T 41 S S 4 in NW.
	R 18 W S 3 in NE.
	S 10 in SE.; and
	S 9 in SW.quadrants; from which
	A cedar 5 ins.dia., bears S.66° 55'E. 33 lks.dist. marked T 41 S R 18 W S 10 B T
	A juniper 6 ins.dia.bears S.24° 40'W. 50 lks.dist. marked T 41 S R 18 W S 9 B T
	A Joshua tree 4 ins.dia., bears N.23° 05'E. 73 lks dist., marked T 41 S R 18 W S 3 B T
	A cedar 10 ins.dia.bears N.27° 30'W. 52 lks.dist.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains	
	marked T 41 S R 18 W S 4 B T
	Land, nearly level.
	Soil, gravelly and sandy loam; 3d rate.
	Timber, scattering cedar, Joshua, and juniper.
	Undergrowth dense black and sagebrush.
	S.89° 59'E.on a random line bet.secs. 3 and 10,
40.00	Set temp.¼ sec.cor.
79.98	Intersect N. and S.line 2 lks.S.of the cor.of secs. 2, 3,10, and 11.Thence I run
	West on true line bet.secs.3 and 10,
	Ascending through dense black brush.
14.65	Spur ridge, 100 ft.high bears NW. and SE.
	Descend.
21.60	Ravine 50 ft.deep, drains SE. Ascend.
33.65	Spur, 250 ft.high bears NW. and SE.
39.99	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 3 in N.half, S 10 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
54.00	Wash, 100 ft.below top of spur, 30 lks.wide, 1 ft.deep drains SW. Thence along level land; through scattering cedar and large juniper trees.
73.00	Begin ascent.
79.98	The cor.of secs. 3,4,9, and 10.
	Land, level and mountainous.
	Soil, rocky, gravelly, and sandy loam; 4th and 3d rate.
	Timber, cedar, scattering.
	Undergrowth large juniper, and dense black brush.
	Mountainous land 54.00 chs.
	N.0° 02'W.bet.secs.3 and 4,
	Descending, over mountainous land; through dense black

Chains.	
	brush.
1.00	Ravine 15 ft.deep, drains W.
	Ascend.
5.50	Small spur, from E., projects W.
	Descend.
17.50	Wash, near base of main ridge, 80 lks.wide, 1 ft.deep, drains west.
	Ascend through scattering cedars.
29.64	Top of main ridge, 200 ft.high, bears N.60° W. and S. 60° E.
	Descend.
38.00	Head of small draw, 150 ft.below ridge, drains NE.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 4 in W.half, S 3 in E.half; from which
	A cedar 10 ins.dia.bears N.46° 35'E. 83 lks.dist. marked ¼ S 3 B T
	A cedar 6 ins.dia.bears S.32° 45'W. 127 lks.dist. marked ¼ S 4 B T
48.00	Small spur, from SW; projects NE.
	Descend.
63.00	Road, from Shom to Acoma bears NW. and SE.
65.00	Wash, 30 lks.wide, 2 ft.deep, drains SE.
	Ascend over rolling ground.
90.00	Leave cedars.
93.30	Intersect the 8th Stand.Par.S. 171 lks.E.of the stand. cor.of secs.33, and 34, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for closing cor.of secs.3 and 4, marked on brass cap
	C C T 40 S R 18 W S 33, S 34 in N.half,
	S 3 in SE.; and
	S 4 in SW.quadrants; dig pits 24 x 18 x 12 ins. crosswise on each line E. and W. 3 ft., and S.of post 7 ft.dist.; and raise a mound of earth 4 ft.base, 2

Chains.	
	ft.high S.of cor.
	Land, mountainous.
	Soil, rocky and sandy loam 4th and 3d rates.
	Timber, scattering cedars.
	Undergrowth dense black brush.
	Mountainous land 93.30 chs. April 7, 1910.
	Harry L. Chamberlin U.S. Deputy Surveyor

April 7, 1910: At 8 h. 02 m.a.m.l.m.t.I set off 37° 10' N.on lat.arc; 6° 41' N.on decl.arc and determine a meridian with the solar at the cor.of secs.4,5,32,and 33 on S.bdy.of Tp., heretofore described. Thence I run

N.0° 03'W.bet.secs.32 and 33,

Descend through dense undergrowth and scattering timber.

1.00	Head of ravine, 200 ft.below ridge, draining NE.
	Ascend along E.slope of spur.
21.60	Top of abrupt spur, 800 ft.high, projects N.10° E.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 32 in W.half, S 33 in E.half; from which
	A pine 4 ins.dia.bears N.20° 10'E. 60 lks.dist. marked ¼ S 33 B T
	A pine 12 ins.dia.bears S.50° 50'W. 33 lks.dist. marked ¼ S 32 B T
	Descend abruptly along west slope of spur, from south.
60.00	Ravine 200 ft.deep, drains NE.
68.00	Spur, projects NE., 150 ft.high
	Descend to
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.28,29,32, and 33, marked on brass cap
	T 41 S S 29 in NW.

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Chains.	
	R 18 W S 28 in NE.
	S 33 in SE.; and
	S 32 in SW.quadrants; from which
	A pine 8 ins.dia.bears S.30° 00'W. 74 lks.dist. marked T 41 S R 18 W S 32 B T
	A pine 8 ins.dia.bears N.48° 35'W. 145 lks.dist. marked T 41 S R 18 W S 29 B T
	A pine 5 ins.dia., bears N.21° 35'E. 152 lks.dist. marked T 41 S R 18 W S 28 B T
	A pine, 12 ins.dia.bears S.48° 55'E. 46 lks.dist. marked T 41 S R 18 W S 33 B T
	Land, mountainous.
	Soil, rocky and gravelly; 4th and 3d rate.
	Timber, cedars, pine, and yellow fir.
	Undergrowth, dense black brush and scrub oak.
	Mountainous land 80.00 chs.
	April 7, 1910: At this cor.I set off 6°44' N.on decl. arc; and at 0 h.02m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 11N.
	East on a random line bet.secs.28 and 33,
40.00	Set temp.$\frac{1}{2}$ sec.cor.
80.06	Intersect N. and S.line 54 lks.S.of the witness cor.for cor.of secs.27,28,33, and 34. Thence I run
	S.89°58'W.on true line bet.secs.28 and 33,
	Ascending abruptly along E.slope of spur from south; through scattering timber and undergrowth.
13.05	Top of abrupt mountain, 325 ft.high, bearing NW. and SE. Descend.
30.06	Ravine 70 ft.deep, drains SW.
40.03	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 28 in N.half, S 33 in S.half; from which

Chains.	
	A cedar 4 ins.dia.bears S.41° 00'W. 63 lks.dist. marked ¼ S 33 B T
	A cedar 5 ins.dia.bears N.53° 40'W. 173 lks.dist. marked ¼ S 28 B T
	Descend abruptly 50 ft.
42.05	Ravine, 30 ft.deep, drains SW.
	Ascend.
44.00	Spur, 150 ft.high, projects SW. Descend.
50.06	Main canyon,100 ft.deep, drains NW.
	Ascend.
70.08	End of spur from south, 30 ft.high. Descend over rolling ground; through dense undergrowth bearing N. and S.
76.05	Ravine, 50 ft.deep, drains NE. Ascend.
80.06	The cor.of secs.28,29,32, and 33.
	Land, mountainous.
	Soil, rocky and gravelly; 4th rate.
	Timber, cedar and pinon pine.
	Undergrowth, black brush.
	Mountainous land 80.06 chs.
	April 7, 1910.

Apr.8: At 8 h. 02 m.a.m.l.m.t.I set off 7° 03'N.on decl.arc; 37° 11'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.28,29,32, and 33.

Thence I run

N.0° 03'W.bet.secs.28 and 29,

Ascending through dense undergrowth and timber.

15.00	Wash, drains W., 250 ft.below sec.cor.
24.00	Spur, 250 ft.high, projects S.80° W. Descend.
30.00	Ravine, 300 ft.deep, drains SW.
	Ascend abruptly.
36.96	Spur from NW., 150 ft.high.
	Descend.

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Chains.	
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 29 in W.half, S 28 in E.half; from which A cedar 4 ins.dia., bears S.34° 25'E. 58 lks.dist. marked ¼ S 28 B T' A cedar 4 ins.dia., bears N.62° 0'W. 257 lks.dist. marked ¼ S 29 B T
40.48	Ravine drains SE.,450 ft.below main ridge.
	Ascend.
62.28	Top of main ridge, 350 ft.high bears NE. and SW.
	Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.20,21,28, and 29, marked on brass cap T 41 S S 20 in NW. R 18 W S 21 in NE. S 28 in SE.; and S 29 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Cor.on W.slope of spur, near crest.
	Land, mountainous.
	Soil, rocky and gravelly; 3d and 4th rate.
	Timber, cedar and pine.
	Undergrowth dense black brush and scrub oak.
	Mountainous land 80.00 chs.

	N.89° 58'E.on a random line bet.secs.21 and 28,
40.00	Set temp.¼ sec.cor.
80.11	Intersect N. and S.line 5 lks.S.of the cor.of secs.21, 22,27, and 28. Thence I run S.89° 56'W.on true line bet.secs.21 and 28,
	Ascending over mountainous land; through dense black

Chains.	
	and sagebrush, and cedar and pine timber.
8.11	Ridge, 150 ft.above sec.cor. bears SW. and NE.
	Descend.
26.10	Wash, 20 lks.wide, 30 ft.deep, drains N.
36.12	Spur,30 ft.high, projects N.
	Descend.
38.00	Ravine, 350 ft.below spur, drains N.
40.05½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 21 in N.half, S 28 in S.half; from which
	A cedar 10 ins.dia., bears N.44° 40'W. 172 lks. dist., marked ¼ S 21 B T
	A pine 5 ins.dia.bears S.35° 15'E. 101 lks.dist. marked ¼ S 28 B T
	Ascend.
60.61	Spur, projects N., 50 ft.high.
	Descend.
74.11	Gulch 100 ft.deep, drains N.
	Ascend abruptly.
78.10	Top of abrupt ascent.
	Ascend gently.
79.12	Top of spur, 20 ft.high, projects N.
80.11	The cor.of secs.20,21,28, and 29.
	Land, mountainous.
	Soil, rocky and sandy loam; 4th and 3d rate.
	Timber, cedar and pine.
	Undergrowth dense black and sage brush.
	Mountainous land 80.11 chs.
	April 8, 1910: At the noon hour sky overcast; obs.for lat.impossible.

N.0° 03'W.bet.secs.20 and 21,

Ascending over mountainous land; through dense black brush, cedar and pine timber.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
2.00	Top of spur, projects NW., 90 ft.high.
	Descend.
7.20	Hollow, 50 ft.deep, drains NE. Ascend.
	Enter timber, bears E. and W.
12.53	Top of knoll, 300 ft.high, bears NE. and SW.
	Descend.
32.00	Hollow, 40 ft.deep, drains N.80° W.
	Ascend.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 20 in W.half, S 21 in E.half; from which
	A pine 6 ins.dia.bears N.45° 55'E. 29 lks.dist. marked ¼ S 21 B T
	A pine 6 ins.dia.bears S.76° 30'W. 49 lks. dist. marked ¼ S 20 B T
41.50	Small spur, 50 ft.high from east.
	Descend.
50.00	Hollow, drains N.80° W.
	Ascend abruptly.
70.99	Main spur of mountain chain bears E. and W.,300 ft.above hollow.
	Descend abruptly.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground for cor.of secs.16,17,20, and 21, marked on brass cap
	T 41 S S 17 in NW.
	R 18 W S 16 in NE.
	S 21 in SE.; and
	S 20 inSW.quadrants; from which
	A pine 5 ins.dia.bears N.33° 30'W. 24 lks.dist. marked T 41 S R 18 W S 17 B T
	A pine 6 ins.dia.bears S.16° 40'W. 71 lks.dist. marked T 41 S R 18 W S 20 B T
	No other bearing trees within limits; raise a mound of

Chains.

stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.

Corner is on N.slope of ridge, 250 ft.above ravine.

Land, mountainous.

Soil, rocky and sandy loam with gravel; 4th and 3d rate.

Timber, cedar and pine.

Undergrowth dense black brush.

Mountainous land 80.00 chs.

April 8, 1910.

April 9, 1910: At 8 h. 02 m.a.m.l.m.t.I set off 7° 26'

40.00 N.on decl.arc; 37°.13'N.on lat.arc; and determine a me-

80.03 ridian with the solar at the cor.of secs.16,17,20, and 21. Thence I run

N.89° 56'E.on a random line bet.secs.16 and 21,

40.00 Set temp.¼ sec.cor.

80.03 Intersect N. and S.line 5 lks.N.of the cor.of secs.15, 16,21, and 22. Thence I run

S.89° 58'W.on true line bet.secs.16 and 21,

Ascending gentle slope; through scattering black brush. and cedar and pine timber.

15.00 Ascend abruptly over rocky slope.

28.40 Top of spur, 350 ft.high bearing NW. and SE.

Descend abruptly.

32.50 Hollow, 200 ft.deep, drains S.

33.25 Ascend abruptly over rocky limestone formation.

40.01½ Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 16 in N.half, S 21 in S.half; from which

A pine 16 ins.dia.bears S.47° 15'E. 16 lks.dist. marked ¼S 21 B T

A cedar 10 ins.dia.bears N.29° 30'W. 17 lks.dist. marked ¼ S 16 B T

Ascend abruptly.

Chains.	
43.21	Top of spur from NW., 290 ft.above hollow.
	Descend.
45.00	Hollow, 30 ft.deep, drains S.
	Ascend.
50.00	Ridge, 100 ft.above hollow, bears NE. and SW.
	Descend.
64.00	Ravine, 200 ft.below ridge, drains N.
	Ascend.
74.00	Spur from south, 150 ft.above ravine.
	Descend 75 ft.to
80.03	The cor.of secs.16,17,20, and 21.
	Land. mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth black brush.
	Mountainous land 80.03 chs.

N.0°.03 W.bet.secs.16 and 17,

Descending through scattering timber and undergrowth .

11.25	Ravine 60 ft.deep, drains E. Ascend.
22.50	Spur, projects E., 100 ft.above wash.
	Descend abruptly.
34.35	Wash, 8 lks.wide, 2 ft.deep, drains E.
35.00	Begin abrupt ascent.
39.25	Top of abrupt ascent.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in stone mound for ¼ sec.cor., marked on brass cap ¼ S 17 in W.half, S 16 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Impossible to set post in ground.
48.69	Spur, 150 ft.high projects N.65° E.
	Descend.
56.05	Hollow, 100 ft.deep, drains E.
	Ascend.
61.00	Top of spur projects E., 150 ft.above hollow.

Chains. Descend abruptly.

70.85 Ravine, 100 ft.deep, with wash 15 lks.wide, 2 ft.deep, in bottom, drains NE.

Ascend.

75.85 Spur, 50 ft.high, projects NE.

Descend abruptly.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.8,9,16, and 17, marked on brass cap,

T 41 S S 8 in NW.

R 18 W S 9 in NE.

S 16 in SE.; and

S 17 in SW.quadrants; from which

A cedar 4 ins.dia.bears N.86° 25'E.31 lks.dist. marked T 41 S R 18 W S 9 B T

A cedar 4 ins.dia.bears S.50° 05'E. 50 lks.dist. marked T 41 S R 18 W S 16 B T

A cedar 6 ins.dia.bears S.85° 10'W. 47 lks.dist. marked T 41 S R 18 W S 17 B T

A cedar 4 ins.dia.bears N.23° 10'W. 217 lks.dist. marked T 41 S R 18 W S 8 B T

Land, mountainous.

Soil, rocky; 4th rate.

Timber, cedar and pine.

Undergrowth black brush.

Mountainous land 80.00 chs.

April 9: At this cor.I set off 7° 29'N.on decl.arc; and at 0 h. 02 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.

N.89° 58'E.on a random line bet.secs.9 and 16,

40.00 Set temp.¼ sec.cor.

79.96 Intersect N. and S.line at the cor.of secs. 9,10,15 and 16. Thence I run

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	S.89° 58'W.on true line bet.secs.9 and 16,
	Over mountainous land; through scattering cedar and dense black brush.
3.96	Ravine 20 ft.deep, drains NW.
19.96	Ravine 15 ft.deep, drains N.
	Ascend.
33.90	Small level ridge, 20 ft.high, bears N. and S.
	Descend over rolling ground.
37.96	Ravine, 25 ft.deep, drains N.10° W.
	Thence over rolling land.
39.98	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 9 in N.half, S 16 in S.half; from which
	A cedar 4 ins.dia.bears N.83° E. 156 lks.dist. marked ¼ S 9 B T
	A cedar 4 ins.dia.bears S.77° 15'E. 181 lks.dist. marked ¼ S 16 B T
43.20	Small hollow, drains N.
	Ascend.
54.25	Top of knoll, 200 ft.above hollow, bears N. and S.
	Descend.
58.26	Foot of knoll.
61.20	Hollow, with wash 25 lks.wide, 2 ft.deep, drains N.
73.58	Foot of abrupt spur, 150 ft.above wash, projects N.
79.96	The cor.of secs.8,9,16, and 17., [illegible] 17.
	Land, Mountainous and rolling.
	Soil, rocky; 4th rate; and sandy loam; 3d rate.
	Timber, scattering cedars.
	Undergrowth dense black brush.
	Mountainous land, or land covered with dense undergrowth 79.96 chs.
	April 9, 1910.

April 11, 1910-At 8 h. 01 m.a.m.l.m.t.I set off 8° 10'

Chains.	
	N.on decl.arc;37° 14'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.8,9,16, and 17. Thence I run
	N.0° 03'W.bet.secs.8 and 9,
	Descending over mountainous land; through scattering timber and dense black brush.
3.60	Begin abrupt descent.
8.700	Foot of abrupt descent.
27.10	Small wash, 20 lks.wide, 1 ft.deep, 200 ft.below cor. drains NW.
39.95	Wash, 8 lks.wide, 1 ft.deep,drains N.70° W.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 8 in W.half, S 9 in E.half; from which
	A cedar 14 ins.dia., bears N.52° 05'W. 49 lks.dist. marked $\frac{1}{4}$ S 8 B T
	A cedar 10 ins.dia.bears S.23° 50'E. 52 lks.dist. marked $\frac{1}{4}$ S 9 B T
49.70	Foot of ridge; ascend abruptly.
64.85	End of abrupt ascent, near top of ridge, 150 ft.high, which bears NW. and SE.
69.15	Descend.
80.00	300 ft.below top of ridge,
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.4,5,8,and 9 marked on brass cap,
	T 41 S S 5 in NW.
	R 18 W S 4 in NE.
	S 9 in SE.; and
	S 8 in SW.quadrants; from which
	A cedar 7 ins.dia., bears N.64° E. 104 lks.dist. marked T 41 S R 18 W S 4 B T
	A cedar 5 ins.dia., bears S.19° W. 70 lks.dist. marked T 41 S R 18 W S 8 B T
	A cedar 12 ins.dia., bears N.42° 55'W.70 lks.dist.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	marked T 41 S R 18 W S 5 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable.
	Land, mountainous.
	Soil, gravelly and sandy loam; 3d rate.
	Timber, scattering cedars.
	Undergrowth, dense black brush.
	Mountainous land 80.00 chs.
	N.89° 58'E.on a random line bet.secs.4 and 9,
40.00	Set temp.¼ sec.cor.
79.94	Intersect N. and S.line at the cor.of secs. 3,4,9, and 10. Thence I run
	S.89° 58'W.on true line bet.secs.4 and 9,
	Descending along S.side of small wash; through dense black brush, and scattering cedars.
0.95	Main wash, 4 ft.deep, drains NW. ; east side.
1.55	West side main wash.
	Ascend.
17.35	Ridge from south, runs out 5 chs.N.; 20 ft.high.
	Descend.
23.25	Wash, 30 ft.deep, drains N.
	Ascend.
25.25	Knoll, 40 ft.high. Descend.
27.75	Wash, 25 ft.deep, drains N., 15 lks.wide.
31.00	Ridge, 40 ft.high bears N. and S.
	Descend.
38.00	Wash, 20 lks.wide, drains N.
39.97	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 4 in N.half, S 9 in S.half; from which
	A cedar 24 ins.dia., bears S.32° 30'W. 30 lks.dist. marked ¼ S 9 B T

Chains.	
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
67.25	Wash, 30 ft.deep, drains N.
	Ascend.
71.00	Small ridge, 30 ft.high, bears N. and S.
	Descend.
74.50	Small wash, 15 ft.deep, drains N.
79.94	The cor.of secs.4,5,8, and 9,
	Land, mountainous.
	Soil, gravelly and sandy loam; 3d rate.
	Timber scattering cedar.
	Undergrowth dense black brush.
	Mountainous land, 79.94 chs.
	April 11: At this cor.I set 8° 13'N.on decl.arc; and at 0 h. 01 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.

N.0° 03'W.bet.secs.4 and 5 on true line

Descending over rolling land; through dense black brush

36.00	S.side of main wash, 3 ft.deep, drains W.
37.00	N.side of wash.
39.75	Small spur, 40 ft.above wash, projects SW.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 5 in W.half, S 4 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.
41.00	Small draw, 30 ft.below ridge, drains SW.
	Ascend.
60.00	Top of ridge, 500 ft.high bears E. and W.
	Descend.
83.00	Hollow, 350 ft.below ridge, drains SW.
93.20	Intersect Eighth Stand.Parallel S., 180 lks.E.of the standard cor.of secs. 32 and 33, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in stone

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	mound for closing cor.of secs.4 and 5, marked on brass cap
	℄ C T 40 S R 18 W S 32 S 33 in N.half,
	S 4 in SE.; and
	S 5 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ ft.high S.of cor.Pits impracticable. Impossible to set post in ground.
	Land, mountainous.
	Soil, rocky and gravelly loam; 4th and 3d rate.
	Timber, none.
	Undergrowth, dense black brush.
	April 11, 1910.
	April 8; 1910: At 8 h. 02 m.a.m.l.m.t.I set off 7° 03'N. on decl.arc; 37° 10'N. on lat.arc; and determine a meridian with the solar at the cor.of secs.5,6,31, and 32, on S.bdy.of Tp., heretofore described.
	Thence I run
	N.0° 03'W.bet.secs.31 and 32,
	Ascending abruptly over rocky mountainous land; through scattering timber and undergrowth.
18.00	Spur, projects NW.
	Descend over limestone ledges.
29.00	Canyon, 450 ft.below spur, drains W.
	Ascend abruptly.
40.00	Falls on solid limestone floor, impossible to set iron post,
	Set a limestone 20 x 7 x 4 ins., in mound of stone, for ¼ sec.cor., marked ¼ on W.face; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	Continue abrupt ascent.
46.00	Top of ridge, 400 ft.high, bearing E. and W.
	Descend over ledges.
60.00	Base of steep limestone ledges.

Chains.	
	Descend abruptly.
70.00	Hollow, 75 ft.deep, drains NE.
	Ascend.
72.00	Top of ridge, 150 ft.high bears NE. and SW.
80.00	Setcandiron post 3 ft.long, 2 ins.dia., 24 ins.in stone mound., for cor.of secs. 29,30,31, and 32, marked on brass cap,
	T 41 S S 30 in NW.
	R 18 W S 29 in NE.
	S 32 in SE.; and
	S 31 in SW.quadrants; from which
	A pine 6 ins.dia., bears S.59° 25'W.54 lks.dist. marked T 41 S R 18 W S 31 B T
	A pine 8 ins.dia., bears N.21° 45'E. 90 lks.dist. marked T 41 S R 18 W S 29 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high W.of cor. Pits impracticable. Impossible to set post in ground.
	Corner on top of spur from south.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth black brush.
	Mountainous land 80.00 chs.
	East on a random line bet.secs. 29 and 32,
40.00	Set temp.½ sec.cor.
80.00	Intersect N. and S.line at the cor.of secs.28,29,32 and 33. Thence I run
	West on true line bet.secs.29 and 32,
	Descending gradually; through heavy undergrowth.
10.00	Gulch, 150 ft.deep, drains N.
	Ascend.

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Chains.	
18.00	Ridge, 75 ft.high, projects N. from high mountain on the south.
	Descend abruptly.
22.00	Gulch, 150 ft.deep, drains N.
	Ascend.
28.30	Ridge, projects N.from main mountain, 75 ft.high.
	Descend.
31.70	Gulch, 75 ft.deep, drains N.
	Ascend.
36.00	High spur, projects NW.;150 ft.high.
	Descend abruptly over rocky limestone formation; through scattering cedar and pine.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 29 in N.half, S 32 in S.half; from which
	A pine 10 ins.dia.bears S.72° 10'E. 76 lks.dist. marked ¼ S 32 B T
	A pine 6 ins.dia.bears N.44° 40'W. 22 lks.dist. marked ¼ S 29 B T
	Corner on E. side of steep rocky mountain.
	Ascend.
45.00	Low spur, 50 ft.high, projects NW.
	Descend.
47.00	Gulch, 50 ft.deep, drains N.
	Ascend abruptly.
54.50	Top of spur, projects N.from main mountain.
	Descend abruptly.
71.00	Gulch, 100 ft.deep, drains N.
	Ascend.
72.00	Ascend spur, projects N., 75 ft.high.
	Descend.
75.00	Hollow, 75 ft.deep, drains N.
	Ascend.
80.00	The cor.of secs.29,30,31, and 32.

Chains.	
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth serviceberry and scrub oak.
	Mountainous land 80.00 chs.
	April 8,:1910: At the noon hour sky overcast; obs.for lat. impossible.

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

40.00	Set temp. $\frac{1}{4}$ sec.cor.
77.73	Intersect W.bdy.of Tp.7 lks.N.of the cor.of secs.25,30, 31, and 36, heretofore described. Thence I run N.89° 57'E.on true line bet.secs.30 and 31,
	Ascending, over mountainous land; through scattering timber.
6.13	Spur, projects NW. from main mountain, 75 ft.high.
	Descend.
13.23	Wash, 1 ch.wide, 8 ft.deep, drains N.
37.73	On N.side of deep gulch draining W.
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 30 in N.half, S 31 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor. Impossible to set post in the ground.
	Ascend abruptly over limestone ledges.
55.98	Spur, 700 ft.high, projects NW.
	Descend.
65.73	Hollow, 75 ft.deep, drains N.
	Ascend.
77.73	The cor.of secs.29,30,31, and 32.
	Land, mountainous.
	Soil, rocky and gravelly loam; 4th and 3d rate.
	Timber, scattering cedar and pine.
	Mountainous land 77.73 chs. April 8, 1910.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	April 9, 1910: At 8 h. 02 m.a.m.l.m.t. I set off 7° 26' N.on decl.arc; 37° 11'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.29,30,31 and 32. Thence I run
	N.0° 03'W.bet.secs. 29 and 30,
	Descending into bottom of hollow, over scattering boulders; through scattering sagebrush and cedar and pine timber.
34.03	North edge of wash in main gulch; wash 40 lks.wide, 3 ft.deep, 400 ft.below cor.
	Ascend gradually.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 30 in W.half, S 29 in E.half; from which
	A pine 8 ins.dia., bears N.49° 00'E. 173 lks.dist. marked ¼ S 29 B T
	A cedar 6 ins.dia.bears N.22° 05'W. 51 lks.dist. marked ¼ S 30 B T.
	Ascend gradually
58.00	Bottom of limestone ledges.
	Ascend abruptly.
71.90	Top of mountain, 900 ft.high, bears E.and NW.
	Descend N.side of mountain.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 19,20,29, and 30, marked on brass cap
	T 41 S S 19 in NW.
	R 18 W S 20 in NE.
	S 29 in SE.; and
	S 30 in SW.quadrants; from which
	A cedar 7 ins.dia., bears S.41° 45'E. 49 lks.dist. mkd.T41S R 18 W S 29 B T
	A cedar 16 ins.dia.bears N.54° 52'E. 91 lks.dist. mkd.T41S R18 W S 20 B T
	A pine 10 ins.dia., bears N.62° 23'W. 119 lks.dist.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	mkd.T 41 S R 18 W S 19 B T
	A pine 10 ins.dia., bears S.83° 35'W. 131 lks. dist. mkd.T 41 S R 18 W S 30 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, sagebrush.
	Mountainous land 80.00 chs.
	East on a random line bet.secs.20 and 29,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
79.97	Intersect N. and S.line 7 lks. N.of the cor.of secs. 20,21, 28 and 29,
	Thence I run
	N.89° 57'W.on true line bet.secs.20 and 29,
	Over mountainous land; descending abruptly, through timber
19.97	Foot of abrupt descent. Enter scattering timber.
22.98	Hollow, 70 ft.deep, drains N.
	Ascend.
25.95	Top of spur, projecting N.
	Descend , over rocky N.slope
35.97	Gulch, 100 ft.deep, drains N.
	Ascend abruptly; enter dense timber, bearing N. and S.
39.98½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 20 in N.half, S 29 in S.half; from which
	A pine 8 ins.dia., bears N.68° E. 62 lks.dist. marked $\frac{1}{4}$ S 20 B T
	A pine, 10 ins.dia., bears S.18° 10'W. 115 lks. dist., marked $\frac{1}{4}$ S 29 B T
	Descend along N.slope of spur which projects S.
54.72	Hollow, 100 ft.deep, drains N. Leave timber, bears N. and S.

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Chains.	
	Ascend.
64.96	Small ridge, 25 ft.high, projects N.from main ridge.
	Descend
69.77	Hollow, 100 ft.deep, drains N.
	Ascend.
71.75	Spur, 300 ft.above hollow, projects N.
	Descend abruptly, over rocky ground.
72.42	Hollow, 60 ft.deep, drains NW.
	Ascend.
79.97	The cor.of secs. 19,20,29, and 30.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth, sagebrush.
	April 9, 1910: At this cor.I set off 7° 29'N.on decl. arc; and at 0 h. 02 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 12'N.

S.89° 57'W.on random line bet.secs.19 and 30,

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

77.64 Intersect W.bdy.of Tp. 8 lks.S.of the cor.of secs.19, 24,25, and 30, heretofore described. Thence I run East on true line bet.secs.19 and 30,

Over mountainous land; ascending over rocky ledges through scattering timber and dense undergrowth.

20.00 Main ridge or spur from mountain range. This spur is 600 ft.high and comes from NE. Descend over SE.side of spur.

30.00 Small ravine, 150 ft.below ridge, drains S.

Ascend.

33.00 Spur, 40 ft.high, projects S.

Descend.

36.00 Ravine 200 ft.deep, drains S.

Ascend.

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Chains.	
37.64	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone, for ¼ sec.cor., marked on brass cap ¼ S 19 in N.half, S 30 in S.half; from which
	A pine 8 ins.dia.bears S.45° W.17 lks.dist. marked ¼ S 30 B T
	A cedar 14 ins.dia., bears N.6° 15'W. 88 lks.dist. marked ¼ S 19 B T
	Impossible to set post in the ground.
	Ascend.
40.70	Spur, 100 ft.high, projects S.
	Descend.
45.00	Ravine, 100 ft.deep, drains S.
	Ascend abruptly.
65.00	Top of mountain, 500 ft.above ravine, bears NW. and SE.
	Descend 350 ft. to
77.64	The cor.of secs. 19,20,29, and 30.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, dense black brush.
	Mountainous land 77.64 chs.

N.0° 03'W.bet.secs.19 and 20,

	Descending abruptly along E.side of mountain; through scattering cedars and pine.
5.00	Head of gulch, 200 ft.deep, drains E.Ascend E.slope of mountain through dense pinon pine, bearing E. and W.
17.00	Top of high spur, 800 ft.high, projects NE.from main ridge mountain.
	Descend abruptly, over rocky slope.
32.00	Leave dense pinon pine and scattering cedars., bearing E. and W.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the

SUBDIVISION OF T. 41 S., R. 18 W.

Chains. ground, for ¼ sec.cor., marked on brass cap ¼ S 19 in W.half, S 20 in E.half; and raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.Pits impracticable.

Ascend 75 ft.

42.50 Ridge, 500 ft.high, bears SW. and NE.

Descend abruptly.

54.00 Hollow, 300 ft.deep, drains NE.

Ascend abruptly.

68.00 Ridge, 150 ft.high bears NE. and SW.

Descend, abruptly.

80.00 Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs. 17,18,19, and 20, marked on brass cap,

T 41 S S 18 in NW.
R 18 W S 17 in NE.
S 20 in SE.; and
S 19 in SW.quadrants; from which

A pine 6 ins.dia., bears N.32° 17'W. 182 lks.dist. marked T 41 S R 18 W S 18 B T

A cedar 8 ins.dia., bears N.18° 15'E. 110 lks.dist. marked T 41 S R 18 W S 17 B T

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

Land, mountainous.

Soil, rocky; 4th rate.

Timber cedar and pine.

Undergrowth sagebrush.

Mountainous land 80.00 chs.

April 9, 1910.

April 11: At 8 h. 01 m.a.m.l.m.t.I set off 8° 10'N.on decl.arc; 37° 13'N.on lat.arc; and determine a meridian with the solar at the cor.of secs.17,18,19, and

Chains.	
	20. Thence I run
	S.89° 57'E.on a random line bet.secs.17 and 20,
40.00	Set temp.$\frac{1}{4}$ sec.cor.
79.93	Intersect N. and S.line 7 lks.S.of the corner of secs.
	16,17,20, and 21; thence I run
	West on a true line bet.secs.17 and 20,
	Ascending abruptly.
4.00	Enter cedar and pine, scattering.
14.60	Top of ridge, 250 ft.high, bears NW. and SE.
	Descend abruptly through heavy pine and cedar timber,
	bearing N. and S.
39.96½	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the
	ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 17
	in N.half, S 20 in S.half; from which
	A pine 6 ins.dia.bears N.56° 51'W. 37 lks.dist.
	marked $\frac{1}{4}$ S 17 B T.
	A pine, 6 ins.dia.bears S.25° 00'E. 30 lks.dist.
	marked $\frac{1}{4}$ S 20 B T.
44.00	Ravine, 60 ft.deep, drains N., 600 ft.below ridge.
	Ascend.
48.00	Small spur, 50 ft.high, projects NW.
	Descend.
57.00	Main wash, 250 ft.below ridge, 30 lks.wide, 3 ft.deep,
	drains NW.
	Ascend.
67.00	Top of spur, 150 ft.high, projects NE.from main mountain.
	Descend abruptly.
71.00	Hollow, 50 ft.deep, drains NW.
	Ascend.
74.95	Top of spur, 75 ft.high bears N. and SW.to main moun-
	tain.
79.93	The cor.of secs.17,18,19, and 20.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber cedar and pine, scattering.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	Undergrowth manzanita and black brush.
	Mountainous land 79.93 chs.
	West on a random line bet.secs. 18 and 19,
40.00	Set temp.$\frac{1}{2}$ sec.cor.
77.55	Intersect W.bdy.of Tp. 5 lks.S.of the cor.of secs. 13, 18,19, and 24, heretofore described.
	Thence I run
	S.89° 58'E.on true line bet.secs.18 and 19,
	Over mountainous land ; through scattering timber and sagebrush undergrowth.
26.55	Top of main mountain ridge, bearing N. and S., 650 ft. above cor.
	Descend abruptly over limestone ledges.
	Leave scattering timber.
37.55	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 18 in N.half, S 19 in S.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high N.of cor.
	Continue abrupt descent.
38.05	Wash, 30 lks.wide, 3 ft.deep, drains N.
42.05	Hollow 75 ft.deep, drains north into main valley. Enter scattering cedar and pine.
	Ascend.
54.08	Top of spur, projects N.; 150 ft.high.
	Descend.
69.55	Hollow, 200 ft.deep, drains N.
	Ascend.
72.05	Spur, 125 ft.high projects N.
	Descend.
77.55	The cor.of secs.17,18,19, and 20.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.

Chains.	
	Undergrowth sagebrush.
	Mountainous land 77.55 chs.
	April 11, 1910: At this cor. I set off 8° 13'N. on the decl. arc; and at 0 h. 01 m. p.m.l.m.t. observe the sun on the meridian; the resulting lat. is 37° 13'N.
	N.0° 03'W. bet. secs. 17 and 18,
	Descending abruptly along E. slope of spur, over rocky ground; through scattering timber.
15.75	Foot of descent. Thence across bottom of gulch.
30.05	Main gulch, 300 ft. below sec. cor., drains W.
	Ascend gradually, through scattering pinon pine.
40.00	Set an iron post 3 ft. long, 1 in. dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 18 in W. half, S 17 in E. half; from which
	A pine 10 ins. dia. bears N.84° 35'W. 68 lks. dist. marked ¼ S 18 B T
	A pine 8 ins. dia. bears S.14° 35'E. 135 lks. dist. marked ¼ S 17 B T
	Ascend abruptly.
54.10	Spur, 150 ft. high projects SW.
	Descend.
58.50	Hollow, 100 ft. deep, drains W.
	Ascend.
60.50	Ridge, 100 ft. high bears NW. and E.
	Descend.
66.50	Hollow, 50 ft. deep, drains NE.
	Ascend.
74.00	Small spur, 75 ft. high, projects NE.
	Descend.
76.00	Hollow, 50 ft. deep, drains NE.
	Ascend abruptly.
78.00	Spur, 70 ft. high from SW., projects NE.
	Descend abruptly.

Chains.	
80.00	Set an iron post 3 ft.long, 3 ins.dia., 24 ins.in mound of stone, for cor.of secs.7,8,17, and 18, marked on brass cap T 41 S S 7 in NW. R 18 W S 8 in NE. S 17 in SE.; and S 18 in SW.quadrants; and raise a mound of stone 2 ft.base, 1½ft.high W.of cor.Pits impracticable. Impossible to set post in ground.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth scattering sagebrush.
	Mountainous land 80.00 chs.

	East on a random line bet.secs.8 and 17,
40.00	Set temp.¼ sec.cor.
79.98	Intersect N. and S.line at the cor.of secs. 8,9,16, and 17. Thence I run West on a true line bet.secs.8 and 17,
	Ascending along north slope of spur coming from SW.; through scattering cedar and pine; and dense black brush.
11.00	Top of abrupt spur from south, 200 ft.high
	Descend,abruptly.
18.25	Bottom of abrupt descent, 75 ft.below top.
	Ascend abruptly.
25.50	Top of abrupt ascent, 50 ft.above foot.
26.15	Begin descent.
30.25	Hollow, 100 ft.deep, drains N.
	Ascend.
39.99	Top of small spur, 90 ft.high, projecting N.
	Set

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 8 in N.half, S 17 in S.half; from which
	A pine 14 ins.dia.bears S.5° 05'W. 185 lks.dist. marked ¼ S 17 B T
	No other bearing trees within limits; raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.
	Descend.
44.00	Ravine, 60 ft.deep, drains NE.
	Ascend.
48.42	Spur, 100 ft.high, projects NE.
	Descend.
57.00	Ravine, 80 ft.deep, drains NE.
	Ascend.
68.00	Spur, 100 ft.high, projects NE.
	Descend.
75.00	Hollow, 40 ft.deep, drains NE.
	Ascend 75 ft.to
79.98	The cor.of secs.7,8,17, and 18.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.
	Mountainous land 79.98 chs.
	April 11, 1910.

April 12:At 8 h. 01 m.a.m.l.m.t.I set off 8° 32'N.on decl.arc; 37° 14'N.on lat.arc; and determine a meridian with the solar.at the cor.of secs.7,8,17, and 18.

Thence I run

N.89° 58'W.on random line bet.secs. 7 and 18,

40.00	Set temp.¼ sec.cor.
77.46	Intersect W.bdy.of Tp. 2 lks.N. of the cor.of secs.7, 12,13, and 18, heretofore described. Thence I run

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	S.89° 59'E.on true line bet.secs.7 and 18,
	Ascending over mountainous land; through dense black brush.
2.00	Top of west end of small spur from east, 50 ft.high.
	Ascend 200 ft.along same spur.
11.65	Same spur, from NE.
	Descend abruptly.
16.00	Hollow, 100 ft.deep, drains S.70° W. Ascend.
23.25	Spur, 300 ft.high,projects SW.
	Descend abruptly.
29.00	Foot of abrupt descent, 150 ft.below top, slopes S.
	Ascend.
30.75	Top of spur, from north, 50 ft.high.
	Descend.
37.46	Set an iron post 3 ft.long, 1 inddia., 26 ins.in the ground, for ¼ sec.cor.,marked on brass cap ¼ S 7 in N.half, S 18 in S.half; from which
	A pine 12 ins.dia.bears S.84° 10'E. 219 lks.dist. marked ¼ S 18 B T
	A pine 8 ins.dia.bears N.43° 15'E. 187 lks.dist. marked ¼ S 7 B T
40.00	Basin 60 ft.deep, drains S.
	Ascend.
50.00	Spur, 100 ft.high, from north.
	Descend.
60.00	Ravine, 50 ft.deep, drains SW.
	Ascend abruptly.
70.00	Ridge, 350 ft.high, bears NW. and SE.
	Leave scattering cedar and pine.
77.46	The cor.of secs.7,8,17, and 18.;150 ft.below ridge.
	Land, mountainous.
	Soil, rocky; and gravelly; 4th and 3d rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.
	Mountainous land 77.46 chs.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	N.0° 03'W.bet.secs.7 and 8,
	Descending abruptly.
4.00	Hollow, 75 ft.deep, drains NE.
	Ascend.
8.00	Top of spur, 150 ft.above hollow, projects NE.
	Descend abruptly over rocky mountain side.
10.75	Foot of abrupt descent.
19.80	Hollow, 75 ft.deep, drains E. 5 chs.; then N.
	Ascend abruptly.
25.00	Spur 100 ft.high, projects NE.
	Descend abruptly.
29.75	Bottom of hollow, 75 ft.deep, drains E. 2 chs., then N.
	Ascend.
35.30	Top of spur, 75 ft.high projects NE.
	Descend abruptly.
38.00	Wash, 100 ft.below Spur, drains E.
	Ascend, abruptly.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in mound of stone, for $\frac{1}{4}$ sec.cor., marked on brass cap $\frac{1}{4}$ S 7 in W.half, S 8 in E.half; and raise a mound of stone 2 ft.base, $1\frac{1}{2}$ ft.high W.of cor.Pits impracticable. Impossible to set post in ground.
	Continue abrupt.ascent.
42.20	Top of rocky spur, ~~600 ft.~~ 600 ft.high, projects NE.
	Descend abruptly; over rocky ground.
58.30	Bottom of abrupt descent, 60 ft.below ridge.Enter cedar and pine timber, bearing E. and W.
	Ascend over rolling land.
70.00	Top of ridge,projects SE., runs out 8 chs.NW.
	Descend.
80.00	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in the ground, for cor.of secs.5,6,7, and 8, marked on brass cap T 41 S S 6 in NW.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
	R 18 W S 5 in NE.
	S 8 in SE.; and
	S 7 in SW.quadrants; from which
	A cedar 7 ins.dia.bears N.30° 40'W. 33 lks.dist. marked T 41 S R 18 W S 6 B T
	A cedar 6 ins.dia.bears N.44° 05'E. 118 lks.dist. marked T 41 S R 18 W S 5 B T
	A pine, 10 ins.dia., bears S.39° 25'E. 86 lks.dist. marked T 41 S R 18 W S 8 B T
	A pine 6 ins.dia.bears S.60° 30'W. 34 lks.dist. marked T 41 S R 18 W S 7 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pine.
	Undergrowth, black brush.
	Mountainous land 80.00 chs.
	April 12: At this cor.I set off 8° 35'N.on decl.arc; and at 0 h. 01 m.p.m.l.m.t.observe the sun on the meridian; the resulting lat.is 37° 14'N.
	East on a random line bet.secs.5 and 8,
40.00	Set temp.¼ sec.cor.
80.02	Intersect N. and S.line 2 lks.N.of the cor.of secs.4,5, 8, and 9. Thence I run
	N.89°59'W.on a true line bet.secs.5 and 8,
	Ascending through scattering cedar and pine, and black brush.
4.55	Small ridge, 25 ft.high, bears N. and S.
	Descend.
14.00	Hollow, 30 ft.deep, drains N.
20.25	Ridge, 40 ft.high, bears N. and S. Descend.
33.25	Ravine, 60 ft.deep, drains NW.
40.01	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the

Chains.	
	ground, for ¼ sec.cor., marked on brass cap ¼ S 5 in N.half, S 8 in S.half; from which
	A cedar, 5 ins.dia., bears N.72° 40'W. 44 lks.dist. marked ¼ S 5 B T
	A cedar 7 ins.dia.bears S.18° 50'W. 32 lks.dist. marked ¼ S 8 B T
42.00	Small ridge, 50 ft.high, bears N. and S. Descend.
44.00	Hollow, 30 ft.deep, drains N.20° W. Ascend.
47.00	Long knoll, 30 ft.high, bears NW. and SE.
51.00	Enter hollow,draining N. Enter timber,bearing N. and S. Thence over slightly rolling ground; through timber.
80.02	The cor.of secs.5,6,7, and 8.
	Land, mountainous and rolling.
	Soil, rocky; 4th rate.
	Timber, pine and cedar.
	Undergrowth, black brush.
	Mountainous land 51.00 chs.

April 12, 1910.

Harry L. Chamberlin
U.S. Deputy Surveyor

April 12:

N.89° 59'W.on random line bet.secs.6 and 7,

40.00	Set temp.¼ sec.cor.
77.32	Intersect W.bdy.of Tp., 2 lks.N.of the cor.of secs.1,6, 7, and 12, heretofore described.Thence I run
	East on a true line bet.secs.6 and 7,
	Descending through dense black brush and scattering timber.
1.82	Ravine,30 ft.deep, drains N. Ascend.
18.82	Small spur, 40 ft.high, projects N. Descend.
20.32	Ravine, 60 ft.deep, drains N. Ascend.
28.57	Top of ridge,100 ft.high, bears N. and S.

Chains.	Descend.
37.32	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 6 in N.half, S 7 in S.half; and raise a mound of stone 2 ft.base, 1½ ft.high N.of cor.Pits impracticable.
44.32	West side of wash; enter scattering cedar and pine.
47.57	Wash, 50 ft.deep, drains N.
49.57	E.side of wash.
	Ascend
54.32	Small spur, 40 ft.high, from south; projects N.
	Descend over rolling ground to
77.32	The cor.of secs.5,6,7, and 8.
	Land, mountainous and rolling.
	Soil, rocky and gravelly; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.

N.0° 03'W.on true line bet.secs.5 and 6,

	Ascending; through dense black brush and scattering timber.
2.00	Small knoll, 20 ft.high, bears E. and W.
	Descend into hollow sloping west.
26.30	West end of spur, 50 ft.high, projects from east.
	Descend into timber.hollow.
38.50	Wash, 30 lks.wide, 4 ft.deep, drains W.
40.00	Set an iron post 3 ft.long, 1 in.dia., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap ¼ S 6 in W.half, S 5 in E.half; from which A cedar 6 ins.dia.bears S.68° 50'E. 39 lks.dist. marked ¼ S 5 B T A cedar 7 ins.dia.bears S.17° 50'W. 69 lks.dist. marked ¼ S 6 B T
55.00	Ridge, 200 ft.high bears E. and W.
	Descend.

SUBDIVISION OF T. 41 S., R. 18 W.

Chains.	
73.00	Hollow, 300 ft.deep, drains SW.
	Ascend; over rolling rocky ground.
93.10	Intersect Eighth Stand.Par.S. 182 lks.E.of the stand. cor.of secs. 31 and 32, heretofore described.
	Set an iron post 3 ft.long, 2 ins.dia., 24 ins.in a mound of stone for closing cor.of secs.5 and 6, marked on brass cap
	C C T 40 S R 18 W S 31 S 32 in N.half,
	S 5 in SE.; and
	S 6 in SW.quadrants; from which
	A cedar 12 ins.dia., bears S.50° E. 89 lks.dist. marked T 41 S R 18 W S 5 B T
	A cedar 12 ins.dia., bears S.35° W. 102 lks.dist. marked T 41 S R 18 W S 6 B T
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth dense black brush.
	Mountainous land 93.10 chs.

April 13,1910.

Job H. Winwood
U.S. Deputy Surveyor

GENERAL DESCRIPTION.

This township is mountainous; and is very rough except in the northern part. The soil is generally rocky although in the northern part it is a gravelly or sandy loam. The township is covered with a sparse growth of grass of poor quality for grazing.

Cedar, pinon pine, and some yellow pine is found in the eastern, southern and western portions.

The township is very poorly watered. Pahcoon Spring in the NE.cor.of sec.11 is the only fresh water in the township. The water from this spring is piped into a

tank; and is used for watering stock. The overflow is small; and sinks within two hundred feet of the tank.

The higest point in the Beaver Dam Mts. lies about one mile south of this township. To the west the country is rolling for about six miles, or until reaching the Beaver Dam Wash.

There are no mines, salt springs or licks, nor indications of oil in the township.

There are no settlers in the township.

Job N. Winwood
Harry L. Chamberlin
U.S. Deputy Surveyors.

Note:

There being no notary public or other officer authorized to administer oaths, within a reasonable distance, at the beginning or ending of the surveys embraced in this contract; therefore, in order to save time and expense we administered the preliminary and final oaths of our assistants ourselves.

Job N. Winwood
Harry L. Chamberlin
U.S. Deputy Surveyors.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Job H.Winwood and Harry L. amberlin, United States Deputy Surveyors, to assist in running, measuring, and arking the lines and corners described in the foregoing field notes of the survey of the Subdivision Tps.41 S., Rs.17 and 18 W.of the S.L.B.& M.,Utah, owing the respective capacities in which they acted:

Jesse M.Churchill, *Chainman.*

Ceth D.Peacock, *Chainman.*

Josiah Leavitt, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Josiah H.Leavitt, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Job H.Winwood, United States Deputy Surveyor, in surveying all se parts or portions of the Subdivision of Townships 41 South, Ranges 17 and West, of the Salt e Base and meridian, State of Utah, which are represented the foregoing field notes as having been surveyed by him and under his direction; and that said survey been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the ner monuments established, according to the instructions furnished by the United States Surveyor neral for Utah.

Jesse M. Churchill, *Chainman.*

Ceth D. Peacock, *Chainman.*

Josiah Leavitt, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Josiah H. Leavitt, *Flagman.*

scribed and sworn to before me this 12th day of April, 1910.

SEAL

Job H. Winwood
U.S.Deputy Surveyor.

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FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Job H. Winwood, United States Deputy Surveyor, solemnly swear that, in pursuance of a contract received from Thomas Hull United States Surveyor General for Utah, bearing date of 28 day of June, 1909, I have well, faithfully, and truly, in my proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Utah, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the Subdivision of Townships No. 41 South, Ranges Nos. 17 and 18 West

of the Salt Lake Base and meridian, in the State of Utah, which are represented in books "F" and "J" 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 Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Job H. Winwood
United States Deputy Surveyor

Subscribed by said Job H. Winwood, and sworn to before me this 18 day of February, 1911.

Thomas Hull
U. S. Surveyor-General
for Utah.

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

, 19

The foregoing field notes of the survey of

executed by

under his contract No. , dated , 19 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

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

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Job H. Winwood and Harry L. Chamberlin, United States Deputy Surveyors, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the Subdivision of Tps. 41 S., Rs. 17 and 18 W. of the S.L.B.& M., Utah,

showing the respective capacities in which they acted:

Roger W. Jessup, *Chainman.*

Royal H. Blake, *Chainman.*

Arther R. Bentley, *Moundman.*

, *Moundman.*

Rd. A. Morris Jr., *Axman.*

, *Axman.*

Sidney Leavitt, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Harry L. Chamberlin, United States Deputy Surveyor, in surveying all those parts or portions of the Subdivision of Townships 41 South, Ranges 17 and 18 East

of the Salt Lake Base and meridian, State of Utah, which are represented on 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 Utah.

Roger W. Jessup, *Chainman.*

Royal H. Blake, *Chainman.*

Arther R. Bentley, *Moundman.*

, *Moundman.*

Rd. A. Morris Jr., *Axman.*

, *Axman.*

Sidney Leavitt, *Flagman.*

Subscribed and sworn to before me this 12th day of April, 1910

SEAL

Harry L. Chamberlin
U.S. Deputy Surveyor.

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FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Harry L. Chamberlin, United States Deputy Surveyor, solemnly swear that, in pursuance of a contract received from Thomas Hull United States Surveyor General for Utah, bearing date of 28 day of June, 1909, I have well, faithfully, and truly, in my proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Utah, the Manual of Surveying Instructions, and the laws of United States, surveyed all those parts or portions of the Subdivision of Townships No. 41 South, Ranges Nos. 17 and 18 West

of the Salt Lake Base and meridian, in the State of Utah, which are represented in 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 Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

in books "F" and "J"

Harry L. Chamberlin
United States Deputy Surveyor

Subscribed by said Harry L. Chamberlin, and sworn to before me this 13th day of March, 1911

SEAL

Martin Vortash
County Clerk - Baraga County
Michigan

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, April 24, 1911

The foregoing field notes of the survey of the subdivisional lines of Township No. 41 South, Range No. 18 West of the Salt Lake Base and Meridian, Utah,

executed by Job H. Winwood and Harry L. Chamberlin their under his contract No. 314, dated June 28, 1909, having been critically examined, and the necessary corrections and explanations made, the said field notes, and surveys they describe, are hereby approved.

Thomas Hull
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

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BOOK A-368

FILED
DEC 30 1910

Book "A"

FIELD NOTES

OF THE SURVEY OF THE

EAST and SOUTH BOUNDARIES OF

FRACTIONAL T. 21 S., R. 7 E.

Of the Salt Lake Base and *Meridian,*

Utah.

AS SURVEYED BY

Howard T. Miller and Andrew Nelson, *United States Deputy Surveyor,*

Under ~~His~~ *Contract No.* 316, *dated* Jan. 15, 1910 *190*

Survey commenced May 16, 1910 *190*

Survey completed May 24, 1910 *190*

BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Andrew Nelson, chainman.

Fred Wright, chainman

Ray Bryan, moundman

Edward Jones, axman and flagman.

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BOOK A-368

INDEX DIAGRAM.

Township 21 S , *Range* 7 E

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PRELIMINARY OATHS OF ASSISTANTS.

We, Andrew Nelson and Fred Wright

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

EAST and SOUTH BOUNDARIES OF T. 21 S., R 7 E. S.L.B.& M.

UTAH.

Andrew Nelson, Chainma

Fred Wright, Chainma

Subscribed and sworn to before me this 18th day of May 1910, ~~190~~

SEAL

Howard W Miller

U.S.Deputy Surveyor

We, I Ray Bryan and

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishme of corners, according to the instructions given ~~us~~ me to the best of ~~our~~ my skill and ability, in the survey

EAST and SOUTH BOUNDARIES OF T. 21 S., R 7 E. S.L.B.& M.

UTAH.

Ray Bryan, Moundma

, Moundma

Subscribed and sworn to before me this 18 day of May 1910, ~~190~~

SEAL

Howard W Miller

U.S.Deputy Surveyor

We, I Edward Jones and

do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of corn and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the survey

EAST and SOUTH BOUNDARIES OF T. 21 S., R 7 E., S.L.B.&

M., UTAH.

Edward Jones, Axma

, Axma

Subscribed and sworn to before me this 18th day of May 1910, ~~190~~

SEAL

Howard W Miller

U.S.Deputy Surveyor

I, Edward Jones, do solemnly swear that I will well and tru perform the duties of flagman according to instructions given me, to the best of my skill and ability, in t survey of EAST and SOUTH BOUNDARIES OF T. 21 S., R 7E., S.L.B.&

UTAH.

Edward Jones Flagma

Subscribed and sworn to before me this 18th day of May 1910, ~~190~~

SEAL

Howard W Miller

U.S.Deputy Surveyor.

(—11)

Resurvey E. Boundry T 21 S ; R 7 E.

Survey commenced May 18, 1910 and executed with a W. and L. E. Gurley light mountain transit No. 9624, with 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 also the least count of the vernier of the latitude arc. The least count of the vernier of the declination arc is 30".

The instrument was examined, tested on the true meridian at Salt Lake City, Utah, May 10 1910. and approved by the surveyor general for Utah.

I examine theadjustments of the transit, and correct the level and collination errors; then, to test the solar apparatus, by comparing its indications, resulting from solar observations made during a. m. and p.m. hours with a meridian determined by observations on Polaris, I proceed as follows;

At the cor. of Ts 20 and 21 S; Rs 7 and 8 E; latitude 39° 01' 42" N.; longitude 111° 07' 14" W.; I set off 39° 02' 42" N. on the latitude arc; 19° 32' N. on the decl. arc; and at 3h. 56m. p. m. l.m.t. determine with the solar a meridian and mark the point therof, on a stone firmly set in the ground 5 chs. N. of the cor .

May 18, 1910.

May 19; At 3h. 46m. a.m. l.m.t. by my watch, I observe Polaris at eastern 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.

At 6 h. a.m. l.m.t. I lay off the azimuth of Polaris, 1° 30' 36" to the W. and find that my solar and stellar observations agree.

At 6h. 56m. a.m. l.t. I set off 39° 02' 02" N. on the lat. arc.; 19° 41' N. on the decl. arc.; and determine a meridian with the solar. This meridian agrees with the Polaris

chains

meridian. I therfor conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian, at 8 a.m. is N.16° 35' W.;the angle thus determined gives the mag. decl. 16° 35' E.

Preliminary to commencing the survey of the southern 4½ miles of the E. bdy. of this tp, I run S. on a blank line , between secs. 1 and 6;at 40.00 chs.I make a careful search but am unable to find any trace of the ¼ sec cor.;and at 80.88 chs. fall20 lks. W. of the cor. of secs. 1,6,7 and 12. From the cor. of secs. 1,6,7 and 12 Icontinue south, and at 40.00 chs. am unable to find any trace of the ¼ sec. cor. between secs.7 and 12. I t herefor resurvey the range line between them as follows:

The old cor.of Ts 20 and 21 S; Rs 7 and 8 E.; is a sandstone, and the marks are nearly obliterated. I destroy all traces of the old cor. and reestablish it at the same point.

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground,for cor of Ts 20 and 21 S.; Rs 7 and 8 E.; marked on brass cap

T 20 S in N. half,

T 21 S in S. half,

R 8 E S31 in NE,

R 8 E S 6 in SE,

R 7 E S 1 in SW, and

R 7 E S 36 in NW quadrant; dig pits, 24 × 24 × 12 ins, on each line, N.,E., and W., 4 ft., and S. of post 8 ft, dist.; and raise a mound of earth, 5 ft. base, 2½ ft. high, S.of cor.

Thence I run

S 0° 09' E., bet. secs.1 and 6

Gradually desc.over broken land

chains	
40.44	Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for the ¼ sec.cor., marked on brass cap ¼ S 1 on W. half nad S 6 on E. half: dig pits 18x18 x 12 ins., N. and S. of post, 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
80.88	Set an iron post, 3 ft. long. 3 ins. diam., 24 ins. in the ground, for cor. of secs. 1, 6, 7 and 12; marked on brass cap T 21 S in N. half, R 8 E in E. half, R 7 E in W. half, S 6 in NE., S 7 in SE, S 12 in SW. and S 1 in NW quadrant; dig pits 18 x 18 x 12 ins. in each sec., 5½ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Note; I destroy all traces of the old cor. Land, hilly. Soil, adobe; 4 th. rate. No timber. May 19: At this sec.cor. I set off 19° 42¾' N.on the decl. arc; and at 11h. 56m am l.m.t. Observe the sun on the meridian; the resulting latitude is 39° 01' .

South bet. secs. 7 and 12.

Ascend over mountainous land sloping NW.

17.90	Top of 50 ft. ledges, bears E. and W.
	Descend.
19.60	Wash, 25 lks. wide, course E. 5ft. deep.
	Ascend.
24.00	Enter scattering cedar and pinon timber, bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec.cor., marked on brass cap ¼ S 12 on

Resurvey E. Boundry

chains

W. and S 7 on E. half; from which

A pinon 19 ins. diam. bears N.17¾° W. 291 lks. dist., marked ¼ S 12 B T.

A pinon 5 ins. diam. bears. N 23° E. 396 lks. dist., marked ¼ S 7 B T.

Land, hilly.

Soil, rocky, 4 th. rate.

Timber, scattering cedar and pinon.

Timbered land 16.00 chs.

Howard W. Miller
U. S. Deputy Surveyor

May 19, 1910.

East Boundry T 21 S; R 7 E.

chains	
	Survey commenced May 20, 1910 ;description and test of instrument found in book A of Resurvey E. boundry T 21S. R 7 E.
	May 2o; At 7 h.56 m. a.m. l.m.t. Isset off 39° 00' 23" N. on the lat. arc; 19° 53¾' N. on the decl. arc; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 7 and 12 set by me May 19.
	Thence I run
	South on random line, along the E. bdy. T 21 S. R 7 E., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs.;and at 360.00 chs. set temp. cor of Ts 21 and 22 S; Rs 7 and 8 E.
	May 20,1910.
	May 23, 1910; At7 h. 56m. a.m.l.m.t. Iset off 38° 56' 29" N. on the latitude arc; 20° 30¼' N. on the decl. arc;and determine a meridan with the solar at t he cor of Ts 21 and 22 S ; Rs 7 and 8 E. hereinafter described.
	Thence I run
	North, bet. secs 31 and 36
	Over broken land
.50	Road, bears E. and W.
7.45	Wash. 30 lks. wide, 15 ft. deep, course E.
	Asc over mountainous land facing S.
21.20	Ridge, 100 ft. above wash, bears E, and W.
24.90	Wash, 20 lks. wide, 2 ft. deep, drains SW.
33.50	Ridge, 30ft. high, bears E. and W. desc.
38.50	Hollow, drains W.,20ft. deep.
40.00	Set an iron post, 3 ft. long, 1 in.in dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 36 on W. half and S 31 on E. half; from which
	A pinon, 7 ins. diam.,bears N 8½° E., 144 lks. dist., marked ¼ S 31 B T.
	A pinon, 8 ins. diam., bears S 44° W., 263 lks. dist. marked ¼ S 36 B T.

chains	
47.00	Spur, projects W. enter dense forest cedar and pinon.
	gradually desc. over land sloping NW.
59.40	Wash, 10 lks. wide, course SW., leave timber.
	Thence gradual lay asc. over land sloping SE.
80.00	Set an iron post, 3 ft. long, 3 ins.in.dia., 24 ins.in
	the ground, for cor. of secs. 25, 30, 31 and 36; marked
	on brass cap
	T 21 S in N. half,
	R 8 E in E half,
	R 7 E in W. half;
	S 30 in NE.
	S 31 in SE.
	S 36 in SW.
	S 25 in NW. quadrant ;from which
	A cedar, 6ins. diam., bears N 60¾° W.,156 lks. dist.,
	marked T 21 S R 7 E S 25 B T.
	and raise a mound of stone, 2 ft. base 1½ ft. high W.
	of cor. No other trees within limits.
	Land,mountainous.
	Soil, rocky and adobe; 4 th. rate.
	Timber cedar and pinon.
	Land mountainous andheavily timbered 80 00 chs.

	North, bet. secs. 25 and 30
	Gradually asc. over land facing SE.
20.00	Base of high mesa, enter huge boulders, bears N10° E
	S 30° W.
31.00	Leave boulders, bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins.in
	the ground, for ¼ sec. cor.,marked on brass cap ¼ S 25
	on W half and S 30 on E. half; and raise a mound of stone
	2 ft. base, 1½ ft. high W. of cor. Pits impractiable.
	Base of mesa bears E. about 3 chs.
	Gradually asc. along E. face of mesa.
80.00	Set an iron post, 3ft.long, 3ins.in dia., 24ins. in the

chains	
	ground, for cor. of secs, 19,24,25 and 30, marked on brass cap
	T 21S in N. half,
	R 8 E in E. half,
	R 7 E in W. half,
	S 19 in NE.
	S 30 in SE.
	S 25 in SW.
	S 24 in NW. quadrant, raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
	Land, mountainous.
	Soil, rocky; 4 th; rate.
	No timber.
	May 23; At this sec. cor. I set off 20° 31¼' H. on the decl. arc; and at 11 h. 56mā.m.l.m.t. observe the sun on the meridian; the resulting lat. is 38° 58'
	North, bet. secs.19 and 24.
	Gadually asc along rocky E. slope of mesa.
8.00	Spur, projects E.
	Desc. from mesa
20.00	Base of mesa , bears NW. and SE.gradually desc.
40.00	Set an iron post,3 ft. long, 1 in.in dia., 26 ins.in theground, for ¼ sec. cor.,marked on brass cap ¼ S 24 on W. half and S 19 on E. half; dig pits 18 / 18 / 12 ins. N. and S. of post,3 ft. dist.; and raise a mound of earth 3½ ft. base. 1½ ft. high W. of cor.
	May 23, 1910.
	May 24; at 6 h. 56.5mā.m.l.m.t. I set off 38° 58½' N. on the lat. arc; 20° 41¼' N. on the decl. arc; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 19 and 24
	Thence I run
	North
46.55	Wash, 30 lks. wide, 10 ft. deep, course S 6 0° E.
51.0	

chains	
51.00	Wash, 15 lks. wide, 5 ft. deep, course SE.
58.00	Base of high mesa bears NE. and W.
	Thence up steep rocky ascent
67.90	Ledge, 45 ft. high, bears NE. and W.
70.45	Top 50 ft. ledge and mesa, 375 ft. above base bears NE. and W.
	Enter dense forest of cedar and pinon, thence over broken mesa top.
80.00	Set an iron post, 3 ft. long, 3ins. in dia., 24 ins, in the ground, for cor of secs. 13,18,19 and 24, marked on brass cap
	T 21 S in N. half,
	R8 E in E. half,
	R 7 E in W half,
	S 18 in NE.
	S 19 in SE.
	S 24 in SW.
	S 13 in NW. quadrant, from which
	A pinon, 8 ins. diam., bears N 28° E., 66½ lks. dist., marked T 21 S R 8 E S 18 B T.
	A pinon, 12 ins. diam., bears S 60° E., 41 lks. dist., marked T 21 S R 8 E S 19 B T.
	A pinon. 6 ins. diam., bears S29¼° W 64 lks. dist., marked T21S R 7 E S24 B T.
	A pinon, 7ins. diam., bears N 22° W., 108 lks. dist., marked T 21 S R 7 E S 13 B T.
	Land, mountainous.
	Soil. rocky; 4 t h. rate.
	Timber. cedar and pinon on 9.55 chs.
	Land mountainous or heavily timbered 80.00 chs.

	North, bet. secs. 13 and 18
	Over broken mesa top thru dense forest of cedar and pinon.
18.00	Wash, course W, 20 lks. wide, 5 ft. deep.
36.75	Draw, drains N 70° W., 20 ft. deep.

chains	
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for ¼ sec.cor., marked on brass cap ¼ S 13 on W. and S 18 on E. half; from which A pinon, 14 ins.diam., bears N 17° E., 252½ lks. dist., marked ¼ S 18 B T. A pinon, 10 ins.diam., bears N 60½° W., 145 lks. dist., marked ¼ S 13 B T. May 24: At this ¼ sec.cor. I set off 20° 43½' N. on the decl. arc; and at 11 h. 56.5m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 38° 59½'.
41.00	Top of a small knoll bears E. 2 chs.
53.95	Draw, course NW., 30 ft. deep.
63.90	Spur, projects W.
	Descend 100 ft. to
75.00	Hollow, drains W.
	Ascend.
80.00	Set an iron post, 3 ft. long, 3 ins.diam., 24 ins. in the ground, for the ~~sec~~.cor. of secs. 7- 12 - 13 - 18, marked on brass; T 21 S in N. half, R 8 E in E. half, R 7 E in W. half, S 7 in NE. S 18 in SE. S 13 in SW. and S 12 in NW. quadrant; from which A pinon, 13 ins.diam., bears N 3½° E., 96 lks. dist., marked T 21 SR 8 E S 7 B T. A pinon, 15 ins.diam., bears S 13° E., 157 lks. dist., marked T 21 S R 8 E S 18 B T. A pinon, 10 ins.diam., bears S 55° W. 94 lks. dist., marked T 21 S R 7 E S 13 B T. A pinon, 11 ins.diam., bears N 70¼ W. 87 lks. dist., marked T 21 S R 7 E S 12 B T.

chains	
	Land, mounainous.
	Soil, rocky; 4th. rate.
	Timber, cedar and pinon.
	Land mountainous and heavily timbered 80.00 chs.

North bet. secs. 7 and 12.

	Over mountainous land thru forest of cedar and pinon.
11.45	Hollow. 1 ch. wide, drains N 50° W., 20 ft. deep.
12.75	Top of 20 ft. ledge, bears NW. and SE.
	Descend .
17.85	Gulch, 50 ft. deep, course NW.
24.00	Top of 15 ft. ledge, bears E. and W.
	Thence descend over land facing NW.
52.93	Intersect ¼ sec.cor. bet. secs. 7 and 12.
	Land, mountainous.
	Soil, rocky; 4 th. rate.
	Timber, cedar and pinon.
	Land mountainous and heavily timbered 52.93 chs.

May 24, 1910.

Howard W. Miller

U.S.Daputy Surveyor.

chains

May 21; 1910:At 7h. 56m. a.m. l.m.t. I set off 38° 56½' N.on t he lat. arc; 20° 06¼' N. on the decl.arc; and determine a meridian with the solar at the temp. cor. of Ts 21 and 22 S ; Rs 7 and 8 E.

Thence I run

West on random line,along the south bdy.of Tp 21 S;R7 E. setting temp.¼ sec.and sec. cors.at intervals of 40:00 chs.;and at 242.20 chs.; fall 12.93 chs. N.of the cor of secs.3,4.33 and 34;which is a sandstone,20 x 18 x 2 ins lying on the ground with marks nearly obliterated. I reestablish the cor at the same place. as follows;

Set an iron post, 3 ft. long ;3ins. in dia.,24 ins.in the ground,for cor of secs 3,4,33 and 34; marked on brass cap

T 21 S R7 E in N. half,
T 22 S in S. half,
S 34 in NE,
S 3 in SE
S 4 in SW
S 33 in NW. quadrant.

from which

A pinon, 8 ins. diam.; bears N 31¼° W., 85 lks., marked T 21 S R 7 E S 33 B T

A pinon, 9 ins. diam., bears N 69¾° E., 34 lks., markedT 21 S R 7 E S 34 B T.

The falling is greater than 50 lks. per mile,Itherefore commence at the cor. of secs 3,4,33 and 34 and run East, bet. secs. 3 and 34,marking and blazing true line. Over broken land sloping NW. thru forest of cedar and pinon.

7.00 Top W. side of canyon, bears N and S.

May 21, 1910.

May 22, 1910:At 6 h. 56m. a.m. l.m.t. I set off 38° 56' 29" N. on the lat. arc; 20°18½' N. on the decl.arc;and determine a meridian with the solar at this station,

chains	
	Thence I run
	East
	Desc. abruptly 150 ft. to
11.25	Wash and base of canyon, 20 lks wide, course N 20° E.
	Thence up steep rocky ascent
20.00	Top of steep ascent, 200 ft, above canyon, bears N.and S.S
29.00	Ridge, bears N and S., 30ft. above top steep ascent.
35.00	Desc. 60 ft; to
38.00	Wash, 15 lks. wide, course N.
42.20	Set an iron post, 3 ft. long, 1 in. in dia., 26ins. in the ground, for ¼ sec cor. , marked on brass cap ¼ S 34 on N. half and S 3 on S half,
	from which
	A pinon, 6ins. diam., bears N 25° E., 51 lks. dist., marked ¼ S 34 B T.
	A pinon, 9 ins. diam., bears S 75½° W., 54½ lks. dist,, marked ¼ S 3 B T.
54.00	Top of bluff, bears N and S.
55.30	Coal outcroppings 2 ft. thick ; bears N. and S.
62.50	Base of bluff, 300 ft. below top bears N. and S30° E.
69.80	Wash, 15 lks. wide, 10 ft. deep, course SE.
77.70	Road, bears NW and SE.
82.20	SET an iron post, 3 fts. long, 3 ins. in dia., 24 ins. in the ground, for cor. of secs. 2,3,34 and 35; marked on brass cap
	T 21 S R 7 E in N. half,
	T 22 S in S. half,
	S 35 in NE.,
	S 2 in SE.,
	S 3 in SW.,
	S 34 in NW., quadrant, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
	Note: Cor situated at base of high mesa which bears NW. and NE.
	Land, mountainous.
	Soil, rocky; 4 th. rate.

chains	
	Timber, cedar and pinon.
	Mountainous or heavily timbered land 82.20 chs.

	East, bet. secs. 2 and 35.
	Over broken land sloping S.
4.50	Road, bears NE. and SW.
39.00	Enter wash bottom, and land subject to overflow, bears NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ½ sec. cor., mkd. on brass cap ¼ S 35 on N. half and S 2 on S. half; dig pits 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth, 3 ft. base, 1½ ft. high N. of cor.
	May 22: At this ¼ sec. cor. I set off 20°20'N. on the decl. arc; and at 11h.56m.a.m.l.m.t. observe the sun on the meridian; the resulting lat. is 38° 56½'.
45.00	Leave wash bottom and land subject to overflow, bears NW. and SE.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 1,2,35 and 36, mkd. on brass cap T 21 S R 7 E on N half, T 22 S on S. half, S 35 in NW., S 36 in NE., S 1 in SE. and S 2 in SW quadrant; dig pits 18 x 18 x 12 ins. in each sec. 5½ ft. dist., and raise a mound of earth 5 ft. base, 2 ft. high W. of cor.
	Land, broken.
	Soil, adobe; 4ht. rate.
	No timber.

	East, bet. secs. 1 and 36
	Over broken land

chains	
3.00	Enter wash bottom and land subject to overflow, bears NE. and SW.
4.00	Wash, 15 lks. wide, 5 ft. deep, course N.20°E.
15.00	leave wash bottom and land subject to over flow, bears NE. and SW.
20.00	Wash, 10 lks. wide, course N.?4 ft. deep.
32.00	Enter mountainous land, bears NE. and S.
34.00	Low ridge, bears N. and S.
	Descend
36.30	Wash, course NE. ,15 lks. wide, 3 ft. deep.
	Thence up rocky land facing NW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for $\frac{1}{2}$ sec. cor. mkd. on brass cap $\frac{1}{4}$ S 36 on N. half and S 1 on S. half; and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
	Pits impracticable.
48.90	Ridge, 75 ft. above cor. bears N. and S.
53.35	Wash, 75 ft. below ridge, course N.. ascend
56.00	Low ridge, bears N. and S.
62.00	Spur, near N. end, projets N.
70.00	Base of spur, bears N.60°W. and SE.
80.00	Set an iron post. 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of Tps. 21 and 22 S., Rs. 7 and 8 E., mkd. on brass cap T 21 S on N. half T 22 S. on S. half, R 7 E S 36 in NW., R 8 E S 31 in NE., R 8 E S 6 in SE. and R 7 E S 1 in SW. quadrant, dig pits 24 x 24 x 12 ins. on each line, N., E. and W. 4 ft., and S. of post 8 ft. dist., and raise a mound of earth 5 ft. base, 2 ft. high S. of cor.
	Land, mountainous.
	Soil, rocky;4ht. rate.

Chapter transposed see p. 500

Blank

Page

chains

Timber a few scattering cedar and pinon.

Land mountainous or heavily timbered 80.00 chs.

May 22, 1910.

For general description see book " B " of this survey, subdivision of T. 21 S., R. 7 E.

U.S. Deputy Surveyor.

Boundaries of T. 22 S., R. 7 E.

Latitudes, departures and closing errors.

Lines Designated	True bearings	Distances chs.	Latitudes N. chs.	Latitudes S. chs.	Departure E chs.	Departure W chs.
E. bdy,	South	412.93		412.93		
S. bdy.	West	242.20				242.20
W.bdy.sec.34	N.0°44'W.	40.31	40.31			51
"	N.0°42'W.	40.34	40.34			49
W. bdy.sec.27	N.0°37'W.	41.29	41.29			43
"	N.0°58'W.	41.00	41.00			68
N.bdy.sec.27	East	80.18			80.18	
W.bdy.sec 23	North	8137	81.37			
W.bdy.sec.14	N.0°48'E.	83.02	83.01		1.16	
N.bdy.sec.14	East	81.20			81.20	
W.bdy.sec. 12	Noth	83.17	83.17			
N.bdy.sec.12	N.88°16'E.	81.58	2.47		81.54	
Convergency					.18	
T o t a l s		412.96	412.93	244.26		244.31
		412.93		244.31		
Errors - - - - - - -		.03		.05		

Howard W. Miller

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 Howard W. Miller and Andrew Nelson, 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 EAST and SOUTH BOUNDARIES OF T. 21 S. , R 8 E.S.L.B.& M.UTAH, showing the respective capacities in which they acted:

Andrew Nelson, *Chainman.*

Fred Wright, *Chainman.*

Ray Bryan, *Moundman.*

, *Moundman.*

Edward Jones, *Axman.*

, *Axman.*

Edward Jones, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller and Andrew Nelson, United States Deputy Surveyors in surveying all those parts or portions of the EAST and SOUTH BOUNDARIES T 21 S R 7 E

of the Salt Lake Base and Meridian, state of Utah, 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 Utah.

Andrew Nelson, *Chainman.*

Fred Wright, *Chainman.*

, *Moundman.*

Ray Bryan, *Moundman.*

, *Axman.*

Edward Jones, *Axman.*

Edward Jones, *Flagman.*

Subscribed and sworn to before me this 25th day of May 1910, ~~190~~

SEAL

Howard W Miller

U.S. Deputy Surveyor.

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FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Howard W.Miller, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Thomas Hull United States Surveyor General for Utah, bearing date of the 15 day of January, 1910, 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 U t a h, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the East and South Boundaries of fractional Township 21 South, Range 7 East

of the Salt Lake Base and meridian, in the State of Utah, 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 U t a h and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Howard W.Miller
United States Deputy Surveyor

Subscribed by said Howard W.Miller, and sworn to before me this 30 day of December, 1910.

SEAL

U.S.Surveyor-General for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, Dec.19, 1911

The foregoing field notes of the survey of the East and South Boundaries of fractional Township 21 South, Range 7 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W.Miller and Andrew Nelson under his (their) contract No. 316, dated January 15, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

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

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BOOK A-368

Book " B "

FILED

DEC 30 1910

M.S.B.

FIELD NOTES

OF THE SURVEY OF THE

Resurvey, Retracements and Subdivisions of

T. 21 S., R 7 E.

Of the Salt Lake Base and *Meridian,*

U T A H

AS SURVEYED BY

Howard W. Miller and Andrew Nelson, *United States Deputy Surveyors*

Under ~~*his*~~ their *Contract No.* 316, *dated* January 15 1910, ~~190~~

Survey commenced May 25, 1910, ~~190~~

Survey completed May 31, 1910, ~~190~~

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12-23-37

6-05-92

21-35

BOOK A-368

NAMES AND DUTIES OF ASSISTANTS.

Howard W. Miller, chainman

Fred Wright, chainman

Ray Bryan, moundman

Edward Jones, flagman and axman.

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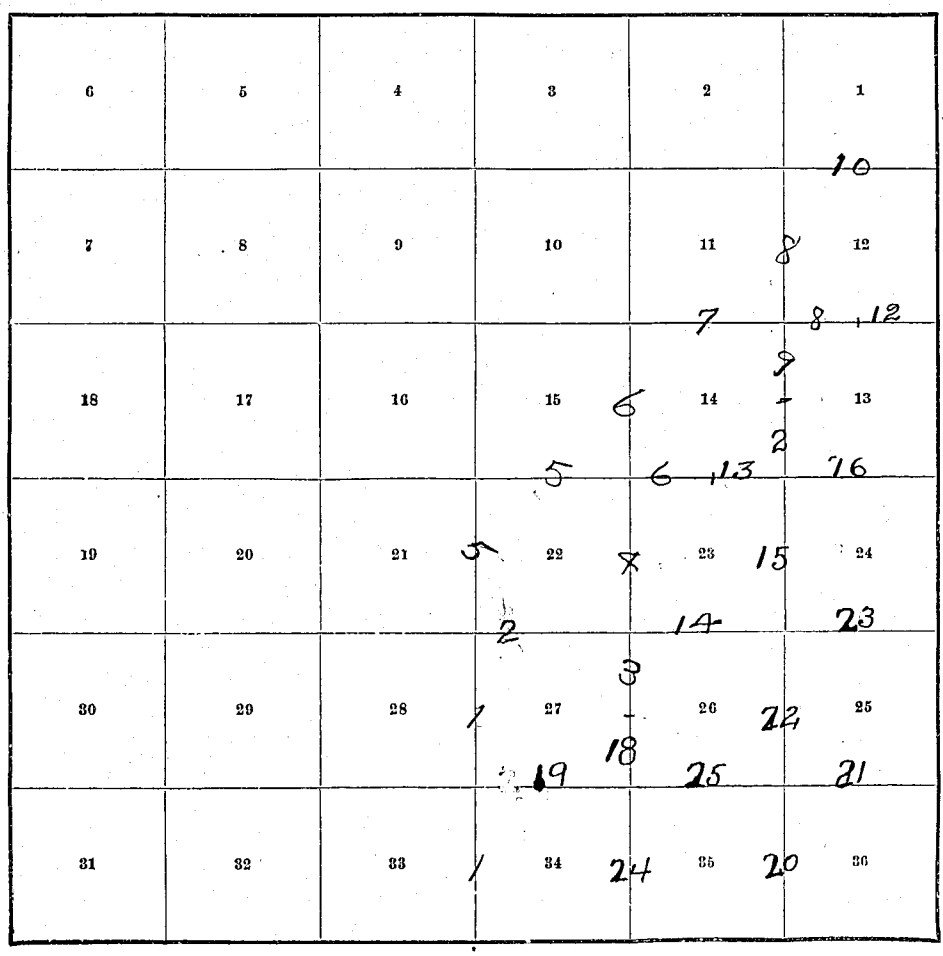
BOOK A-368

INDEX DIAGRAM.

Township 21 South, *Range* 7 East



Meanders Page x

PRELIMINARY OATHS OF ASSISTANTS.

WE, Howard W. Miller and Fred Wright

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

Resurvey, Retracement and subdivision of T. 21 S., R 7 E., S.L.B. Utah.

Howard W Miller, Chainma

Fred Wright, Chainma

Subscribed and sworn to before me this 25th day of May, 1900

Andrew Nelson

U.S. Deputy Surveyor

SEAL

WE, I Ray Bryan and

do solemnly swear that ~~We~~ I will well and truly perform the duties of moundmen in the establishme of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the ~~survey~~

Retracement, resurvey and subdivision of T 21 S., R 7 E. S.L.B.& Utah.

Ray Bryan, Moundma

, Moundma

Subscribed and sworn to before me this 25th day of May, 1900

Andrew Nelson

U.S. Deputy Surveyor

SEAL

WE, I Edward Jones and

do solemnly swear that ~~We~~ I will well and truly perform the duties of axmen in the establishment of corn and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the ~~survey~~

Resurvey, retracement and subdivision of T. 21 S., R 7 E., S.L.B.& Utah.

Edward Jones, Axme

, Axme

Subscribed and sworn to before me this 25th day of May, 1900

Andrew Nelson

U.S. Deputy Surveyor

SEAL

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

~~survey of~~ Resurvey, retracement and subdivision of T. 21 S., R 7 E S.L.B.& M., Utah.

Edward Jones, Flagm

Subscribed and sworn to before me this 25th day of May, 1900

Andrew Nelson

U.S. Deputy Surveyor.

SEAL

6—151

Resurvey and Retracement Subdivisions T 21 S., R 7 E.

chains

Survey commenced May 25, 1910 and executed with the same instrument as described in book "A" of this survey. I know the instrument to be in adjustment by observations made on polaris May 19.

I begin at the cor of secs. 3-4-33 & 34, heretofore described.

May 25: At 6h 56.6m a.m.,l.m.t. I set off 38° 56' 29" N. on the lat. arc; 20° 53'N. on the decl. arc; and determine a true meridian with the solar.

Thence I run

North retracing bet. secs 33 and 34.

40.31 Fall 51½ lks. E. of the ¼ sec. cor.,which is a limestone 22X9X6 ins. marked and witnessed as described by the Surveyor General.

The true bearing of this line is N 0° 44' W.,and the distance is 40.31 chs.

From the ¼ sec. cor. I continue North

40.34 Fall 48½ lks. E. of the cor of secs. 27-28-33 & 34, which is a lime stone 10X10X5 ins. marked and witnessed as described by the Surveyor General. This cor. was afterwards reestablished when running line bet. secs. 27 and 34.

The true bearing of this line is N. 0° 42' W.,and the distance is 40.34 chs.

North, retracing bet. secs. 27 and 28.

41.29 Fall 43½ lks. E. of the ¼ sec. cor.,which is a limestone 11X11X10 ins. marked as described by the Surveyor General. I rebuild accessories toagree with old notes

The true bearing of this line is N 0° 37' W.,and the distance is 41.29 chs.

From the ¼ sec. cor. I continue North.

41.00 Fall 67 lks. E. of the cor. of secs. 21-22-27 & 28, which is a limestone 5X11X4 ins. marked as described by the Surveyor General. No accessories to cor. This cor.

chains

reestablished as hereinafter described.

The true bearing of this line is N 0° 58' W.,and the distance is 41.00 chs.

East retracing bet. secs. 22 and 27.

40.00 After a careful and diligent search I am unable to find any trace of the ¼ sec. cor.

80.18 Intersect cor of secs. 22-23-26 & 27, which is a sandstone 13X9X7 ins. marked as described by the Surveyor General. The marks on this stone are nearly obliterated. I reestblish cor. at same point as follows;

Set an iron post 3 ft. long, 2ins. in dia.,24 ins. in the ground, for cor. of secs. 22-23-26 & 27, marked on brass cap

R 07 E S 23 in NE,

S 26 in SE,

S 27 in SW, and

T 21S S 22 in NW quadrant, from which

A pinon, 6 ins.diam.,bears N 24½° E.,201 lks.
marked T21S R7E S23 BT

A pinon, 12 ins.diam.,bears S 70¼°E., 247 lks.
marked T21S R7E S26 BT

A pinon, 9 ins. diam.,bears S 33¾°W., 164 lks.
mkdT21S R7E S27 BT

A pinon, 5 ins. diam.,bears N 32° W.,82 lks.
marked T21S R7E S22 BT

Thence I run West, resurveying bet. secs. 22 and 27. Gradually desc. through scattering forest of cedar and pinon.

10.00 Leave cedar and pinon, bears N ans S.

40.09 Set an iron post, 3 ft. long, 1 in. in dia.,26 ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 22 on N half and S 27 on S half; dig pits 12X12X12 ins. E and W of post, 3 ft. dist.,and raise a mound of earth 3ft. base, 1½ft. high N. of cor.

chains

May 25: At this ¼ sec. cor. I set off 20° 54½' N on the decl arc.; and at 11h 56.6m a.m.l.m.t. observe the sun on the meridian; the resulting lat. is 3[illegible]° 58'.

80.18 Intersect cor. of secs. 21-22-27 & 28 heretofore described. The marks on this cor. are nearly obliterated, I reestablish cor. at the same point as follows;

Set an iron post, 3ft. long, 2ins. dia.,24 ins. in the ground, for cor. of secs. 21-22-27 & 28, marked on brass cap

R 7 E S 22 in NE,

S 27 in SE,

S 28 in SW, and

T 21 S S 21 in NW quadrant dig pits 18X18X 12 ins. in each sec.,5½ ft. dist.; and raise a mound of earth 4ft. base, 2ft. high W. of cor.

Land, hilly.

Soil, clay and rocky; 2nd and 4th rates.

Timber, cedar,and pinon on E. 10 chs.

From the cor. of secs. 22-23-26 & 27 heretofore described I run

South, retracing bet. secs. 26 and 27.

40.00 After a careful and diligent search I am unable to find any trace of the ¼ sec. cor.

Set an iron post, 3ft. long, 1 in. dia.,26 ins. in the ground for ¼ sec. cor.,marked on brass cap ¼ S 27 on W. half and S 26 on E. half, from which

A pinon, 13ins. dia.,bears S 89¾° E., 104 lks. marked ¼ S 26 BT

A pinon, 16ins. diam.,bears S 73½° W., 65 lks. marked ¼ S 27 BT

Thence I run North, resurveying bet. secs. 26 and 27.

Over broken mesa top through forests of cedar and pinon.

6.50 Gulch, 40 ft. deep, course S 80° W.

Coal out cropping bears E and W along this gulch.

chains

15.40 Gulch, 20 ft. deep, course W.; ascend

20.00 Ridge; 20 ft. high, bears E and W; descend

33.30 Wood road, bears E and W.

39.80 Wash, 5 lks. wide and 2ft. deep, course W.

40.00 Intersect the cor. of secs. 22-23-26 & 27.

Land, mountainous, general NW. slope

Soil, rocky 4th rate.

Timber, cedar and pinon.

Land, mountainous and heavily timbered 40.00 chs.

North, retracing bet. secs. 22 and 23.

40.00 After a careful and diligent search I am unable to find any trace of the ¼ sec. cor.

81.37 Intersect cor. of secs. 14-15-22 & 23, which is a greatly decayed aspen post, 2ins. dia.,2ft. long, marked dimly with 2 grooves on E. and 3 grooves on S. face. I destroy all traces of the old corl and reeestablish it at same point as follows;

Set an iron post, 3ft. long, 2 ins. dia.,24 ins. in the ground, for cor. of secs. 14-15-22 and 23, marked on brass cap

R 7 E S 14 in NE,

S 23 in SE,

S 22 in SW, and

T 21 S S 15 in NW quadrant, dig pits 18×18×12 ins. in each sec.,5½ft. dist.,and raise a mound of earth 4ft base 2ft. high W. of cor.

Thence I run South on resurvey linerbet. secs. 22 & 23.

Over gently rolling land.

24.00 Base of mesa, bears NE. and SW.

Gradually ascend over lang facing NW.

34.00 Enter forest of cedar and pinon, bears NE. and S.

35.00 Wash, 10 lks. wide, 3ft. deep, course NW.

40.68½ Set an iron post, 3ft. long, 1 in.dia.,26 ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 22 on

chains

W. half and S 23 on E. half; from which

A pinon, 10 ins., diam., bears S 81° E., 74 lks.

marked ¼ S 23 BT

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

Note: No other bearing trees within limits.

81.37 Intersect the cor. of secs. 22-23-26 & 27.

Land, rolling and mountainous.

Soil, rocky and clay; 4th rate and 2nd rate.

Timber cedar and pinon.

Mountainous or timbered land 81.37 chs.

May. 25, 1910.

May 26: At 6h 56.6m a.m.l.m.t. I set off 38° 58' on the lat arc; 21° 03¾' N on the decl. arc; and determine a meridian with the solar at the cor of secs. 21-22-27 & 28 heretofore described.

Thence I run,

North retracing bet. secs. 21 and 22.

40.69 Fall 49 lks. E. of the ¼ sec. cor., which is a sandstone 7X10X5 ins. marked as described by the Surveyor General. I rebuild accessories to agree with old notes.

The true bearing of this line is N 0° 42' W., and dist. is 40.69 chs.

From the ¼ sec. cor. I continue North,

40.72 Fall 50 lks. E. of the cor. of secs. 15-16-21 & 22, which is a limestone 19X10X7 ins., marked with 3 notches on E. and 3 notches on S. edge. I rebuild accessories to agree with old notes.

The true bearing of this line is N 0° 43' W., and distance is 40.72 chs.

East, on retracing line bet. secs. 15 and 22.

40.00 No trace of the ¼ sec. cor. could be found.

81.17 Fall 7 lks. N. of the cor. of secs. 14-15-22 & 23,

chains	
	heretofore described.
	The true bearing of this line is N 89° 57' W., and distance is 81.17 chs.

	East retracing bet. secs. 14 and 23.
40.00	After a careful and diligent search am unable to find any trace of the ¼ sec. cor.
	Set an iron post, 3ft. long, 1in. dia., 26ins. in the ground, for ¼ sec. cor., marked onbrass cap ¼ S 14 on N. half and S 23 on S. Half; from which
	A pinon, 12ins. diam., bears S 9° E., 42 lks., marked ¼ S 23 BT
	A pinon, 13ins. diam., bears N 44¼° W., 79 lks., marked ¼ S 14 BT
	Thence I run West resurveying line bet. secs. 14 and 23.
	Descend over mountainous land facing NW., through forest of cedar and pinon.
3.40	Wood road, bears N and S.
18.00	Leave timber and mountainous land, bearing NE. and SW.
	Thence over gently rolling land.
20.25	Wood road, bears N and S.
26.08	Wash, 5lks. wide, 2ft deep, course N 15° E.
40.00	Intersect the cor. of secs. 14-15-22 & 23, heretofore described.
	Land, rolling and mountainous.
	Soil, clay and rocky; 2nd and 4th rates.
	Timber, cedar and pinon on E. 18 chs.
	Land mountainous or heavily timbered 40 chs.
	May 26: At this sec. cor. I set off 21° 05' N. on the decl. arc; and at 11h 56.7ma.m.l.m.t. observe the sun on the meridian; the resulting lat. is 38° 59' N.

	North retracing bet. secs. 14 and 15.
40.00	After careful search I am unable to find any trace of the ¼ sec. cor.

chains

83.01 Fall 113 lks. W. of the cor. of secs. 10-11-14 & 15, which is a sandstone 8X11X5 ins. marked as described by the Surveyor General. I rebuild accessories to agree with old notes
The true bearing of this line is N 0° 48' E.,and dist. is 83.02 chs.

East retracing bet. secs. 11 and 14.

40.00 After a careful search I am unable to find any trace of the ¼ sec. cor.

81.20 Intersect evident remains of the old cor. of secs. 11-12-13 & 14. I reestablish cor at same point as follows;
Set an iron post 3ft. long, 2ins. dia.,24ins. in the ground, for cor. of secs. 11-12-13 & 14, marked on brass cap

R 7 E S 12 in NE,

S 13 in SE,

S 14 in SW, and

T 21 S S 11 in NW quadrant,; dig pits 18X18X12 ins. in each sec.,5½ft. dist.;raise a mound of earth, 4ft. base, 2ft. high W. of cor.
Thence I run West, resurveying bet. secs. 11 and 14.
Over rolling land.

40.60 Set an iron post, 3ft. long, 1in. dia.,26ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 11 on N. S 14 on S half; dig pits 18X18X12 ins. E and W. of post 3ft. dist.,and raise a mound of earth 3½ft. base, 1½ft. high N. of cor.

81.20 Intersect cor. of secs. 10-11-14 & 15.
Land, rolling.
Soil, sandy loam; 1st rate.
No timber.

May 26, 1910.

May 27: At 7h 57m a.m.l.m.t. I set off 39° 00'N. on the lat. arc; 21° 14' N. onthe decl. arc; and determine a true meridian with the solar at the cor of secs. 11-

chains	
	12-13 and 14.
	East retracing line bet. secs. 12 and 13.
40.00	After a careful search I am unable to find any trace of the ¼ sec. cor.
	Set an iron post 3ft. long, 1in. dia.,26 ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 12 on N. and S 13 on S. half; from which
	A pinon, 9 ins.diam.,bears N 23° E., 162 lks., marked ¼ S 12 BT
	A pinon, 17 ins. diam.,bears S 20° E., 325 lks. marked ¼ S 13 BT
	Thence I run West resurveying bet. secs. 12 and 13.
	Descend over mountainous land facing W.,through forest of cedar and pinon.
12.00	Wash, 10 lks. wide, 4 ft. deep, course N 30° E; leave timber, bears N and S.
29.50	Wash, 15 lks. wide, 3ft. deep, course NE; leave mountainous land, thence over rolling land.
40.00	Intersect cor. of secs. 11-12-13 & 14.
	Land, mountainous and rolling.
	Soil, rocky and sandy loam; 4th and 1st rates.
	Timber, cedar and pinon on E. 12 chs.
	Land, mountainous or heavily timbered, 29.50 chs.
	North retracing bet. secs. 11 and 12.
40.00	After a careful search I am unable to find any trace of the ¼ sec. cor.
83.17	Intersect the cor. of secs. 1-2-11 & 12, which is a sandstone 7X12X9 ins.,marked and witnessed as described by the Surveyor General.
	Thence I run South resurveying bet. secs. 11 and 12.
	Ascend over hilly land sloping N.
8.82	Top of knoll, 30ft high, bears E and W; gradually desc.
27.72	Wash, 20 lks. wide, 20ft. deep, course E.

chains	
41.58½	Set an iron post 3ft. long, 1in. dia.,26 ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 11 on W. half and S 12 on E. half, dig pits 18x18x12 ins. N. and S. of post 3ft. dist.;and raise a mound of earth 3ft. base, 1½ft. high W. of cor.
83.17	Intersect the cor. of secs. 11-12-13 & 14.
	Land, hilly.
	Soil, gravelly; 2nd rate.
	No timber.
	From the cor. of secs. 11-12-13 & and 14.
	South retracing line bet. secs. 13 and 14.
40.00	After a careful search I am unable to find any trace of the ¼ sec. cor.
	Set an iron post, 3ft. long, 1in. dia.,26ins. in the ground, for ¼ sec. cor, marked on brass cap ¼ S 14 on W. and S 13 on E. half; from which
	A cedar, 8ins. diam.,bears N. 59½° E.,16 lks., dist.,marked ¼ S 13 BT
	A pinon, 11 ins. diam.,bears N 41¾° W.,33 lks., dist.,marked ¼ S 14 BT.
	May 27: At this ¼ sec. cor. I set off 21° 15½' N. on the decl. arc; and at 11h 57m a.m.l.m.t. observe the sun on the meridian; the resulting lat. is 38° 59½'.
	North resurveying bet. secs. 13 and 14
	Over mountainous land, through forests of cedar and pinon.
	Descend land sloping N.
2.10	Wash, 2o lks. wide, 5 ft. deep, course NW.
11.00	Bend of same wash, 20 lks. wide, 4 ft. deep, course W., from S 20° W.
14.00	Wood road, bears NW and SE; leave cedar and pinon,E & W.
30.50	Coal outcroppings, bears E. and W.
31.35	Price wash, 10 lks. wide, 5 ft. deep, course NE.

chains	
	Leave mountainous land, thence over rolling land, bears NE. and W.
40.00	Intersect the cor of secs. 11-12-13 and 14.
	Land, mountainous and rolling.
	Soil, sandy and rocky; 1st and 4th rates.
	Timber, cedar and pinon.
	Mountainous or timbered land, 40.00 chs.

From cor. of secs. 1-2-11 & 12 heretofore described.

East, retracing line bet. secs. 1 and 12.

40.00	After a careful search I am unable to find any trace of the ¼ sec. cor.
81.54	Fall 246 lks. S. of the cor. of secs. 1-6-7 & 12 on the E. bdy. of the tp. heretofore described.

The true bearing of this line is N 88° 16' E., and the dist. is 81.58 chs.

May 27, 1910.

Andrew Nelson

U. S. Deputy Surveyor.

chains

Survey commenced May 27, 1910 and executed with a W. and L. E. Gurley light mountain transit No. 9624 with 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 alse the least count of the vernier of the lat. arc. The least count of the vernier of the decl. arc is 30".

The instrument was examined, tested on the true meridian at Salt Lake City, Utah, found correct, and was approved by the surveyor general for Utah, May 10,1910.

I examine the adjustments of the transit, and correct the level and collinationnerrors;. then, to test the solar apparatus, by comparing its indications, resulting from solar observatios made during A.m. and p.m. hours, with a with a mer. determined by observations on Polaris, I proceed as follows:

At the ¼ sec. cor. bet. secs. 12 and 13: lat. 39° 00' longitude 111° 07½' W.; I set off 39° 00' on the lat. arc; 21° 18½' N. on the decl. arc; and at 4h.57m.p.m.l.m.t. determine a meridian with the solar and mark a point thereof , on a stone firmly set in the ground 5 chs. N. of the cor.

May, 27, 1910.

May 28: At 3h.11m.a.m.l.m.t. by my watch, I observe Polaris at eastern elongation, in accordance with the Manual of Instructions and mark the point in the line thus determined, on a peg driven in the ground 5chs. N. of my station.

At 6h.a.m.l.m.t. I lay off the azimuth of Polaris, 1°30' 36" to the W. and find that my solar and stellar observations agree.

At 6h.57m.a.m.l.m.t.I set off 39° 00' on the lat. arc; 21° 24'N. on the decl. arc; and determine a meridian with the solar. This meridian agrees with the Polaris meridian. I therefore conclude the instrument to be in

chains	
	adjustment.
	The mag. bearing of the true meridian is 16° 35' W.; the angle thus determined gives the mag. decl. 16° 35' E.

	Having run the E. bdy. of this Tp., and knowing that my falling will be out of limits, I commence at the ¼ sec. cor. bet. secs. 12 and 13, heretofore described
	Thence I run
	East, on a true line bet. secs. 12 and 13
	Over mountainous land, ascending thru forest of cedar and pinon
7.50	Wash, 50 ft. deep, course N.
20.00	Wash, course NW.
30,50	Wash, course N.
41.59	Intersect E.bdy. of Tp. 7.30 chs.N. of the cor of secs. 7,12,13 and 18, heretofore described.
	Set an iron post, 3 ft. long, 2ins. in dia. 24 ins. in the ground for C.C. of secs. 12 and 13, marked on brass cap
	T 21 S in N. half,
	S 7C C R 8 E S 18 in E half,
	S 13 R 7 E in SW. and
	S 12 in NW. quadrant; and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pinon.
	Mountainous and heavily timbered land 41.59 chs.
	I destroy all marks on the old cor. pertaining to secs. 12 and 13

	From the ¼ sec. cor. bet. secs. 13 and 14
	I run,
	S0°01'E., bet sec. 13 and14
	Ascend over mountainous land thru scattering forest of cedar and pinon.

chains	
38.00	Top 15 ft. ledge, bears NE. and SW.
40.00	Set temporary cor of secs. 13,14,23 and 24.
41.50	Shallow wash, course NE.
	The true point for the sec. cor. falls 3.02 chs. South.
	For description of cor. see line bet. secs. 14 and 23
	Land, mountainious.
	Soil, gravelly; 2 nd. rate.
	Timber, cedar and pinon.
	Land mountainous and heavily timbered 43.02 chs.

West, on random line bet. secs. 14 and 23.

42.33	Fall 3.02 chs N. of the ¼sec. cor heretofore described.
	As my falling is out of limits, I begin at this ¼ sec. cor.
	Thence I run
	East on true line bet.secs. 14 and 23.
	Gradually asc. over mountainous land facing NW. thru dense forest of cedar and pinon.
38.35	Ridge, 100 ft. above ¼ sec. cor. bears NE. and SW.
39.30	Top 15 ft. ledge, bears NE and SW.
42.20	Shallow wash, course N 5°E.
42.33	Intersect N. and S. line bet. secs.13 and 14 3.02 chs. S. of the temporary cor. of secs. 13,14,23 and 24. I destroy all traces of the temporary cor.
	Set an iron post, 3 ft.long, 2 ins. in dia., 24 ins. in the ground, for cor of secs. 13,14,23 and 24 marked on brass cap
	R 7 E S 13 in NE.
	S 24 in SE.
	S 23 in SW. and
	T 21 S S 14 in NW. quadrant, from which
	A cedar, 15 ins. diam., bears N 54° E., 66 lks. dist., marked T 21 S R 7 E S 13 B T.
	A cedar, 9 ins.diam., bears S 27° W., 124 lks. dist., marked T 21 S R 7 E S 23 B T .
	A cedar 16 ins. diam., bears N 44° W. , 76 lks. dist., marked T 21 S R 7 E S14 B T.
	Note: No other trees within limits.

chains	
	and also raise a mound of stone, 2 ft. base 1½ ft. high W. of cor.
	Land, nountainous.
	Soil, rocky; 4 th. rate.
	Timber, cedar and pinon.
	Land mountainous and heavily timbered 42.33 chs.
	May 28: At this sec. cor. I set off 21° 35' N. on the decl. arc; and at 11 h. 57 m. l. m. t. observe the sun on the meridian; the resulting lat. is 38° 59'.

	S 0° 01' E., on random line bet. secs. 23 and 24.
80.00	Set temporary cor of secs. 23,24,25 and 26.

	From temporary cor. of secs. 23,24,25 and 26
	West on random line bet. secs.23 and 26
82.33	Fall 137 lks. N. of the cor of secs. 22,23,26 and 27 heretofore described.
	As my falling is out of limits I begin at this sec. cor.
	Thence I run
	East, on true line bet.secs. 23 and 26.
	Over mountainous land thru forest of cedar and pinon
	Asc W. slope of ridge
20.00	Wood road, bears N. and S.
29.00	Ridge, 75 ft. above sec. cor. bears N. and S.
	Thence desc. over land sloping E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26ins.in the ground, for ¼ sec.cor. marked on brass cap ¼ S 23 on N. and S 26 on S. half, from which
	A pinon, 10 ins. diam., bears N 9° W., 95 lks. dist., marked ¼ S 23 B T.
	A pinon, 10 ins. diam., bears S 24½° W., 95 lks. dist., marked ¼ S 26 B T
51.33	Wood road, bears NW. and SE.
55.78	Wash, 20 lks. wide, course SE.
65.93	Same wash, course N 80° E.
69.80	Same wash, 10 lks. wide, 2ft. deep, course SE.

chains	
75.53	Ridge, bears N. and S, 2 chs.,150 ft. above sec. cor. Begin steep descent over land facing E.
79.83	Gulch, 25 ft. deep, course NE. Thence over land sloping NE.
82.33	Intersect N. and S. line bet. secs. 23 and 24, 137 lks. S. of the tempofary cor.of secs. 23,24,25 and 26. Set an iron post,3 ft. long, 2ins.in dia., 24 ins.in the ground, for cor of secs. 23,24,25 and 26 marked on brass cap R 7 E S 24 in NE. S 25 in SE. S 26 in SW. and T 21 S S 23 in NW.quadrant, from which A pinon, 12 ins. diam., bears N 2½° E., 135 lks. marked T21 S R 7 E S 24 B T. A pinon, 14 ins. diam., bears N 55½° W., 90 lks. dist., marked T 21 S R 7 E S 23 B T. and also raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. No other trees within limits. Land, mountainous. Soil, rocky; 4 th. rate. Timber, cedar and pinon. Land mountainous and heavily timbered 82.33 chs. May 28, 1910.

May 29; At 7 h. 57 m. a.m.l.m.t. I set off 38° 58' N.on the lat. arc; 21° 33¾' N. on the decl. arc; and determine a meridian with the solar at the cor of secs. 23, 24,25 and 26. heretofore described

Thence I run

N. 0° 01' W., on true line bet. secs. 23 and24

Over mountainous land thru forest of cedar and pinon.

1.00	Wash, 20 lks. wide, course N 80° E.;4ft. deep.
5.00	Ledge, 75ft. high bears N 80° E. and SW.
17 00	Top of ascent, 200 ft. above sec. cor. bears E. and W.

chains	
22.50	Begin gradual descent Towards canyon.
26.90	Ledge, 25ft. high, bears E. and W.
	Desc. abruptly.
29.20	Base of canyon, 150 ft. deep, course E. asc.
30.20	E. end of spur bet. canyons, projects E. desc.
31.50	Base of main canyon, 75 ft. below spur course S 80° E.
	Thence up steep rocky ascent over land facing S.
37.00	Top of ascent, 150 ft. above canyon bears E. and W.
41.37	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor. marked on brass cap ¼ S 23 on W. and S 24 on E. half, from which
	A pinon, 10 ins. diam., bears N 11½° E., 28 lks. dist., marked ¼ S 24 B T.
	A pinon, 16 ins. diam., bears S 66¾° W., 58 lks. dist., marked ¼ S 23 B T.
	Desc. abruptly over land sloping NW.
45.40	Base of descent, asc.
49.55	Top ascent, 75 ft. above base, bears SE. and W.
63.90	Wash at bend from S 20° W. to N 10° W. asc.
67.85	Ridge bears N 15° W. and SE., 30 ft. high.
	Thence along E. side of low ridge.
75.40	N. end of ridge.
81.37	Intersect cor. of secs. 13, 14, 23, and 24, heretofore described.
	Land, mountainous.
	Soil, rocky; 4 th. rate.
	Timber, cedar and pinon.
	Land mountainous and heavily timbered 81.37 chs.

Knowing that closing cors. are nescessary on the E. bdy. of this tp. Irun

East, on a true line bet. secs. 13 and 24.

Over mountainous land thru scattering forest of cedar and pinon.

Gradually asc.

chains	
6.00	Low ridge, 25 ft. high, bears NW. 3 chs. and SE; descend
9.55	Hollow, 45 ft. deep, course NW; ascend.
24.50	Wash, 15 lks. wide, 4 ft. deep, course NW.
40.00	Set an iron post, 3ft. long, 1in. in dia.,26ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 13 on N. and S 24 on S. half; from which
	A cedar, 5 ins. diam.,bears N 54½° W., 109 lks., dist.,marked ¼ S 13 BT.
	A cedar, 11 ins. in diam.,bears S 36¾°W.,232 lks dist.,marked ¼ S 24 BT
	May 29: At this ¼ sec. cor. I set off 21° 35' N.on the decl. arc; and at 11h 57m a.m.l.m.t. observe the sun on the meridian; the resulting lat. id 38° 59'.
40.05	Wood road, bears NW. and SE.
81.66	Intersect E. bdy. of the tp. 4.38 chs. N. of the cor. of secs. 13-18-19 & 24, heretofore described.
	Set an iron post, 3ft. long, 2ins. dia.,24 ins.in the ground,for closing corner of secs. 13 and 24, marked on brass cap,
	T 21 S in N. half,
	C C S 18 S 19 R 8 E in E. half,
	S 24 R 7 E in SW. and
	S 13 in NW. quadrant; from which
	A pinon, 10 ins.diam.,bears N 0¼ 30' W., 188 lks. dist.,marked T21S R7E S13 BT
	A pinon, 9 ins.,diam.,bears S 73¾° W., 68 lks. dist.,marked T21S R7E S24 BT.
	I destroy all marks on old cor. pertaining to secs. 13 and 24.
	Land, mountainous.
	Soil, rocky, 4th rate.
	Timber, cedar and pinon.
	Land, mountainous and heavily timbered 81.66 chs.

From the ¼ sec. cors. bet. secs. 26 and 27 heretofore

chains

described, I run

S. 0° 01' E., bet secs. 26 and 27.

Over mountainous land, through forest of cedar and pinon

17.00 Wash, 15 lks,wide, 5 ft. deep, course W.; ascend

17.75 Ridge, 25 ft. high, bears E. and W.

19.30 Wash, 20 lks. wide, 4 ft. deep, course W.

24.30 Ridge, 50 ft. high, bears E. and W. descend.

30.30 Gulch, 50 ft. deep, course W. ascend.

34.00 Ridge, 50 ft. high, bears N 80° E. and S 80° W.; descend

40.00 Set tempoary cor. of secs. 26-27-34 & 35.

The true point for the sec. cor. falls 2.36 chs. S.

40.80 Wash, 20 lks. wide, 5 ft. deep, course W.; ascend

For description of cor. see line bet. secs. 27 and 34.

Land, mountainous.

Soil, rocky, 4th rate.

Timber, cedar and pinons

Land, mountainous and heavily timbered 42.36 chs.

West on random line bet. secs. 27 and 34.

79.10 Fall 2.36 chs. N. of the cor. of secs. 27-28-33 & 34, heretofore described. The marks on the old cor are nearly obliterated, I destroy all traces of the old cor. and reestablish it at same point as follows:

Set an iron post, 3ft. long, 2ins. dia., 24 ins. in the ground,for cor. of secs. 27-28-33 & 34, marked on brass cap,

R 7 E S 27 in NE,

S 34 in SE,

S 33 in SW, and

T 21 S S 28 in NW, quadrant, dig pits 18x18x12 ins. in each secs.,5½ft. dist,;and raise a mound of earth 4ft. base, 2ft. high W. of cor.

As my falling is out of limits, I begin at this sec cor.

Subdivision of T 21 S., R 7 E.

chains	
	Thence I run
	East, on true line bet. secs. 27 and 34.
	Gradually descend over rolling land.
22.03	Wash, 10 lks. wide, 5ft. deep, course SE.
23.60	Enter field, S side, bears NW. and E.
38.00	Field turns N.
38.73	Wash, 10 lks. wide, 3ft. deep, course S.
39.55	Set an iron post, 3ft. long, 1in. dia.,26ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 27 on N. half and S 34 on S. half, dig pits 18x 18 x 12 ins. E. and W. of post, 3ft. dist.,and raise a mound of earth 3½ft. base 1½ft. high N. of cor.
44.60	Wash, 10 lks. wide, 4 ft. deep, course S 20° W.
46.00	Wood road, bears N. and S.
49.00	Enter mountainous land, and forest of cedar and pinon, bears N and S.; ascend.
62.10	Wash. 15 lks. wide, 3 ft. deep, course SW.
65.10	S. edge same wash at bend from N 80° E to N 80° W.
	Thence ascend along N. side of ridge.
79.10	Intersect N. and S. line bet. secs. 26 & 27, 2.36 chs. S. of temporary cor. of secs. 26-27-34 & 35. I destroy all traces of temp. cor. and
	Set an iron post, 3ft. long, 2ins. in dia.,24 ins. in the ground, for cor. of secs. 26 - 27 - 34 & 35, marked on brass cap
	R 7 E S 26 in NE,
	S 35 in SE,
	S 34 in SW, and
	T 21 S S 27 in NW. quadrant, and raise a mound of stone, 2ft base, 1½ft high W. of cor.
	Land, rolling and mountainous.
	Soil, clay and rocky; 2nd and 4th rates.
	Land, mountainous or timbered 79.10 chs.
	Timber, cedar and pinon, on E. 30 chs.

May 29, 1910.

Subdivision of T 21 S., R 7 E.

chains	
	May 30: At 7h 57m a.m.l.m.t. I set off 38° 55' N on the lat. arc; 21° 43' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1-2-35 & 36 on the S. bdy. of tp. heretofore described.
	Thence I run
	N. 0° 01' W., bet secs. 35 and 36.
	Over rolling land sloping S.
27.39	Road, bears E. and S 80° W.
30.58	Wash, 10 lks. wide, 3ft. deep, course SE.
33.00	Enter huge boulders, bears E. and W.
40.00	At foot of high mesa, bearing nearly E. and W.
	Set an iron post, 3ft. long, 1in. dia.,20 ins. in the ground, for ¼ sec. cor.,marked on brass cap ¼ S 35 on W. an d S 36 on E. half; and raise a mound of stone, 2ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
42.00	Boulder, 40 ft. high on line.
44.00	Begin very steep ascent over S. face of mesa.
57.15	Base of 75 ft. ledge, bears E. and W.
57.55	Top of same and mesa, 450 ft. above ¼ sec. cor.,bears E. and W.
	Thence over broken land, through forest of cedar and pinon.
79.00	Ridge, 15 ft. high, bears NW. and SE.; descend
80.00	Set an irom post, 3ft. long, 2ins. dia.,24 ins. in the ground, for cor. of secs. 25-36-35 & 36, marked on bras s cap
	R 7 E S 25 in NE,
	S 36 in SE,
	S 35 in SW, and
	T 21 S S 26 in NW, quadrant, from which
	A pinon, 10 ins. diam.,bears N 32½° E., 105 lks. dist.,marked T21S R7E S25 BT
	A pinon, 11 ins. diam.,bears S 73½ E.,87½ lks. dist.,marked T21S R7E S36 BT
	and raise a mound of stone 2ft base 1½ft. high W. of cor. No other trees within limits.

Subdivision of T 21 S., R 7 E.

chains	
	Land, rolling and mountainous.
	Soil, adobe clay and rocky; 2nd and 4th rates.
	Timber, cedar and pinon on N. 22.45 chs.
	Land, mountainous or timbered 80.00 chs.

	East on a random line bet. secs. 25 and 36.
40.00	Set temp. ¼ sec. cor.
79.95	Intersect E. bdy. of tp. 9 lks. N. of the cor. of secs. 25-30-31 and 36.
	Thence I run
	N. 89° 56' W. on true line bet. secs. 25 and 36.
	Over mountainous land gradually ascending.
10.00	Base of high mesa, bears NE. and SW.
	Ascend steep E. face of mesa.
32.04	Top of 75 ft. ledge and mesa, 500 ft. above sec. cor., bears N 20° E. and S 20° W.
	Thence gradually descend over broken land sloping W., through dense forest of cedar and pinon.
39.97½	Set an iron post, 3ft. long, 1in. dia., on account of natural obstacles am unable to set post more than 12 ins. in the ground, build mound of stone, 5ft. base 10ins. high about the post, marked on brass cap ¼ S 25 on N and S 36 on S half; from which
	A cedar, 5 ins. diam., bears N 35½° E., 49 lks. dist., marked ¼ S 25 BT
	A pinon, 6 ins., diam., bears S 56½° E., 26½ lks. dist., marked ¼ S 36 BT
55.05	Draw, 30 ft. deep, drains NW.
79.95	The cor. of secs. 25-26-35 & 36.
	Land, mountainous.
	Soil, rocky; 4th rate.
	Timber, cedar and pinon.
	Mountainous or heavily timbered land 79.95 chs.
	May 30: at this cor. I set off 21° 44' N. on the decl. arc; at 11h 57m a.m.l.m.t. observe the sun on the meridian

chains	
	the resulting lat. is 38° 57½'.
	N 0° 01' W. on random line bet. secs. 25 and 26.
40.00	Set temp. ¼ sec. cor.
83.07	Fall 173 lks. E. of the cor. of secs. 23-24-25 & 26. Set an iron post, 3ft. long, 2 ins. dia.,24 ins. in the ground, for closing corner of secs. 25 & 26, marked on brass cap T21S R7E S 23 CC S24 on N. half, S 25 in SE, and S 26 in SW, quadrant; from which A pinon, 12ins. dia.,bears S 19¾° E., 57 lks. dist.,marked T21S R7E S25 BT A pinon, 8 ins. diam.,bears S 79¾° W., 9 lks., dist.,marked T21S R7E S26 BT I destroy all marks pertaining to secs. 25 & 26 on old cor. Thence I run S. 0° 01' E.,on true line bet. secs. 25 and 26. Over mountainous land, through forests of cedar & pinon. Ascend from canyon over land facing NW.
7.10	Ledge 50ft. high and top of canyon, 130 ft. above cor., bears N 10° E. and SW.; thence over broken land.
23.37	Top of 40ft. ledge and N. side gulch, bears E. and W,
24.10	Bottom of gulch, 50ft deep, course W.
25.60	Top of 40ft ledge and S. side gulch, bears SE. & N 60° W.
33.10	Ridge, 75ft. high, bears NW. and SE.
40.00	Set an iron post, 3ft. long, 1in. dia.,26 ins. inthe ground, for ¼ sec. cor.,marked on brass cap ¼ S 26 on W. and S 25 on E. half; from which A pinon, 11 ins. diam.,bea rs S 41° E., 78 lks. dist.,marked ¼ S 25 BT. A pinon, 20 ins. diam.,bears S 18¾° W., 88 lks. dist.,marked ¼ S 26 BT.
55.95	Wash, 10 lks. wide , 3ft. deep, course N 80° W.
60.05	Top of 50 ft. ledge and N. side gulch, bears NW. and

chains	
	SE. descend abruptly ,
61.10	Bottom of gulch, 75 ft. deep, course NW.; ascend.
64.10	Top of ledges S. side of gulch, bears NW. and SE.
71.00	Low ridge, bears NW and SE.
83.07	The cor. of secs. 25, 26, 35 and 36.
	Land, mountainous andbroken.
	Soil, rocky; 4 th. rate.
	Timber, dense cedar and pinon.
	Land mountainous and heavily timbered, 83.07 chs.

	Knowing that closing cors. are nescessary on the E. bdy. of the tp.
	From the cor of secs. 23 and 24, I run
	East, on a true line, bet. secs. 24 and 25
	Over mountainous land
	Gradually desc.to
0.75	Bottom of canyon, course N. ,130 ft. deep.
	Ascend E. side of canyon
1.73	The C.C. of secs. 25 & 26 on line.
4.50	Top of 50 ft. ledge and canyon, bears N 60° E and S 10°W
	Thence gradually asc. over land facing NW. thru dense cedar and pinon.
30.55	Gulch, 50 ft.deep, course NW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor, marked on brass cap ¼ S 24 on N. half and S 25 on S. half; from which
	A pinon, 6 ins. diam., bears S 15½° W. 65 lks. dist., marked ¼ S 25 B T
	A pinon 10 ins.diam., bears N 57½° W., 63 lks. dist., marked ¼ S 24 B T
73.70	E. edge of mesa, bears N. and S.
74.00	Top 70 ft. ledge, bears N. and S. descend steep E. face of mesa.
81.69	Intersect E. bdy. of the tp. 3.04 chs. N. of the cor.of secs. 19,24,25 and 30.
	Set an iron post, 3 ft. long, 2 ins.in dia. 24 ins in the ground, for C.C. of secs. 24 and 25 marked on brass

chains	
	cap
	T 21 S on N. half,
	R 8 E S 19 C C S 30 on E. half,
	R 7 E S 25 on SW. and
	S 24 on NW. quadrant; and raise a mound of stone
	2 ft. base 1½ ft. high W. of cor.
	I destroy all marks on the old cor pertaining to secs.
	24 and 25.
	Land mountainous
	Soil, rocky; 4 th. rate.
	Timber cedar and pinon.
	Land mountainous and heavily timbered, 81.69 chs
	May 30, 1910
	May 31: At 7 h 57m a.m.l.m.t. I set off 38° 56' 29" N. on the lat. arc; 21° 52' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 2,3, 34 and 35 on the S. bdy. of the Tp., heretofore described
	Thence I run
	N. 0° 01' W., bet. secs. 34 and 35
	Ascend steep S. face of mesa
8.60	Top of 100 ft. ledge, and mesa 350 ft. above sec. cor. bears N60° W. and N 60° E.
	Thence over broken mesa top, thru dense forest of cedar and pinon.
14.00	Hollow, course NW.,35 ft. deep.
20. 00	Descend into hollow
23.60	Bottom of hollow, 75 ft. deep,course W, ascend
26.00	Top of ascent, bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins.in the ground, for ¼ sec. cor. marked on brass cap ¼ S 34 on W. half and S. 35 on E. half; from which
	A pinon, 11 ins.diam., bears S. 52½° E., 115 lks. dist., marked ¼ S 35 B T.
	A pinon, 12 ins. diam., bears S 11° W., 44 lks.

Subdivision of T 21 S., R 7 E.

chains	
	dist.; marked ¼ S.34 BT.
45.00	Hollow, 25 ft. deep, course W.
61.00	Hollow, 25 ft. deep, course W.
64.50	Ridge, 50 ft. high, bears E. and W.; descend.
69.60	Hollow, 75 ft. deep, course W.; ascend.
78.00	Ridge, 50 ft. high, bears N 85° W. and E.; descend.
80.73	Fall 416 lks. E. of the cor. of secs. 26-27-34 & 35.
	Set an iron post, 3ft. long, 2 ins. dia., 24 ins. in the ground, for closing corner of secs. 34 and 35, marked on brass cap
	T21S R7E S27 CC S26 in N. half,
	S 35 in SE, and
	S 34 in SW. quadrant; and raise a mound of stone 2 ft. base, 1½ ft. high. S. of cor.
	I destroy all marks on old cor. pertaining to secs. 34 and 35.
	Land, mountaindus.
	Soil, rocky; 4th rate.
	Timber, cedar and pinon.

Land mountainous and heavily timbered 80.73 chs.

East, from cor. of secs. 26 & 27 on random line bet. secs. 26 and 35.

40.00	Set temp. ¼ sec. cor.
84.17	Intersect N. and S. line 74 lks. N. of the cor of secs. 25-26-35 & 36.
	Set an iron post, 3ft. long, 2 ins. dia. 24 ins. in the ground, for closing corner to secs. 26 and 35, marked on brass cap
	T21S R7E in N. half,
	S25 CC S36 in E. half,
	S 35 in SW, and
	S 26 in NW. quadrant; from which
	A pinon, 6 ins. diam., bears S 22¾° W., 171 lks., dist., marked T21S R7E S35 BT

Subdivision of T. 21 S., R 7 E.

chains	
	A pinon, 6 ins. diam., bears N 31½° W., 65 lks. dist., marked T21S R7E S26 BT
	I destroy all marks on old cor. pertaining to secs. 26 and 35.
	Thence I run
	West, on true line bet. secs. 26 and 35.
	Over broken land sloping N. through dense forest of cedar and pinon.
0.60	Ridge, 20 ft. high, bears N 15° W. and S 15° E.
5.25	Hollow, 50 ft. deep, drains N.
14.75	Draw, 25 ft. deep, course N.
23.30	Hollow. 40 ft. deep, drains N 20° E.; ascend.
31.70	Hollow, 40 ft. deep, course N.E.
36.00	Ridge, 40 ft. high, bears N. and S.
43.70	Road, bears N 20° W. and S 20° E.
44.17	Set an iron post, 3ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap ¼ S 26 on N. and S 35 on S. half; from which
	A pinon, 12 ins. diam., bears S 44½° W., 12 lks. dist., marked ¼ S 35 BT
	A pinon, 7 ins. diam., bears N 35° E., 31 lks. dist., marked ¼ S 26 BT
	May 31: At this ¼ sec. cor. I set off 21° 53' N. on the decl. arc; and at 11h 58m a.m.l.m.t. observe the sun on the meridian; the resulting lat. is 38° 57½°.
56.00	Ridge, 75 ft. high, bears N. and S.
73.00	Coal outcroppings, bears NW and SE.
84.17	The cor. of secs. 26 and 27.
	Land, mountainous.
	Soil, rocky and sandy; 4th rate.
	Timber, cedar and pinon.
	Land mountainous and heavily timbered 84.17 chs.

May 31, 1910.

Andrew Nelson

U. S. Deputy Surveyor.

General description of T. 21 S.,R. 7 E.

The portion of this township as surveyed under this contract, consists principally of a rough broken mesa, sloping in the north westerly direction towards Castle Valley. The south east face of this mesa is an abrupt break of about 500 feet. The land lying below this break, drains in a south easterly direction towards Salt Wash.

The mesa is covered with a dense growth of low scrub cedar and pinon, with very little undergrowth. The soil is rocky, 4th rate, while that surrounding the mesa is a rich sandy loam, 1st rate quality.

There are no settlers nor any water in this portion of the township. There is no mineral in the township. Coal outcroppings are found along the mesa, but not sufficient to return any sections as coal lands.

The plowed field in sec. 27 contains approximately 80 acres. Owners unknown.

Andrew Nelson

U.S.Deputy Surveyor.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller and Andrew Nelson, United States Deputy Surveyors to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the ~~survey of~~ Resurvey, retracement and subdivisions of T. 21 S., R. 7 E. S.L.B. & M Utah showing the respective capacities in which they acted:

Howard W. Miller, *Chainman.*

Fred Wright, *Chainman.*

Ray Bryan, *Moundman.*

, *Moundman.*

Edward Jones, *Axman.*

, *Axman.*

Edward Jones, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller and Andrew Nelson, United States Deputy Surveyors, in surveying all those parts or portions of the Resurvey, retracement and subdivisions of T. 21 S., R. 7 E.

of the Salt Lake Base and meridian, state of Utah, 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 Utah

Howard W. Miller, *Chainman.*

Fred Wright, *Chainman.*

, *Moundman.*

Ray Bryan, *Moundman.*

Edward Jones, *Axman.*

, *Axman.*

Edward Jones, *Flagman.*

Subscribed and sworn to before me this 31st day of May, 1910

SEAL

Andrew Nelson

U.S. Deputy Surveyor.

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FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, Andrew Nelson, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Thomas Hull United States Surveyor General for Utah, bearing date of the 15 day of January, 1910, ~~xxx~~, 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 Utah, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the Subdivisional lines of Township 21 South, Range 7 East

of the Salt Lake Base and meridian, in the State of Utah, 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 Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Andrew Nelson
United States Deputy Surveyor.

Subscribed by said Andrew Nelson, and sworn to before me this 30 day of December, 1910, ~~xxx~~

SEAL

Thomas Hull
U.S. Surveyor-General
for Utah.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City Utah, Dec. 19, 1911 ~~xxx~~

The foregoing field notes of the ~~survey~~ ~~xxx~~, resurvey and retracement of subdivisional lines of Township 21 South, Range 7 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller and Andrew Nelson under ~~his~~ their contract No. 316, dated January 15, 1910, ~~xxx~~, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Thomas Hull
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.

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